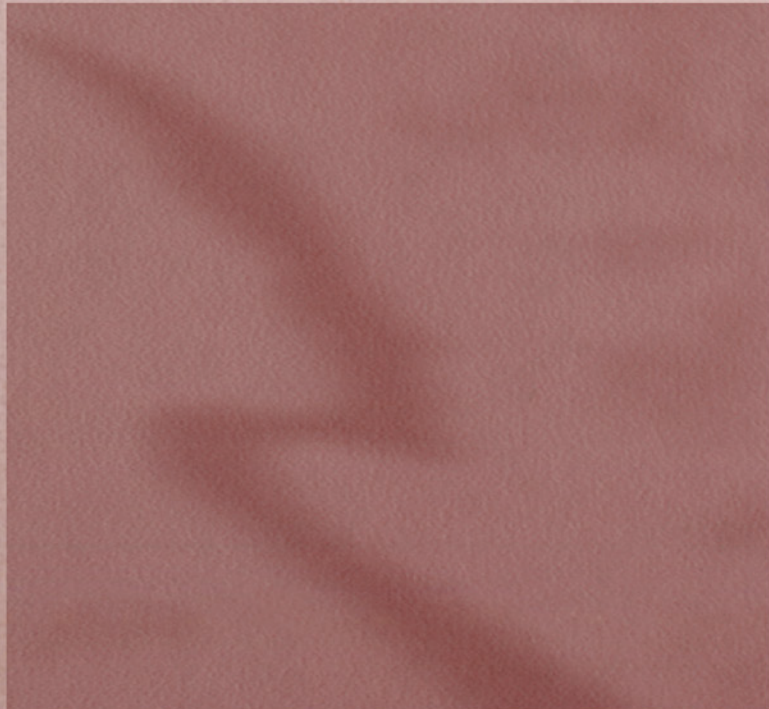


Race, Class and the Changing Division of Labour Under Apartheid

Owen Crankshaw



**Also available as a printed book
see title verso for ISBN details**

RACE, CLASS AND THE CHANGING DIVISION OF LABOUR UNDER APARTHEID

To what extent were the ideals of white supremacy actually realised during apartheid? This book argues that contradictory dynamics in the urban labour market facilitated and undermined the apartheid aim of white supremacy in the workplace. So, whereas racial inequality was deepened by low wages and rising unemployment among Africans, it was simultaneously undermined by black upward occupational mobility and rising African wages. Apartheid's legacy is therefore not only extreme racial inequality, but also extreme inequality among black South Africans. This book suggests that inequality in South Africa will be driven increasingly by class, rather than racial divisions.

As the only comprehensive empirical analysis of the changing racial and occupational structure of the urban workforce in South Africa under apartheid, this study will make an invaluable contribution to our understanding of the complex inter-relations of past and present racial inequality and economic development in South Africa.

Owen Crankshaw is a senior researcher at the Centre for Policy Studies, Johannesburg.

RACE, CLASS AND
THE CHANGING
DIVISION OF
LABOUR UNDER
APARTHEID

Owen Crankshaw



London and New York

First published 1997
by Routledge
11 New Fetter Lane, London EC4P 4EE

This edition published in the Taylor & Francis e-Library, 2003.

Simultaneously published in the USA and Canada
by Routledge
29 West 35th Street, New York, NY 10001

© 1997 Owen Crankshaw

Books published under the joint imprint of LSE/Routledge are works of high academic merit approved by the Publications Committee of the London School of Economics and Political Science. These publications are drawn from the wide range of academic studies in the social sciences for which the LSE has an international reputation.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloguing in Publication Data
Crankshaw, Owen,

Race, class, and the changing division of labour under apartheid/Owen Crankshaw
p. cm.

Includes bibliographical references and index
ISBN 0-415-14613-5 (alk. paper)

1. Labor—South Africa—History—20th century. 2. Social conflict—South Africa—History—20th century. 3. Apartheid—South Africa. 4. South Africa—Race relations. I Title.
HD8801.C73 1996

306.3'68—dc20

96-7562
CIP

ISBN 0-203-44037-4 Master e-book ISBN

ISBN 0-203-74861-1 (Adobe eReader Format)
ISBN 0-415-14613-5 (Print Edition)

CONTENTS

<i>Figures</i>	vii
<i>Tables</i>	ix
1 RACE, CLASS AND THE DIVISION OF LABOUR	1
<i>Introduction</i>	1
<i>South African labour statistics, class structure and the study of racial inequality</i>	2
<i>Class theory and occupational structure</i>	4
<i>Occupational structure and South African employment statistics</i>	7
<i>Apartheid, economic growth and the racial division of labour</i>	11
2 THE EXTENT AND PATTERN OF AFRICAN ADVANCEMENT	16
<i>The extent of African advancement, 1965–90</i>	16
<i>The pattern of African advancement and the ‘floating’ colour bar</i>	22
<i>Conclusion</i>	33
3 CAPITALIST INTERESTS, WHITE LABOUR AND APARTHEID LABOUR POLICY	35
<i>Introduction</i>	35
<i>The racial and occupational division of labour in 1948</i>	36
<i>Restructuring the occupational division of labour</i>	38
<i>The shortage of skilled white labour</i>	42
<i>State labour policy, capitalist interests and the racial division of labour during apartheid</i>	43
<i>Conclusion</i>	48
4 RACIAL DIFFERENTIATION, CLASS FORMATION AND THE LABOUR PROCESS IN THE CONSTRUCTION, MANUFACTURING AND MINING SECTORS	50
<i>Introduction</i>	50
<i>The mechanisation of unskilled work</i>	51

CONTENTS

<i>The re-organisation of skilled work</i>	58
<i>Conclusion</i>	70
5 RACIAL SEGREGATION AND DE-RACIALISATION IN THE TERTIARY SECTOR	72
<i>Introduction</i>	72
<i>De-racialisation and integration in routine white-collar employment</i>	74
<i>Racial segregation and expansion in semi-professional employment</i>	83
<i>Conclusion</i>	92
6 ECONOMIC GROWTH AND TRENDS IN THE RACIAL WAGE AND INCOME GAP	94
<i>Introduction</i>	94
<i>The periodisation of economic growth and the racial wage gap</i>	95
<i>Differentiation, unemployment and the racial income gap</i>	104
<i>Conclusion</i>	112
7 THE INCREASING SIGNIFICANCE OF CLASS	114
<i>Introduction</i>	114
<i>African advancement, class formation and the labour process</i>	114
<i>Economic growth and racial inequality</i>	118
<i>The increasing significance of class</i>	119
<i>Class theory and racial inequality</i>	121
<i>Appendix to Chapter 1</i>	123
<i>Appendix to Chapter 2</i>	141
<i>Appendix to Chapter 3</i>	155
<i>Appendix to Chapter 5</i>	158
<i>Appendix to Chapter 6</i>	166
<i>Notes</i>	172
<i>Bibliography</i>	194
<i>Index</i>	209

FIGURES

2.1	Semi-professional employment by race, 1965–90 (percentage distribution)	17
2.2	Routine white-collar employment by race, 1965–90 (percentage distribution)	18
2.3	Artisanal employment by race, 1965–90 (percentage distribution)	19
2.4	Supervisory employment by race, 1965–90 (percentage distribution)	19
2.5	Racial distribution of employment by occupation: 1990	23
2.6	Routine white-collar employment by race, 1965–90	28
2.7	Artisanal employment by race, 1965–90	28
2.8	Supervisory employment by race, 1965–90	29
2.9	Semi-professional employment by race, 1965–90	29
2.10	Occupational profile of the white workforce, 1971, 1979 and 1990	31
3.1	Relative proportions of artisans, machine operators and unskilled labourers in the construction industry, 1965–85	40
3.2	Relative proportions of artisans, machine operators and unskilled labourers in the gold mining industry, 1960–90	40
3.3	Relative proportions of artisans, machine operators and unskilled labourers in the manufacturing industry, 1965–85	41
5.1	Male routine white-collar employment by race, 1965–90	77
5.2	Female routine white-collar employment by race, 1965–90	77
5.3	Routine white-collar employment by sex, 1965–90	78
5.4	Nursing employment by race, 1946–91	86
5.5	Nursing employment by race, 1965–90	86
5.6	Employment of school teachers by race, 1958–89	89
5.7	African school teachers by sex, 1965–90	90
5.8	Coloured school teachers by sex, 1965–90	90
5.9	Indian school teachers by sex, 1965–90	91
5.10	White school teachers by sex, 1965–90	91
5.11	Pupil enrolment by race, 1958–89	92

FIGURES

6.1	Trends in the gross domestic product, 1946–89	96
6.2	The wage gap between African and white workers in the construction, manufacturing and mining sectors, 1960–89	97
6.3	Real average annual wages by race in the construction industry, 1960–89	98
6.4	Real average annual wages by race in the manufacturing industry, 1960–89	99
6.5	Real average annual wages by race in the mining industry, 1960–84	100
6.6	Trends in the unemployment rate, 1960–82	105
6.7	Annual per capita incomes by race, 1946–91 (1990 rands)	106
6.8	Black income as a proportion of white income, 1946–91	108
6.9	Relative proportions of unskilled and semi-skilled African workers, 1965–90	110

TABLES

2.1	Racial and sexual division of labour across semi-professional occupations, 1990 (percentage distribution)	25
2.2	Racial division of labour across the skilled trades, 1990 (percentage distribution)	26
2.3	Racial and sexual division of labour across routine white-collar occupations, 1990 (percentage distribution)	27
2.4	Proportions of companies with racially desegregated facilities by sector	32
5.1	The proportion of routine clerical staff employed on routine computer operations, 1979–90 (percentage distribution)	73
5.2	The annual rate of growth of the supply of and demand for routine white-collar labour, 1960–85	76
5.3	African pupil enrolments in secondary schools, 1955–90	79
5.4	Level of education of the African population, 1960–85 (percentage distribution)	80
5.5	Level of education of the coloured population, 1960–85 (percentage distribution)	80
5.6	Level of education of the Indian population, 1960–85 (percentage distribution)	81
5.7	Numbers of teacher training colleges and student teachers, 1955–80	88
6.1	Average annual rates of change in white wages, 1961–89	101
6.2	Annual per capita incomes by race, 1946–91 (1990 rands)	107
6.3	Black income as a proportion of white income, 1946–91 (percentage distribution)	109

RACE, CLASS AND THE DIVISION OF LABOUR

INTRODUCTION

This book is a study of the changing relationship between racial and class divisions in the urban population in South Africa during the apartheid period. As an analysis of the relationship between racial and class divisions, this study does not entail a new approach to racial inequality in South Africa. A substantial body of research, conducted over the last three decades, has enriched our understanding of how the class dynamics of South Africa's expanding capitalist economy have complemented and contradicted the policies and practices of the apartheid state. However, with the exception of some earlier studies by Wolpe, and by Simkins and Hindson, there has been no systematic study of the changing relationship between racial divisions and the class structure of the South African population.¹ Where scholars have applied theories of class to racial divisions in South Africa, they have done so in order to understand the political behaviour of the state and of particular social groups. For example, there is a large literature which examines the class basis of changes in the relationships between the apartheid state, organised business and trade unions.² Similarly, a number of scholars have been concerned to understand the class basis for the political behaviour of the white working class and the African middle class.³ So, although these studies have provided us with an understanding of how the changing class interests of organised business and organised labour have influenced their political relationship to apartheid policies and practices, we still lack a systematic understanding of the racial and class structure of the South African population and how this was shaped by capitalist economic growth and apartheid policies. The aim of this study is to fill this gap in our knowledge by documenting and explaining the changing patterns of racial and class inequality among the urban workforce during the apartheid period.

SOUTH AFRICAN LABOUR STATISTICS,
CLASS STRUCTURE AND THE STUDY OF
RACIAL INEQUALITY

The question of the relationship between racial inequality and class structure in South Africa has been subsumed in a broader debate over the effect of capitalist economic growth on racial inequality and, more generally, apartheid. This debate, which was invigorated by growing international support for trade and investment sanctions against South Africa in the early 1970s, revolved around the central question of whether or not the expansion and development of capitalist relations of production would undermine apartheid. Up until the late 1960s, the interpretation of conventional political economists held sway. In essence, these 'liberal' political economists argued that apartheid laws and institutions retarded and distorted economic growth. In contrast, scholars in the emerging 'revisionist' school argued that, far from undermining capitalist economic growth, apartheid policies delivered the cheap labour necessary for the survival and expansion of South African capitalism. Because this debate was concerned with the then current political issue of whether or not foreign investment in South Africa would undermine or bolster apartheid, the exchange between liberals and revisionists became extremely polarised and important points of agreement were ignored.⁴ For example, in an unusual reversal of theoretical positions, it was liberal scholars who emphasised the dynamics of capital accumulation which would lead to increasingly capital-intensive production and therefore an increased demand for more skilled black labour.⁵ Similarly, the revisionists, in a surprisingly un-Marxist manner, emphasised the influence of political and ideological relationships which would ensure that white supremacy and apartheid would prove resistant to reform.⁶ The politicised nature of this debate no doubt contributed to the fact that what began as an emphasis on how apartheid policies promoted capitalist interests solidified into a revisionist paradigm which excluded the possibility of contradiction between capitalist interests and apartheid.⁷

Since the 1970s, the terms of this debate have shifted. Although Wolpe was the first to emphasise the importance of class divisions within the African population, his latest theoretical formulation marks a break with his own and other earlier revisionist studies. Wolpe now proposes that the relationship between capitalism and white domination is 'historically contingent' rather than necessary. Correspondingly, he eschews the attempt to collapse racial divisions into class divisions, arguing that 'fissures along class lines may occur within racially defined groups'.⁸ However, although Wolpe does draw attention to the important changes in the occupational structure of the South African population, he does not provide new empirical material.

Most empirical studies of the changing relationship between racial inequality were undertaken by liberal economists who conducted extensive

research into racial wage differences during the 1970s and 1980s.⁹ However, important as these studies are, the analysis of wage trends is no substitute for a detailed examination of the racial division of labour. The rise to dominance of the revisionist paradigm in academic circles in the 1970s had important consequences for the study of changes in the racial division of labour in South Africa. Since the racial division of labour was automatically assumed to be congruent with apartheid policies, the assumption of unchanged and even deepening racial inequality was accepted as a basic premise rather than as a subject of enquiry. Where scholars did address the erosion of the racial division of labour, they stressed its slow rate of change and limited prospects for future deracialisation without more than a cursory examination of the evidence.¹⁰ The one exception to this pattern is the work of Wolpe which broke important ground by identifying the emerging contradictions between apartheid policies and the racial division of labour during the 1960s.¹¹ However, Wolpe's preliminary study did not extend beyond a superficial analysis of Population Census data and, in any event, dealt with employment data only up to 1970.

It was not until the end of the 1970s that new interest arose in the changing patterns of racial inequality in employment. This time, however, most of the interest was generated by official concern about the shortage of skilled white labour and its attendant policy implications. Most of this state-contracted work was undertaken by statisticians and economists who relied on the Manpower Surveys conducted by the Department of Manpower. Because these surveys are a more accurate source than the Population Census for the analysis of occupational structure, these studies were a considerable empirical advance on Wolpe's earlier contributions and have updated the earlier analysis by Simkins and Hindson. However, without exception, these studies are not suitable as secondary sources for a study of change in the racial and occupational division of labour. The first reason for this is that most of these analyses focus on only one aspect of the division of labour. For example, Roukens de Lange examines only the occupational structure and provides no breakdown of the racial composition of occupations.¹² Similarly, certain reports of the National Manpower Commission and the Human Sciences Research Council examine data only for 'high-level' and 'middle-level' occupations and exclude all semi-skilled and unskilled manual occupations.¹³ The second reason is that some studies are restricted to specific periods or are now seriously out of date. For example, the study by Ngidi and Zulu covers only the period from 1975 to 1985.¹⁴ Similarly, the work by Terblanche covers data only up to 1979.¹⁵ The third reason is that the authors have employed occupational classifications which are not completely amenable for a study of the impact of economic growth on the racial and occupational division of labour. For example, Terblanche *et al.* categorise unskilled manual labourers and semi-skilled machine operatives in a single occupational group.¹⁶

CLASS THEORY AND OCCUPATIONAL STRUCTURE

The above review of earlier contributions to the study of the occupational and racial division of labour points to the need for some understanding of the criteria according to which South African scholars have demarcated their occupational categories. Generally speaking, revisionists were strongly influenced by the debate among Marxist scholars over the class determination of people employed in middle class occupations. The most influential authors in this debate were Carchedi (1975), Poulantzas (1975) and Wright (1976) who were concerned to explain why large sections of the populations of advanced capitalist countries did not support working class political parties.¹⁷ As such, the models proposed by these authors place particular emphasis on the boundary between the working class and what they termed, respectively, the 'new middle class', the 'petty bourgeoisie' and 'semi-autonomous employees'. Specifically, these models of class determination proposed a tighter definition of the working class which excluded, variously, managerial, non-manual, non-productive and semi-autonomous occupations from the working class. These models were therefore appropriate to studies concerned to understand the political implications of the emergence of an African 'petty bourgeoisie'.¹⁸ However, my own study has a very different purpose. My concern is not with the political implications of the breakdown between the correspondence of racial and class differences. Instead, I wish to understand the forces which have shaped the occupational and racial division of labour during the apartheid period. Since most of the international literature on the class structure of society is concerned quite specifically with the relationship between consciousness, collective action and class divisions, these studies are not directly pertinent to this analysis. The reason for this is that studies of class structure are concerned essentially with the division of society into the bourgeoisie, the middle class and the working class. This concern with the boundaries between these classes has, quite legitimately, led scholars to ignore the social divisions within the middle and working classes. Although the models of Carchedi, Poulantzas and Wright are based on quite different theoretical assumptions, their schemes produce a similar result. For Carchedi, wage earners such as managers and professionals who perform both the 'global function of capital' and the 'function of the collective worker' are not working class, but belong to the 'new middle class'.¹⁹ Wright classifies front-line supervisors along with middle and top managers. He also places professionals, semi-professionals and middle-level administrators within his middle class category of 'semi-autonomous employees'. Similarly, artisans, semi-skilled operatives and unskilled labourers are all classed as proletarian.²⁰ Even Wright's new theory of class determination, although it relies on criteria of exploitation instead of domination and control, still produces the same result.²¹ For his part, Poulantzas places all productive manual workers in the working class. Conversely, all unproductive service workers, non-manual and managerial employees are classed as 'petty bourgeois'.²²

Why are these neo-Marxist models of class structure too crude for an analysis of the changing relationship between racial and class divisions in South Africa? First, the use of broadly-defined classes simply does not provide the detail that is required for an understanding of the exact ways in which the racial division of labour may be eroding in South Africa. In an earlier study of class theory and the growth of the African middle class, my results revealed that, according to Wright's class criteria, the size of the African middle class rose from 3.5 per cent of the urban African workforce in 1969 to 8.8 per cent in 1983. According to Poulantzas' criteria, the proportion rose from 19.0 per cent to 35.0 per cent over the same period.²³ However, as I pointed out at the time, these results could not identify the precise form of the African middle class. Clearly, in a study of racial inequality it would be crucial to know whether or not the increase of the African middle class was due, for example, to the expansion of African employment in teaching and nursing jobs or in middle management jobs. Without such information one could not draw reliable comparisons of the African middle class with its white counterpart, since their occupational composition could differ substantially.

The second problem with using these neo-Marxist models of class structure is that their class categories comprise occupations which are often reproduced by entirely different, and even contradictory, processes. For example, the working class comprises unskilled manual labourers, semi-skilled machine operatives and skilled artisans. The fortunes of these different occupational groups within the working class have undergone important shifts with the development of capitalist production from simple manufacture to machinofacture, yet class theories take no account of these changes.

At face value, neo-Weberian class schemes such as that proposed by Goldthorpe would appear to suit the purposes of my study because they use a more detailed occupational breakdown than most neo-Marxist models.²⁴ A further advantage of Goldthorpe's scheme is that, unlike those of Marxist scholars, it retains occupational descriptions as the basis for allocating individuals to different classes. Since the Manpower Surveys are based on occupational descriptions, this method suits the constraints of my study. However, the disadvantage of Goldthorpe's scheme is that occupations are grouped together solely on the basis of the similarity or dissimilarity of the market and work situations of their incumbents.²⁵ Although this method is quite acceptable for classifying occupations within an occupational structure, it does not provide any basis for understanding how the occupational structure is itself reproduced and changed. Since one of my aims is to understand how specifically capitalist production relations have shaped the division of labour in South Africa, I still require a theory of the division of labour which incorporates the dynamics of the capitalist labour process and its impact on the division of labour. For these insights I have turned to labour process theory and research.

Unlike neo-Marxist and neo-Weberian models of class structure, labour process theory approaches the problem of class boundaries from the point of view of the labour process and how its dynamics develop and change the division of labour.²⁶ For example, although Braverman's seminal study of the labour process was concerned with understanding the structure of the working class, his approach was to investigate how the class boundary of the proletariat has been shaped historically by changes in the organisation of work.²⁷ In summary, Braverman argues that, in pursuit of higher productivity, the organisation of production has been transformed by the ever-increasing division of labour whereby tasks are subdivided into increasingly simpler and more routine tasks. The de-skilling of work by this process of fragmentation has been accompanied by both mechanisation and a growing division of labour between the conception, management and execution of work. Braverman's formulation therefore provides a rationale for identifying divisions between artisans, semi-skilled machine operators and unskilled manual labourers employed in the primary and secondary sectors. Similarly, his scheme also identifies the emergence in the twentieth century of routine white-collar workers as a class distinct from managers and commercial professionals such as accountants.²⁸

Mackenzie has argued that these insights into the way that labour process dynamics shape the division of labour can be enriched by an understanding of how segmented labour processes give rise to segmented labour markets.²⁹ Such an approach to understanding how the division of labour in production gives rise to distinct labour markets is found in the work of Edwards who argues that the labour process creates the demand for workers with different levels of education and skill. So, although these different levels of education and skill determine the individual's position in the labour market, they are none the less rooted in workplace dynamics.³⁰ Edwards' theory of labour market segmentation has been used by Webster to understand the labour market in South African foundries. On the basis of his research into the organisation of work in the foundries, Webster identified important labour market divisions between unskilled and lower semi-skilled African manual labourers, higher semi-skilled coloured machine operatives; and skilled white artisans. Most importantly, for the purposes of this discussion, Webster showed how these three labour markets were structured by the organisation of production and forms of managerial control in the workplace.³¹

This brief tour of the debates on class structure has come full circle. Since Edwards' formulation of how to understand and operationalise class divisions is concerned with both workplace and labour market dynamics, it has a lot in common with class schemes advanced by neo-Weberian scholars. Indeed, the class schemes which one would construct on the basis of these different approaches differ largely in terms of the emphasis on the causes of the class structure rather than its form. On this basis I chose to pursue an eclectic classification scheme which incorporates both workplace and labour market

dynamics. I have therefore classified all occupations listed by the Manpower Surveys according to two types of criteria. The first is concerned with labour market conditions which control access to employment in specific occupations. These conditions are, effectively, the level of education, training and experience which is required for particular occupations as well as racially restrictive legislation which prevented the employment of blacks in specific jobs. The second type of criterion is that concerned with workplace dynamics. These include differences between managers and non-managers as well as between different levels of management. They also consider the divisions which are caused by the formation, growth and decline of positions within the division of labour. The first type of criterion is therefore closer to the criteria used in a neo-Weberian model of class structure rather than a neo-Marxist one. This is because neo-Weberian models are concerned to incorporate the dynamics of market forces which structure the individual's access to different types of work. The second type of criterion is seldom discussed under the rubric of class theory, however. Instead, the most useful contributions on the social dynamics which change the division of labour are usually termed 'labour process' studies and are closer to neo-Marxist concerns.

OCCUPATIONAL STRUCTURE AND SOUTH AFRICAN EMPLOYMENT STATISTICS

Generally speaking, South African scholars who have made a contribution to the study of the dynamics of class and racial struggles do so by means of qualitative research methods which do not address directly questions of class structure.³² Conversely, economists and statisticians who analysed quantitative employment data were usually concerned with macro-scale models and therefore seldom produced results which are useful for testing specifically sociological hypotheses except of the most general kind. This unhappy separation of talents has led to a state of affairs in which much of the published employment data are of little use for probing the changing dynamics of class and racial relationships. This is true for a number of reasons.

First, and most importantly, the occupational categories employed by most authors are too broad for any use other than fairly crude macro-economic modelling. One of the reasons why scholars have failed to provide more detailed analyses of employment by occupation and race is simply because they were not concerned with questions of how the dynamics of capitalist production and apartheid policy have shaped the racial composition of different classes of labour. Instead, they have been concerned with trends in supply and demand at only a very general level. A second probable reason is that economists who have undertaken studies of employment statistics relied for the most part on neo-classical theories of supply and demand which do not distinguish between different classes of labour. Finally, these scholars

have been restricted by the form in which official data are published. The standard conventions, until recently, classified occupations into only eight broad groups. To disaggregate these occupational categories into smaller units requires the complete re-analysis of the original data sets. This is a time-consuming and expensive exercise which involves specialist programming skills and is therefore not one that can be undertaken readily by most sociologists. However, as a researcher in the Human Sciences Research Council I have had access to the facilities and the specialist assistance to undertake this task. Specifically, these were access to the Manpower Survey data tapes, the mainframe computer and the specialist programming skills which were provided by the computer centre. The aim of my analysis of the Manpower Survey data was to classify the 600-odd occupations into categories which would sensitively reflect the changes brought about by the dynamics of capital accumulation and apartheid policies. This technique therefore provided quantitative results which allowed me to draw out the relationships between changes in the occupational structure with the dynamics of capitalist expansion and apartheid policies.

Although the Manpower Surveys are the only source of quantitative information which provides occupational details of employment since the mid-1960s, their coverage is not comprehensive. Specifically, the sample does not include the agricultural sector nor does it include domestic servants employed by individual households. A further limitation is that companies and government bureaucracies within the boundaries of the so-called 'independent' homelands were excluded: Bophuthatswana and Transkei were excluded from the 1979 survey and Venda and the Ciskei were excluded, respectively, from the surveys of 1981 and 1983.³³

Apart from these weaknesses, however, the Manpower Surveys are the most suitable source for studying long-term changes in the occupational and racial division of labour. Quite uniquely, these surveys record employment by race and sex for some 600 occupations. Furthermore, they are the only source for this complete period which distinguishes the employment of artisans and apprentices from other manual occupations. Another important feature of the surveys is that they are conducted biennially, which allows for a precise periodisation of changes in the occupational and racial division of labour. The survey sample is based on official lists of companies, namely those of the Compensation Fund and the Unemployment Commissioner. The Manpower Surveys were conducted by the Department of Manpower from 1965 to 1985. From 1987, the surveys were conducted by the Central Statistical Service. When the surveys were managed by the Department of Manpower, the sample of companies was 250,000. After the Central Statistical Service took over, the sample was rationalised in 1989 to 12,800 companies. Since the questionnaire is sent to company managers, the realisation rate of the sample is very high and usually approaches 90 per cent.³⁴ As far as the reliability of the Manpower Surveys are concerned, the

results clearly show some movement in employment levels which must reflect survey errors rather than real changes in employment.³⁵ However, these fluctuations are only marked in the most recent survey results and therefore do not vitiate the long-term trends which are clearly evident.

The published reports of the Manpower Surveys provide useful aggregations of greater occupational detail than Population Census reports of the same period, by distinguishing between artisans, semi-skilled operatives and unskilled (heavy) manual labourers. However, clerical and sales workers of all kinds are grouped together as are many non-manual and supervisory jobs in the service and transport sectors. In addition, managers, professionals, semi-professionals and technicians are also grouped together. In order to improve on this classification system, I allocated each occupation to one of the following categories:

- (a) Top Management
- (b) Middle Management
- (c) Supervisors and Foremen
- (d) Professionals
- (e) Semi-Professionals
- (f) Routine White-Collar Workers
- (g) Routine Security Workers
- (h) Menial Service Workers
- (i) Artisans and Apprentices
- (j) Machine Operatives and Semi-Skilled Workers
- (k) Unskilled Manual Labourers

(Refer to the Appendix to Chapter 1 for an exhaustive list of the occupations classified according to the above scheme.)

Through this classification I aimed to provide a breakdown of employment by occupation which would not be so complex that it would be difficult to interpret, but would none the less distinguish between occupations which are affected in different ways by changes in the demand and supply of labour. It is worth discussing the rationale for this system of classification because such a discussion provides important background information on the composition of each of these categories.

Managers, Professionals and Semi-Professionals

Most scholars who have analysed South African employment statistics prefer to group Managers, Professionals and Semi-Professionals into a single occupational category.³⁶ This is partly because this is the form in which the Manpower Survey and Population Census data are published. However, there are important reasons why these occupations should be distinguished from one another. In the first place, there are substantial differences in the roles

that these occupations play in the division of labour and also in the salaries that they attract. Many Semi-Professionals are teachers, nurses or technicians. Compared to Managerial and Professional occupations, these jobs are poorly paid and offer limited prospects of upward occupational mobility. Managerial jobs are also distinguished by their role of leadership and command: a role which, more than any other occupation, is influenced by the racial hierarchy of South African society at large. In the second place, these occupations are also distinguished by the kinds of qualifications required for entry. In contrast to Professional jobs, which require at least one university degree, most Semi-Professional jobs require only a diploma from teaching, nursing or technical colleges. This distinction between Professionals and Semi-Professionals is not so much one of the quality or type of training but of access to these different tertiary institutions. Not only are entrance requirements to colleges lower than those for universities, but finance to study at colleges is also more readily available. Similarly, unlike Professional and Semi-Professional jobs, many Middle Management jobs do not require tertiary certification.

This system of classification also distinguishes between front-line management, middle management and top management. The main reason for distinguishing these occupations is that they entail substantially different levels of education, skill and authority. Consequently, the racial composition of these different classes of management is substantially different.

Routine White-Collar and Security Workers

White-Collar occupations of a routine character are usually classified within a broader category which includes all non-Managerial and non-Professional occupations in the sales, commercial and financial sectors. The weakness of this classification is that a number of certificated employees, such as stock-brokers, estate agents and insurance salespersons are not distinguished from ordinary clerical workers, cashiers, shop assistants and switchboard operators. There are many reasons for distinguishing the former group from the latter, not least of which are differences in earnings. However, the criterion which I have applied to make this distinction is whether or not the occupation requires post-matric certification. It is commonly the case that many high-level sales jobs require in-house training and certification. In addition, such training and certification is sometimes controlled by 'professional' associations rather than by state-run tertiary educational institutions.³⁷ All Routine White-Collar jobs in my classification are therefore jobs which require a Standard 8 or matric certificate. Other commercial or sales occupations which require post-matric certification are grouped with other Semi-Professionals. Finally, I have chosen to distinguish routine security and protection workers from Semi-Professional and White-Collar Workers. These occupations include non-managerial occupations in the police and defence forces and in fire and rescue departments.

Artisans, Semi-Skilled Operatives and Unskilled Labourers

One of the important advantages of using the data supplied by the Manpower Surveys is that they distinguish between employment in the skilled trades, in machine operative work and in unskilled jobs.³⁸ The importance of these distinctions to an analysis of the changing racial and occupational division of labour cannot be overestimated. As individual employers have sought to increase their productivity by investing in more capital-intensive methods of production, so the demand for labour has changed. The pre-capitalist labour process which was based on a division of labour between Skilled Artisans and Unskilled Manual Labourers has been transformed into one which is today based on a division of labour dominated by Semi-Skilled Machine Operatives. This transformation lies at the heart of an understanding of racial and class relationships in the manufacturing, construction and mining sectors in South Africa. Curiously, with only some exceptions, this important division between Machine Operative and Unskilled Heavy Manual Labour has been overlooked by statisticians and economists. Where the distinction between Machine Operative and Unskilled Manual Employment has been made, Unskilled Manual Labourers are grouped with Unskilled Service Sector Workers.³⁹ The error in this categorisation is that the employment of cleaners and servants in the service sector is conflated with the employment of manual labourers in the mining, manufacturing and construction industries. Clearly, trends in the employment of these two types of Unskilled Labour are governed by quite different processes. For this reason I have created a separate category of Menial Service Workers to distinguish them from Unskilled Labourers (see list on p. 9).

**APARTHEID, ECONOMIC GROWTH AND THE
RACIAL DIVISION OF LABOUR**

At the end of the 1960s, after South African capitalism had experienced a decade of unprecedented economic growth, liberal and revisionist scholars were deeply divided over the impact of this economic growth on racial inequality. Although this debate is no longer fashionable, many of the questions which it raised have not been answered, and, moreover, serve as useful points of departure from which to examine changes in the racial division of labour. The main thrust of the early revisionist contributions was to counter liberal arguments that capitalist development was leading to a decline in racial inequality. In spite of new evidence in the 1970s which showed that the racial wage gap had started to narrow, the substance of the disagreements between liberal and revisionist scholars remained the same throughout this debate.

During the late 1960s, the shortage of white artisans led to a concerted campaign by employers to fragment the skilled trades and to promote African workers into these newly-created operative jobs. Liberal scholars interpreted

these changes in the racial division of labour as an important advance for African workers and a sign that the colour bar was beginning to erode. Revisionists, however, argued that these developments meant that Africans were effectively performing the work of white artisans, but at cheap wages.⁴⁰ Trapido went so far as to say that 'as unorganised African workers came to do work previously undertaken by Whites, job fragmentation takes place and African wages remain unchanged'.⁴¹ Furthermore, they argued that this form of African advancement was not eroding the colour bar because, as Africans were promoted into semi-skilled positions, so whites were promoted ahead of them. Legassick argued that the upward mobility of Africans into semiskilled jobs was 'simply a means of dynamically modifying the system of racial differentiation in changing economic conditions. Non-whites may indeed move into more jobs, more skilled jobs in manufacturing industry, and may receive marginally increased wages. But the whites move upwards even further.'⁴² In fact, revisionists predicted that this 'floating' of the colour bar would lead to even greater racial inequality.⁴³ In the early 1970s the evidence supported the revisionist argument: the wage gap between white and African workers had, in fact, widened during the 1960s.⁴⁴

In the mid-1970s, however, both Lipton and Natrass countered this revisionist argument with new evidence that the wage gap between white and African workers had narrowed between mid-1964 and mid-1974 across all sectors.⁴⁵ They attributed this emerging trend of declining racial inequality to economic growth which raised the overall skills of the workforce through mechanisation. Conversely, they argued that economic recession would increase racial inequality.⁴⁶

The revisionist response to the initial findings by liberal scholars on the narrowing of the racial wage gap was one of scepticism. Legassick and Innes considered that the wage data from which Lipton drew her conclusions were unreliable. They also argued, quite correctly, that Lipton produced no evidence of upward African mobility which was leading to an erosion of the colour bar.⁴⁷ A similar position was advanced by Davies at a time when it had become evident that both employers and the state were keen on reforming the racial division of labour in South Africa. Davies argued that the scope for de-racialisation was limited and that all that could be expected was 'some blurring of the racist hierarchy at the skilled manual working class and lower mental/supervisory levels'.⁴⁸ Furthermore, he argued that capital's restructuring of the racial division of labour was not only due to the shortage of skilled white labour. Instead, declining profits due to the shortage of foreign investment and the political struggles of urban Africans during the late 1970s had provided the impetus for reform. Davies' interpretation of declining racial inequality is therefore the exact converse of the liberal argument. In his view, the erosion of the unequal racial division of labour is more likely to take place under conditions of capitalist crisis and economic stagnation than under conditions of economic growth.⁴⁹

At the end of the 1970s, however, two dissenting contributions argued that the racial division of labour had undergone unexpectedly dramatic changes. In a study directed at the question of the political significance of the African middle class, Wolpe argued that there had been an ‘enormous increase in the African middle class between 1960 and 1970’.⁵⁰ Similarly, Simkins and Hindson presented evidence of ‘substantial and increasing penetration by “Coloureds”, Asians and Africans’ into ‘clerical, white-collar technical and non-manual’ jobs and also noted an increase in the African share of ‘skilled’ employment during the 1970s.⁵¹

A further criticism by revisionist authors was that the narrowing racial wage gap did not necessarily indicate declining racial inequality. Legassick argued that rising unemployment among Africans could offset the gains made from increased real wages. So, the wages of employed Africans could rise in real terms at the same time as the average income for the African population at large declined.⁵² In support of this argument, Legassick and Innes cited evidence that African unemployment had increased even during the boom years of the 1960s.⁵³

So, at the end of the 1970s there was still considerable disagreement among scholars on the relationship between trends in racial inequality, apartheid and capitalist economic growth. These disagreements can be encapsulated in the following five questions:

- 1 What was the extent and pattern of upward African mobility over the apartheid period?
- 2 Has African advancement always taken the form of a ‘floating’ colour bar, or has it resulted in significant racial equality and racial integration?
- 3 Has the racial wage gap narrowed or widened?
- 4 What was the trend in African unemployment and how did this affect African incomes?
- 5 Has racial inequality decreased with economic growth? Conversely, has economic stagnation delayed, or even reversed, trends of declining racial inequality?

From the vantage point of the 1990s, we now know the answers to two of these empirical questions. It is clear that rising African wages did lead to a narrowing of the racial wage gap after the 1960s. Recent research shows that the gap between white and African wages continued to narrow throughout the 1970s and 1980s.⁵⁴ Equally, however, African unemployment has risen to such high levels that the gains from higher wages have been negated. By calculating average incomes by race for the total population, which includes both employed and unemployed individuals, McGrath has shown that the income gap between Africans and whites widened between 1960 and 1980. Although rising real wages of Africans led to a slight reduction in the racial income gap between 1970 and 1980, growing African unemployment caused

the income gap between whites and Africans to be slightly wider in 1980 than it was in 1960.⁵⁵ More recent research by Whiteford and McGrath showed that the income gap between Africans and whites widened even further during the 1980s.⁵⁶

These trends in wage and income movements raise as many questions as they answer. By its nature, an analysis of wage and income movements by race is an abstract exercise which can say very little about changes in the occupational and racial division of labour which may underlie trends in the racial share of income. However, some recent analyses of the relationship between job grade, race and earnings throw light on this question. Two separate decomposition analyses of employment data for the period from the mid-1970s to the mid-1980s reveal that most of the wage increases which accrued to Africans were due to upward occupational mobility rather than increases in the rate for the job.⁵⁷ These tantalising results raise the question of exactly what the extent and pattern of upward occupational mobility of Africans over the apartheid period was and what the causes of such changes were.

Why is it important to know, in concrete terms, the trends in employment by race in specific occupational categories? Since the growth and decline of different classes of labour are closely related to the changing character of capitalism and to state policy, an analysis of changes in the occupational and racial division of labour provides important insights into the role that capitalism has played in shaping racial relationships under apartheid. The following chapters will provide this analysis. I will do this by pursuing some of the questions that were raised in the liberal/revisionist debate.

In Chapter 2, I address the question of the extent and pattern of upward occupational mobility among Africans since the mid-1960s. The results presented in that chapter settle certain empirical questions concerning the extent of African advancement in routine clerical and sales jobs. Furthermore, they show that, although Africans are still almost completely excluded from managerial and professional jobs, there has been substantial African advancement into routine white-collar and semi-professional jobs and the skilled trades. However, the periodisation of African advancement into the skilled trades differs in that significant African employment began only in the 1980s. This raises the interesting question of why the periodisation and pattern of African advancement varied across these occupational groups. This question is addressed in Chapters 3, 4 and 5.

In Chapters 3 and 4, I address the question of why African advancement into the skilled trades was restricted until the 1980s. My argument is that the state, capital and white unions had common interests in a capital-intensive path of development. The consequence of this industrial strategy was that African employment in semi-skilled, machine operative work was greatly expanded. The flip-side of this mechanisation drive, however, was that Africans were excluded from employment in the skilled trades.

RACE, CLASS AND THE DIVISION OF LABOUR

Chapter 5 is devoted to an examination of the patterns of African advancement in routine white-collar and semi-professional employment in the tertiary sector. The results show that employers in these sectors had little to gain from diluting skilled jobs in order to make more productive use of cheap African labour. Consequently, where white workers were organised they did not oppose African advancement into traditionally white jobs. A striking result is that the state was responsible for the expansion of African employment in the semi-professional jobs of nursing and schoolteaching.

Finally, in Chapter 6, I pursue the question of the relationship between trends in the racial wage and income gap and the racial division of labour. The focus of this chapter is to provide insights into the class basis of trends in racial income inequality. The findings show that African advancement into traditionally white jobs was the major cause of rising real wages for Africans over the apartheid period. However, a rising rate of unemployment since the mid-1970s has almost negated the gains made through wage increases.

THE EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

THE EXTENT OF AFRICAN ADVANCEMENT, 1965-90

A notable feature of the changes in the racial division of labour between 1965 and 1990 is that African advancement into traditionally white jobs has been uneven. Whereas Africans have made substantial inroads into certain occupational classes, they have made almost no progress in others. Before I discuss these different patterns of African advancement, however, I will first examine those occupational categories which were filled predominantly by Africans prior to the apartheid period. These occupations are, of course, the worst-paid and most arduous jobs in the formal urban economy. They include unskilled manual jobs as well as semi-skilled machine operative work in the mining, manufacturing and construction sectors. Although less important numerically, Africans also predominate in unskilled and menial jobs in the service sector which involve the tasks of cleaning and serving. In 1965, about 70 per cent of workers in semi-skilled machine operative jobs and in menial service sector jobs were African. In unskilled manual jobs in the primary and secondary sectors the proportion of workers who were African was 86 per cent. Since 1965, most employment growth in these unskilled and semi-skilled occupations has been filled by Africans and, to a much lesser extent, coloureds. Since the mid-1960s, therefore, the proportion of Africans in these occupations has increased somewhat further to about 90 per cent of all workers.¹ Important changes in the racial division of labour, as opposed to the occupational division of labour, are therefore not found in unskilled and semi-skilled manual employment. The analysis of jobs which have traditionally been associated with white employment, however, reveals a quite different pattern.

The most important feature of any substantial upward mobility of Africans into occupations previously dominated by whites is that it has been restricted to specific occupational classes. African men and women have made significant in-roads into the numerically-important occupational categories of semi-professional and routine white-collar work. To a much lesser extent, African men are also increasingly employed in the skilled trades

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

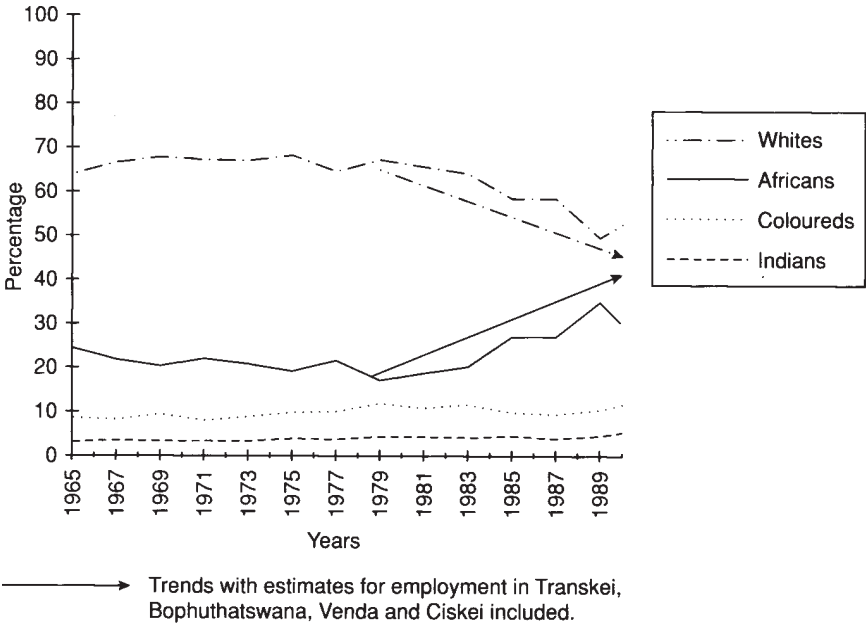


Figure 2.1 Semi-professional employment by race, 1965-90 (percentage distribution)

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.5 in the Appendix to Chapter 2

and in front-line supervisory jobs. In contrast, the proportion of professionals and managers who are African remains quite insignificant. The extent and periodisation of African advancement in these occupational classes is presented in Figures 2.1 through to 2.4. In 1965, Africans accounted for only 24 per cent of employment in semi-professional jobs. By 1990, the proportion had almost doubled to 41 per cent, only 4 per cent less than the proportion of white semi-professionals (Figure 2.1). Similarly, the African proportion of routine white-collar workers increased from 15 per cent in 1965 to 31 per cent in 1990 (Figure 2.2). African employment in the skilled trades is less extensive, but none the less significant. Until the 1980s, employment in the skilled trades was almost exclusively white, although coloured men were well-represented in certain trades. After the Wiehahn reforms in 1979, however, the proportion of African artisans rose from a mere 2 per cent to 19 per cent (Figure 2.3). Finally, the proportion of African employment in the front-line management jobs of charge-hand, supervisor or foreman increased from 13 per cent in 1965 to about 30 per cent in 1989 (Figure 2.4). A further category of employment, that of routine security work, shows a different pattern. Since 1965, the proportion of Africans employed in these jobs has

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

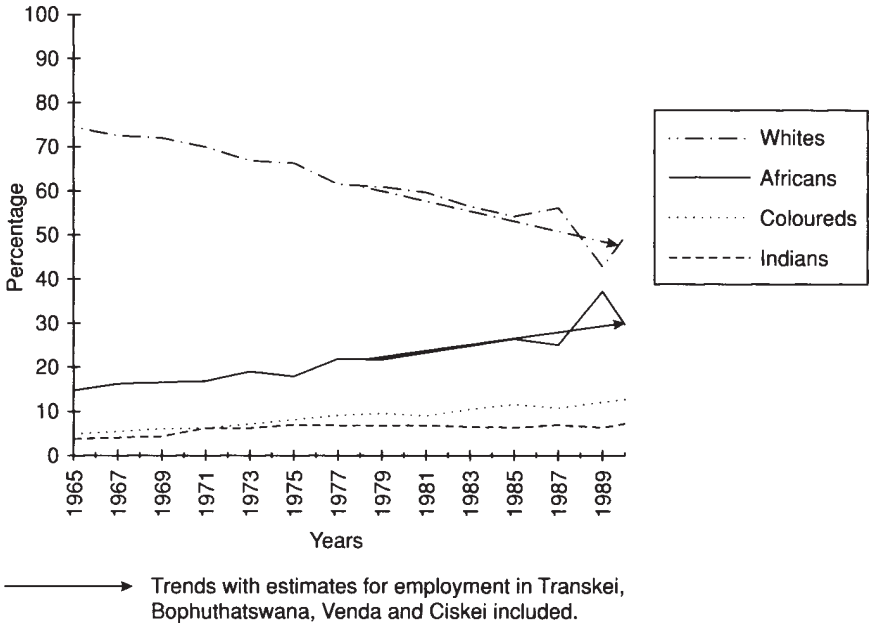


Figure 2.2 Routine white-collar employment by race, 1965-90 (percentage distribution)

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.5 in the Appendix to Chapter 2

hovered at around 50 per cent.² In contrast to these racially heterogeneous occupational categories described above, employment in managerial and professional employment is still almost exclusively white. In 1965, whites (mostly men) made up 98 per cent of both these occupational categories. By 1990, the proportion of white managers had declined by only 10 per cent and the proportion of white professionals by only 17 per cent.³

These findings concerning the trends in formal urban employment suggest that the erosion of the racial division of labour has proceeded much further, at least in some occupational categories, than was generally anticipated. Certainly, the extent of African employment in semi-professional, routine white-collar and artisanal occupations amounts to much more than a mere 'blurring' of the racial hierarchy at lower skill levels. However, as I have already mentioned, revisionist scholars were not entirely in agreement on the extent of African advancement into middle class occupations. The findings of Simkins and Hindson, who also relied on the results of the Manpower Surveys, do not differ substantially from my results. They place the proportion of African 'Clerical, White-Collar Technical and Non-Manual Workers' at 21 per cent in 1977, a figure which is in general agreement with my findings.⁴

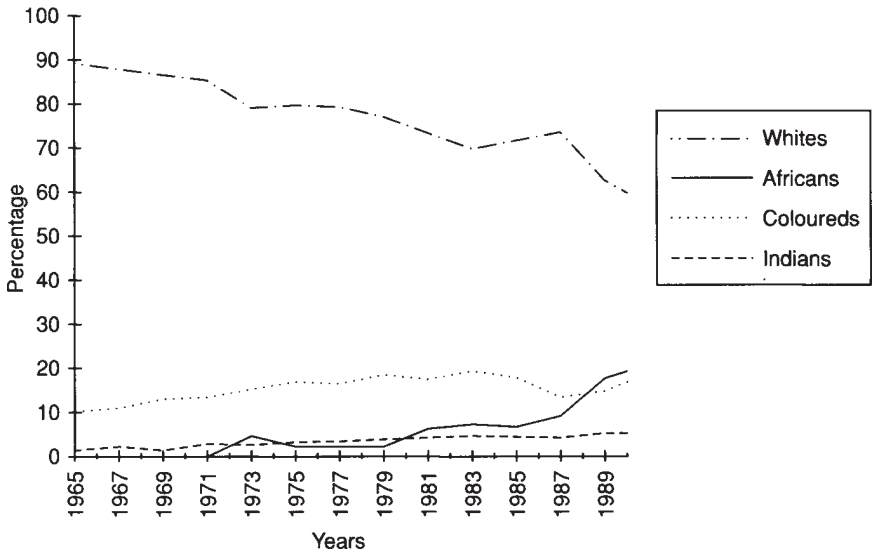


Figure 2.3 Artisanal employment by race, 1965-90 (percentage distribution)

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.13 in the Appendix to Chapter 2

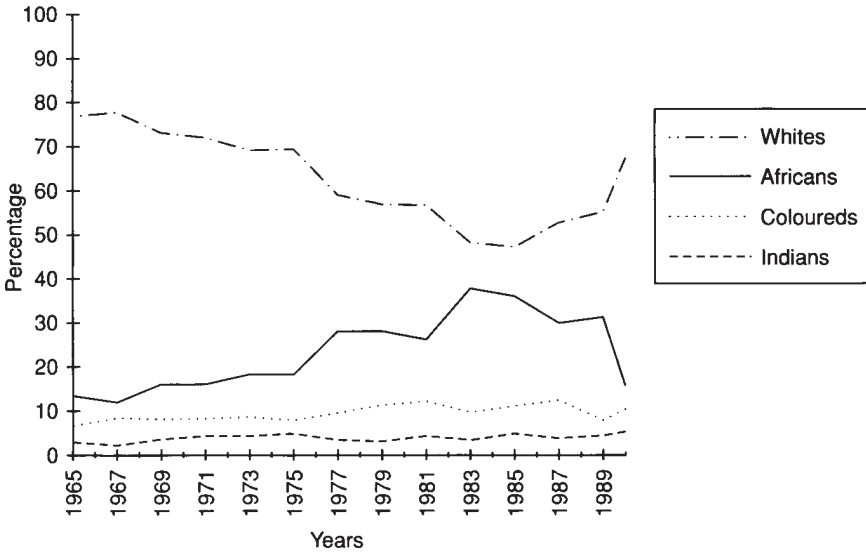


Figure 2.4 Supervisory employment by race, 1965-90 (percentage distribution)

Source: My own analysis of the Manpower Survey data tapes. For the data on which these graphs are based, refer to Table A2.11 in the Appendix to Chapter 2

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Wolpe's calculations, however, produced vastly different results. He argued that, in 1970, African employment accounted for 51 per cent of all 'new middle class' employment.⁵ This estimate is over three times the size of my estimate of 16 per cent for 1971. In terms of absolute employment levels, the difference between Wolpe's findings and my own is even greater. Wolpe's figure for African employment in 'new middle class' occupations in 1970 is 1,315,800, which is over six times the size of my estimate of 211,282 for 1971.⁶

In contrast to Wolpe's estimates, Davies argued that only 3 per cent of economically active Africans were employed in 'new petty bourgeois' occupations in 1974. In terms of absolute employment figures, Davies' findings are somewhat lower than my own, at 195,366 in 1974 compared to my result of 238,285 for 1975. Furthermore, Davies predicted that, by 1990, the proportion of economically active Africans employed in 'new petty bourgeois' occupations would only increase to between 4 and 9 per cent.⁷

There are two reasons for these divergent results and their associated interpretations. The first of these is concerned with the definitions of the 'new middle class' or 'new petty bourgeoisie' and the problem of applying such definitions to the occupational categories reported by the Population Census. Although the occupational categories of Managerial, Executive & Administrative, Professional, Semi-Professional & Technical, as reported in the Population Census, are unambiguously middle class in character, the categories of Clerical & Sales, Transport, Delivery & Communication and Service, Sport & Recreation comprise both middle class and working class occupations (as classified by Poulantzas' and Carchedi's models).⁸ The absolute employment figures provided by Wolpe and Davies differ because of the way that they resolved this problem. Whereas Davies chose to include only three employment categories in his estimate of the size of the African middle class, namely Managerial, Executive & Administrative, Professional, Semi-Professional & Technical and Clerical & Sales, Wolpe chose to include these three categories as well as the category of Service, Sport & Recreation. As Wolpe noted, the occupational category of Service, Sport & Recreation comprises a wide range of occupations ranging from relatively skilled and well-paid occupations such as barber, undertaker and photographer to the least skilled and worst-paid service sector jobs such as cleaner and waiter.⁹ This is also true, however, for the occupational category of Clerical & Sales which includes occupations as different as stockbroker and petrol filling station attendant. Wolpe chose to include the Service, Sport & Recreation category on the basis that a significant proportion of these occupations are middle class in character. Equally, however, a great many of them are clearly working class jobs and it is therefore quite reasonable to exclude this occupational category in order to avoid overestimating the size of the African middle class. However, by doing so, one is still left with the problem of a large number of unskilled menial workers, such as petrol pump attendants who are included in the middle class. A further problem with the category of

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Service, Sport & Recreation is that it is a very large occupational category: according to Wolpe's estimate, this group alone makes up almost half of all 'new middle class' employment.

My own analysis of the results of the Manpower Survey avoids this problem of crude occupational classifications by providing a reliable estimate of the size of routine white-collar types of work which are otherwise categorised along with unskilled and menial work in the sales, service, transport and communication sectors. What is significant about my results is that, even though all unskilled and menial jobs were removed from the usual Clerical & Sales category, they were more than compensated for by the inclusion in my Routine White-Collar and Semi-Professional categories of a variety of jobs normally classified in Service, Sport & Recreation and Transport, Delivery & Communication. So, this detailed re-classification of occupations has shown that the results of Davies and Wolpe are both fraught with difficulties. The reason why Davies' estimate is so close to my own is because his errors of including all Clerical & Sales, on the one hand, and excluding all Service, Sport & Recreation on the other, in fact cancel each other out.

The second reason for the disagreement over the size of the African middle class arises from the methods which authors have used to present their results. Davies was eager to show how apartheid and racial inequality correspond. To emphasise how unequal the racial division of labour in South Africa is, he presented the proportion of 'new petty bourgeois' Africans as a proportion of all economically active Africans instead of Africans as a proportion of the whole 'new petty bourgeoisie'. This method of presenting employment statistics naturally results in a very low proportion. Nolutshungu also used this method to emphasise just how small the African middle class was. He used Population Census data to show that just under 1 per cent of all Africans were middle class in 1970.¹⁰ Davies' estimate is therefore quite accurate: in fact, the most recent results of the 1991 Population Census put the proportion of 'new petty bourgeois' Africans at 11 per cent of the economically active population, only 2 percentage points higher than his own optimistic projection for 1990.¹¹

However, the method used by Davies and Nolutshungu to present employment statistics does not constitute evidence which can be used to support or oppose the argument that the division of labour is racially unequal. To do this, they would have to make some reference to the employment characteristics of other races: specifically whites. This can be done by comparing the occupational profiles of each race or by examining the racial composition of each occupational group. So, although the statistical results presented by Davies and Nolutshungu are correct, their method of presentation emphasises both the racially unequal division of labour and the slow rate at which it is eroding. Although this may seem a rather elementary and technical point, it none the less has important consequences for how employment figures are interpreted. For example, although it is statistically correct to report that

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

only 11 per cent of economically active Africans were employed in middle class occupations in 1991, this formulation has the effect of down-playing the extent of African advancement. This becomes clear if the identical employment figures for the African middle class are presented as a proportion of all middle class employment. This formulation reveals a quite different picture: it shows that almost one third (29 per cent) of the middle class was African in 1991. An analysis of the racial composition of occupational classes, as opposed to the occupational composition of races, is therefore a more suitable method for emphasising and identifying changes in the racial division of labour.

However, there is a much more important reason why I have adopted the former method for this study. The analysis of the changing racial composition of occupational classes also provides insights into the ways that capitalist production and apartheid policies have affected African advancement. Although apartheid laws were applied on a racial basis, not all Africans were affected by these laws in identical ways. The impact of apartheid policies had different effects on different classes of African labour. Similarly, not all classes are governed by the same kinds of production processes and market conditions. An examination of the racial composition of different classes of labour therefore serves to identify and to explain these differences better.

THE PATTERN OF AFRICAN ADVANCEMENT AND THE 'FLOATING' COLOUR BAR

Instructive as they are, the macro employment results presented in the previous section have the effect of overstating the extent to which racial inequality has been eroded over the past 25 years. An examination of the racial distribution of employment across occupational groups shows that the racial occupational hierarchy has been broken. For example, there are blacks employed as managers, professionals and semi-professionals whereas there are still substantial numbers of whites employed as artisans, supervisors, routine white-collar workers and routine security workers (Figure 2.5). However, these results should not be used to infer that the racial hierarchy in the workplace has been eroded to any great extent. Because these results are aggregations across numerous establishments, all industrial sectors and fairly wide ranges of occupations, they have the effect of over-stating the extent of equality within occupational classes and of over-stating the extent of racial integration in the workplace. Conceivably, it is quite possible for Africans to advance into semi-professional, routine white-collar and artisanal employment to the extent discussed above while always remaining subordinate to whites in particular establishments. In other words, the evidence of African advancement presented in the previous section is quite compatible with a 'floating' colour bar.

The possibility that the floating colour bar persists can be tested by an examination of the racial distribution of employment across specific

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

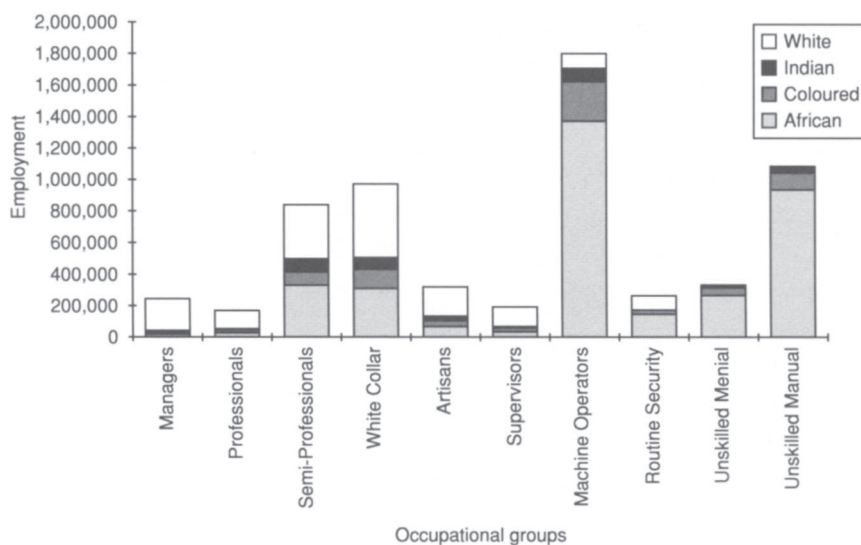


Figure 2.5 Racial distribution of employment by occupation: 1990

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to the Appendix to Chapter 2

occupations which are found in these broad occupational categories. This analysis shows that there are quite distinct patterns of racial inequality within the broad categories of semi-professional, routine white-collar and artisanal employment. In general terms, Africans are moving into traditionally white jobs at the bottom of the skill and income hierarchy. There are, however, quite distinct patterns to this process within the semi-professional, routine white-collar and artisanal categories. In the case of employment in routine white-collar occupations, Africans are employed across a much wider range of jobs and there is evidence of much greater racial equality and integration in the workplace. In the semi-professional occupations, Africans are still employed predominantly in occupations within racially-segregated bureaucracies. As far as artisanal employment is concerned, African employment is concentrated within specific industrial sectors and specific trades. The evidence for these patterns is discussed in detail below.

Semi-professionals

A detailed examination of the 1990 Manpower Survey results for semiprofessional employment shows that, as a proportion of total employment in each occupation, high proportions of Africans are found only in the occupations of Nurse (43 per cent), Matron (23 per cent), School teacher (54 per cent), School Principal/Inspector (62 per cent), Priest (29 per cent) and

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Technicians Assistant (20 per cent). By contrast, African employment in the occupations of Pharmacist, Technician, Technologist, Computer Programmer and Unregistered Accountant does not exceed 4 per cent of all employment in these occupations (Table 2.1). Semi-professional Africans are therefore concentrated in racially segregated public sector jobs. At first glance, this pattern of employment distribution, in which Africans are restricted to only a limited number of occupations, does seem to contradict the general finding that there has been extensive African advancement into semi-professional employment as a whole. The reason for this apparent contradiction is that a high proportion of semi-professionals of all races is employed as school teachers, technicians or nurses. In 1990, school teachers, principals and inspectors made up 36 per cent of all semi-professional employment.¹² Technicians made up 17 per cent and nurses made up 14 per cent. Altogether, these three occupations therefore account for just over two thirds (67 per cent) of all semi-professional employment. The relatively large proportion of Africans who are employed in semi-professional occupations is therefore mainly a function of the high numbers of African school teachers and nurses. However, the concentration of semi-professional employment in school teaching and nursing is not unique to Africans. Although the proportion of African semi-professionals who are school teachers and nurses is probably as high as 57 and 20 per cent, respectively, the employment of coloureds and Indian semi-professionals reveals a similar occupational profile. In 1990, almost half (49 per cent) of all coloured semi-professionals were school teachers and as many as 17 per cent were nurses. Similarly, 36 per cent of all Indian semi-professionals were employed as school teachers and 9 per cent as nurses. Even in the case of white semi-professionals, the proportion of school teachers was as high as 18 per cent and the proportion of nurses was 10 per cent.¹³ So, although semi-professionals of all races are concentrated to a greater or lesser extent in the occupations of school-teaching and nursing, this is especially true for African semi-professionals.

There is another measure of racial inequality within semi-professional employment that is worth mentioning at this stage. Apart from the fact that it was state policy until the late 1970s to pay African, coloured and Indian school teachers less than white school teachers, it is also true that white teachers on average hold higher educational qualifications than teachers of other races and, accordingly, receive higher salaries. By 1982 only 3 per cent of all white school teachers did not hold at least a post-matric teaching diploma. In contrast 85 per cent of all African school teachers did not hold such a qualification.¹⁴ Although the educational profile of African school teachers has improved substantially since then, by the late 1980s 42 per cent still did not hold a post-matric teaching diploma or degree. Instead, these less qualified teachers have usually completed only standard 8 and a short teaching diploma or, alternatively, have completed matric but have not completed a teaching diploma.¹⁵

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Table 2.1 Racial and sexual division of labour across semi-professional occupations, 1990 (percentage distribution)

Occupation	Africans		Coloureds		Indians		Whites		Unspecified race/sex	Total
	M	F	M	F	M	F	M	F		
Pharmacist	1	0	1	0	4	2	53	38	0	100
Technician	2	0	2	0	54	0	36	4	1	100
Technologist	2	1	3	0	3	1	82	8	0	100
Computer Programmer & Allied	3	1	4	2	6	1	52	30	2	100
Head Nurse/Matron	3	22	1	4	0	1	5	64	1	100
Nurse	3	40	0	13	0	4	1	37	0	100
Accountant (not registered)	4	0	2	1	4	1	64	22	1	100
Journalist/Editor/Writer	7	1	2	1	1	0	39	47	0	100
Physiotherapist/ Occupational & Speech Therapist/ Radiographer	8	15	0	6	1	3	7	59	0	100
Artist & Musician	10	1	5	2	3	1	39	37	1	100
Insurance Agent/ Estate Agent/ Auctioneer	13	3	8	2	3	1	40	31	0	100
Health Inspector	15	3	5	1	4	0	59	9	4	100
Pharmacist's Assistant	16	4	2	3	4	9	15	46	0	100
Technician's Assistant	19	1	8	3	4	1	37	27	0	100
School teacher	21	33	5	10	3	3	8	18	0	100
Priest	28	1	6	0	1	0	59	5	0	100
School Principal/ Inspector	33	29	11	2	3	0	15	7	0	100

Source: Manpower Survey 1990: Occupational Information, Report No. 02-01-01, Pretoria, Central Statistical Service, 1991. For the data on which this table is based, refer to Table A2.21 in the Appendix to Chapter 2.

Artisans

An examination of the distribution of Africans within artisanal employment reveals a similar segregation within the skilled trades. By 1990, high proportions of African artisans were employed only in the Jewellers & Goldsmiths, Furniture and Building trades, where they contributed 43, 38 and 28 per cent, respectively, to all employment. The fact that there is a significantly higher proportion of African apprentices than artisans across all trades means that the proportion of African artisans in all these trades is growing at a substantial rate. However, even the distribution of African apprenticeships reflects the pattern of limited African participation in the more technologically advanced trades of Electrical & Electronic, Metal & Engineering, Motor Vehicle and Printing. In these trades, the proportion of African artisans was only 6, 9 and 11 per cent, respectively, in 1990 (Table 2.2). In terms of the

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

*Table 2.2 Racial division of labour across the skilled trades, 1990
(percentage distribution)*

<i>Industrial sector</i>	<i>Africans</i>	<i>Coloureds</i>	<i>Indians</i>	<i>Whites</i>	<i>Race not specified</i>	<i>All races</i>	<i>Vacancy rate</i>
Other							
Artisans	3	11	1	85	0	100	5
Apprentices	14	49	2	34	0	100	11
Electrical & Electronic							
Artisans	6	7	4	82	1	100	5
Apprentices	12	7	3	76	2	100	3
Metal & Engineering							
Artisans	9	9	3	79	1	100	4
Apprentices	15	9	5	71	1	100	3
Motor Vehicle							
Artisans	11	9	5	72	3	100	4
Apprentices	14	8	7	71	0	100	3
Printing							
Artisans	17	21	14	48	0	100	1
Apprentices	12	24	5	59	0	100	2
Building							
Artisans	28	38	6	28	0	100	3
Apprentices	61	31	1	7	0	100	0
Furniture							
Artisans	38	47	6	9	0	100	1
Apprentices	46	30	12	12	0	100	0
Jewellers & Goldsmiths							
Artisans	43	15	14	28	0	100	6
Apprentices	90	5	1	4	0	100	0

Source: Manpower Survey 1990: Occupational Information, Report No. 02-01-01 (Central Statistical Service, Pretoria, 1991). For the data on which this table is based, refer to Tables A2.22 and A2.23 in the Appendix to Chapter 2.

overall numbers of African artisans, with the exception of the building trades, Africans have made the most advances in trades which employ only a small proportion of the total workforce. In fact, employment in the Electrical & Electronic, Metal & Engineering and Motor Vehicle trades accounted for 68 per cent of all artisanal employment in 1990. Furthermore, even within these broad trade categories, Africans are concentrated in the trades which have experienced the most dilution due to mechanisation, such as the trade of Welder which falls within the broader category of Metal & Engineering trades.¹⁶

Routine white-collar workers

In contrast to racial employment patterns within the semi-professional and artisanal classes, employment within the routine white-collar category reveals

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Table 2.3 Racial and sexual division of labour across routine white-collar occupations, 1990 (percentage distribution)

<i>Occupation</i>	<i>Africans</i>		<i>Coloureds</i>		<i>Indians</i>		<i>Whites</i>		<i>Unspecified race/sex</i>	<i>Total</i>
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>		
Pharmacist	1	0	1	0	4	2	53	38	0	100
Secretary/Typist/ Receptionist	1	4	1	7	1	4	2	79	1	100
Bookkeeper & Financial Clerk	5	3	3	8	4	5	11	59	1	100
Cashier	7	19	2	6	3	6	7	40	2	100
Data Typist/Computer Operator	7	6	7	10	8	5	15	43	0.2	100
Sales Representative/ Agent	7	4	5	2	5	1	50	26	1	100
Shop & Counter Assistant	14	28	5	14	5	6	7	20	0.1	100
General Clerk	18	7	6	7	5	3	14	37	3	100
Office Machine Operator	26	8	10	7	3	2	7	36	1	100
Postal Sorter & Deliverer	26	1	17	0.3	7	0.0	27	22	0.0	100
Bus & Train Conductor	27	0.0	6	0.1	2	0.0	56	9	0.0	100
Messenger	61	15	12	4	1	0.1	4	1	1	100

Source: Manpower Survey 1990: Occupational Information, Report No. 02-01-01, Pretoria, Central Statistical Service, 1991. For the data on which this table is based, refer to Table A2.24 in the Appendix to Chapter 2.

a significantly less polarised racial division of labour. Africans form a fairly substantial proportion of a range of the most common routine white-collar jobs in shops, offices and transport establishments. For example, Africans made up 42 per cent of all Shop & Counter Assistants, 34 per cent of all Office Machine Operators, 27 per cent of all Postal Sorters and Deliverers, 27 per cent of all Bus & Train Conductors, 26 per cent of all Cashiers and 25 per cent of all General Clerks (Table 2.3). The occupations which are still dominated by white employment are front-of-house jobs such as Secretary/Typist/Receptionist and the more skilled jobs of Sales Representative and Data Typist/Computer Operator. The only occupation which is notably less skilled and characterised by predominantly African employment is that of Messenger.

This pattern of racial inequality within the broad occupational categories is supported by further evidence on wage rates. Information concerning the wages of specific occupations is not provided by official statistics. However, these data are available from some private surveys. One such survey is that conducted by P-E Corporate Services. This survey was conducted between 1979 and 1989

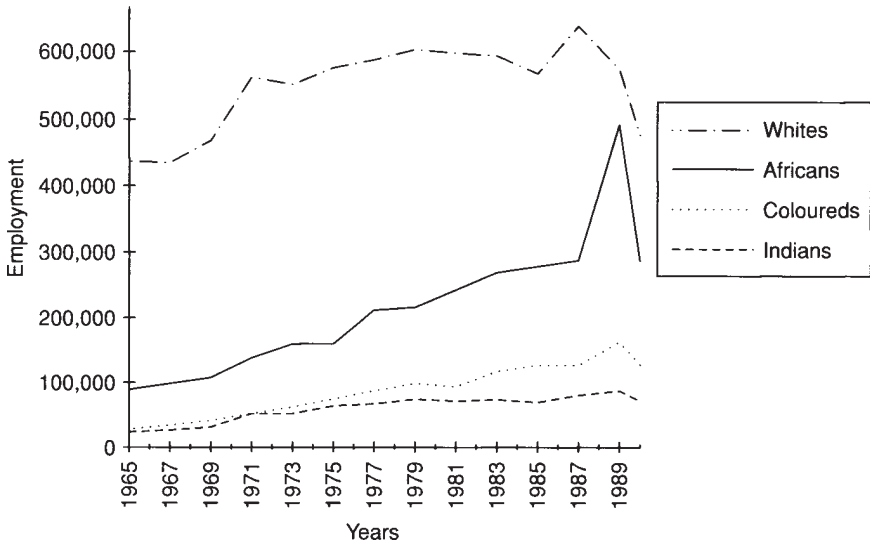


Figure 2.6 Routine white-collar employment by race, 1965–90

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.8 in the Appendix to Chapter 2

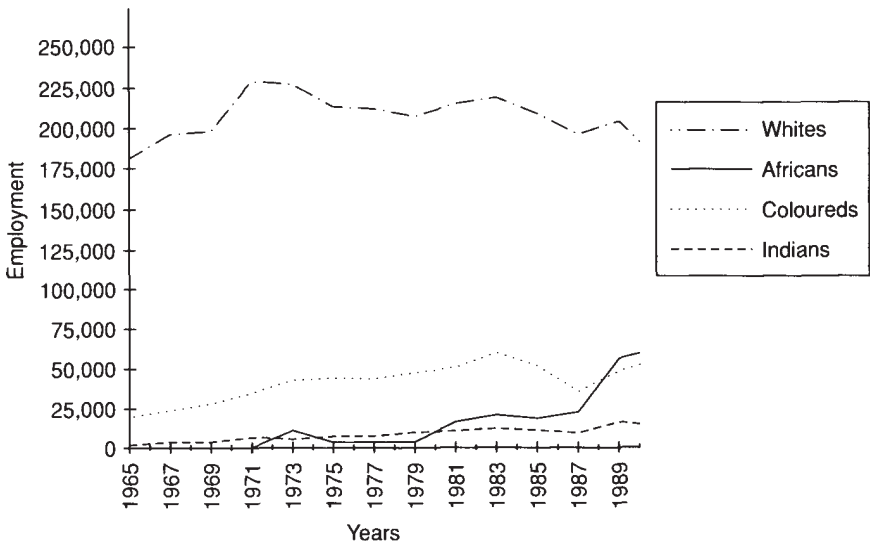


Figure 2.7 Artisanal employment by race, 1965–90

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.14 in the Appendix to Chapter 2



Figure 2.8 Supervisory employment by race, 1965–90

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.12 in the Appendix to Chapter 2

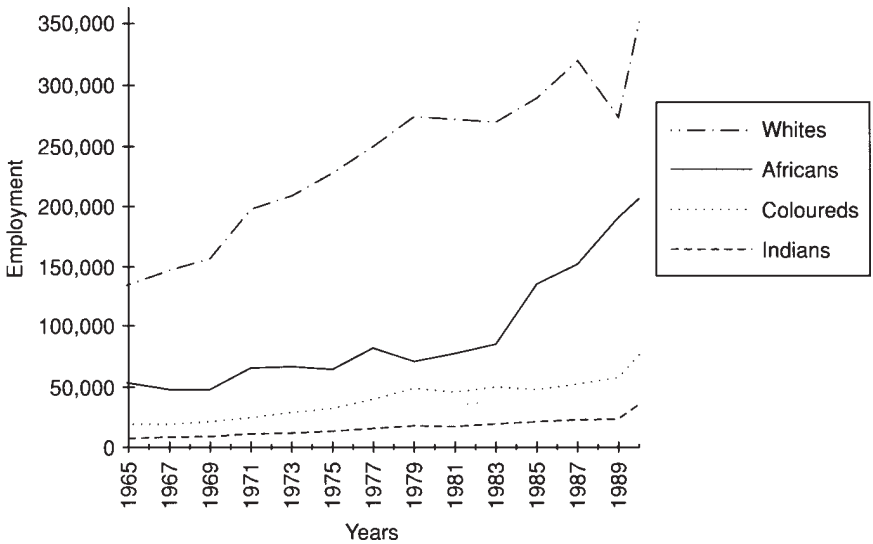


Figure 2.9 Semi-professional employment by race, 1965–90

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to Table A2.6 in the Appendix to Chapter 2

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

among client companies in order to assist their personnel departments to set wage rates. As such, this survey is representative only of larger employers in the metropolitan areas. The detailed occupational classification provided by this survey allowed the construction of an occupational classification identical to the one provided above using the Manpower Survey results.¹⁷ The analysis of the wage rates by occupation and race revealed an identical racial hierarchy to the one described above. Without exception, for the period from 1979 to 1989, African semi-professionals, routine white-collar workers and artisans earned the least. Conversely, white wages within these occupational categories were always the highest. By 1989, the average African wage within semi-professional occupations was 49 per cent that of the average white wage.¹⁸ Similarly, the average wage of African routine white-collar workers was 54 per cent of the average white wage.¹⁹ On average, African artisans' wages were 56 per cent of those of white artisans.²⁰

Another important feature of the pattern of black advancement in these semi-professional, routine white-collar and artisanal occupations is that it has been accompanied by an exodus of whites. This is evident in the employment patterns of routine white-collar workers and artisans. In the case of routine white-collar employment, white employment grew from about 437,000 in 1965 to a maximum of 602,000 in 1979 (Figure 2.6). During this period, the proportion of African routine white-collar workers grew from 15 per cent to 22 per cent. After 1979, however, white employment began to decline and, by 1990, was down to 475,000.²¹ In contrast, African employment continued to grow in both absolute and relative terms to about 301,000 in 1990. The decline of white employment in the skilled trades began much earlier. The employment of white artisans increased steadily during the 1960s reaching its zenith at 228,000 in 1971 (Figure 2.7). Thereafter white employment declined slowly to about 190,000 in 1990. Most of the further growth in employment of artisans, which continued until 1983, was supplied by coloured and African labour.

There are also indications of such trends in the employment of supervisors, but the results are inconclusive because the data since 1987 are self-evidently wrong (Figure 2.8).²² The exceptions to this pattern of blackening from below are employment trends in semi-professional employment in which African advancement has been associated with increases in white employment (Figure 2.9).

These trends in absolute employment levels therefore suggest that African advancement into artisanal and white-collar employment is being accompanied by the movement of whites into more skilled and better-paid occupations. Of course, the limitation of these employment data is that they do not provide any insight into the inter- or intra-generational occupational mobility of workers. In the absence of such data, however, it is useful to examine the changes in the occupational profile of the white urban workforce. If the changing occupational profiles of whites over the years are

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

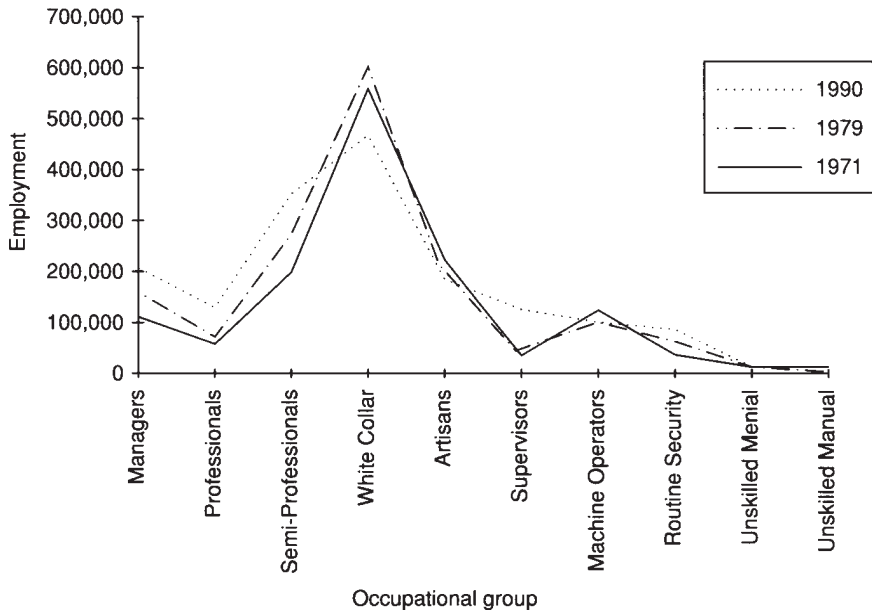


Figure 2.10 Occupational profile of the white workforce, 1971, 1979 and 1990

Source: My own analysis of the Manpower Survey data tapes. For the data on which this graph is based, refer to the Appendix to Chapter 2

compared, it is clear that there has been little occupational movement out of more skilled into less skilled occupations. The absolute decrease in the levels of white employment in the skilled trades since 1971 and in routine white-collar work since 1979 has not been accompanied by the growth of white employment in less skilled occupations other than that of routine security work (Figure 2.10). It is therefore reasonable to conclude that the decline in the employment levels of white routine white-collar and artisanal workers has been a result of their upward occupational mobility, of either an inter- or intra-generational character, into managerial, professional, semi-professional and supervisory jobs.

Racial integration and racial equality in the workplace

There is, unfortunately, no contemporary source of data which indicates the extent to which these national statistics represent racial integration and racial equality in the workplace itself. There is evidence for the late 1970s, however, that companies which employed mostly routine white-collar workers were less racially segregated than companies which employed mostly manual

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Table 2.4 Proportions of companies with racially desegregated facilities by sector

<i>Industrial sector</i>	<i>Percentage of companies with desegregated facilities</i>			
	<i>Canteen</i>	<i>Toilets</i>	<i>Changing rooms</i>	<i>Recreation facilities</i>
Mining	–	–	25	–
Materials Manufacture	41	34	12	22
Construction	–	38	62	13
Industrial Equipment				
Manufacture	23	20	11	20
Consumer Goods				
Manufacture	45	60	27	25
Distribution & Service				
Industries	36	59	59	32
Financial Institutions	63	63	87	63
Other (includes Local Government)	20	60	40	–
Overall	36	45	33	28

Source: *Report on Asiatic, Black and Coloured Advancement 1979*, Johannesburg, Fine Spamer Associates, 1979, Section 16, pp. 22–5.

workers. The extent to which routine white-collar workers were more racially integrated and enjoyed greater racial equality in the workplace is reflected by a number of characteristics. First, the proportion of financial institutions and companies engaged in the distribution and service sectors which reported that they provided racially desegregated canteens, toilets, changing rooms and recreation facilities was consistently higher than the proportion of companies in the manufacturing, construction and mining sectors (Table 2.4).

Second, the supervision of whites by blacks was much more likely to take place in an office environment than in a factory. Of those companies which reported that they employed black supervisors to manage whites, 75 per cent reported that this supervision took place in offices and 25 per cent reported that it took place on the factory floor.²³ These results suggest that the racial hierarchy in supervisory and routine white-collar occupations in offices is not as rigid as it is among supervisors, artisans and machine operatives who are employed in factories. This finding is therefore consistent with the results of the Manpower Survey which indicate that the degree of racial integration in routine white-collar employment is far greater than in the skilled trades.

Case studies of particular establishments reveal that, for the most part, there is very little racial overlap between blacks and whites in occupations of equal status or remuneration. The only area in which the extent of inter-racial integration is significant is among clerical workers employed in office environments. Some evidence for this comes from an in-depth study, conducted during 1985, of a number of private sector establishments in the

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

Pretoria-Witwatersrand-Vereeniging complex. The study of a division of a large bank revealed extensive de-racialisation among routine clerical staff which comprised mostly white and coloured women (39 and 43 per cent respectively) and African men (12 per cent).²⁴ Similarly, in the head office of a supermarket chain, the proportion of African, coloured and Indian routine clerical workers, respectively, was as high as 25, 11 and 10 per cent.²⁵ By contrast, there was almost no racial overlap in manual occupations in factory establishments. In the case of a motor vehicle manufacturer, 96 per cent of semi-skilled machine operatives were African and only 4 per cent were white. Conversely, all artisans were white.²⁶ A similar racial division of labour was found in the other factory case-study. In this case, only 1 semiskilled operative out of a semi-skilled workforce of 278 was white.²⁷

CONCLUSION

This chapter has been concerned with the question of the overall extent and pattern of African advancement in formal urban employment since the 1960s. By relying on a detailed classification of occupations, these results have settled some empirical questions concerning earlier estimates of the extent of African employment in 'middle class' occupations. Because of the limitations posed by the classification of occupational groups in official publications, Wolpe and Davies came up with markedly different estimates of the extent of African employment in 'middle class' occupations. By distinguishing between routine white-collar occupations, which are associated with at least some years of secondary school education, from cleaning and menial jobs in the tertiary sector, my results provide a more accurate estimate of the extent of African advancement into traditionally white routine white-collar occupations.

A striking feature of African advancement in semi-professional, routine white-collar and artisanal employment is that they show quite different levels of racial integration. Whereas Africans are relatively evenly distributed across most routine white-collar jobs, the extent of this equality is not matched in semi-professional and artisanal employment. In the case of semi-professional employment, Africans are concentrated in the occupations associated with nursing and school teaching. In the skilled trades, African employment is still concentrated in the building, furniture, jeweller and goldsmith sectors. So, although there has been substantial upward mobility of Africans into these traditionally white jobs, there is still a job and wage hierarchy within these occupational groups.

The second empirical question which these results have solved is that of the pattern of African advancement into traditionally white occupations. By using relatively small occupational categories, my analysis reveals that substantial African advancement has been restricted to semi-professional and routine white-collar jobs. In contrast, there has been very little African

EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

advancement into managerial, professional and artisanal jobs. Although uneven, the extent of African advancement during the apartheid period poses important questions for the relationship between apartheid and capitalist economic growth. How, in the face of a formidable array of racially discriminatory laws and practices, was African advancement able to take place to the extent that it has? As I have already outlined, the explanation for these patterns of deracialisation will be pursued through an examination of the impact of capitalist economic growth and apartheid labour policies on the racial division of labour. Chapters 3 to 5 will be devoted to such an analysis.

CAPITALIST INTERESTS, WHITE LABOUR AND APARTHEID LABOUR POLICY

INTRODUCTION

The results presented in the previous chapter revealed that the advancement of Africans into traditionally white occupations during the apartheid era was by no means even. Although there was significant African advancement into semi-professional and routine white-collar occupations, the extent of this advancement was not matched in the skilled trades. Clearly, this pattern of de-racialisation cannot be explained simply through reference to the level of education required for these different occupations. Although many semi-professional jobs do require a post-matric diploma, I have shown that many African semi-professionals are teachers and nurses who have usually completed only Standard 8 and a short post-school diploma. Similarly, although many routine white-collar jobs require Standard 10, most of the routine white-collar jobs which Africans occupy do not require more than a Standard 8 certificate. Entry into the skilled trades also requires only a Standard 8 certificate plus two years of apprenticeship training. So, although the level and type of education required for these different occupational groups are not exactly the same, they are within the reach of most individuals with at least three years of secondary education. There is therefore no obvious correlation between the levels of certification required for particular occupations and the extent of their de-racialisation. I shall argue that the explanation for this uneven pattern of de-racialisation must be sought in the complex relationship between the changing capitalist labour process, controls by white unions over the supply of skilled labour, and state labour policy.

The argument which I shall present in the next three chapters is that these different patterns of African advancement were shaped in important ways by the particular paths of development characteristic of the different industrial sectors. In the mining and secondary industries, the expansion of capitalist production was accompanied by a radical restructuring of the occupational division of labour. Through mechanisation and the fragmentation of the skilled trades, employers were able to increase their output by employing

CAPITALIST INTERESTS AND LABOUR POLICY

more and more African workers on semi-skilled and machine operative tasks while advancing white workers into top semi-skilled jobs and the skilled trades. Thus, the expansion of African employment in the mining and secondary sectors was achieved through the substantial increase in the size of the largely African semi-skilled and machine operative class. In contrast, the top semi-skilled jobs and the skilled trades remained in the hands of white and, to a lesser extent, coloured and Indian workers.

This practice of allocating semi-skilled and machine operative work to Africans while reserving the skilled trades largely for whites was the method by which employers, the state and white labour resolved the chronic shortage of skilled white labour which intensified during the growth years of the 1960s and the early 1970s. This particular solution to some of the contradictions of apartheid policy was facilitated by the convergence of certain interests of employers, the state and white labour.

In the tertiary sector, however, by nature of the work concerned, no such restructuring of the labour process was possible. Consequently, there was no obvious mechanism whereby employers could create new kinds of jobs exclusively for African employment. Instead, when employers began to advance Africans into more skilled and better paid semi-professional and routine white-collar jobs, these were the very same jobs that were occupied by whites. However, in so far as these jobs serviced the needs of the black population, the state tolerated and even encouraged the advancement of blacks into clerical, nursing and teaching jobs. The enormous expansion of racially segregated health and education systems, as well as of government bureaucracies by the state during the apartheid period therefore resulted in a substantial growth in the employment of black, and especially African, clerks, nurses and teachers.

THE RACIAL AND OCCUPATIONAL DIVISION OF LABOUR IN 1948

Manufacturing industries

By the time the National Party came to power in 1948, most semi-skilled machine operative work in manufacturing was performed by coloureds, Indians and Africans. Certain manufacturing industries, such as the textile, furniture, leather, footwear and processed foods sectors, were extensively mechanised as early as the 1920s. When these industries first began to adopt mass production techniques, it was mostly whites who filled these new machine operative jobs. By the Second World War, however, the racial composition of the semi-skilled operative workforce in these industries had undergone substantial changes as whites left these sectors and were replaced by coloureds, Indians and Africans.¹ The exceptions to this pattern were the metal, motor vehicle repair and printing industries in which white artisans

had successfully resisted the introduction of mass production techniques and therefore still retained considerable control over the labour process.² The expansion in production generated by the needs of the war economy, however, transformed the metal and engineering sector. By providing protection from imports while simultaneously creating a large demand for metal products, the conditions for repetitive manufacturing production were realised. Whereas prior to the war the metal and engineering industry was geared to 'jobbing' and repair work for the mining industry, by the mid-1940s the industry had been mechanised extensively.³ Unlike most other mass production industries, however, the metal sector employed mostly white machine operatives.⁴

So, in general terms, by the time the National Party came to power in 1948, most manufacturing industries were characterised by repetitive mass production which entailed a division of labour with significant numbers of semi-skilled machine operatives. Only in the printing, motor vehicle repair and certain sub-sectors of the metal industry was the labour process dominated by skilled artisans who were assisted by unskilled manual labourers. Furthermore, in most manufacturing sectors, white employment in semiskilled machine operative work was in decline. By 1948, about two-thirds of semi-skilled machine operative jobs in the manufacturing industry were filled by black workers, half of whom were African.⁵ In contrast, employment in the skilled trades was almost exclusively white. So, when the newly-elected apartheid government initiated a national policy to protect the interests of white workers, most semi-skilled machine operative jobs were already filled by blacks. The only white workers who were seriously threatened by competition from black workers were therefore employed in semi-skilled machine operative work. This is evidenced by the fact that work reservation determinations which were implemented by the National Party Government were aimed at protecting the jobs of white semi-skilled operatives only in the motor vehicle assembly, metal and clothing industries and not in those industries where most semi-skilled operators' jobs were already filled by black workers.⁶

Mining and construction industries

Prior to the Second World War, both the building and mining industries were significantly more labour intensive than manufacturing industries. Although many building components were made by mass production techniques, these components were usually supplied by companies in the manufacturing sector. So, the mass production of many building operations which were previously performed on building sites were moved into factories in the manufacturing sector. Consequently, most on-site building operations were still characterised by a division of labour between white and coloured artisans, on the one hand, and unskilled African labourers on the other.⁷ Similarly, most

underground mining operations were carried out by skilled white miners and unskilled African labourers. The exception was the operation of certain mechanical scrapers and pneumatic drills, jobs which were performed exclusively by Africans.⁸ Apart from increasing mechanisation of unskilled tasks which were performed by African workers, the organisation of production and the racial divisions of labour in these sectors did not change much between the Second World War and the mid-1950s when the National Party began to implement apartheid labour policies. Thus, job reservation laws which were introduced in the 1950s to protect the employment of whites were aimed specifically at the skilled building trades and skilled mining jobs.⁹

RESTRUCTURING THE OCCUPATIONAL DIVISION OF LABOUR

The aim of the National Party Government's policy of 'job reservation' was to maintain the status quo in the racial division of labour. It would seem that at the time when Section 77 of the Industrial Conciliation Act was passed in 1956, neither the government nor organised white labour anticipated that the country was destined for a sustained period of economic growth which would place a tremendous strain on the existing racial division of labour. To the contrary, when the Act was passed, the war-time and immediately post-war boom was coming to an end and there was general concern on the part of organised white labour that their members faced intense competition from cheaper black labour.

The sustained period of economic growth, which began in 1963 and lasted until 1975, had a profound impact on the dominant production processes and on the associated division of labour. Although employment in the formal economy grew at a rapid rate of about 2.9 per cent per annum between 1960 and 1970, this expansion of the workforce did not have any significant impact on the overall African: white employment ratio.¹⁰ According to Roukens de Lange's standardised employment series, the African: white employment ratio rose only slightly from 3.3:1 to 3.4:1 between 1960 and 1980.¹¹ However, this overall picture of an unchanging racial composition of the workforce disguises the fact that while employment in some industries saw very little change, or no change at all, other industries saw significant increases in the African: white employment ratio. Specifically, the construction, manufacturing and mining industries saw greater than average increases in the absolute and relative size of the African workforce between 1960 and 1980.¹² The African: white employment ratio in the construction industry actually doubled from 3:1 in 1960 to 6:1 in 1980. Over the same period, the ratio of African to white employment in manufacturing rose from 2:1 to 3:1 and in mining it rose from 8:1 to 9:1. With the exception of the mining industry, this rising trend in the African: white employment ratio was slowed down, but not reversed, by the relatively slow economic growth of the post-1975 period.

What is particularly striking about the period of rapid employment expansion in the construction, manufacturing and mining sectors between 1965 and 1975 is that the expansion of the African workforce produced changes in the racial composition of only semi-skilled machine operative labour and almost no changes at all in the racial composition of the artisanal workforce. In the years between 1948 and 1965, when the first Manpower Survey was conducted, the proportion of African semi-skilled machine operatives in the manufacturing industry rose from about one-third to one-half. Over the subsequent decades, from 1965 to 1990, the proportion of African machine operatives in the construction and manufacturing sectors increased from 65 to 86 per cent and 48 to 66 per cent respectively. Unfortunately, the Manpower Survey results for the mining sector do not provide reliable employment figures for semi-skilled and unskilled employment levels.¹³ However, employment figures for the gold mines provided by the Chamber of Mines show that most semi-skilled jobs (92 per cent) were filled by Africans by 1960. This proportion had increased only marginally by 1980.¹⁴ In contrast to semi-skilled jobs, African employment in the skilled trades did not reach significant proportions until the 1980s. In the construction and manufacturing sectors, only 2 per cent of artisanal jobs were filled by Africans in 1975. In the mining sector less than 1 per cent of artisans were African. Most of the increase in black employment in the skilled trades was, in fact, due to the employment of coloured artisans: by 1975, 41 and 13 per cent of artisans in construction and manufacturing, respectively, were coloured.

The key to understanding how the construction, manufacturing and mining industries were able to absorb such large quantities of African labour without de-racialising the skilled trades lies in the fact that the number of semi-skilled machine operative jobs was expanded considerably, both during the growth years of 1963 to 1975 and thereafter. So, the increased employment of Africans in semi-skilled machine operative jobs was accompanied by the substantial growth of this class of worker. The extent of the expansion of machine operative employment can be gauged by the fact that the ratio of semi-skilled machine operatives to unskilled manual workers rose from about 1:1 to at least 1.6:1 in construction and manufacturing between 1965 and 1985.¹⁵ On the gold mines the ratio doubled from 1:2.9 in 1960 to 1:1.2 in 1990. Put differently, the division of labour in the 1960s was characterised by the predominance of artisans and miners who were assisted by unskilled labourers. In construction and gold mining unskilled workers made up 70 and 68 per cent, respectively, of the total workforce (Figures 3.1 and 3.2).

In manufacturing, where mechanisation had proceeded further, semi-skilled machine operatives slightly outnumbered unskilled workers. Even then, however, unskilled workers still made up 39 per cent of all manufacturing employment (Figure 3.3). In the mid-1970s, the employment of unskilled labourers began to decline in absolute terms while the demand

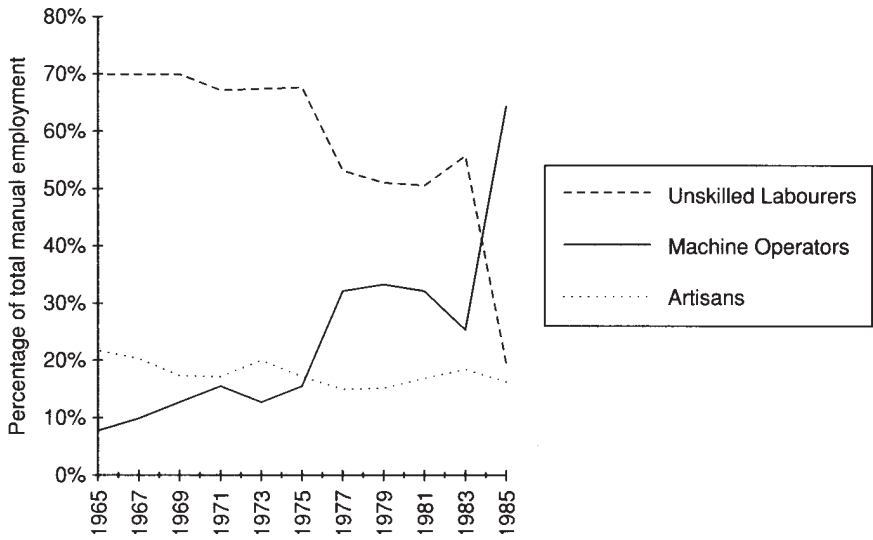


Figure 3.1 Relative proportions of artisans, machine operators and unskilled labourers in the construction industry, 1965–85

Source: Based on my own analyses of the data tapes of the Manpower Surveys. For the data upon which this graph is based, refer to Table A3.2 in the Appendix to Chapter 3

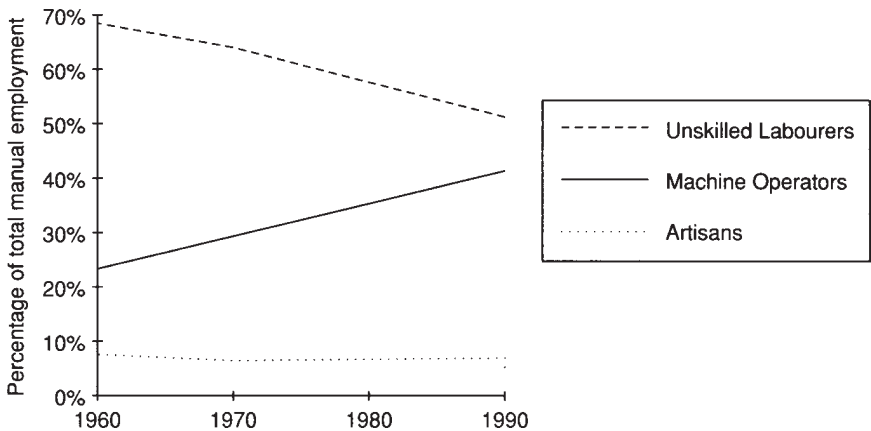


Figure 3.2 Relative proportions of artisans, machine operators and unskilled labourers in the gold mining industry, 1960–90

Source: Adapted from P.Pillay, *Future Developments in the Demand for Labour by the South African Mining Industry*, International Labour Office, 1987, p. 7 and *South African Labour Statistics 1993*, Pretoria, Central Statistical Service, 1993. For the data upon which this graph is based, refer to Table A3.4 in the Appendix to Chapter 3

CAPITALIST INTERESTS AND LABOUR POLICY

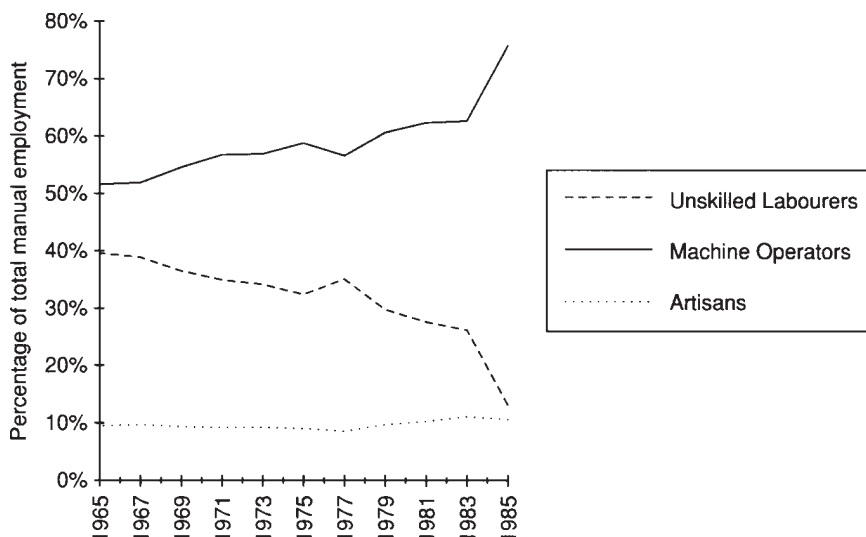


Figure 3.3 Relative proportions of artisans, machine operators and unskilled labourers in the manufacturing industry, 1965–85

Source: Based on my own analyses of the data tapes of the Manpower Surveys. For the data upon which this graph is based, refer to Table A3.6 in the Appendix to Chapter 3

for operative labour continued apace. The result was that, by 1985, the proportion of unskilled workers had dropped to a mere 19, 13 and 51 per cent of the total workforce, respectively, in construction, manufacturing and gold mining. Conversely, by 1985, the proportion of machine operatives had increased to 65, 76 and 42 per cent of the total workforce, respectively, in construction, manufacturing and gold mining (Figures 3.1, 3.2 and 3.3). Although this mechanisation was accompanied by fragmentation of the skilled trades, this did not mean that the demand for artisanal labour declined. Consistent with trends already established in the 1920s, artisans were progressively shifted from tasks directly concerned with production into those of machine maintenance and repair. The exception to this trend was found in certain sub-sectors of the metal industry in which artisans were employed to operate complex production line machines. So, although the demand for skilled labour was substantially less than the demand for machine operative labour, the proportion of artisanal employment in the workforce remained more or less constant during this period.

THE SHORTAGE OF SKILLED WHITE LABOUR

Since much of the preceding argument hinges upon the existence of a shortage of skilled white labour during the years of high employment growth, I will provide a short overview of the best evidence for the skill shortage. Scholars who questioned the existence of a skill shortage during the 1960s and early 1970s argued that, because employers had an obvious interest in using the white skill shortage to make more use of cheaper black labour, it would be unwise to take at face value their claims of a chronic shortage of artisans during this period.¹⁶ However, I believe that there is ample evidence to corroborate employers' claims of a chronic skill shortage which began to make itself felt by the mid-1960s. The first evidence is that, in comparison with the 1960s and 1970s, employer opposition to job reservation in the 1950s was limited. In the words of the President of the Witwatersrand Master Builders Association, the work reservation determinations 'followed current practices in the industry in...[which] it was tradition to entrust skilled work only to white persons'.¹⁷ As early as the late 1950s, however, there were already signs that the building industry was beginning to run out of white artisans. A statistical analysis of apprenticeships registered with the Department of Labour between 1951 and 1961 showed that the 'wet' trades of bricklaying and plastering were already relatively unpopular among white recruits. This was indicated by a low ratio of apprentices to artisans and a high rate of cancelled apprenticeship contracts.¹⁸ More strikingly, white apprentices across all trades were much more likely to cancel their apprenticeship contracts than coloured apprentices.¹⁹ So, by the beginning of the 1960s, whites were already leaving the more 'exacting' building trades for jobs in other skilled trades and in the expanding tertiary sector.²⁰

The shortage of white artisans was by no means restricted to the building industry. By the mid-1960s, the pressure of the skilled labour shortage prompted employers in the mining industry to examine the feasibility of allowing African 'boss boys' to take over some of the supervisory functions of white 'gangers'.²¹ By 1966, the industry was short of 2,000 white miners which translated into a vacancy rate of almost 5 per cent.²² This shortage of skilled labour continued to grow throughout the 1960s and, by the early 1970s, employers expected it to increase to 11 per cent of the total white workforce by 1973.²³

From about the mid-1960s onwards, employers in a variety of manufacturing industries complained of a chronic shortage of white artisans. Surveys conducted among its member companies by the South African Employers' Consultative Committee on Labour Affairs between 1969 and 1971 revealed that there was a shortage of artisans in the furniture, motor, metal, clothing and construction sectors which ranged from 8 to 13 per cent.²⁴ These results are in broad agreement with the Manpower Surveys which began to record vacancies for specific occupations from 1973 onwards.

CAPITALIST INTERESTS AND LABOUR POLICY

These surveys reported a vacancy rate for artisanal jobs of 6 per cent in 1973. Further evidence of the extent of the skill shortage is provided by a survey conducted among member companies by the Steel and Engineering Industries Federation of South Africa which revealed that the turnover of white artisans was as high as 150 per cent in 1970, compared with only 5 per cent in a comparable European industry.²⁵

Another source of evidence for the shortage of white artisans is provided by the extent and type of exemptions to work reservation determinations which were granted by the state. In the building industry, where job reservation applied only to artisans, the government was forced to grant employers exemptions from work reservation determinations throughout the 1960s and 1970s in order to permit the employment of coloured artisans.²⁶ In the metal and engineering industry, employers and white unions negotiated the colour bar through the Industrial Council. Throughout the 1960s, white unions granted exemptions to the colour bar only if employers could demonstrate that suitably qualified white labour was not available. The shortage of skilled and semi-skilled whites reached such proportions that, by 1970, the number of exemptions granted in this way required that the Industrial Council establish a special committee devoted solely to the purpose of processing requests for exemptions.²⁷

By comparing the division of labour in South Africa with other 'middle level' industrialised countries for the years 1960 and 1970, Davies provides another method of identifying a skill shortage. His results show that in 1960 the division of labour in South Africa was similar to other 'middle level' industrialised countries. By 1970, after a decade of rapid economic growth, the proportion of professional, semi-professional, technical, managerial, clerical and sales workers in South Africa's workforce amounted to only 17 per cent compared to between 18 and 20 per cent in comparable countries.²⁸

STATE LABOUR POLICY, CAPITALIST INTERESTS AND THE RACIAL DIVISION OF LABOUR DURING APARTHEID

So, to summarise the argument thus far, the expansion of African employment during the growth years of the 1960s and early 1970s took place without any significant increase in African employment in the skilled trades. How was this possible? The statistical evidence presented above demonstrates that this was achieved through a dramatic restructuring of production processes and their associated divisions of labour. Generally, the mechanisation of production resulted in the expansion of semi-skilled employment at the expense of unskilled manual employment. This was achieved through the increasingly widespread use of mechanised production methods and the fragmentation of the skilled trades into semi-skilled occupations which enabled employers to use African labour in a wide range of semi-skilled jobs. This led to the

emergence of a new occupational and racial division of labour in which white workers were concentrated in the skilled trades and African workers were increasingly employed in semi-skilled and machine operative jobs. Clearly, the development of this particular racial division of labour was by no means inevitable. I shall argue that it was the outcome of the historically specific balance of power and class interests that existed between employers, white labour and the state in the 1960s and 1970s.

Following the example of employers the world over, South African employers were eager to take advantage of increased productivity offered by new production techniques. The significance of this choice of capital-intensive production techniques does not, however, end with the question of increased productivity. Mechanisation also offered South African employers a way of expanding production while simultaneously striking a compromise with the apartheid state and white labour. Although apartheid benefited employers by delivering them a relatively cheap supply of African labour, the colour bar caused a skill shortage by reserving top semi-skilled jobs and the skilled trades for whites. Employers in sectors which still employed artisans in direct production therefore had to find a way of expanding output while at the same time limiting the growth of semi-skilled and skilled jobs in which whites were employed. So, although increasing mechanisation is a built-in tendency of capitalist development generally, under apartheid, mechanisation served the additional purpose of solving, at least partially, the shortage of skilled labour by increasing productivity while limiting the demand for artisans. By limiting the demand for artisans through the expansion of semi-skilled machine operative employment, output was increased without as much growth in skilled employment as would otherwise have been the case. Generally speaking, the form that this mechanisation took can be classified into two different types. The first type of mechanisation involved the use of power machinery to replace unskilled African labour. Where unskilled labour was previously used to excavate or to move materials and stock manually, these tasks were increasingly performed with the aid of excavating and materials-handling equipment. The second type of mechanisation replaced artisanal labour through the introduction of machines, operated by semiskilled labour, which performed fragmented aspects of the skilled trades. However, not all production processes are readily mechanised in the above ways. Specifically, the building trades, motor vehicle repair trades and certain skilled mining tasks were not amenable to mass production techniques. In such cases, white labour was able to resist management's attempts to breach the colour bar with greater success. In the long run, employers none the less succeeded in progressively fragmenting these skilled jobs without mechanisation by splitting them apart, task by task, and thereby employing more and more semi-skilled Africans on tasks that were previously reserved for whites.

Capital's pursuit of mechanised production methods from the end of the 1950s marked an important change in the relationship between capital and

the National Party Government. In the 1950s, the government and manufacturers were at loggerheads over the employment of African labour. Since most of their African workforce was employed in unskilled manual work, employers had strong interests in employing migrant workers who were prepared to work for less and were more docile than urban Africans. In contrast, the government wanted manufacturers to employ urbanised African workers because this would reduce the numbers of African workers in the major urban centres.²⁹ It was only during the mid- to late 1960s, with the expansion of mechanised production techniques, that employers began to share the apartheid government's interest in rationalising their employment of African labour.

So, in their desire to take advantage of mechanised production methods, capital received the full support of the government. This was because the government believed that mechanisation would reduce the demand for unskilled African labour in the major urban centres. At the end of the 1950s, Prime Minister Verwoed's vision for labour in the major urban centres was of '*well-mechanised* industries controlled by whites and staffed mainly by whites'.³⁰ This view was still actively espoused by Verwoed in the mid-1960s, when he still expected that 'with mechanization and automation...a decreasing number of Bantu would be required in and around White urban areas' by the end of the 1970s.³¹ To complement this strategy, the government intended to encourage the de-centralisation of industries with relatively high proportions of African labour to the border areas of the reserves. Consistent with this racial division of labour in which most metropolitan semi-skilled machine operative jobs were to be filled by whites, the government implemented work reservation determinations in the late 1950s and the 1960s which prohibited the employment of blacks in a range of semi-skilled jobs in the motor vehicle assembly, metal, clothing and transport industries.³²

Thus, the government's position on mechanisation and the racial division of labour during the 1950s and early 1960s was in complete accordance with the interests of white labour. The mechanisation of unskilled work created new machine operative jobs and therefore did not threaten the employment of white operatives. However, under the impact of sustained and rapid employment growth during the 1960s, these government policies soon changed. As I have shown in an earlier section of this chapter (see p. 37–41), the expansion of employment did not meet with an adequate supply of white labour and, consequently, the ratio of African to white employment began to rise. The government's response to the shortage of skilled white labour was to modify its earlier labour policies. By the end of the 1960s, the state had evolved a new policy which aimed to reconcile the growing demand for more skilled African labour with white supremacy. Acknowledging the *de facto* advancement of Africans into semi-skilled jobs which took place during the 1960s, this new policy not only advocated the advancement of Africans into semi-skilled jobs occupied by whites, but also supported the fragmentation

of the skilled trades into semi-skilled operations on which African workers would then be employed.³³

This new policy direction required careful management: the government wished to allow the upward mobility of African workers into semi-skilled work, but at the same time did not want this upward mobility to threaten white workers. To maintain the colour bar under these conditions, the government increased the power of the state to implement job reservation. This was achieved with the passage of the Bantu Labour Amendment Act in 1970 which effectively gave the state blanket powers to prohibit the employment of Africans in any job, in any area or in the service of any employer.³⁴ In addition, the government pursued a strategy of encouraging immigration by skilled whites and of upgrading semi-skilled white workers to artisan status through a variety of state-subsidised training programmes.³⁵ Furthermore, between 1968 and 1970, the Minister of Labour spelt out the following conditions under which African advancement could take place. The government was prepared to permit the advancement of Africans into semi-skilled jobs which were occupied by whites or which were created by the fragmentation of the skilled trades only on the condition that; (a) there was a proper separation of the races in the workplace; (b) no white worker would be replaced by an African worker; (c) Africans were not placed in authority over whites; and (d) African advancement took place with the consent of the white unions.³⁶

Although this new labour policy of 'floating' the colour bar was clearly designed to maintain white supremacy in the workplace, it none the less met with resistance from white trade unions. However, white union opposition to African advancement and the fragmentation of the skilled trades *per se*, was not supported by the government. Instead, it adopted a non-interventionist stance, preferring white unions and employers to reach agreement between themselves. In accordance with government policy, white workers usually benefited from African advancement because, in order to 'float' the colour bar, employers were obliged to re-train and promote semi-skilled white workers into more senior positions ahead of Africans. Similarly, the state supported fully the white artisan union strategy of excluding Africans from skilled jobs. So, although the white unions were in no position to prevent all African advancement and the fragmentation of the skilled trades, they were none the less able to extract improved conditions of service and upward mobility for their members in return for permitting job fragmentation and some advancement of Africans into semi-skilled jobs previously performed by whites. In this way, Africans were excluded from the skilled trades, while semi-skilled and machine operative jobs were increasingly filled by African workers.

The policy of floating the colour bar was accompanied by government attempts to limit the expansion of African employment in the major urban centres. This entailed enacting the Physical Planning and Utilisation of

Resources Act in 1967 which stripped local authorities of the power to allocate land for industrial purposes.³⁷ Thus, the Minister of Planning was empowered to insist that certain factories be located in de-centralised growth points near the reserves, thereby limiting the employment of Africans in major urban areas.³⁸ Later, the government authorised the implementation of labour quotas in the major urban areas: the ratio of African: white workers was pegged at 2.5:1 and, after 1973, reduced to 2:1.³⁹ Employers who exceeded this quota were required to relocate their factories to border growth points unless granted special exemption.

What was the impact of this legislation on the investment decisions of employers? A survey conducted among manufacturing and building companies in 1983 revealed that as many as 42, 17 and 9 per cent, respectively, of companies in the Pretoria-Witwatersrand-Vereeniging complex, Cape Town and Port Elizabeth were affected by the Act.⁴⁰ The single most common response (31 per cent) of these affected companies was to introduce more capital-intensive production techniques which allowed them to maintain or increase output with a smaller African workforce.⁴¹ This is not to say that the Physical Planning and Utilisation of Resources Act was the driving force behind capital intensification in the manufacturing and construction industries. Black's survey revealed that the most common reason why employers invested in more capital-intensive production techniques was the relative cost of capital-intensive versus labour-intensive techniques and not legislative requirements.⁴² None the less, the state shared the private sector's interest in pursuing a more capital-intensive path of accumulation and the Physical Planning and Utilisation of Resources Act served to promote such investment.

Thus, throughout the growth period of the 1960s and early 1970s, government policy encouraged employers to adopt capital-intensive techniques in order to reduce the proportion of African workers in the major industrial centres. This was not, however, the only factor which encouraged employers to mechanise their production techniques over this period. Gelb argues that white minority domination exerted pressure on policy makers to pursue accumulation strategies that would enhance white living standards. So, instead of developing labour-intensive industries which manufactured basic consumer non-durables (such as food) for export markets, employers were encouraged to invest in capital-intensive industries which manufactured luxury consumer durable commodities (such as motor vehicles and household appliances) for the local white market.⁴³ In order to succeed, this type of accumulation strategy required both a healthy balance of payments and cheap capital imports. The fixed price of gold on the international market ensured that South Africa's export earnings remained stable and high enough to permit capital equipment to be imported.⁴⁴ Furthermore, the cost of capital equipment was lowered by state subsidies which took the form of capital investment allowances and, after 1981, by

low interest rates. Finally, state tariff and exchange rate policy was also geared to lower import costs.⁴⁵

Another element of apartheid labour policy which encouraged employers to invest in more capital-intensive production techniques was the increasingly high cost of skilled white labour relative to that of semi-skilled African labour. The exclusion of Africans from apprenticeship training contributed to the chronic shortage of artisans. This shortage, in turn, drove up skilled wages. The high cost and shortage of skilled labour relative to the much cheaper cost and abundance of semi-skilled African labour provided a further incentive for employers to fragment the skilled trades into semi-skilled operations in which much cheaper African labour could be employed. Black's survey of manufacturing and construction firms revealed that employers were more likely to introduce more capital-intensive technology because of the cost and shortage of skilled white labour than because of the cost and shortage of unskilled and semi-skilled African labour.⁴⁶ Another related reason which may have persuaded employers of the profitability of mechanised production methods was the fact that white apprentices were relatively expensive. Meth showed that in the United Kingdom apprentices earned less than semi-skilled and unskilled workers. British employers were therefore compensated financially for the production lost through apprenticeship training. In effect, apprentices fulfilled the role of artisan's mate, occupying a position which would otherwise be performed by unskilled labour. In South Africa, however, white apprentices in their first year of training received wages which were equivalent to those of the highest-paid semi-skilled African operatives and which were higher than the wages of unskilled African labourers.⁴⁷ Employers therefore received no financial compensation for training white apprentices and were probably less inclined to take on the role of apprenticeship training.

CONCLUSION

In the face of a chronic shortage of skilled white labour and expanding markets, employers successfully increased their output and employed higher proportions of African labour without de-racialising the skilled trades. I have argued that employers achieved this by using African labour more productively. This, in turn, was achieved by mechanising unskilled tasks and by fragmenting the skilled trades into semi-skilled operations in which African workers were employed. However, the core artisan tasks which were not split from the skilled work schedule remained in the hands of white and, to a lesser extent, coloured and Indian workers.

This particular pattern of change in the occupational and racial division of labour in manual occupations in the mining, manufacturing and construction industries was the result of the intersection of certain interests and powers of capital, the state and white trade unions. Both employers and

the National Party Government had an interest in pursuing a capital-intensive path of development. Employers pursued this path, not only because it offered higher profits, but also because it allowed them to employ cheaper black labour and to ameliorate the shortage of skilled white labour. For its part, the government encouraged employers to mechanise production in order to reduce the demand for African labour in white urban areas.

By the end of the 1960s, when it became apparent that there were not enough white workers to fill top semi-skilled jobs, the government modified its job reservation policy. Instead of reserving certain semi-skilled jobs for whites, the government permitted employers to employ blacks on all semiskilled work on the condition that whites were promoted ahead of them. Although the white artisan unions tried to resist capital's attempts to fragment the skilled trades, they supported and took full advantage of the government's policy of 'floating' the colour bar. In exchange for conceding to African advancement, white workers benefited, if only in the short term, through wage increases, retraining and promotions for many of their members. As a consequence of these convergent interests and compromises between employers, the government and white labour, the occupational and racial division of labour in the mining, manufacturing and construction sectors was dramatically restructured. Whereas at the onset of the apartheid period the organisation of production was dominated by the two-part division of labour between unskilled African labourers and white artisans, by 1990 it was dominated by semi-skilled African operatives on the one hand and white artisans on the other.

The argument which I have presented in this chapter is an overview of the relationship between capital, the state and white labour on the matter of black advancement. As such, most of the evidence which I have presented has been restricted to the intentions of government policy makers and to some of the overall trends in the occupational division of labour. The following two chapters will expand on this evidence by examining the precise ways in which the organisation of work and its associated occupational and racial division of labour was restructured through the practices and struggles between the apartheid state, employers and white trade unions.

RACIAL DIFFERENTIATION, CLASS FORMATION AND THE LABOUR PROCESS IN THE CONSTRUCTION, MANUFACTURING AND MINING SECTORS

INTRODUCTION

In Chapter 3, I advanced the argument that the apartheid government shared an interest with employers in pursuing a capital-intensive path of development which ensured that African workers were advanced into semi-skilled, operative work, but not into the skilled trades. As evidence that the government did pursue such a policy, I relied on the policy statements of National Party politicians and on the content and effects of labour laws passed by parliament. As far as evidence of how employers restructured the organisation of production, I relied on national labour statistics which demonstrated the extent to which semi-skilled machine operative employment grew at the expense of heavy, unskilled manual employment. However, evidence concerning government labour policies and employment statistics are not sufficient in themselves to demonstrate exactly how employers were able to fragment the skilled trades in order to employ more black workers on semi-skilled tasks. Nor do these statistics show how African workers were excluded from employment in the skilled trades. A detailed analysis of the ways in which production was transformed and of the strategies of white trade unions will complete the picture as to how the racial division of labour was restructured.

To reiterate the argument, I will advance evidence in this chapter which will show that not all types of mechanisation introduced during the apartheid period entailed the fragmentation of the skilled trades. Other machines were also introduced which replaced the tasks of unskilled manual labour. Where this was the case, white unions seldom opposed the employment of black workers in the consequent semi-skilled jobs. However, in cases when the skilled trades were fragmented into semi-skilled tasks, either through mechanisation or the re-organisation of work, the artisan unions opposed

the employment of semi-skilled black operatives. However, in the long term, the white unions were unable to resist the fragmentation of the skilled trades but, because of state support, they were able to secure improved wages and upward mobility of their members in exchange for allowing the upward mobility of African workers and the fragmentation of the skilled trades.

THE MECHANISATION OF UNSKILLED WORK

The mining industry

To a greater or lesser extent, all production processes involve the handling of raw materials and products. This is especially the case in the mining and construction industries. Prior to the Second World War, most excavation and handling of materials in these industries were performed by unskilled African labour. In the gold mines, broken rock and ore were cleared from the 'stopes'¹ and loaded into hoppers or 'cocopans'² by manual shovelling.³ This highly labour-intensive method began to be mechanised after the 1930s when electrically-powered winch scrapers were introduced to clear broken rock from the narrow stopes. This innovation was soon followed in 1939 by the introduction of diesel-powered locomotives in underground operations.⁴ Prior to this, most tramping had been done by hand.⁵ In the mid-1940s pneumatically powered shovel loaders were introduced.⁶ In 1950 a mechanical grab was developed to lift broken rock out of the shaft during the shaft-sinking process. This 'cactus' grab, as it was known, replaced the manual loading of broken rock into skips which were then winched to the surface.⁷ As these mechanical innovations became more widely used over the subsequent decades they replaced unskilled African workers employed in heavy manual labour. Mechanical grabs, scrapers and loaders replaced 'lashers' who loaded and cleared broken rock with shovels.⁸ Underground locomotives replaced labourers who pushed the cocopans. In their place, African drivers and machine operators were employed.

Most mechanical innovations which were introduced during the later decades of the 1970s and 1980s increased the productivity of machine operatives rather than replacing unskilled manual tasks. One such development increased the productivity of drill operators with a more efficient hydraulic drill. Powered by a mixture of oil and water, these new drills were capable of drilling twice as many holes per shift as the earlier pneumatic drills.⁹ The power and therefore the productivity of these new drills was increased even further by mounting them on rigs.¹⁰ The old back-and-forth winch scraper was replaced by a more efficient model which permitted the continuous scraping of rock from the stope.¹¹ 'Trackless' rubber-tyred vehicles, much like earth-moving equipment used in road construction, were introduced in the mid-1980s to load and transport blasted rock from the rock face to larger trucks.¹² Their use was restricted, however, to development work and to stopes

wider than 2.2 metres where they replaced winch scrapers.¹³ The exception to this pattern of technical innovations which increased the productivity of machine operators, was the introduction of high pressure water hoses to clean broken ore from stopes with a dip of more than 30 degrees. When used in conjunction with a rock scraper, this technique replaced the unskilled and heavy manual task of hand lashing altogether.¹⁴

In the gold mining industry, few of these mechanical innovations affected the method of stoping itself. This is because of the particular characteristics of South African gold deposits which occur in extremely narrow strata with an average width of only 30 centimetres.¹⁵ To minimise the amount of waste rock that has to be broken and transported, the working width of the stope is kept as narrow as possible. The usual width of the stope is therefore about 1 metre, which limits the access of machinery to the rock face.¹⁶ Furthermore, the seams of gold are faulted and dip at an average angle of 23 degrees. These obstacles to mechanisation are exacerbated by the low grade of ore and the hardness of the reef and surrounding rock.

In contrast, South African coal deposits occur as horizontal, uninterrupted seams of between 0.7 and 8 metres in thickness and lie at depths not exceeding 500 metres.¹⁷ These favourable characteristics permitted extensive mechanisation of the loading and handling of coal right up to the coal face. Although the government policy of controlling the price of coal made intensive mechanisation unprofitable throughout the 1960s, the hand-loading of coal none the less began to be mechanised from the mid-1960s.¹⁸ Between 1965 and 1978 hand-loaded coal, as a proportion of total output, declined from 90 to 14 per cent.¹⁹ By 1990, hand-loading techniques were used to extract coal only from very narrow seams and accounted for a mere 2 per cent of output.²⁰ Where conditions allowed it, 'continuous mining' was introduced in the early 1960s. This form of mechanisation employs a mechanical cutter which shears coal from the coal face without the use of explosives. Although certain types of continuous mining machines were introduced in the early 1960s, they began to enjoy popular use only from the mid-1970s.²¹ By the mid-1980s about 20 per cent of coal was mined by this method.²² The shallow depth and the thickness of South African coal seams also permitted the introduction of open-cast or strip mining techniques from the early 1970s.²³ This form of mechanisation entails blasting the surface soil and rock and then stripping it mechanically with a walking drag-line scraper. This enormous machine, which has the appearance of a sturdy crane, scrapes up the soil and rock in a large bucket which has a capacity of about 50 cubic metres.²⁴ Once the seam of coal is exposed, it is mined by conventional quarrying techniques. By the mid-1980s about one-third of South Africa's coal was mined by this open-cast method.²⁵

The mechanisation of these mostly unskilled mining jobs had a marked impact on productivity: output per worker increased steadily throughout the apartheid period.²⁶ In certain periods, improvements in productivity were so dramatic that increases in output were associated with a shrinking African

workforce.²⁷ Between 1961 and 1970, African employment in the gold mines declined from 415,078 to 386,485. Over the same period, the annual output of gold actually rose from 713,576 to 1,000,417 kilograms. Although some of this increased output was due to the opening of new mines with higher-grade ore, at least part of the increase was due to mechanisation. Similarly, between 1966 and 1973 African employment in the collieries declined from 73,679 to 66,162 while the annual output of coal rose from 47,942,000 to 62,352,000 metric tons. The increase in productivity during this period was almost entirely due to underground mechanisation and the mechanisation which accompanied the shift to open-cast mining.

Almost without exception, all these new machine operative jobs, which were created through the mechanisation of unskilled work, were filled by Africans. The Manpower Survey results, which use the broad occupational descriptions of Stationary Engine Driver and Train Driver, reveal that these jobs were filled almost exclusively by Africans in the mid-1960s. The category of Stationary Engine Driver' probably included occupations such as winch scraper and power shovel operators. Evidence from the 1970s confirms that Africans were employed as winch scraper operators and other underground machine operators.²⁸ In open-cast mines Africans were employed to drive the giant haul trucks, bulldozers and other earth-moving equipment.²⁹ The exception to this pattern was underground locomotive driving being reserved for whites when locomotives were used for conveying white miners. This restriction was lifted in 1977.³⁰ In contrast to these machine operative jobs which were created after the 1930s, similar jobs which were established during earlier phases of mechanisation had remained in the hands of white workers. These were onsetters, banksmen and skipmen who operated the elevator 'cages' which transport labour and equipment up and down the shafts.³¹ Protected by the requirement of a blasting certificate, these jobs remained in the hands of white operatives into the 1980s. The Manpower Survey results for the years 1965 to 1981 show that 90 per cent of operatives in the category of Winding Engine Driver, which is probably a general term for the occupations of onsetter, banksman and skipman, were white.³²

The building industry

As in the mining industry, most mechanisation in the building industry involved the introduction of excavating and materials-handling equipment which replaced unskilled African labour. Prior to the Second World War, most excavation and material-handling tasks world-wide were performed manually.³³ Unskilled work typically included the tasks of loading and transporting building materials on site, digging foundation trenches and tamping to settle concrete or to consolidate rubble.³⁴ The excavation of foundations was carried out by teams of unskilled manual labourers who broke the ground with pickaxes and shovelled the loose soil into wheelbarrows which they then trundled up ramps to tip the contents

into waiting trucks. Concrete and mortar were mixed and transported in a similar manner. Although mechanical cement mixers were already in use, it was still common for concrete and mortar to be mixed manually with shovels. Concrete was transported from the concrete mixer to the foundations by wheelbarrow. The settling of concrete was done manually with long poles, and rubble was consolidated by manual stamping with hand-held metal stampers. Bricks, delivered to the building site by truck, were unloaded and stacked manually one at a time. From there they were distributed to the bricklayers in wheelbarrows.

In the 1950s, a number of mechanical innovations which were developed in the advanced capitalist countries began to replace unskilled manual tasks on building sites in South Africa. In general, these innovations consisted of power machinery to perform arduous and repetitive building tasks. Machines such as bulldozers, power shovels, front-end loaders, tipping trucks and trench diggers were designed to replace manual excavation of basements and foundation trenches, and transporting, loading and levelling soil and rubble on site.³⁵ Manual placing of concrete and mortar began to be mechanised with the introduction of concrete vibrators, power hoists, power barrows, portable cranes, portable conveyor belts and concrete pumps.³⁶ New techniques for transporting bricks were developed whereby up to 50 bricks were strapped in a single pack. This greatly facilitated their loading and movement on site.³⁷

Although most of these new machines were introduced to South Africa in the 1950s, they did not enjoy widespread use until well into the 1960s. At the end of the 1950s, for example, it was still common practice for African labourers to distribute bricks by throwing them up from one scaffold to the next to a height of up to three scaffolds. Even the unloading of trucks, the excavation of foundation trenches and the mixing of concrete and mortar was usually done by hand. On taller multi-storey buildings, however, power winches and hoists were commonly used to place bricks and mortar. Builders were reluctant to mechanise materials-handling activities because, at that stage, they believed that it was still cheaper to use efficiently-managed unskilled African labour than to use expensive imported equipment.³⁸ This assessment was confirmed by research results which showed that the extent of mechanisation was directly proportional to unskilled wage rates. Thus, in Cape Town, where unskilled wages were the highest in the country, building companies made the greatest use of more advanced mechanical equipment such as concrete pumps. In Durban, where unskilled wages were only two-thirds of the Cape Town rate, no bulk supply of concrete was available at all.³⁹ The use of machines to replace unskilled African labourers in the building industry was actively encouraged by the government. Alarmed at the rising proportion of African workers in the industry during the early 1960s, the government urged employers to limit African employment by making greater use of machines which would replace unskilled manual labour.⁴⁰

Two very important innovations, the tower crane and concrete pump, were not widely used by builders until the 1960s.⁴¹ The tower crane proved

to be quite revolutionary by virtue of its ability to transport extremely heavy loads from the point of delivery directly to the point of use. It was estimated that a tower crane could halve the labour costs of materials handling.⁴² When concrete pumps were first introduced in the 1950s, they promised to replace the manual distribution of concrete on the building site. However, these early British and American pumps were designed to pump concrete mixtures of rounded shingle and were therefore unsuitable for pumping South African concrete which was made with crushed stone.⁴³ With the development of more powerful pumps, this technique enjoyed wider use by the late 1960s.⁴⁴ It was only by the mid-1970s, however, that the use of concrete pumps became the normal method of placing concrete.⁴⁵ The use of both the concrete pump and the tower crane was encouraged by the shift towards the construction of multi-storey buildings with reinforced concrete frameworks instead of load-bearing brick. This new design depended on the speedy supply of concrete, which only the tower crane and concrete pump could deliver. This new way of constructing multi-storey buildings also encouraged the use of ready-mixed concrete which was measured and mixed under automated factory conditions and delivered to building sites ready for pouring.⁴⁶

The more widespread use of excavation and earth-moving equipment during the 1960s was probably facilitated by the development of hydraulic transmission systems which increased the efficiency of these machines.⁴⁷ One area which saw the introduction of new technology in the 1960s was the handling of bricks. Prior to the mechanisation of this activity, each truck required a team of at least six African labourers to unload the bricks at the building site. The increasing use of brick packs allowed brick distributors to equip trucks with cranes which resulted in considerable savings in time and labour. Whereas the manual offloading of bricks could take a team of six labourers one and a half hours to complete, a truck driver could perform the same operation with a crane in only 17 minutes.⁴⁸

At the time when unskilled tasks were first mechanised, it was still common for white workers to be employed in semi-skilled work such as truck and crane driving. By the 1950s, however, Africans were increasingly employed in machine operative tasks. Evidence for this is provided by the Industrial Council Agreements for the 1950s under the terms of which the artisan unions agreed to allow Africans to operate concrete vibrators, concrete mixers, angle grinders, power hoists and certain mechanical vehicles.⁴⁹ By the mid-1960s, African and coloured workers were therefore commonly employed as machine operators. This was especially the case in the operation of machinery such as power shovels, tractors, rollers and concrete pumps. The results of the Manpower Survey show that, by 1965, about 60 per cent of these jobs were filled by Africans and about 15 per cent by coloureds. Similarly, most semi-skilled work classified by the Manpower Survey as Other Operators, which probably included the operation of equipment such as power hoists, power barrows, conveyers and concrete

vibrators, was performed by African and coloured workers. By 1965, about 50 and 20 per cent of these jobs were filled, respectively, by African and coloured workers. One semi-skilled job in which whites were still well represented was the job of crane driver. In 1965, about 40 per cent of crane operators were white, a state of affairs which persisted until the end of the 1960s. With the expanded use of tower cranes during the 1970s, the number of crane operators employed in the industry grew dramatically. This increase in demand was met only by African and coloured labour so that, by the mid-1970s, the proportion of crane drivers who were white had been reduced to about 10 per cent. By the mid-1980s all cranes were operated by either African or coloured workers. Employers secured upward mobility for black workers into white crane-driving jobs by promoting and retraining white crane drivers. Kraak's case study of an engineering company provides a good example of this. In exchange for allowing unskilled African labourers to be trained and employed as crane drivers in the mid-1970s, management at Dorbyl-Vecor gave white crane drivers the opportunity to become artisans by offering them apprenticeships.⁵⁰

The manufacturing industry

Since production techniques in manufacturing in the immediate post-war period were significantly more capital intensive than in either mining or construction, most unskilled work entailed handling raw materials, components and finished products. The introduction of new plant in the post-war period, however, was often accompanied by mechanical innovations which replaced many tasks which were performed by unskilled manual workers.

For example, although by 1946 the production of rubber products such as mattresses and tyres by the Dunlop factory in Durban was highly mechanised, a great many tasks such as lifting, carrying, loading, stacking and packing materials and products was still performed manually by unskilled African labour.⁵¹ When the Dunlop tyre factory was expanded by the addition of more advanced plant in 1955, however, this new machinery entailed '[g]reater use of conveyors...to reduce the handling of products during the various stages of manufacture'.⁵² Similarly, foundries which were established prior to the Second World War were coal-fired and required teams of unskilled labourers to stoke the furnaces manually. The introduction of electrically-fired furnaces in the mid-1960s did away with the need for stokers altogether. In addition, these new foundries made greater use of cranes and conveyor belts which further reduced the demand for unskilled manual labour.⁵³ This trend was also true for the new iron-moulding machines which were introduced in the early 1970s. Unlike earlier models, these machines were equipped with conveyor belts which transported the inputs and outputs to and from the machine, thus reducing the need for unskilled manual labourers.⁵⁴

The extent to which goods were increasingly handled by machines is indicated by the trend towards the standardisation of load sizes and the increasing use of pallets which facilitated loading with fork lift trucks. Such was the extent of this practice that, in the late 1950s, the South African Railways bought a 'large number of fork lift trucks' to facilitate the handling of standardised 'unit' loads.⁵⁵

Although the technology for mechanising the handling of stock and materials was available from at least the late 1950s, it is evident that many employers did not deem it cost-efficient to mechanise such unskilled tasks until as late as the mid-1970s. In 1973, for example, managers of a thread making factory in a de-centralised industrial district were still debating whether or not it was necessary to introduce fork lift trucks to replace the manual handling of stock.⁵⁶ However, the sharp rise in African wages in the early to mid-1970s was an important motivation for many employers to mechanise unskilled manual tasks. Case studies of a variety of manufacturing establishments suggest that many employers mechanised handling operations for the first time in the mid-1970s. Between 1972 and 1977, for example, the management of a medium-sized structural and general engineering company completely mechanised all materials-handling tasks. Overhead cranes were installed in the workshops and, where overhead craneage was not possible, fork lift trucks and tractors were used. In one case, 40 unskilled African labourers who had previously been employed to load and unload materials manually in the stockyard were replaced by only seven African crane and fork lift drivers.⁵⁷ Similarly, in a direct response to African wage increases between 1972 and 1975, the management of a pulp mill mechanised the reception and movement of timber in the mill's woodyard.⁵⁸ In another example, the managers of a highly-automated brick factory were able to increase the productivity of African labour only by mechanising the handling and transport of bricks within the factory. The reduction in employment from these innovations accounted for about 10 per cent of the African workforce.⁵⁹

Employers also reduced their numbers of unskilled African workers without mechanising. Case studies suggest that rising African wages in the early 1970s prompted management to cut back on the employment of assistants and service workers. For example, between 1973 and 1975 a warehousing operation cut back on the number of unskilled labourers who unloaded delivery vehicles from three labourers per vehicle to only one. Similarly, managers of a bakery reduced the size of delivery vehicle crews.⁶⁰ In a different example, managers of a company that produced metal cables introduced a new grading scheme which rewarded African operatives who were more versatile and productive. Consequently, they were able to cut back on the number of unskilled labourers who assisted machine operators, with the result that employment was reduced below trend by 20 per cent over two years.⁶¹

THE RE-ORGANISATION OF SKILLED WORK

The fragmentation of skilled mining tasks

The limited mechanisation of stoping activities in the gold mines had no impact on the skilled tasks of the white miner. Unlike coal mining, where the underground blasting cycle was replaced by continuous mining, stoping in the gold mines continued to depend on the white miner's role in the handling of explosives. Consequently, for much of the apartheid period, white miners continued to play a central role in stoping itself. In spite of the obstacles to mechanisation, however, employers successfully increased the ratio of African to white miners over the apartheid period. Between 1960 and 1979, the number of certified white miners for every 1,000 African workers decreased from 26 to 17.⁶² This shift in the racial division of labour was achieved through a combination of organisational change and technological innovation through which progressively more and more white mining tasks were allocated to African labour.

In the early days of gold mining on the Witwatersrand, white miners who held blasting certificates were responsible only for blasting. Another class of white miner, uncertified, was responsible for the supervision of 'gangs' of African workers. With the passage of time, the distinction between these two occupations became blurred and all white miners or 'gangers' became responsible for both blasting and the supervision of unskilled and semi-skilled African workers.⁶³ Thus, by the time the National Party came to power, the vast majority of white miners were required to hold blasting certificates. Prior to the 1970s, the job of a certified ganger was not unlike that of an artisan in its essential characteristics. In much the same way as for artisans, the supply of certified miners was controlled through formal training in state institutions and through a period of practical employment experience.⁶⁴ Like artisans, certified miners therefore also had special skills, which could not readily be replaced in the event of strikes. Finally, like many artisans, certified white miners were assisted in their tasks by unskilled manual workers whom they supervised.

Because the skilled and supervisory tasks of certified gangers could not be mechanised profitably, managers strove to combat the shortage of skilled white labour and to make more productive use of African labour by allocating progressively more and more skilled stoping tasks to African workers. From the early 1960s, the introduction of 'concentrated' stoping methods and certain technological innovations greatly facilitated the transfer of skilled and supervisory tasks from white miners to African workers. 'Concentrated' mining refers to the organisation of stoping activities which concentrates labour and machinery in the stopes. Earlier systems of stoping involved small teams which mined relatively small lengths of rock face. Consequently, these teams were spread out over a wide area within the mine. With advances in blasting techniques, which permitted the simultaneous blasting of much longer

faces of the stope, it became possible to employ larger numbers of workers on a single 'development end'.⁶⁵ Apart from enabling stoping and ventilation machinery to be used more efficiently, this concentration of stoping activities also reduced the supervisory load of white gangers. Under earlier stoping methods, the number of African workers which could be supervised by a white ganger was limited by the distance that the ganger was able to walk between development ends. With greater numbers of African workers employed on each development end, it therefore became feasible for management to decrease the ratio of white gangers to African workers. Thus, in a 1967 agreement between the Chamber of Mines and the white Mine Workers' Union, the ratio of white gangers to African workers was reduced substantially: the number of African gangs that could be supervised by a white ganger was increased from only one gang to two or three gangs.⁶⁶

Other innovations associated with concentrated mining methods facilitated the transfer of blasting skills from the white gangers to African workers. One such innovation was the method of placing explosive charges in the rock face.⁶⁷ Under earlier stoping methods, the 'marking off' of exactly where shot holes were to be drilled in the rock face was the decision of the certified ganger. With the advent of blasting techniques associated with concentrated mining, work studies established that optimal breakage of rock could be achieved by drilling parallel shot holes at regular intervals. To this end, a template was introduced to routinise the 'marking off' of where shot holes were to be drilled. Thus, in 1976, the white ganger's skill of choosing how best to drill the rock face was formally by-passed. Even the decision about what angle to drill shot holes became the responsibility of the mine manager. The Mine Workers' Union fought this erosion of the white ganger's skill by insisting that he retained the responsibility of marking off the first shot hole. According to the agreement reached between the Mine Workers' Union and management, the remaining shot holes were marked by African workers according to a template.⁶⁸

The introduction of new kinds of explosives during the 1970s also facilitated the fragmentation of the white ganger's job.⁶⁹ Prior to the use of these new explosives, the charging of shot holes was performed by a white ganger and his African assistant or 'cheesa'. Since the new types of explosives came in the form of either a powder or slurry, it was necessary to introduce them into the shot holes with the use of a small motorised pump. Thus, 'charging up' required an extra person to operate the pump. The result of this reorganisation of charging up activities was that African workers took over the task of introducing explosive material to the shot hole. Although the white ganger retained the task of inserting the fuse and detonator into the shot hole, his new role involved less manual work and more supervision.

Another innovation associated with concentrated mining was the introduction of the 'ignitor cord' which allowed the precise sequential detonation of charges. Prior to this innovation, the white ganger exercised a

degree of skill by estimating the length required for each fuse. The ganger's main objective in setting these fuse lengths was to avoid the wastage of fuse cord and to ensure that there was sufficient time for him and his assistant to leave the stope before the charges were detonated. However, since concentrated stoping methods required that charges be detonated in a strict and rapid sequence, the ignitor cord soon enjoyed widespread use. The ignitor cord therefore deskilled the task of setting fuse lengths: it was only necessary for the ganger to light one end of the ignitor cord which then automatically detonated charges according to a pre-determined sequence. At about the same time that concentrated mining techniques were introduced, electrical detonation systems were also developed. Electrical detonation, which was normally used in conjunction with an ignitor cord, enabled all the blasting on a single level to be carried out by one miner. A central control panel located at the shaft enabled a miner to travel in the cage from level to level, detonating all the charges as he proceeded.⁷⁰

These technological innovations and the associated re-organisation of skilled stoping activities ('marking off', 'charging up' and detonation) therefore had the effect of removing the white ganger from his direct role in production to one which involved a greater degree of supervision. However, even the supervisory role of the white ganger was undermined over this period. Quite apart from the fact that concentrated mining required fewer white gangers, even their supervisory role was reduced by other developments. In the early 1960s, African miners could not begin stoping activities until the white ganger had inspected the stope. Reserving the task of 'making safe' for white gangers thus caused African workers to waste a substantial amount of time simply waiting for the white ganger to complete his inspection. Management was naturally eager to end this practice in order to maximise the amount of time that African workers spent working at the rock face. After an abortive attempt in 1965, management secured their first exemption to this form of supervision in 1967 when the Mine Workers' Union agreed to allow African workers to proceed directly to stopes which had not been blasted on the previous shift.⁷¹ The proviso was that the African team leader should be instructed by a white ganger and that the white ganger inspected the stope at some time during the shift. In 1973, this concession was extended when the Mine Workers' Union agreed to allow qualified African workers actually to inspect and 'make safe' stopes which had not been blasted on the previous shift. In addition, the Mine Workers' Union permitted qualified African workers to charge up shot holes themselves provided that the white ganger was within 15 metres. A few years later, in 1976, the Mine Workers' Union agreed to further exemptions which allowed qualified African workers to charge up two development ends simultaneously. In line with this exemption, white gangers were required only to be within 30 metres of charging up activities performed by African workers. Furthermore, qualified African miners were permitted to inspect and 'make safe' stopes

which had been blasted on the previous shift.⁷² The overall effect of these changes in the role of white gangers was that, by the mid-1980s, they played no direct role in stoping activities at all. Instead, the white ganger spent most of his time monitoring the entry and exit of African workers to and from the stopes.⁷³ These *de facto* changes in the racial division of labour were finally recognised legally in 1987 when the colour bar in the mining industry was abolished.⁷⁴

Artisans in the mining industry are not employed in production work but are occupied almost exclusively on maintenance and repair work. The only exceptions are supporting underground tasks such as the installation of electrical supply systems to machinery.⁷⁵ Since such repair and maintenance work cannot be mechanised, employers addressed the shortage of artisans by insisting that the white unions allow certain tasks to be performed by African workers. The white unions conceded to this demand in 1973 and a new occupation of 'artisan aide' was created for African workers.⁷⁶ Unskilled African workers were selected for training courses of about one month after which they were employed on a restricted range of artisanal tasks under the supervision of white artisans. Although artisan aides were trained in a wide range of trades, including those of mechanic, electrician, fitter, boilermaker, carpenter, painter, rigger, mason and plumber, they were restricted to the less skilled and routine aspects of the skilled trades. For example, mechanic artisan aides were restricted to tasks such as the routine lubrication of motor vehicles and checking of tyres, batteries, radiators and air filters. Similarly, in the fitting trade, artisan aides were permitted only to strip machinery for repair and were not permitted to reassemble machinery unless assisting a white artisan.⁷⁷ The fragmentation of the skilled trades in this manner restructured the occupational and racial division of labour dramatically. By the mid-1970s, the employment of artisan aides in the gold mines had risen to 11,000, which was over one and a half times the number of white artisans in employment.⁷⁸ In one exceptional example, the employment of artisan aides in a gold mine resulted in the reduction of the artisanal workforce from 289 to two within a single year.⁷⁹

The fragmentation of the building trades

As in the mining industry, most mechanisation in the building industry replaced unskilled workers and not artisans. The reason for this is that the building trades are essentially concerned with the measurement, shaping and fitting of materials in accordance with the details of particular plans.⁸⁰ Consequently, these tasks are too varied and complex to mechanise profitably. Faced with a shortage of skilled white labour and also with the desire to make more extensive use of cheap African labour, employers therefore sought to fragment the skilled trades by splitting off particular tasks which could then be re-designated as semi-skilled work and performed by

African workers. Although the National Federation of Building Trade Employers expressed the intention to fragment the building trades from 1950, their early attempts to do so met with failure.⁸¹ Spurred on by recovery of the economy in the mid-1960s, which intensified the shortage of white artisans, the National Federation of Building Trade Employers began to campaign on a national level 'to modify the traditional labour pattern'.⁸² A deadlock in negotiations resulted, since the artisan unions would not concede the fragmentation of the skilled trades fearing that to do so would spell 'the end of trade unionism in South Africa'.⁸³ The protestations of the artisan unions were not backed up with organisational strength, however, and the building contractors scored their first major victory in 1966 when they secured an agreement which permitted them to employ African labour on skilled tasks in the Transvaal. This was soon followed by fragmentation agreements for Durban and the Western Province, respectively, in 1967 and 1968. Described as a 'major breakthrough' and a 'triumph for the employers', the 1966 Industrial Council Agreement for the Transvaal removed 'hundreds' of tasks from artisan work schedules.⁸⁴ Through the Industrial Council Agreements over the next ten years, the artisan unions were forced to agree to the employment of African workers on progressively more and more skilled tasks. Generally, the white artisans retained control over the 'setting out' (the measurement of where materials were to be fitted), whereas the actual fitting of building materials was performed by African labour. In the bricklaying trade, for example, the 1969 Transvaal Agreement permitted African workers to lay blocks, provided that an artisan laid the corners of the walls and was responsible for setting up the jig into which the blocks were slotted.⁸⁵ As a rule, white artisans also became more and more involved in supervising operative labour and less involved in doing manual work themselves.

The skilled trades that were most affected by fragmentation were those in which the shortage of white labour was most acute; namely painting and the wet trades' of plastering and bricklaying. By the end of the 1960s, African operatives had taken over the tasks of applying, but not finishing, mortar to walls for plastering and were also responsible for applying all primary coats of paint to all surfaces.⁸⁶ In the mid-1970s, the core artisan's task of bricklaying was finally reclassified as semi-skilled work. Although African operatives were restricted to building walls intended for plastering only, this was still a significant concession because most brickwork was plastered.⁸⁷ Typically, skilled bricklayers retained control over the setting-out of walls, taking levels, plumbing angles and laying door jambs and window frames. By the mid-1970s the plastering and carpentry trades were also significantly restructured. In the plastering trade, all tasks except final trowelling and finishing off were performed by African operatives. Similarly, in the carpentry trade, African operatives did all the fitting work such as erecting roofs and laying roof tiles, leaving the artisan the tasks of supervision and of 'setting out'.⁸⁸

These formal changes to the occupational and racial division of labour which were specified by Industrial Council Agreements usually followed, rather than initiated the fragmentation of the trades. Prior to the extensive fragmentations of the mid-1960s, for example, building contractors legitimated their demands for the employment of African operatives on the grounds that many semi-skilled operations were 'already being performed by the Bantu under the lap, with the consent of artisans'.⁸⁹ Throughout the 1960s, white unionists complained that Africans were being employed on various aspects of skilled work in direct contravention of the Industrial Council Agreements.⁹⁰ In spite of the extensive fragmentation during the 1960s, it appears that increased demand for building work during the early 1970s led employers to disregard job reservation determinations and Industrial Council Agreements openly.⁹¹ In one striking example, a large building company issued its African workforce with garden spades and lengths of flat-iron instead of trowels and spirit levels. In this way, it was able to employ Africans as blocklayers without contravening the Industrial Council Agreement which defined skilled work in terms of the use of artisan's tools.⁹² By 1974, the extent of these contraventions can be gauged by the statement of a builder who estimated that if Africans were not employed illegally on skilled work, one half to three-quarters of building sites on the Witwatersrand would have to cease work.⁹³ Although by this stage, the Department of Labour was turning a blind eye to job reservation contraventions, the incidence of prosecutions increased.⁹⁴ To ascertain the extent of illegal work being done in the industry, Industrial Council inspectors raided some 2,500 building sites on the Witwatersrand in 1973. They revealed that more than 60 per cent of building sites were employing African workers on skilled work, mainly in those trades where the white skill shortage was most acute.⁹⁵ Two years later, before the 1975 fragmentation agreement, the Industrial Tribunal reported 'alarming malpractices' concerning the illegal employment of Africans on skilled work.⁹⁶

Employers therefore successfully fragmented the skilled building trades by re-organising the division of labour rather than by mechanisation or new technological innovations. Where new building techniques were introduced, they usually made skilled trades obsolete instead of diluting the skills required for the job. This was certainly the case for most new 'industrialised' building techniques which were introduced from the 1960s. These industrialised building techniques entailed the mass production of building components under factory conditions. Perhaps the most radical break with traditional building techniques was the manufacture of pre-cast concrete wall panels and even concrete staircases. When used in conjunction with reinforced concrete frameworks, these pre-cast wall panels dramatically reduced the demand for bricklayers and plasterers.⁹⁷ For example, in 1976, the Roberts Industrialised Building Company, which specialised in the construction of buildings using these new techniques, employed only 15 artisans out of a

total workforce of 1,800.⁹⁸ However, the building trades concerned with glazing, roofing, painting, floor-laying, electrical installation and plumbing were not affected by the use of these new building techniques.⁹⁹ Although there is evidence that these building techniques were used in mass housing schemes from the 1970s, they were usually associated with the construction of multi-storey office blocks, hospitals and factories.¹⁰⁰ Other industrialised building techniques introduced from the 1960s entailed the manufacture of light-weight building components such as pre-hung door and frame sets, roof trusses and wall partitions made from gypsum and laminated paper.¹⁰¹ In a similar way, the construction of buildings with these pre-manufactured components reduced the demand for bricklayers, plasterers and carpenters on building sites. For example, the manufacturers of pre-hung door and frame sets boasted that ‘installation of the unit is so simple that...30 to 50 doors can be hung per day by unskilled labour’.¹⁰²

The fragmentation of the skilled trades in the manufacturing industry

Unlike in building and mining, employers in manufacturing were able to dilute the skilled trades through the mechanisation which accompanied mass production techniques. The reason for this is that there are few technological limitations to mass production techniques in manufacturing. The only serious constraint on mechanisation was the extent of the domestic demand for products. So, in the manufacturing industries, the pattern and pace whereby the skilled trades were fragmented was dictated to a much greater extent than in other sectors by mechanical innovations and the transition to mass production. The following section deals with the changes that took place in the printing, metal and engineering and motor vehicle repair sectors.

At the onset of the apartheid period, the skilled linotype operator was still central to the production process in the printing industry.¹⁰³ Although this trade was only born at the end of the nineteenth century with the introduction of the typesetting or linotype machine, it was none the less a very skilled trade and the highest paid in the industry.¹⁰⁴ The central skills of this trade involved the operation of a very complex keyboard to lay out the text with right hand justification. The linotype operator therefore had to make decisions concerning the amount of space between words and where to hyphenate them. The technology whereby keystrokes were translated into print entailed the mechanical assembly of hollow moulds of alphanumeric characters in rows. Molten metal was then forced onto the row of character moulds to produce a metal cast of the ‘line of type’. The metal casts of each line of type were then assembled mechanically into columns of text, ready for printing.¹⁰⁵

From the early 1950s, the trade of linotype operator was substantially diluted by the introduction of more simplified and automated ‘teletypesetting’ machines.¹⁰⁶ These new teletypesetting machines were faster and easier to

operate than linotype machines for two reasons. First, they were based on the relatively simple 'QWERTY' keyboard which already enjoyed widespread use on typewriters. Second, the process of assembling character moulds and making a cast of each 'line of type' was automated. Instead of making a metal cast of each 'line of type', teletypesetter machines simply produced a length of perforated paper tape. This length of perforated paper tape was then fed, by another operator, into a linecaster machine which automatically read the perforation codes on the paper tape and made the metal casts accordingly. One important consequence of this new technology was that the new teletypesetters no longer required the skills associated with the complex linotype keyboard which was equipped with 90 characters organised in three banks. Instead, it could be operated by anyone with ordinary typewriter skills. Another consequence was that certain tasks of the linotype operator were automated by the linecaster machine and were performed, in effect, by semiskilled linecaster operators. From the mid-1960s, the skill of teletypesetting itself was diluted when computers were introduced to the industry. Computer technology took much of the skill out of typesetting by automatically formatting text. Teletypesetter operators were therefore required only to type in the raw text which was then justified and hyphenated automatically and instantly.¹⁰⁷

The South African Typographical Union was unable to force employers to recognise teletypesetting and linecaster operation as skilled work and had to settle for job guarantees and retraining for redundant linotype operators. Management was therefore able to employ non-apprenticed white women, who had acquired their typing skills in the tertiary sector, as teletypesetters at lower rates of pay. However, the union was able to have the effectively semi-skilled job of linecaster operator classified as skilled work. Consequently, redundant skilled linotype operators were usually employed to operate the new linecaster machines.¹⁰⁸ The dilution of the trade of linotype operator did not therefore open up semi-skilled employment opportunities for blacks. However, the days of the white linecaster operators were numbered. With the growing demand for colour printing in the early 1970s, newspaper companies converted from letterpress printing techniques to offset lithographic methods. The importance of this shift in technology was that the plates for lithographic printers could be produced with photo-setting technology instead of with molten metal casts.¹⁰⁹ Thus, with the shift to lithographic printing techniques, all the trades associated with 'hot metal' became redundant.

In contrast to the mechanisation of linotype operation, the increasingly widespread use of offset lithographic printing techniques did lead to some degree of upward mobility for blacks. This new printing technique involved such extensive dilution of the print room trades that employers argued that semi-skilled operators, instead of artisans, should be permitted to operate printing machines. In 1970, under pressure to meet the shortage of skilled

printers, the union eventually agreed to the creation of a new semi-skilled occupation of Printer's Attendant in which coloured and Indian workers were employed.¹¹⁰ As was often the case, this agreement formalised employment practices which had been going on for some time.

As far as African labour was concerned, it was the policy of the South African Typographical Union not to accept African apprentices. However, the union did allow the employment of African workers, by exemption from Industrial Council Agreements, on semi-skilled operations normally performed by coloured, Indian and white members.¹¹¹ In 1974, the union agreed to permit employers to employ Africans in the top semi-skilled grades of Litho Operative and Platen Pressman.¹¹² Under pressure from employers to resolve the shortage of top semi-skilled operatives and artisans, the union began to negotiate a new job-grading system in the 1970s. In essence, this proposed system involved opening up job opportunities for African workers in semi-skilled jobs and boosting the declining number of white apprentices by creating a more skilled and better-paid occupation of 'technician' at the top of the job hierarchy.¹¹³

Although the iron moulding trade was first mechanised as early as the First World War, the impact of this new technology took many decades to restructure the labour process in the foundries and its associated occupational division of labour completely.¹¹⁴ These iron-moulding machines were the first important technological development to dilute the artisans trade such that the work could be performed by semi-skilled production moulders. The extent to which the trade of iron moulding was mechanised by the introduction of moulding machines can be gauged by the changing occupational composition of the members of the Iron Moulders Society of South Africa. By 1949, the proportion of semi-skilled production moulders had grown to 24 per cent, a proportion which grew to 35 per cent by 1964. Over the same period, the proportion of skilled iron moulders and apprentices fell from 72 to 54 per cent.¹¹⁵ The Manpower Survey results for the occupations of Moulder and of Production Moulder and Core Maker confirm this trend. By 1967, there was about one production moulder for every two skilled moulders. By the mid-1970s production moulders outnumbered skilled moulders by three to one. An illustration of the extent to which the skilled trade of moulding was diluted by the mid-1980s is provided by a case study of the medium-sized foundry owned by Basaan du Plessis. A typical mass-production foundry which manufactured cast-iron articles, this factory required no artisan moulders at all. The only artisans employed in the factory were there to service the complex semi-automatic lathes, grinders and drills.¹¹⁶

The de-skilling of the iron moulding trade through the introduction of mass production techniques opened up opportunities for employers to recruit non-apprenticed labour on moulding work. The Iron Moulders Society responded to this threat of undercutting by cheap and untrained labour by incorporating all semi-skilled production moulders in 1944 as full members

of the union.¹¹⁷ At this point in history most production moulders were white. However, as the shortage of white production moulders intensified, the union was forced to allow more and more coloured and African workers to be employed on production moulding. The Manpower Survey records that by 1967 about 20 and 4 per cent, respectively, of production moulders were African and coloured. Over the subsequent decades, the proportion of white production moulders fell steadily. By 1990, whites filled only 16 per cent of all production moulding jobs. Correspondingly, most production moulders were African (65 per cent) and coloured (17 per cent).

Perhaps the most skilled task of iron moulding entailed packing sand around the core to ensure that the mould of sand was firm and free of imperfections. To this end the skilled moulder relied on a range of special tools such as the trowel which was used for 'sleeking', the 'heart and squeeze' for joining and the cleaner, for lifting dirt out of the mould.¹¹⁸ This particular task was radically de-skilled by two important technological innovations which were introduced in the mid-1950s.¹¹⁹ The first of these, the shellmoulding process, dispensed with the use of sand moulds altogether. Instead, a bituminous substance was mixed with sulphur to produce a mould which could make casts of extremely fine tolerances. This innovation 'did not require any skill and could be readily mechanized by the use of automatic shell moulding machines'. Thus, the shell-moulding process further de-skilled the work of production moulding. On the basis that the shell-moulding process required no skill, employers were eager to employ unskilled African labour on shell-moulding instead of semi-skilled white and coloured production moulders. The Iron Moulders Society fought this attempt, but were able to keep shell-moulding a semi-skilled job only by agreeing to fragmentation. Thus, in 1955, the society agreed to allow unskilled African labourers to perform a range of ancillary shell-moulding tasks such as closing the moulds and moving them in and out of the curing oven. The other innovation, the CO process, greatly de-skilled jobbing moulding tasks by increasing the 'flowability' of the moulding sand and the speed at which it bonded.

During the growth years of the 1960s, the metal and engineering unions came under intense pressure from employers to open up union jobs to African workers. The first such concession came in 1968 when the unions agreed to a reclassification of the job grading system. In return for allowing further fragmentation of union jobs, employers agreed to restrict employment in grades A to D to union members.¹²⁰ In the foundries, these jobs were skilled moulding and pattern making (grade A); production moulding and core making by machine (grades AA and AB); patching and inspecting cores, smelting and welding (grade B); supervising the operation of die-casting and spincasting machines (grade C); and gas and arc cutting by hand and supervising annealing furnaces (grade D).¹²¹

However, these measures were not enough to meet the demand for semiskilled labour. In 1970, such was the extent of the shortage of semi-

skilled and skilled labour, that the Industrial Council set up a special committee to issue exemptions to the above agreement, thus allowing employers to use African workers on jobs which were reserved for union members.¹²² The combined effect of the chronic skill shortage and the de-skilling of union jobs led the unions to concede to the employment of African workers on higher and higher grades of work. In 1972, grade D was opened to African workers. Across the metal and engineering industry, this grade included jobs such as arc or gas cutting, hand welding with mechanically-fed electrodes, operating hydraulic presses, drilling and repetitive machining work. Only a year later, in 1973, grade C was opened to African workers. In 1976, grades AB and B were opened to Africans and finally, in 1978, the artisan and top semi-skilled grades of A and AA were opened.¹²³

In exchange for opening up these jobs to non-union members in 1973, the Iron Moulding Society insisted that white workers who were displaced by Africans would be promoted upwards into higher grade jobs.¹²⁴ This pattern of promoting semi-skilled whites upwards in return for African advancement was also practised by the para-statal South African Iron and Steel Corporation. Whereas Africans were trained for unskilled and semiskilled work, most of the training for white workers entailed the upgrading of semi-skilled operatives to the skilled trades. White operatives who were 'unsuitable' for skilled work were trained for senior operative work.¹²⁵

Employers lost no time in taking full advantage of these relaxations to the colour bar. A case study of a general engineering factory reveals that white artisan welders were replaced by semi-skilled African welders in the 1970s. This was done by replacing old welding machines with new 'highly sophisticated' ones which required less skill to operate.¹²⁶ White artisans who were responsible for the marking and cutting of steel were replaced with semiskilled African workers through the installation of sophisticated cropping and sawing machines which required less skill to operate because of the 'application of stops, jugs and fixtures'. The role of white artisans was thus restricted to setting up the stops on machines. This reorganisation of production resulted in increased output with a smaller workforce. Between 1972 and 1977 output in this particular factory almost doubled while the workforce declined by some 25 per cent.

Another industrial sector in which white artisans retained considerable control over the production process and the supply of skilled labour during the apartheid period was the motor vehicle repair industry. It is not difficult to understand why this was the case. By its very nature, motor vehicle repair does not entail repetitive operations which can be mechanised. Moreover, most workshops are far too small to permit a division of labour on routine manual tasks. In the mid-1970s, only one-third of all workshops employed more than two artisans.¹²⁷

Since these structural characteristics of the industry protected white mechanics from being undercut by cheap black labour, it is surprising that

white mechanics none the less resorted to racist measures in order to protect their craft. For example, in the 1950s, the Motor Industry Employees Union of South Africa (MIEUSA) was a mixed trade union with coloured and white members.¹²⁸ However, once the Industrial Conciliation Act of 1956 enabled trade unions to split into racially-segregated unions without the break-away groups incurring financial losses, the white members voted to separate from their coloured counterparts in 1960.¹²⁹ Soon thereafter, in 1961, a right-wing splinter union, the White Motor Workers' Union, successfully registered in opposition to MIEUSA in the Brits area.¹³⁰ Later, in the mid-1960s, MIEUSA caused some controversy when its (white) membership refused to train coloured motor mechanic apprentices.¹³¹ These indications of right-wing support among white mechanics suggest that popular opposition to fragmentation may have been an important reason why employers failed to create a substantial class of cheaper, semi-skilled African operatives by fragmenting the motor mechanic trade. Although important fragmentation agreements were concluded by the Industrial Council in 1969, 1971 and 1974, these agreements did not dramatically alter the occupational division of labour. The 1969 Industrial Council Agreement created the semiskilled occupation of 'repair shop assistant' which permitted African workers to perform a range of tasks which had previously been reserved for artisans. However, these semi-skilled tasks were restricted to the removal and fitting of specified motor car components. Repair shop assistants were not permitted to repair components, to make final adjustments, to assemble components by welding or to make any final electrical connections.¹³² Furthermore, most of the components which repair shop assistants were permitted to remove and refit were bodywork components such as fenders, bumpers, bonnets, doors, engine mud trays, floor boards, fuel tanks and seats. In later Industrial Council Agreements, particularly the one concluded in 1974, the number of skilled tasks re-defined as semi-skilled work was expanded from 33 to 51. The 1974 Agreement permitted African repair shop assistants to remove and fit almost all motor car components, including engine and drive-train components such as alternators, carburettors, drive shafts, whole engine assemblies, cylinder heads, brake drums, gearbox assemblies, propeller shafts, fuel pumps and cable linkages. From 1974, repair shop assistants were also permitted to balance wheels by machine. Repair work and final electrical connections, however, remained on the artisans work schedule. Bendix estimated that African repair shop assistants were legally permitted to perform about 80 per cent of what had been skilled mechanic's work.

In spite of this fragmentation of the motor mechanic trade, the employment of African repair shop assistants did not reach significant numbers. The Manpower Surveys report that the number of African repair shop assistants grew to only 1,490 by 1975 which was only a small fraction of the skilled workforce of 19,964.¹³³ By 1990, the number of African repair shop assistants had grown to 5,229, only a quarter of the 21,956 motor

mechanics in employment.¹³⁴ Bendix argued that the limited growth in employment of repair shop assistants was caused by a clause in the agreement which prevented garage owners from employing as many repair shop assistants as artisans and not more than twice as many repair shop assistants as apprentices.¹³⁵ The consequence of this legal stipulation was that motor repair establishments which employed only one artisan could not legally employ a repair shop assistant at all. Since over half (57 per cent) of all repair shop establishments employed only one mechanic, this was a serious legal constraint on the growth of this class of African worker.¹³⁶ Furthermore, Bendix calculated that the composition of the work load in a typical motor vehicle repair workshop requires at least three repair shop assistants to every two artisans in order for employers to reap the benefits of the lower wages earned by repair shop assistants. Since the 1974 Industrial Council Agreement did not permit such a high ratio of repair shop assistants to mechanics, many employers had no economic incentive to employ semi-skilled workers in the place of artisans.¹³⁷ Bendix also expressed the opinion that grassroots opposition by white mechanics prevented 'to some extent' the full employment of African repair shop assistants.¹³⁸

CONCLUSION

The evidence presented in this chapter has documented the changes in the technical and social characteristics of production in the construction, mining and certain manufacturing sub-sectors in order to understand the ways in which employers were able to make more productive use of African labour without de-racialising the skilled trades. The results show that, in spite of the relative cheapness of African labour, employers chose to mechanise labour-intensive tasks on which unskilled African workers were employed. It is likely that the government first envisaged that the new machine operative occupations created by this form of mechanisation would be filled by white workers. With the exception of crane driving in the 1960s, however, these jobs were filled by African and other black workers. Significantly, neither the government nor white trade unions opposed the employment of African workers in these types of semi-skilled occupations. The mechanisation of such unskilled, heavy manual tasks was therefore an important reason for the relative and absolute decline in the demand for unskilled African labour over the apartheid period.

The other method by which employers increased the productivity of African labour was by fragmenting the skilled trades into semi-skilled operations on which African workers could be employed. Although the government initially saw fragmentation as a threat to the interests of white labour, by the late 1960s it threw its support behind efforts to restructure the division of labour between semi-skilled and skilled workers. White trade unions, however, opposed fragmentation, but with little success. None the

less, supported by government policy to advance white workers ahead of black workers and armed with the threat of job reservation, white workers secured wage increases, retraining and promotions in exchange for conceding to African advancement.

Although new technological developments often provided employers with the opportunity to dilute the skills required for certain jobs and thereby to re-classify them as semi-skilled operations, many skilled jobs were fragmented simply through re-organising the occupational and racial division of labour. So, whereas technological developments in printing, iron moulding and engineering were central to the fragmentation of the skilled trades, this was not the case for the building and motor mechanic trades. Employers in the building and motor repair industries fragmented the skilled trades by simply re-organising the occupational division of labour without any technological innovations.

RACIAL SEGREGATION AND DE-RACIALISATION IN THE TERTIARY SECTOR

INTRODUCTION

The organisation of work in the tertiary sector is subject to a set of forces which is quite different from those found in the mining, manufacturing and construction industries. The main difference lies in the fact that most jobs in the tertiary sector usually deliver some form of personal service rather than a material product. Consequently, these tertiary sector jobs are not easily automated or mechanised. Thus, many employees are engaged in face-to-face personal interactions, an activity that is not readily automated or mechanised. Good examples of face-to-face service work are the occupations of supermarket cashier, nurse, school teacher and salesperson. In the few cases where new technology has permitted the automation of routine tasks, the overall organisation of work has remained relatively untouched. This is certainly true of the effects of computerisation in finance and commerce. The effect of such technological innovations as automatic bar code scanners, which dispense with the need for cashiers to enter data into cash register machines manually, has been to improve productivity rather than to de-skill the occupation. This is simply because these new technologies frequently fail, with the result that cashiers still have to be capable of operating tills manually. The only cashier occupation which has been successfully automated is that of bank cashier which deals only with the dispensing of cash.¹ Other clerical jobs which have been successfully automated are routine clerical jobs in the banking sector where employees process financial transactions. As far as semi-professional occupations are concerned, I know of no evidence which suggests that the labour market for these jobs has been altered by technological innovations.

Although the introduction of computer technology in the financial and, especially the banking sector, has completely revolutionised how information is processed, the occupational division of labour and the labour market for white-collar work, more generally, has remained more or less intact. Studies of the effects of computerisation in the banking sector show that, although there have been some important changes in the organisation of work, the impact of job fragmentation and de-skilling on the occupational division of

SEGREGATION IN THE TERTIARY SECTOR

Table 5.1 The proportion of routine clerical staff employed on routine computer operations, 1979–90 (percentages distribution)⁷

<i>Year</i>	<i>Data capturing operator</i>	<i>Computer operator</i>	<i>Other routine clerical</i>	<i>Total</i>
1979	1.4	1.0	97.5	100
1981	1.8	0.8	97.3	100
1983	2.1	1.1	96.7	100
1985	3.0	1.4	95.6	100
1987	2.2	1.9	96.0	100
1989	2.2	2.1	95.7	100
1990	1.9	2.2	95.8	100

Source: My own analysis of the Manpower Surveys. For the data on which this table is based, refer to Table A5.1 in the Appendix to Chapter 5

labour has been limited. Consequently, most entry-level routine white-collar employees are still required to have at least a matric certificate. Unlike their counterparts in mining, manufacturing and construction, new technology has not enabled managers in the banking sector to lower labour costs by replacing expensive and skilled white staff with less-skilled and cheaper black employees.

This does not mean that computerisation did not bring with it some changes in the occupational division of labour, however. Since their introduction in the banking industry in the mid-1960s, computers have been used to automate many routine clerical tasks associated with keeping account of financial transactions.² Typical occupations include ‘back office’ jobs such as ledger clerk, loan clerk and checking clerk as well as the ‘front office’ jobs of cashier and enquiry clerk. Many back office jobs have been fragmented, on the one hand, into the less-skilled jobs of data input clerk and computer operator and, on the other hand, into the more skilled jobs of computer programming and maintaining computer systems.³ Since the task of data capture is a highly repetitive ‘factory-type operation’, the educational requirements of data input clerks are lower than those required of other bank clerks.⁴ Consequently, data input clerks do not have any prospect of career advancement through promotion to other positions in the bank. The most that they can aspire to are supervisory positions within the data processing sections of the bank.⁵

However, because computers automate data processing so completely, the number of staff employed in data input and routine computer operation has remained as only a small proportion of all clerical staff. By 1979, when the Manpower Survey first reported employment in occupations associated specifically with computer technology, the proportions of routine clerical workers employed in the occupations of data capturing operator and computer operator were, respectively, only 1.4 and 1.1 per cent (Table 5.1). Although the use of computers continued to expand over the 1980s, the

SEGREGATION IN THE TERTIARY SECTOR

proportions of data typists and computer operators increased, respectively, to only 1.9 and 2.2 per cent of all routine clerical occupations by 1990 (Table 5.1). So, although the automation of many routine clerical occupations reduced the demand for such jobs, it did not result in the expansion of a new, largely de-skilled, class of office workers. In fact, the computerisation of routine clerical tasks has generally meant that most surviving clerical occupations have been re-skilled. For example, front office clerical workers are now required to operate computers in order to access up to date information for their customers and this extra skill has added variety, interest and job satisfaction to their work.⁶

DE-RACIALISATION AND INTEGRATION IN ROUTINE WHITE-COLLAR EMPLOYMENT

At the onset of the apartheid period, just over three-quarters (78 per cent) of all routine white-collar jobs were filled by whites. Africans filled only 12 per cent of these jobs, coloureds 5 per cent and Indians 6 per cent.⁸ Although little is known of the institutions where black workers were employed at that time, the nature of the most common occupations suggests that they were restricted to serving the black population. For example, Africans were generally better represented in occupations such as post office sorters, postmen, bus and train conductors, labour recruiters, clerks and salespersons.⁹ Clearly, most of these jobs are functions associated with racially segregated government authorities and services. As far as employment in clerical and sales work is concerned, case studies suggest that Africans were not employed to any significant extent in commercial and financial institutions in the private sector. Hellmann's 1951 study of African employment in a large retail company in Johannesburg revealed that not one African was employed in clerical and sales work. Instead, Africans were restricted to jobs which entailed packing and loading goods, cleaning, sweeping, polishing and serving drinks and food.¹⁰ Correspondingly, a study of African workers employed by the Johannesburg City Council in 1957 showed that a substantially greater proportion of Africans were employed in higher grade work in the Non-European Affairs Department than in other Council Departments.¹¹

The evidence suggests that this racial division of labour, in which blacks were employed in routine white-collar occupations only where they served the black public or were employed in racially segregated bureaucracies, remained more or less intact until the late 1960s. During the early 1960s there was no indication from employers that the legal restrictions on racial mixing in the workplace inhibited their employment preferences.¹² Another useful indication of the kind of job in which there was a shortage of whites and for which employers were turning to black labour is provided by the incidence of work reservation determinations. 'Job reservations' applications were almost always initiated by white workers who were threatened by

SEGREGATION IN THE TERTIARY SECTOR

competition from black workers. It is therefore significant that job reservation legislation was used by the state on only one occasion to reserve a routine white-collar occupation for whites. This was Work Reservation No. 10 of 1962 which was promulgated to freeze the proportion of white bus conductors employed by City Tramways in Cape Town.¹³ Judging from other Work Reservation Determinations which were applied to the tertiary sector in the early 1960s, white workers experienced competition from black workers only in menial, rather than routine white-collar occupations. Thus, in 1960, the job of lift (or elevator) attendant was reserved for whites.¹⁴ Similarly, the job of barman was reserved for whites in Durban and Pietermaritzburg from 1964.¹⁵ Most other job reservations in the tertiary sector were, in fact, applied to protect coloured and Indian workers employed in menial occupations from competition with African workers. These were the occupations of barman, waiter and wine-steward which were reserved for coloured and Indian workers in the Western Cape after 1965. Similarly, the menial jobs of page and bedroom attendant were also reserved for coloured and Indian workers in Durban, Pietermaritzburg and certain coastal towns in Natal.¹⁶

The supply of white labour for routine white-collar employment during the 1950s and early 1960s was therefore quite adequate to meet the prevailing labour requirements and the preferences of employers and the state. In the private and public sector, a preference for white labour in services that catered for whites was taken for granted by employers and state bureaucrats alike. So, although a relatively large number of blacks were employed in routine white-collar jobs by the mid-1960s, most of this employment was concentrated in racially segregated government administrations and services which catered for the black public. However, the conditions of sustained economic growth which began in the early 1960s placed a strain on the supply of white routine white-collar workers. This shortage of white labour produced a growing demand for black routine white-collar workers in institutions that had hitherto been dominated by white employment, namely transport, and financial and commercial enterprises in white urban areas.

During the decades of the 1960s and 1970s, the demand for routine white-collar labour grew at an annual rate of 3.2 per cent and 4.4 per cent, respectively (Table 5.2). Over the first decade, from 1960 to 1970, the annual rate of supply of appropriately qualified white labour was well in excess of demand at 5.3 per cent.¹⁷ However, during the 1970s, the rate of growth of the supply of white labour declined dramatically to only 2.8 per cent per annum and then fell even further to a mere 0.2 per cent per annum during the first half of the 1980s (Table 5.2). Over the same period, the rate of supply of appropriately qualified black labour was not only higher than that of white labour, but was sustained throughout the 1970s and the 1980s (Table 5.2).

This statistical evidence of a shortage of white labour during the 1970s is corroborated by the views of trade unionists and managers at the time. In 1969 the General Secretary of the National Union of Distributive Workers

SEGREGATION IN THE TERTIARY SECTOR

Table 5.2 The annual rate of growth of the supply of and demand for routine white-collar labour, 1960–85¹⁸

Period	Supply of labour with Std 8–10 schooling					Demand
	Africans	Coloureds	Indians	All blacks	Whites	
1960–1970	11.6	11.2	12.3	11.8	5.3	3.2
1970–1980	11.5	9.6	8.9	10.9	2.8	4.4
1980–1985	9.2	9.5	5.8	8.8	0.2	-0.3
Average annual rate of growth, 1960–1985	10.8	10.1	9.0	10.5	2.8	2.5

Sources: The data for the supply of labour were adapted from the following official reports: *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14. Estimates of the demand for labour were derived from the Manpower Survey results. For the data on which this table is based, refer to Table A5.2 in the Appendix to Chapter 5

ascribed the entry of coloureds into routine sales work as a result of the shortage of white labour caused by the movement of whites into better-paid work.¹⁹ In the same year the Cape Chamber of Industries conducted a survey among its members and concluded that ‘there are not enough Whites to fill vacancies in the lower administrative and clerical categories’.²⁰ By the end of the 1960s the shortage of white-collar labour led organised business to call for educational reforms that would train African labour, particularly at the secondary and technical levels.²¹ Later, in 1975, the Johannesburg Chamber of Commerce called on the government to provide specifically for the training of African ‘cashiers, clerks and secretaries’.²²

As a consequence of this shortage of white labour, private sector companies began to employ Africans and coloureds in clerical and routine sales work. Banks, for example, began to employ black clerks for the first time in the late 1960s.²³ By the early 1970s, the shortage of white clerks in Durban meant that employers began to run foul of legislation which prohibited racial mixing in the workplace. Boulanger reported that white female clerks in about 2 per cent of his sample of companies had complained to the Department of Labour that they were being forced to share offices with Indian clerks.²⁴ Similarly, in 1973, the managing directors of a large retail chain reported that ‘the shortage of [white] labour is forcing us to...create separate clerical offices employing only coloured and/or native [clerks]’.²⁵ By the early 1970s almost half the salespeople employed by a nation-wide chain of furniture stores were African.²⁶

The effect of these changes in employment practices on the overall racial division of labour was dramatic. Although the number of white women in



Figure 5.1 Male routine white-collar employment by race, 1965–90

Source: Based on my own analyses of the data tapes of the Manpower Surveys. For the data upon which this graph is based, refer to Table A5.3 in the Appendix to Chapter 5

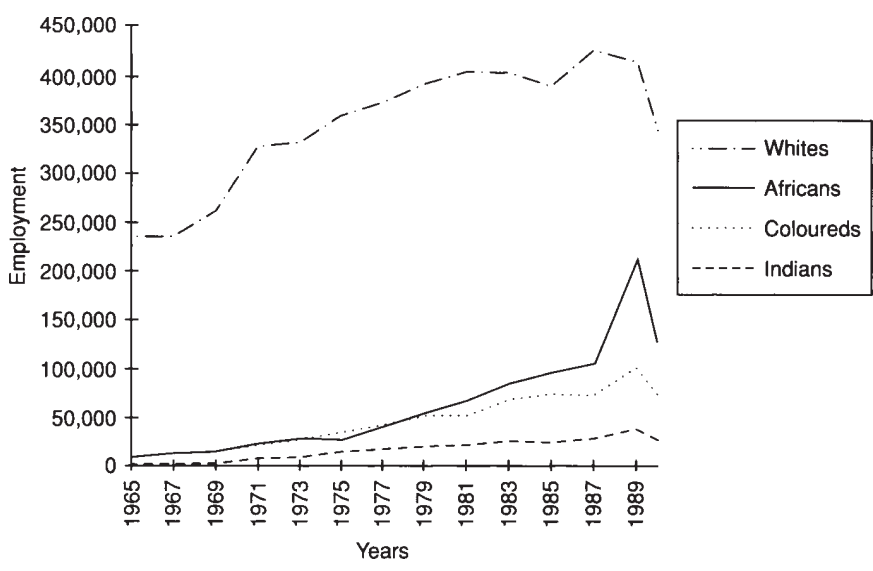


Figure 5.2 Female routine white-collar employment by race, 1965–90

Source: Based on my own analyses of the data tapes of the Manpower Surveys. For the data upon which this graph is based, refer to Table A5.3 in the Appendix to Chapter 5

SEGREGATION IN THE TERTIARY SECTOR



Figure 5.3 Routine white-collar employment by sex, 1965–90

Source: Based on my own analyses of the data tapes of the Manpower Surveys. For the data upon which this graph is based, refer to Table A5.3 in the Appendix to Chapter 5

routine white-collar employment grew steadily throughout the 1960s and 1970s, white employment on the whole slowed down and actually declined after 1979.²⁷ In contrast, the number of black men and women increased steadily. Although African men formed the bulk of increasing black routine white-collar employment, the proportion of coloured and Indian men and women was very significant (Figures 5.1 and 5.2). Such was the extent of the growth of black women in routine white-collar jobs, that after 1977, the proportion of men in these jobs fell below half (Figure 5.3).

The shift in the racial composition of the supply of routine white-collar labour during the 1970s and 1980s was at least partly due to reforms in state education policy. Under pressure to alleviate the shortage of labour, the state responded by re-thinking its policy of limiting the expansion of African secondary schools to the 'homelands'. During the 1950s and 1960s the state sought to limit the size of the urban African population and to restrict Africans to manual work by providing new secondary schools only in the 'homelands'.²⁸ Furthermore, the government's strategy of destroying mission school education of Africans forced the closure of many mission secondary schools during this period. Thus, this period was characterised by the expansion of primary schools, rather than secondary schools.²⁹ This policy of restricting the expansion of secondary schools was revoked in 1972 and the budget for African education outside the 'homelands' was substantially

SEGREGATION IN THE TERTIARY SECTOR

Table 5.3 African pupil enrolments in secondary schools, 1955–90

<i>Year</i>	<i>Number of pupils</i>	<i>Period</i>	<i>Annual rate of growth of pupil numbers (percentage)</i>
1955	34,983	–	–
1960	47,598	1955–1960	5
1970	122,489	1960–1970	9
1980	555,000	1970–1980	15
1990	2,003,904	1980–1990	38

Sources: E van Rensburg, *Trends in Bantu Education in the Republic of South Africa*, Pretoria, Human Sciences Research Council, 1975, p. 24; *Race Relations Survey 1991/92*, Johannesburg, South African Institute of Race Relations, 1992, p. 204

increased. In Soweto alone, 40 new secondary schools were built by 1974.³⁰ Consequently, African secondary school enrolments grew at an increasingly faster rate during the following decades. Compared to an annual rate of growth between 1955 and 1960 of only 5 per cent and between 1960 and 1970 of only 9 per cent, enrolments between 1970 and 1980 grew at 15 per cent per annum and between 1980 and 1990 leapt to a rate of 38 per cent per annum (Table 5.3).³¹

The impact of these reforms on the educational profile of the African population was dramatic. Whereas in 1960 only 2 per cent of the population had completed Standard 8, by 1985 this proportion had increased to about 10 per cent (Table 5.4). By contrast with African education, the state acted much earlier to expand the provision of secondary schooling for coloureds and Indians. In the mid-1960s coloured and Indian education was placed under the control of the central state.³² This meant increased budgets and the gradual introduction of compulsory schooling. These policies contributed to changing the educational profile of the coloured and Indian populations. Whereas in 1960 only 3 per cent of coloureds had achieved an educational level above Standard 8, by 1985 this had increased to 16 per cent (Table 5.5). Similarly, the proportion of the Indian population with an educational level above Standard 8 increased from 6 to 40 per cent (Table 5.6). Since white-collar jobs do not require more than a matric-level qualification, and a great many are open to candidates with only a Standard 8 certificate, these changes in the educational profile of the black population began to de-racialise the supply of white-collar labour.

The shortage of white labour and the increase in the supply of appropriately qualified black labour were necessary but not sufficient conditions for the de-racialisation of routine white-collar employment. It was the absence of white trade union opposition to African advancement into routine white-collar work which provided the final impetus for the advancement of blacks into routine white-collar jobs.

SEGREGATION IN THE TERTIARY SECTOR

Table 5.4 Level of education of the African population, 1960–85
(percentage distribution)³³

<i>Level of education</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1985</i>
Unknown	0.6	0.1	0.0	0.2
None	67.5	57.0	48.2	37.2
Sub A to Std 5	26.7	35.0	37.5	42.7
Std 6 and 7	4.0	5.9	9.2	11.3
Std 8 to 10	0.8	1.8	4.7	8.1
Pre-matric diploma	–	0.2	0.3	0.3
Post-matric diploma or degree	0.4	0.1	0.2	0.3
Total	100	100	100	100

Sources: Based on *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14. For the data on which this table is based, refer to Table A5.4 in the Appendix to Chapter 5

Table 5.5 Level of education of the coloured population, 1960–85
(percentage distribution)

<i>Level of education</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1985</i>
Unknown	1.4	0.2	0.0	0.2
None	47.1	38.1	31.4	25.8
Sub A to std 5	39.2	44.8	43.8	43.0
Std 6 and 7	9.7	12.2	15.8	17.9
Std 8 to 10	1.8	3.9	7.6	11.1
Pre-matric diploma	–	0.0	0.6	0.9
Post-matric diploma or degree	0.9	0.7	0.7	1.2
Total	100	100	100	100

Sources: Based on *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14. For the data on which these tables are based, refer to Table A5.5 in the Appendix to Chapter 5

In spite of the fact that the mostly white and female routine white-collar workers in the retail industry were organised by the large National Union of Distributive Workers (NUDW), they offered no resistance to the upward mobility of black workers into their jobs. There are two likely reasons for this. First, although the NUDW was a relatively large union, in 1973 its membership accounted for only 5 per cent of the white workforce in commerce and finance. This low unionisation rate contrasts markedly with the trade unions in the building, motor industry and trade, steel and engineering, printing

SEGREGATION IN THE TERTIARY SECTOR

Table 5.6 Level of education of the Indian population, 1960–85
(percentage distribution)

<i>Level of education</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1985</i>
Unknown	2.7	0.4	0.0	0.4
None	37.5	29.0	26.1	19.8
Sub A to Std 5	43.5	41.2	32.7	29.9
Std 6 and 7	11.9	18.6	19.1	19.7
Std 8 to 10	3.6	9.8	19.3	25.7
Pre-matric diploma	–	0.0	0.5	0.9
Post-matric diploma or degree	0.9	1.2	2.2	3.6
Total	100	100	100	100

Sources: Based on *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14. For the data on which these tables are based, refer to Table A5.6 in the Appendix to Chapter 5

and mining sectors which enjoyed the support of between 50 and 70 per cent of white workers in these sectors.³⁴

Second, throughout its existence, the NUDW was firmly committed to the policy of ‘mixed’ unionism and never supported the National Party policy of racially segregated unions.³⁵ The leadership of the NUDW included the stalwarts of the ‘mixed’ union tradition such as Dulcie Hartwell, Morris Kagan and Ray Altman who were sympathetic to the organisation of black workers.³⁶ In 1966, just before it finally bowed to state pressure to form a separate union, (the National Union of Commercial and Allied Workers (NUCAW) for its coloured and Indian members), about 6 per cent of its membership was already coloured or Indian.³⁷ During their years as separate unions the NUDW and NUCAW remained on good terms³⁸ and, when changes in labour legislation made it possible in 1979, they were re-united as the National Union of Distributive and Allied Workers.³⁹ The leadership of NUDW was also responsible for establishing the African ‘parallel’ union, the Commercial, Catering and Allied Workers Union (CCAWUSA) in 1975.⁴⁰ So, unlike many other unions with a predominantly white membership and leadership, the NUDW did not use its organisational power to prevent the upward mobility of blacks into traditionally white jobs. Furthermore, the NUDW’s strategy of ‘mixed’ unionism as well as its support for the organisation of African workers did not alienate its white membership. An all-white union, the White Distribution Workers’ Union, which began organising white shopworkers in the Van der Bijl Park district in 1967 failed to poach white shopworkers from the NUDW.⁴¹ By 1974, the White Distribution Workers’ Union had signed up only 10 members, compared to the 10,089 white members of the NUDW.⁴² The absence of white union opposition to black advancement is confirmed

SEGREGATION IN THE TERTIARY SECTOR

by the results of a 1979 survey which revealed that only 16 per cent of companies in the distribution and service industries and not one financial institution reported that white unions successfully prevented the employment of blacks in traditionally white jobs. This stands in stark contrast to the extent of successful white union opposition to black advancement in other sectors. In the mining, construction and capital goods manufacturing sectors, 75, 63 and 60 per cent of companies reported that white trade unions had prevented management from employing blacks in traditionally white jobs.⁴³

A further reason why the NUDW did not block black advancement into routine white-collar jobs is that it had no control over the training, and therefore the supply, of routine white-collar workers. In contrast, white artisan unions were represented on Apprenticeship Committees and were therefore able to block the registration of black apprentices. Furthermore, since apprenticeship training required the co-operation of union members, their refusal to train black apprentices was an effective way of controlling the supply of black artisans.

Black upward mobility into routine white-collar jobs during the 1970s and 1980s was certainly influenced, albeit indirectly, by the context of heightened opposition to apartheid and growing awareness and acceptance by employers of the rights of black workers. Furthermore, the rise of the militant CCAWUSA in the mid-1970s placed pressure on management to promote blacks and women into routine white-collar employment. In the late 1970s, for example, the large supermarket chain, Pick 'n Pay, received unfavourable press coverage because its managers allegedly refused to employ African cashiers. This bad press was seen in such a serious light that the managing director met personally with the general secretary of CCAWUSA in order to settle the matter. The result was the first informal agreement between CCAWUSA and Pick 'n Pay and it was reported that, thereafter, management attitudes to employing African cashiers 'changed slowly'.⁴⁴

Black advancement into many routine white-collar jobs which were traditionally filled by whites was also facilitated by changes in the pattern of black consumption. Rising real wages for employed black urban workers throughout the apartheid period resulted in more and more blacks purchasing commodities from shops which had previously been patronised only by whites. Rising incomes among blacks also resulted in more blacks making use of banking facilities which in the past had catered only for whites. In 1971, Barclays Bank employed an African clerk specifically to serve the growing numbers of African customers at its branch in central Johannesburg.⁴⁵ By the late 1980s the fact that black customers were becoming more numerous than white customers began to attract publicity.⁴⁶ The consequence of increasing numbers of black customers meant that managers not only saw it as suitable to employ blacks in jobs such as cashiers and tellers, but could do so without fear of complaints from white customers.⁴⁷

Another important feature of black advancement into routine white-collar

SEGREGATION IN THE TERTIARY SECTOR

work was that employers in the banking sector did not use it to undercut white salaries. In the early 1970s, both the Standard Bank and Barclays Bank, which together accounted for 75 per cent of all employment in the banking sector, adopted the policy of equal pay for equal work irrespective of race.⁴⁸ The South African Society of Bank Officials (SASBO) claimed the credit for this 'rate for the job' policy of the major banks. Whether or not the union was as influential as its leaders claimed, it was certainly the case that SASBO did pursue a notably non-racial style of organisation. Originally an international union which organised African banking staff in Rhodesia, Zambia and Malawi, SASBO restricted its membership to white, coloured and Indian banking staff only after it was forced to do so by the state in 1961. In the 1970s, when the number of black bank staff in South Africa had reached significant numbers, SASBO organised staff under two separate parallel unions: black coloured and Indian staff under the auspices of the the National Union of Bank Employees, and African staff under the South African Bank Employees' Union.⁴⁹ SASBO leadership so successfully convinced white members of the merits of organising black bank staff that the union received almost unanimous support for its policy of organising African workers, a rare phenomenon among white trade unions at the time.⁵⁰ So, a combination of 'enlightened' management and union commitment to the 'rate for the job' meant that black advancement presented no threat to the salaries of white workers and, consequently, according to the general secretary of SASBO, there were 'never...any tensions arising out of the increasing employment of different races in skilled jobs'.⁵¹

RACIAL SEGREGATION AND EXPANSION IN SEMI-PROFESSIONAL EMPLOYMENT

Statistical evidence on the size of the black semi-professional workforce in the early years of apartheid is contradictory. According to the 1946 Census, as many as one quarter of all semi-professionals were African. If the proportions of coloured semi-professionals (2 per cent) and Indian semi-professionals (7 per cent) are added to their number, then only 67 per cent of all semi-professionals were white at the onset of the apartheid period. According to the 1960 Census, this racial division did not change at all over the intervening 15 years. The results of the first Manpower Survey, conducted in 1965 also showed no change in the racial division of labour in semi-professional occupations.

Whatever the exact levels of black semi-professional employment in the early years of the apartheid period, trends indicate that black employment in this class grew rapidly after the mid-1960s.⁵² This growth might appear inconsistent with the policies and practices of the apartheid state. Whatever its rhetoric, however, the apartheid state had no alternative but to provide for the social reproduction of the growing urban African workforce which resulted from increased African urbanisation during and after the Second

SEGREGATION IN THE TERTIARY SECTOR

World War.⁵³ Reproduction of this workforce required the provision of health and education systems. Thus, employment in some of the most important semi-professional occupations, namely nursing and school teaching, was substantially expanded during apartheid.

Until the 1940s, the nursing care of Africans took place mostly in mission hospitals staffed by white nurses.⁵⁴ Thus, the expansion of the health services for blacks during the 1940s and 1950s not only created a shortage of white nurses, but also resulted in more and more white nurses attending to black patients. Furthermore, the growing number of black nurses meant that junior white nurses found themselves taking orders from senior black nurses.⁵⁵ This led to the call from white nurses, especially in the Transvaal, for a colour bar in nursing. As the composition of the Board and the Council of the South African Nursing Association (SANA) became increasingly pro-apartheid, so these calls for racial segregation received greater support and, in 1957, the Nursing Amendment Act was eventually passed, making it illegal for white nurses to be supervised or controlled by black staff.⁵⁶ The contradiction between the need for expanded health services for the black population and the shortage of white nurses dove-tailed neatly with the segregationist policies of the apartheid state. The states solution to both these problems was to segregate the provision of health care. Thus, black nurses were increasingly trained at segregated institutions to be employed in segregated wards and hospitals where they were restricted to nursing black patients. However, although the segregation of the nursing profession meant unequal training and employment conditions for black nurses, it also opened up new career opportunities for black nurses because it allowed them to be promoted to top positions of authority within segregated institutions. From the mid-1950s it was state policy to replace white ward sisters in African hospitals with African sisters.⁵⁷ So, one of the consequences of apartheid policy was that career opportunities for black nurses were opened up with the racial segregation of hospitals. In 1958 the first African nurse was appointed to an administrative position and by 1977 there were 170 African matrons in provincial and state hospitals in South Africa.⁵⁸

Although black employment in hospitals for whites was restricted by the Nursing Act, there is no evidence that there was a shortage of white nurses in these institutions until the mid-1960s. By then, there were indications that white nurses were being drawn away to other jobs with better pay and easier hours. A survey of a hospital in the mid-1960s revealed that almost half the white student nurses planned, once they had qualified, to give up nursing for jobs with easier hours.⁵⁹ Indeed, the 1960s saw declining numbers of white student nurses.⁶⁰ By the early 1970s black nurses were being employed in private hospitals and nursing homes for whites in the Transvaal.⁶¹ In public hospitals in the Transvaal, where the state still prohibited the employment of black nurses, beds stood empty because of the shortage of nursing staff.⁶² Such was the extent of the shortage of white nurses that, by the mid-1970s,

the Natal and Cape provincial authorities allowed black nurses to attend white patients and, in 1976, the Minister of Health publicly conceded that black nurses could be employed in white hospitals.⁶³ It is notable that the chronic shortage of white nurses was not alleviated by the efforts of the SANA to improve working conditions for white nurses. Through the efforts of the SANA, working hours for nurses were reduced from between 50 and 66 hours per week in the 1950s to between 40 and 50 hours per week in the late 1960s.⁶⁴ The salaries of white nurses also grew faster than those of African nurses. Taking the averages of salary scales for nursing sisters of different races, white salaries grew from 1.9 times that of African salaries in 1944 to 2.2 times by 1968.⁶⁵ However, these improvements in the conditions of employment for white nurses were not enough to compete with employment opportunities for white women outside the profession. Surveys conducted in the early 1980s showed that many white nurses were still leaving the profession for jobs with convenient working hours and better pay. One quarter of a sample of final-year nursing students reported that they would never seek employment as nurses. Significantly, 86 per cent of this group were white and the main reasons for their decision were low pay and inconvenient working hours.⁶⁶ Similarly, a survey of practising registered nurses showed that, apart from taking time off to raise children, the main reasons for resignations were low salaries, inconvenient working hours and poor working conditions generally. Significantly, white nurses were more likely to break their service for these reasons.⁶⁷ Finally, a study of nurses who had practised for two years confirmed that white nurses were much more likely than black nurses to resign because of low salaries and inconvenient working hours.⁶⁸ By contrast, African nurses had few alternative employment options. Consequently, resignations among African nurses were few and turnover low. As the matron of Edendale hospital in Kwa Zulu put it, 'No one ever leaves.... Once you've got a job here you hang on to it. If I lost 300 nurses right now, there'd be 1,000 applicants clamouring at my door by lunch time'.⁶⁹

Regrettably, flaws in the 1985 Manpower Survey results make it impossible to quantify the movement of black nurses into private sector hospitals for whites.⁷⁰ None the less, the combined effects of the expansion of black health services and the absorption of black nurses into white hospitals are manifest in the rising proportion of black nurses throughout the apartheid period. By the late 1960s, the number of African nurses alone was more or less equal to that of white nurses and, by the 1980s, the employment level of African nurses actually exceeded that of white nurses (Figures 5.4 and 5.5).

Just as the state was obliged to expand the health system during the apartheid period, so black schooling was expanded to cater for the growing black, and especially African, urban population. This expansion did not, however, take place at the same time as that of the health sector. When the

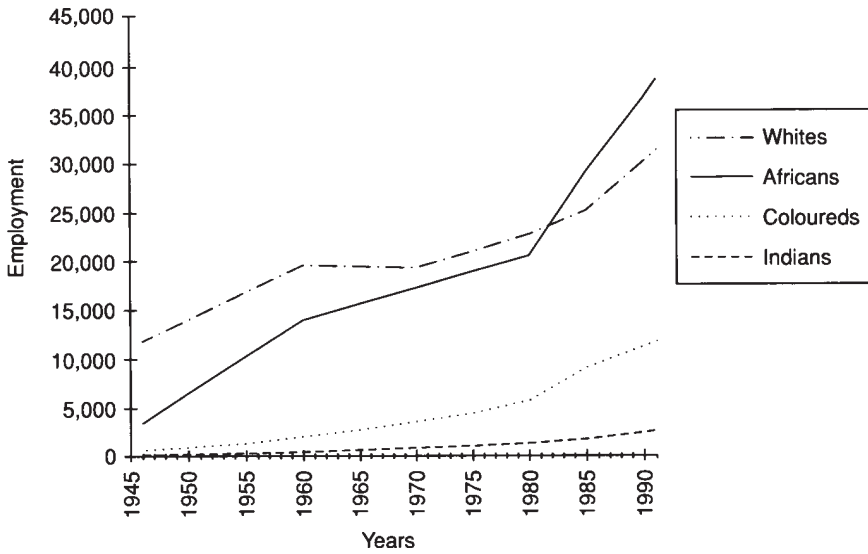


Figure 5.4 Nursing employment by race, 1946–91

Sources: Population Censuses. For exact sources and data on which this graph is based refer to Table A5.7 in the Appendix to Chapter 5



Figure 5.5 Nursing employment by race, 1965–90⁷¹

Source: Manpower Surveys. For the data on which this graph is based, refer to Table A5.8 in the Appendix to Chapter 5

state began to reconstruct African education in the 1950s, it aimed to produce a system which would prepare Africans for employment in unskilled and semi-skilled manual work. Thus, one of the aims of 'Bantu Education' was to restrict the provision of secondary schooling for Africans and to expand the number of primary schools instead. Although the government planned to more than double African student teachers by the end of the 1950s, its desire to destroy the church's control over teacher training and to restrict colleges to the 'homelands' produced quite the opposite effect.⁷² During the 1950s, the state closed down many mission-run teacher training colleges for Africans because they were located in white urban areas. Of the 38 training colleges in existence in 1948, 26 had been closed by the end of the 1950s. The consequence of this drastic step to impose state control over teacher training was that the number of African student teachers attending training colleges actually dropped during the second half of the 1950s and began to increase again only in 1961.

Although the state did expand teacher training for Africans during the 1960s, the rate of expansion was constrained by a chronic shortage of funds. This lack of funding for African education was a direct consequence of government policy which pegged the contribution from the state's general revenue account at a fixed amount and relied only on revenue from African taxation for further expansion of African education.⁷³ From the early 1970s, however, a variety of educational reforms resulted in a substantial expansion of the African education system and, concomitantly, the expansion of teacher training and employment. Hyslop argued convincingly that this about-turn in state policy was encouraged by a new concern among organised manufacturing and commercial employers about the shortage of routine white-collar and top semi-skilled labour. This pressure from employers for government reforms in education was greatly enhanced by the fact that Afrikaner employers within the National Party joined their English-speaking counterparts in demanding more commercial and technical training for Africans at secondary school level. The most important educational reforms came in 1972 when the government accepted that expenditure on urban African schools would have to be financed by state revenue funds and would no longer be limited to revenue from African taxation.⁷⁴ Furthermore, the state abandoned its policy of limiting African teacher training to the 'homelands' and teacher training for Africans was reintroduced in the major urban areas. By 1980 there were seven new colleges in white urban areas and at the end of the 1980s their number had doubled to 15.⁷⁵ These shifts in state policy impacted directly on teacher training. Whereas the number of student teachers attending colleges and universities actually declined by 6 per cent per annum in the late 1950s, their number increased by 7 per cent per annum during the 1960s and 10 per cent per annum during the 1970s (Table 5.7).

The employment trends of African school teachers as recorded by official statistics cannot be calculated accurately because of the exclusion of school

SEGREGATION IN THE TERTIARY SECTOR

Table 5.7 Numbers of teacher training colleges and student teachers, 1955–80

<i>Year</i>	<i>Number of teacher training colleges</i>	<i>Number of student teachers</i>	<i>Annual rate of growth of student teachers (percentage)</i>
1955	38	5,899	
1961	31	3,697	-6
1970	33	7,548	7
1980	55	21,000	10

Source: Based on figures provided by K.Hartshorne, *Crisis and Challenge: Black education 1910–1990*, Cape Town, Oxford University Press, 1992, pp. 237–8.

teachers employed in the Transkei, Bophuthatswana, Venda and Ciskei territories. These employment data none the less reflect the trends in teacher training. The numbers of African school teachers increased substantially during the 1960s, but at a slower rate than in subsequent decades. Throughout the 1970s and 1980s increases in the employment of African school teachers outstripped the growth rates of white, coloured and Indian school teachers (Figure 5.6). The impact of these increases in the employment of African school teachers was dramatic. Whereas in the early 1960s, the proportions of African and white school teachers were almost equal, by the end of the 1980s there were two African school teachers for every white school teacher. Similarly, by the end of the 1980s, the ratio of Indian and coloured school teachers to white school teachers was double that of the early 1960s (Figure 5.6).

As an aside, it is worth mentioning that government reforms also led to some expansion of tertiary sector training for Africans which led to increased demand for African lecturers in universities and technical colleges.⁷⁶ This accounts for the sharp rise in the African proportion of lecturers which rose from only 3 per cent in 1973 to 19 per cent in 1990. However, because the number of lecturing posts is small the employment of Africans in these jobs had little impact on the overall racial division of labour in the professions.

Another aspect of state education policy in the mid-1950s was to cheapen the costs of education for Africans by employing women school teachers.⁷⁷ Although this was certainly the stated policy in the 1950s, it is unclear to what extent this policy shaped the employment of men and women teachers. Whatever the case, school teaching underwent significant feminisation during the apartheid period. In the case of African school teachers, the proportions of men and women were fairly equal during the 1960s but, as soon as the numbers of African teachers began their dramatic increase, the proportion of women teachers began to grow. By 1990, 62 per cent of African school teachers were women (Figure 5.7). Similarly, the gender composition of school teachers of other races was also feminised during the apartheid period, especially after the mid- to late 1970s (Figures 5.8, 5.9 and 5.10). The

SEGREGATION IN THE TERTIARY SECTOR

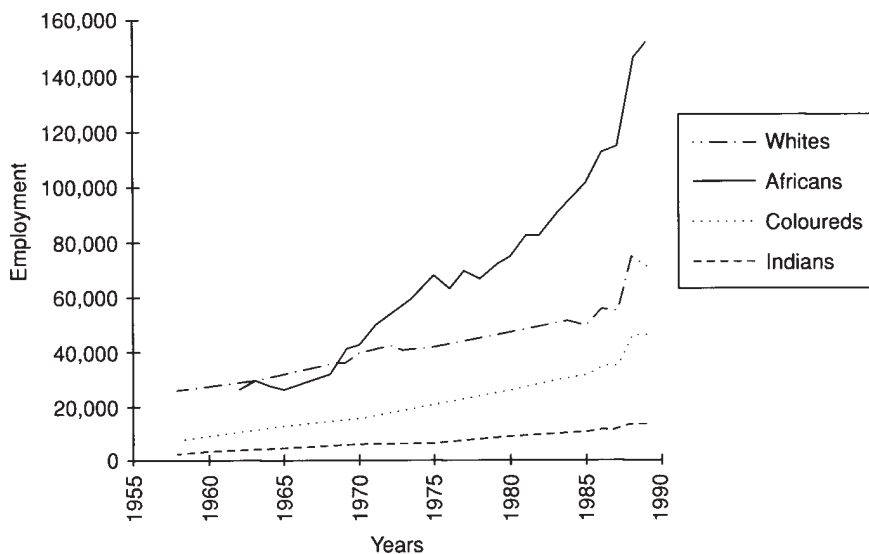


Figure 5.6 Employment of school teachers by race, 1958–89

Sources: *South African Statistics 1988*, Pretoria, Central Statistical Service, 1988, pp. 5:5–5:12 and *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 5:2–5:5. For the data on which this graph is based, refer to Table 5.9 in the Appendix to Chapter 5

proportion of coloured school teachers who were women rose from 48 per cent in 1965 to 63 per cent in 1990. Similarly, the proportion of female white school teachers rose from 58 per cent in 1965 to 67 per cent in 1990. Although their absolute numbers are low, Indian women school teachers increased most dramatically from only 29 per cent in 1965 to 51 per cent in 1990 (Figures 5.8, 5.9 and 5.10).

Whereas the racial desegregation of nursing and routine sales and clerical staff in institutions that catered for the white public was driven by a shortage of white labour, there was never a shortage of white school teachers. The principal reason for this was that by the 1960s compulsory schooling for whites had already been realised with the result that the growth rate of white pupil enrolment was only as fast as the growth rate of the white population. This growth in white pupil enrolments was substantially slower than the growth in black pupil enrolments and the numbers of white pupils actually began to stabilise after the mid-1980s. Between 1958 and 1983, white pupil enrolment grew at a rate of 1.7 per cent per annum. From 1983, however, this growth rate halved to only 0.8 per cent per annum (Figure 5.11). The consequence of this was that there was never a demand for black teachers in white schools. The only exception was the demand for African teachers in the late 1970s in certain private schools which employed Africans to teach

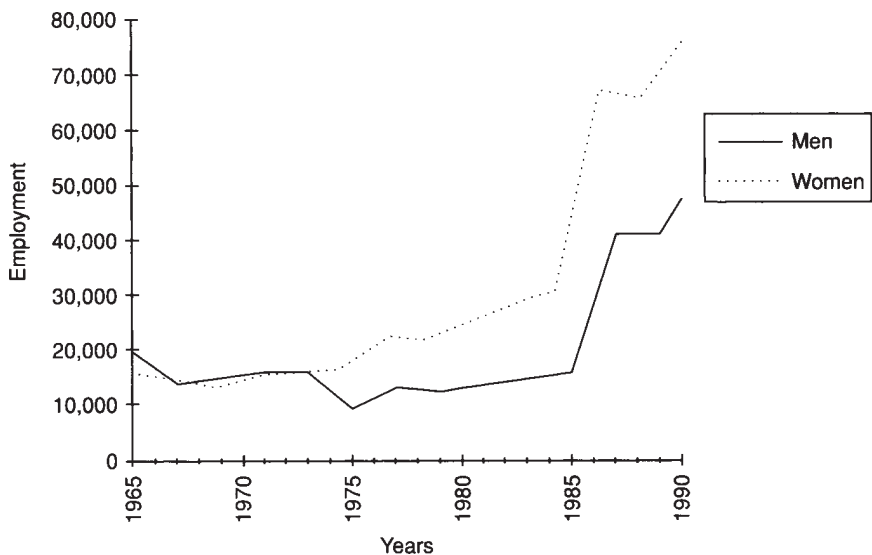


Figure 5.7 African school teachers by sex, 1965-90

Source: Manpower Surveys. For the data on which this graph is based, refer to Table A5.10 in the Appendix to Chapter 5

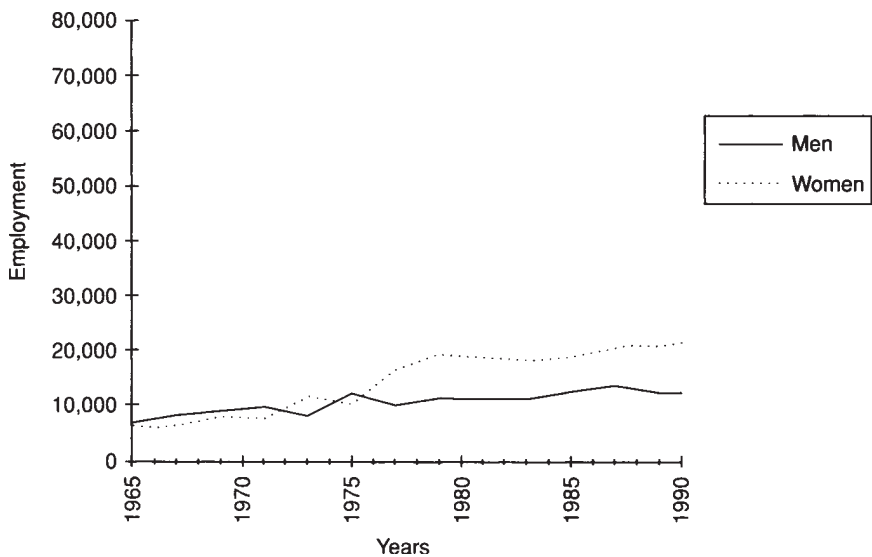


Figure 5.8 Coloured school teachers by sex, 1965-90

Source: Manpower Surveys. For the data on which this graph is based, refer to Table A5.10 in the Appendix to Chapter 5

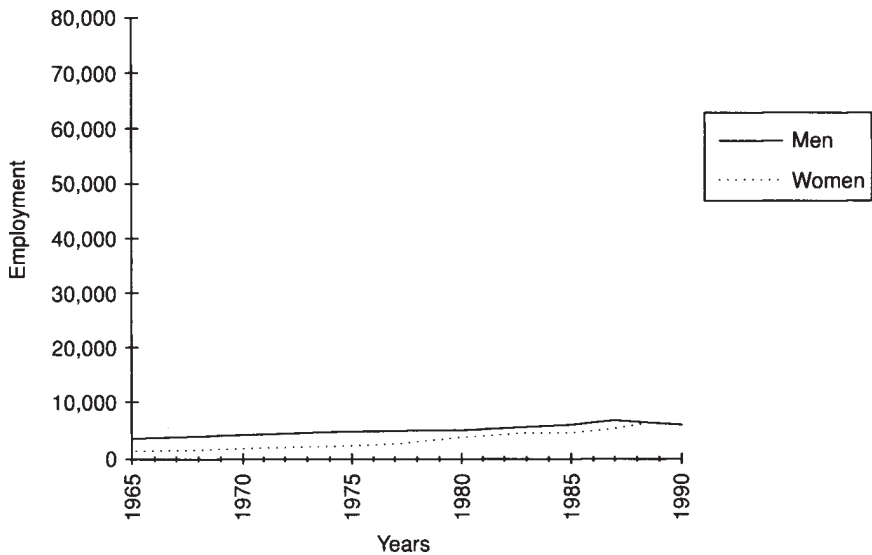


Figure 5.9 Indian school teachers by sex, 1965–90

Source: Manpower Surveys. For the data on which this graph is based, refer to Table A5.10 in the Appendix to Chapter 5



Figure 5.10 White school teachers by sex, 1965–90

Source: Manpower Surveys. For the data on which this graph is based, refer to Table A5.10 in the Appendix to Chapter 5

SEGREGATION IN THE TERTIARY SECTOR

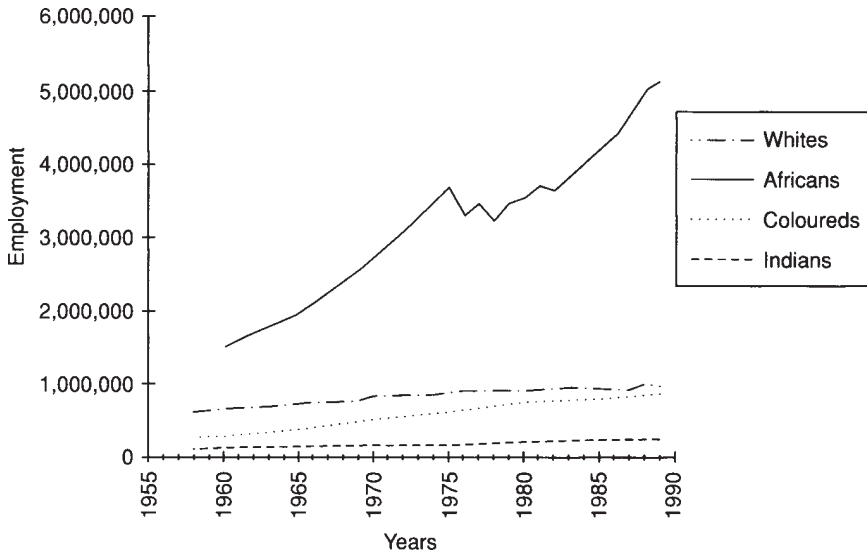


Figure 5.11 Pupil enrolment by race, 1958–89

Sources: *South African Statistics 1988*, Pretoria, Central Statistical Service, 1988, pp. 5:5–5:12 and *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 5:2–5:5. For the data on which this graph is based, refer to Table A5.11 in the Appendix to Chapter 5

the newly-introduced African language courses.⁷⁸ Conversely, with the breakdown of the mission school system, the proportion of white teachers employed at schools for Africans declined.⁷⁹ By the mid-1970s less than 2 per cent of teachers employed in African schools were white.⁸⁰

CONCLUSION

Changes in the racial division of labour in the typically tertiary sector semiprofessional and routine white-collar occupations were therefore quite different from those which took place in the skilled trades in the mining, manufacturing and construction sectors. As I have shown in Chapter 2, the extent of black advancement into semi-professional and routine white-collar employment was far greater than black advancement into the skilled trades. The reasons for the extent of black, and especially African, advancement into the semi-professional occupations of school teaching and nursing are to be found in the government's policy of racially segregated health and education systems. Under pressure to provide even the most basic health system for the expanding urban black population, the state was obliged to expand the employment of nurses. Faced with a shortage of white nurses, the government pursued a policy of expanding the training for black nurses

SEGREGATION IN THE TERTIARY SECTOR

specifically for employment in hospitals for blacks. Similarly, under pressure from organised manufacturing and commercial capitalist interests to alleviate the shortage of whites in routine white-collar jobs, the government expanded secondary schooling for blacks. In the case of African education, this expansion was particularly marked from the 1970s onwards. The result of the expansion of black education was the dramatic expansion of the training and employment of black school teachers.

A striking feature of African and black advancement into nursing and school teaching jobs is that it took place within racially-segregated institutions. During the first decade of apartheid rule, this was true even for black routine white-collar employment. By the 1970s, however, when the shortage of white routine white-collar and nursing staff intensified, blacks began to fill these jobs in hospitals, offices and shops which served a largely white public. Unlike the pattern of black advancement in the mining, manufacturing and construction sectors, where blacks were largely restricted to fragmented semi-skilled jobs which had been split off from the skilled trades filled mostly by whites, in the tertiary sector blacks began to fill the very same jobs that were occupied by whites. There are at least two structural reasons for this pattern. In the first place, the organisation of work in most tertiary sector institutions is such that there was no opportunity for employers to cheapen labour costs by fragmenting skilled jobs. The only exception was the automation of certain routine clerical jobs in the banking sector. Although employers used computers to replace many routine white-collar jobs, this form of automation did not result in the creation of a significantly large class of de-skilled clerical workers. The second important reason why these semi-professional and routine white-collar jobs were readily filled by blacks is that, unlike white trade unions in the mining, manufacturing and construction sectors, white unions in the tertiary sector had no control over the supply of this labour. Consequently, when the government was pressurised by organised manufacturing and commercial employers to expand the supply of routine white-collar labour, it was able to respond positively without opposition from white trade unions.

ECONOMIC GROWTH AND TRENDS IN THE RACIAL WAGE AND INCOME GAP

INTRODUCTION

The relationship between economic growth and racial inequality has consistently confounded both liberal and revisionist interpretations of apartheid. At the beginning of the 1970s, revisionist scholars overturned the conventional liberal interpretation by showing that the wage gap between Africans and whites had actually widened during the economically prosperous decade of the 1960s. Conversely, during the subsequent decades of the 1970s and 1980s, which were characterised by recessionary conditions, or at best by a much lower growth rate in the Gross Domestic Product, the racial wage gap narrowed. These trends in the racial wage gap pose uncomfortable questions for revisionist and liberal scholars alike. If economic growth was the impetus behind the integration of Africans into more skilled and better-paid jobs, then why did the racial wage gap narrow during the recessionary conditions of the 1970s and 1980s and not during the boom period of the 1960s? Conversely, if, as the revisionists argued, the apartheid state and employers acted in concert to ensure white supremacy and the supply of cheap African labour, why did the racial wage gap narrow at all?

In this chapter I advance evidence concerning changes in the structure of demand for labour which throws light on these questions. The results suggest that early revisionist contributions to the debate on economic growth and racial inequality underestimated the extent and consequences of African advancement which took place during the 1960s and early 1970s. By interpreting the widening of the racial wage gap during the 1960s as evidence of the long-term compatibility between capitalist growth and the practice of 'floating' the colour bar, the revisionist interpretation failed to anticipate or explain why the racial wage gap narrowed after 1970. Far from being of only marginal importance, the upward occupational mobility of African workers was an important cause of rising African wages from the early 1960s and the major cause after 1975. The widening of the racial wage gap was caused, not by falling African wages, but by rapidly rising white wages. An

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

important cause of rising white wages was upward white mobility, increased wages and bonuses which white workers received in exchange for conceding to the fragmentation of the skilled trades and the advancement of African workers into semi-skilled jobs previously performed by white workers. Since the fragmentation of the skilled trades and the promotion of whites out of semi-skilled jobs into skilled and supervisory positions could not proceed indefinitely, so the benefits which accrued to white workers from this process of 'floating' the colour bar came to an end: from the early 1970s white wages stabilised and even declined in real terms. In contrast, as a direct result of upward African mobility across all industrial sectors, African wages continued rising. Consequently, the racial wage gap narrowed significantly after the early 1970s.

However, the flip-side of rising real wages for African workers was increasing unemployment among the African population. Although recessionary conditions after 1975 did not limit upward African mobility, they did result in rising unemployment. Since African workers bore the brunt of unemployment, the rising unemployment rate substantially eroded the gains made by the African population through real wage increases. Although African incomes increased somewhat over the apartheid period, rising unemployment among the African population resulted in even greater inequality between whites and Africans in 1991 than in 1960. Moreover, these dual processes of upward mobility and unemployment did not affect all Africans in the same way. The changing structure of demand meant that unskilled workers were increasingly worse off than more skilled African workers both in terms of unemployment and lower wages.

THE PERIODISATION OF ECONOMIC GROWTH AND THE RACIAL WAGE GAP

The rate of economic growth during the apartheid period can be divided into an initial phase of fairly rapid growth in the Gross Domestic Product which was followed by a period of slower growth and recessionary conditions (Figure 6.1). Between 1946 and 1962, the Gross Domestic Product grew at a healthy average annual rate of 4.6 per cent.¹ By contrast, the next decade, from 1963 to 1975, experienced spectacular economic growth. Between 1963 and 1965 the Gross Domestic Product grew at an average rate of 7.7 per cent per annum, reaching as high as 8.5 per cent between 1963 and 1964.² After 1965, the rate of growth slowed down somewhat but, until the onset of the recessionary trend in 1975, the Gross Domestic Product still averaged as much as 4.8 per cent per annum.³ This trend of long-term high economic growth came to an end in 1975. Thereafter, changes in the Gross Domestic Product entered a long-term phase of significantly slower growth (Figure 6.1).⁴ Apart from a short-lived recovery between 1979 and 1981, during which the average annual growth in the Gross Domestic Product rose to 4.5 per cent, the period up to the

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

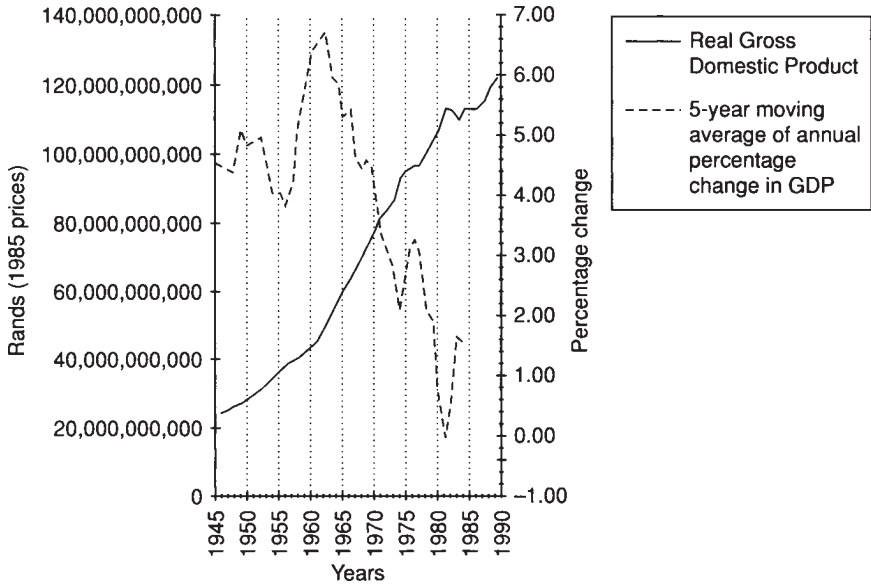


Figure 6.1 Trends in the gross domestic product, 1946–89

Source: South African Statistics 1990, Pretoria, Central Statistical Service, 1990, pp. 21.4–21.5

end of the 1980s experienced longer and more prolonged recessions.⁵ So, the period between 1946 and 1974 experienced relatively sustained high rates of growth, with an average annual rate of growth of the Gross Domestic Product of 4.9 per cent. After 1974, however, the country entered a long-term phase of low economic growth, during which the average annual rate of growth of the Gross Domestic Product was only 1.8 per cent.⁶

What were the trends in the racial wage gap during the boom and bust swings of the apartheid period? Hofmeyr's wage data reveal that the racial wage gap in the construction and manufacturing industries actually narrowed slightly during the early 1960s (Figure 6.2). After 1964/5, however, the racial wage gap widened until 1971. The average African wage in the construction industry fell from 18.4 per cent of the average white wage in 1965 to 15.0 per cent of the average white wage in 1971. In the manufacturing industry, the African/white wage ratio dropped from 20.0 per cent in 1964 to 16.6 per cent in 1971 and in the mining industry it fell from 6.0 per cent in 1965 to 5.0 per cent in 1971. From 1972 onwards, with the exception of the construction industry, the racial wage narrowed steeply (Figure 6.2). The average African wage in the construction industry rose sharply from 15.0 per cent of the average white wage in 1971 to 21.3 per cent in 1984 after which it stabilised. In the manufacturing industry the

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

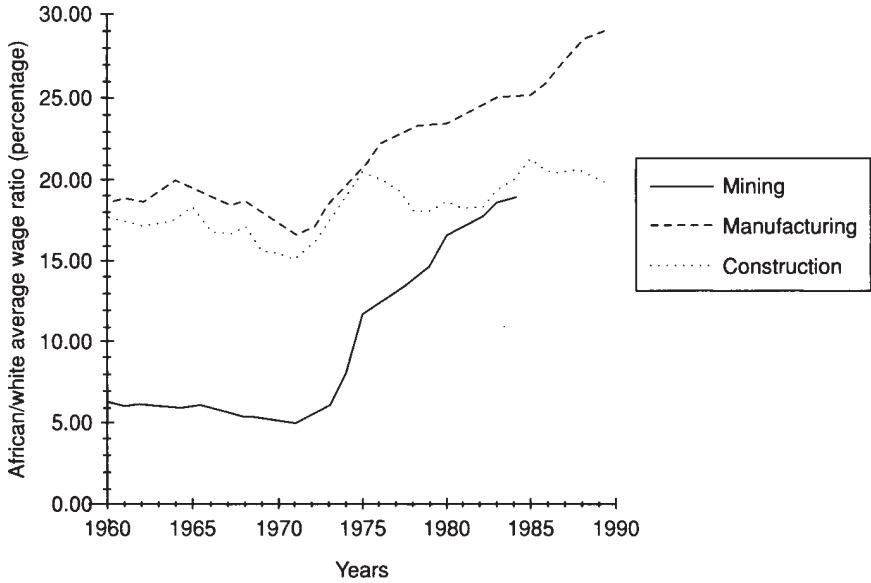


Figure 6.2 The wage gap between African and white workers in the construction, manufacturing and mining sectors, 1960–89

Source: J. Hofmeyr, 'The Rise in African Wages in South Africa After 1970', Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3. For the data on which this graph is based, refer to Table A6.1 in the Appendix to Chapter 6

African/white wage ratio also showed a sharp increase between 1971 and 1976 when it rose from 16.6 per cent to 22.1 per cent. Thereafter it increased steadily with the latest figures putting the African/white wage ratio at 29.0 per cent in 1989. The racial wage gap in the mining industry narrowed most dramatically, rising from 5.0 per cent in 1971 to 19.0 per cent in 1984. Unfortunately, more recent data are not available because the mining houses stopped recording wage data by race. These results concerning trends in the racial wage gap are striking because the period during which the racial wage gap widened corresponds fairly closely with years of highest economic growth. Conversely, the years after 1971, during which the racial wage narrowed, were years of poor economic growth.

At face value, these results appear to confirm the revisionist argument that capitalist growth was entirely compatible with white supremacy and the 'floating' colour bar. Revisionists correctly pointed out that upward African mobility was usually accompanied by the fragmentation and de-skilling of the skilled trades. Instead of being promoted into the skilled trades, black workers were only advanced into semi-skilled jobs which entailed the performance of fragmented aspects of the skilled trades. Simultaneously, white workers were

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

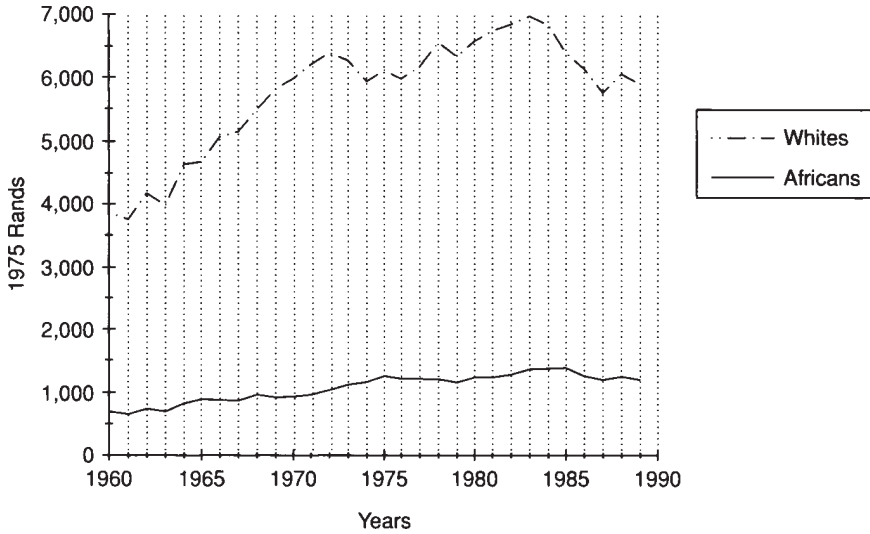


Figure 6.3 Real average annual wages by race in the construction industry, 1960-89

Source: J. Hofmeyr, 'The Rise in African Wages in South Africa After 1970', Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3. For the data on which this graph is based, refer to Table A6.1 in the Appendix to Chapter 6

promoted ahead of African workers into skilled and supervisory jobs and even received bonuses and improved conditions of service in return for conceding to African advancement. Thus, black workers performed work previously done by whites, but at much lower wages, and white workers increased their wages as a result of African advancement. On the basis of a number of case studies which demonstrated this process, revisionists concluded that capitalist growth would therefore not erode the racially unequal division of labour or narrow the racial wage gap.⁷

As I have shown in Chapter 4, the isolated case studies identified by revisionist scholars were, in fact, typical of the way that the racial and occupational division of labour was reorganised from the mid-1960s onward. However, I believe that the revisionist scholars were wrong to conclude that this particular form of African advancement would not erode the racial wage gap in the long term. Quite simply, they did not appreciate that white advancement and white wage increases which resulted from employer initiatives to mechanise and fragment the skilled trades could not proceed indefinitely. White workers who were employed in semi-skilled and skilled work could be re-trained and promoted only into the skilled trades, supervisory positions and, at a stretch, into certain technical jobs. Even within these occupations, however, there were limits to white upward mobility. On

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

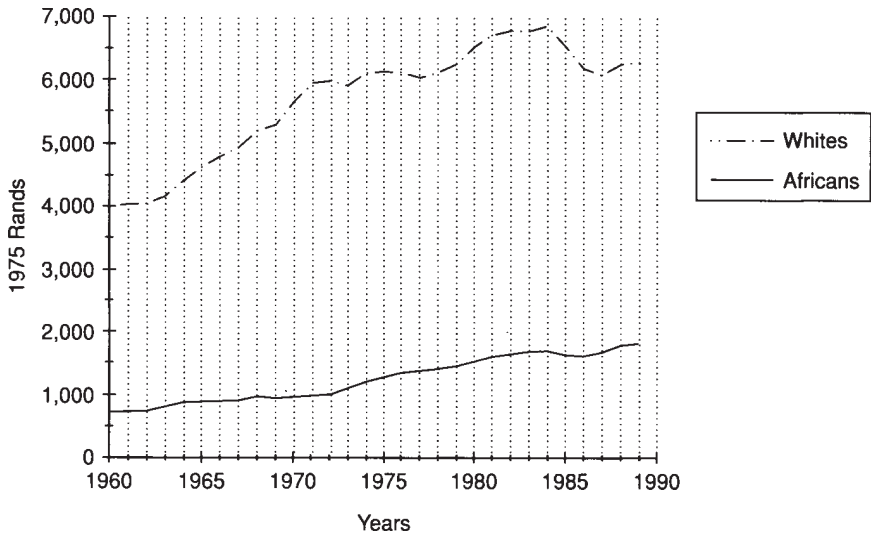


Figure 6.4 Real average annual wages by race in the manufacturing industry, 1960–89

Source: J.Hofmeyr, 'The Rise in African Wages in South Africa After 1970', Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3. For the data on which this graph is based, refer to Table A6.1 in the Appendix to Chapter 6

the basis of interviews with white workers Lipton argued that the process of 'floating' the colour bar meant that some white workers ended up 'trying to hold down jobs and lifestyles beyond their capacities or inclinations' with the result that '[s]ome whites even refused to be retrained and promoted to higher jobs as the bar moved up'.⁸ So, white advancement only proceeded up to a certain point after which African advancement started to narrow the racial skill and wage gap.

Evidence for this argument is supplied by the periodisation of trends in white wages. Although the precise onset of the long-term trend in lower growth rates of average white wages was different for different sectors, the average white wage in the construction, manufacturing and mining industries grew at a substantially slower rate after the mid-1970s than it had in the previous decade (Figures 6.3, 6.4 and 6.5). In the construction industry average white real wages declined after 1972 at an average rate of -0.2 per cent, compared to an average rate of growth of 4.4 per cent from 1961 to 1972. Similarly, after 1971, white real wages in the manufacturing industry grew at only 0.6 per cent compared to 3.7 per cent between 1961 and 1971. The turning point for the growth of white real wages came somewhat later in

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

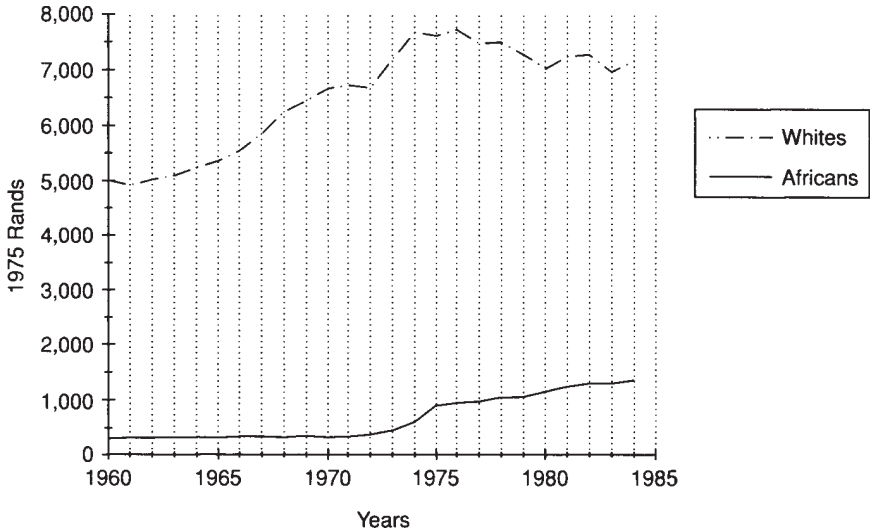


Figure 6.5 Real average annual wages by race in the mining industry, 1960–84

Source: J. Hofmeyr, 'The Rise in African Wages in South Africa After 1970', Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3. For the data on which this graph is based, refer to Table A6.1 in the Appendix to Chapter 6

the mining industry. After 1974, white real wages declined at an average rate of -0.01 per cent compared to an average annual growth rate of 3.3 per cent between 1961 and 1974.

It is striking that the racial wage gap did not begin to widen until after 1964 in the manufacturing industry and after 1965 in the construction and mining industries (Figure 6.2). Moreover, this widening of the wage gap was principally caused by changes in white wage levels and not by changes in African wages. The timing of the rise in white wages therefore corresponds to the years in which major fragmentation agreements were concluded in the construction, manufacturing and mining industries. What is even more important is that the racial wage gap narrowed after 1971. This narrowing of the racial wage gap was a function of falling white wages and of rising African wages (Figures 6.3, 6.4 and 6.5). Growth in white wages began to slow down and even decline soon after the first major fragmentation agreements were concluded. Conversely, the sharp rise in African wages during the early 1970s came at about the time when the effects of African advancement could be expected. This is not to deny that there were other forces at play which pushed up African wages. Hofmeyr argues cogently that the expansion of employment during the 1960s laid the basis for a shortage

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

Table 6.1 Average annual rates of change in white wages, 1961–89

<i>Industrial sector</i>	<i>Turning points</i>	<i>Average annual rate of growth in real wages (percentage)</i>
Construction	1961–72	4.4
	1972–89	-0.2
Manufacturing	1961–71	3.7
	1971–89	0.6
Mining	1961–74	3.2
	1974–84	-0.01

Source: Based on data in J.Hofmeyr, ‘The Rise in African Wages in South Africa After 1970’, Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3. For the data on which this graph is based, refer to Table A6.1 in the Appendix to Chapter 6

of African labour which, at the very least, provided the initial impetus for the rise in African wages after 1970.⁹

Thus far I have argued that the racial wage gap widened during the boom years and then narrowed during the recession at least partly because management promoted white workers into more skilled work and gave them wage increases and bonuses in return for conceding to African advancement. A more conventional explanation would be that white wages increased faster than African wages during the boom years solely because of the shortage of skilled white labour. It would therefore follow that white wages would decline once recessionary conditions set in and the demand for labour diminished. I have no doubt that the shortage of skilled white labour pushed up white wages. However, if the demand for labour was the sole cause of the high price of white labour, then why did the rate of growth of white wages slow down before the onset of recessionary conditions after 1975? For this reason, I believe that the racial wage gap widened during the 1960s and the early 1970s at least partly because white workers extracted promotions, bonuses and wage increases for allowing management to fragment the trades and to advance African workers in semi-skilled jobs.¹⁰

The interpretation that improved conditions of employment for white workers in exchange for conceding African advancement was an important reason why the racial wage gap widened only during the mid- to late 1960s and early 1970s, makes it easier to understand why the racial wage gap narrowed after 1972. Although revisionist scholars did concede that African advancement into semi-skilled jobs would result in ‘marginally’ higher wages for some workers, they avoided the question of whether average African real wages increased or not. Instead, they emphasised the cheapness of African labour relative to white labour and the widening of the racial wage gap.¹¹ It is therefore important that, although increases in African wages were less than increases in white wages during the 1960s, they none the less rose in real terms. In fact, the only period during which African real wages fell was between 1948 and 1955.¹²

So, a common feature of the boom years up to 1975, and the recessionary years thereafter, is that African wages increased in real terms. With this in mind, it is easier to understand why the racial wage gap narrowed after 1972 when white wages began to stagnate and even decline in real terms.

Why did African wages increase in real terms during the 1960s and then rise so dramatically after 1970? Specifically, to what extent were wage increases due to increases in wage rates and to what extent were they due to upward occupational mobility? Unfortunately, there are no survey data for the 1960s and early 1970s which could be used to address this question. None the less, some evidence can be gleaned from company reports which were submitted by British-owned companies in South Africa to the British Parliament in 1973. From the point of view of this analysis, the official investigation into the wages and conditions of service of African workers employed by British-owned companies in South Africa could not have been more timely. Company submissions to parliament were all received in 1973, just at the end of the boom period which began in the 1960s and just before the onset of the recession in 1975. Furthermore, most of these company submissions provided wage rates by race and by occupation. I was therefore able to calculate the wage differences between semi-skilled and unskilled African workers. My analysis of African semi-skilled and unskilled wages in 125 manufacturing establishments shows that Africans in semi-skilled jobs earned, on average, one and a half times as much as Africans in unskilled jobs.¹³ The ratio of semi-skilled to unskilled wage rates varied, of course, depending on the nature of the semi-skilled work in question. In some factories semi-skilled operatives earned up to 2.6 times as much as unskilled labourers, whereas in others they earned only marginally higher incomes. Although this rough analysis cannot prove conclusively that the increase in African real wages during the 1960s was due to upward occupational mobility, it does provide a measure of the extent of the difference between unskilled and semi-skilled wage levels. Considering that the ratio of semi-skilled to unskilled workers rose by roughly a quarter between the mid-1960s and the mid-1970s (refer to Chapter 3), upward occupational mobility must have played an important role in African wage increases during this period.

The only period during which upward African mobility played a less important role in wage increases may have been the early 1960s. Evidence advanced by Hume and Pursell suggests that wage increases for African workers between 1957 and 1962 were strongly influenced by both state and employer institutions which pursued the policy of increasing basic African wages.¹⁴ However, research by Terrington on Wage Board Determinations for highly-mechanised industries confirms that the wage differential between top semi-skilled and unskilled African workers increased between 1949 and 1972. Terrington grouped Wage Board Determinations into three periods: 1949–61, 1962–66 and 1967–72. According to his calculations, the average wage differential between Grade 1 African operatives and unskilled African

labourers rose in 62 per cent of Wage Board Determinations between the periods 1949–61 and 1962–66. Between the later periods 1962–66 and 1966–72, the wage differential between these occupations only increased in 47 per cent of Wage Board Determinations.¹⁵ So, although this evidence is restricted to highly mechanised industries, it none the less suggests that upward occupational mobility may have been an important cause of rising African wages in the 1960s.

Why did African wages continue to rise during the recessionary period after the mid-1970s? There is general agreement that the most important cause of rising real wages for Africans was upward occupational mobility rather than rising wage rates. Two studies, based on very different surveys, have confirmed this for the period between the mid-1970s and mid-1980s. The first of these studies, conducted by Knight and McGrath, is based on surveys of the workforces of a sample of client companies.¹⁶ The second study, by Hofmeyr, is based on household surveys which were conducted in the major urban areas.¹⁷ These data sets were chosen for analysis because they contain details of the characteristics of individual workers which permit the application of statistical techniques which ‘decompose’ the change in wages over time into ‘components’ due to the increases in the rate for the job and into ‘components’ due to upward occupational mobility. Both these studies concluded that the increases in African real wages between the mid-1970s and mid-1980s were due mostly to upward African mobility. Knight and McGrath’s results revealed that 62 per cent of the increase in real wages for Africans between 1976 and 1985 was due to upward occupational mobility. Similarly, Hofmeyr’s results revealed that upward occupational mobility was one of the ‘major factors’ contributing to increased African wages.¹⁸

It is striking that upward occupational mobility was still the major cause of rising African wages at a time when African unions were beginning to have a significant influence on wage rates. As Webster has shown, the movement of African workers into semi-skilled machine operative work during the 1960s and 1970s strengthened the structural basis of African union organisation. Mechanisation was accompanied by the re-organisation of work into assembly lines which were vulnerable to work stoppages by semi-skilled operatives.¹⁹ Moreover, in the event of strikes, such semi-skilled operatives could not be replaced with untrained labour. This re-organisation of production therefore laid the structural basis for wage gains which resulted from African union organisation in the 1980s. By examining 1985 wage rates of unionised and non-unionised workers, Moll has shown that unionised Africans secured wages which were 24 per cent higher than non-unionised Africans.²⁰ Furthermore, he showed that African union organisation had the effect of compressing African wages across skill levels by benefiting unskilled workers more than semi-skilled and skilled workers.²¹ So, although African unionisation drove up African wages and compressed the wage differences between unskilled and semi-skilled workers, African occupational advancement none the less remained the major cause of wage increases.

What I have shown in the preceding discussion is that, although the racial wage gap widened during the 1960s, African wages rose steadily after 1958. The rise in African wages was, in all likelihood, caused by a combination of rising wage rates and the upward mobility of African workers into jobs previously performed by white workers. That upward mobility of African workers was a major cause of rising real wages has important implications for how we understand the relationship between the racial 'wage' gap on the one hand and the racial 'income' gap, which includes the effects of unemployment, on the other. This is because rising average real wages of African workers have been accompanied by increasing inequality between Africans within the labour force and in the wider population. The underlying causes of this growing inequality among Africans were, first, increasing wage differentials and, second, unemployment. Thus far, this discussion has been concerned with racial inequality among the workforce which is appropriately measured by examining racial differences in wages. Clearly, an analysis of racial wage differences is inadequate because it cannot take into account the effects of unemployment which is found mostly among Africans. In the next section I will therefore turn my attention from patterns of change in average 'wages' to changes in average or per capita 'income'. Per capita income by race incorporates the effect of unemployment by dividing the total income (not just wages, but also income from other sources) by the population size (and not just the workforce) of the race in question.²²

DIFFERENTIATION, UNEMPLOYMENT AND THE RACIAL INCOME GAP

Perhaps the most important revisionist contribution to the debate on the narrowing wage gap was the suggestion that rising levels of African unemployment could seriously undermine the gains made through rising real wages. Moreover, revisionists suggested that unemployment in South Africa was not merely a result of the late 1970s recession, but was a condition that was 'endemic' to South African capitalism.²³ Simply put, the argument presented by Legassick was that employers pursued a policy of mechanisation in order to make the most productive use of cheap African labour as possible. Furthermore, he argued that this path of capital-intensive development was compatible with the apartheid policy of relying on fewer, but better-educated urban workers in the major industrial centres and restricting unemployment to the reserves where Africans would compete for employment in decentralised, labour-intensive industries.²⁴ At the time, when the first attempts to rectify the errors of official unemployment figures were being made, estimates of trends in unemployment supported this argument. Results published by Simkins showed that, in spite of high employment growth, the unemployment rate rose steadily throughout the 1960s and early 1970s.²⁵ However, whereas revisionist scholars doubted the reliability of data which

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

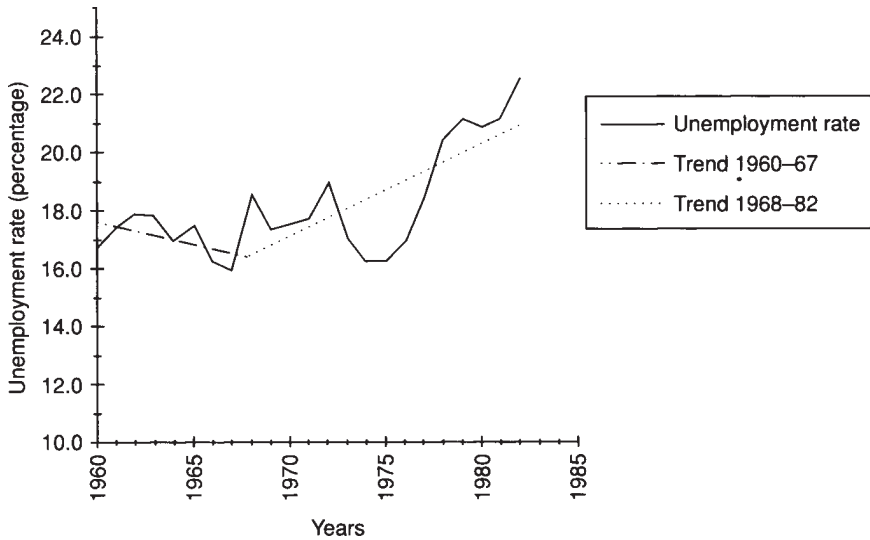


Figure 6.6 Trends in the unemployment rate, 1960-82

Source: R. Bell, 'Issues in South African Unemployment', *South African Journal of Economics* 53(1), 1985, p. 25.³²

indicated that the racial wage gap narrowed during the early 1970s, so liberal scholars treated early estimates of unemployment with caution.²⁶ Consequently, Lipton's own estimate of changes in African and white per capita income, which included the effect of unemployment on wages, revealed that the racial income gap narrowed between 1964 and 1974.²⁷ Since then, however, further research has resolved some of these disagreements. Revised and improved unemployment estimates revealed that the unemployment rate fell during the years of high economic growth. Although absolute unemployment grew slightly, it was outpaced by growth in employment until 1967, after which employment growth fell behind and the unemployment rate rose (Figure 6.6).²⁸ On the basis of these new estimates, Bell and Padayachee identified a 'structural break' in the late 1960s. In the period from 1968 to 1982, the unemployment rate was generally higher than in the period from 1960 to 1967. Because these revised results are sensitive to cyclical fluctuations and follow trends in international unemployment, they are probably quite accurate and therefore have important implications for the debate over unemployment and capitalist growth in South Africa.²⁹

More recent unemployment estimates reveal, as one would expect under conditions of low employment growth, that the rate of unemployment continued to rise during the 1980s.³⁰ One estimate projected that, growing at a rate of 3.1 per cent a year, the unemployment rate would rise to 54 per cent by the turn of the century.³¹

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP



Figure 6.7 Annual per capita incomes by race, 1946–91 (1990 rands)

Source: A. Whiteford and M., McGrath, *The Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994, p. 36.

The first important implication of these revised unemployment figures is that unemployment is not ‘endemic’ to South African capitalism. Capitalist expansion during the boom years of the 1960s did result in employment growth which was high enough to reduce the rate of unemployment. Bell has shown that the rise in the unemployment rate from the late 1960s was due, not to mechanisation, but to low employment growth which was caused by the long-term economic slow-down after 1975. He argues cogently that, if Legassick’s model is correct, then mechanisation would have caused higher African wages and not the other way around, since Legassick suggested that the impetus for mechanisation was independent of the cost of labour. Bell’s results show that, although mechanisation in the 1960s was accompanied by rising African wages, increased wages were probably the cause of mechanisation because productivity levels did not increase over this period. If mechanisation took place independently of African wages, then one would have expected productivity to rise.³³

The second important implication of these new unemployment estimates is that they suggest that the real wage increases experienced by African workers were substantially eroded by rising unemployment from the late 1960s. In fact, this is precisely the pattern that research on personal incomes, as opposed to wages, has revealed. A close examination of the trends in per capita income by race reveals that white incomes rose steeply throughout the 1960s, slowed down but still increased during the 1970s, and then fell during

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

Table 6.2 Annual per capita incomes by race, 1946–91 (1990 rands)

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>
1946	1,055	1,791	2,626	11,190
1960	1,153	2,147	2,380	13,632
1970	1,301	3,252	3,828	19,558
1980	1,742	4,295	5,742	22,552
1991	1,710	3,885	6,945	21,121

Source: A. Whiteford and M. McGrath, *The Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994, p. 36

the 1980s (Figure 6.7). These changes in white per capita income therefore correspond broadly with the patterns of change in average wages. In the case of Africans, however, the correspondence between changes in per capita incomes and average wages is so weak as to be almost imperceptible. According to Whiteford and McGrath, annual per capita incomes among Africans rose only slightly from R1,153 in 1960 to R1,301 in 1970. The substantial rise in African average wages which took place during the 1970s had only a slight effect on per capita incomes which rose only marginally to R1,742 in 1980. Thereafter, consistent with declining real average wages, annual per capita income fell (Table 6.2). These patterns of change in annual per capita African income demonstrate that rising unemployment substantially eroded the gains made through higher wages.

If unemployment contributed to reducing per capita African incomes, what was its effect on income inequality between Africans and whites? Since the racial wage gap between African and white workers widened during the 1960s, one would expect per capita incomes to follow the same trend unless unemployment levels were dramatically reduced over this period. Although unemployment did shrink during the 1960s, this was not enough to negate the widening of the racial wage gap. As a percentage of per capita white income, African income decreased from 8.5 per cent in 1960 to 6.7 per cent in 1970. During the 1970s and 1980s, however, African incomes rose slightly faster than white incomes and, as a percentage of the average white income, African incomes grew marginally from 7.7 per cent in 1980 to 8.1 per cent in 1991 (Table 6.3). However, this narrowing of the racial income gap after 1970 was not enough to negate the inequalities created during the 1960s. In 1991, the racial income gap between Africans and whites was as great, perhaps even greater, than it had been in 1960 (Table 6.3).

The extent to which the dual processes of upward occupational mobility and unemployment differentiated the African population is evident from the fact that inequality increased more among Africans between 1975 and 1991 than for any other race.³⁴ Keenan's detailed study of Sowetan households

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

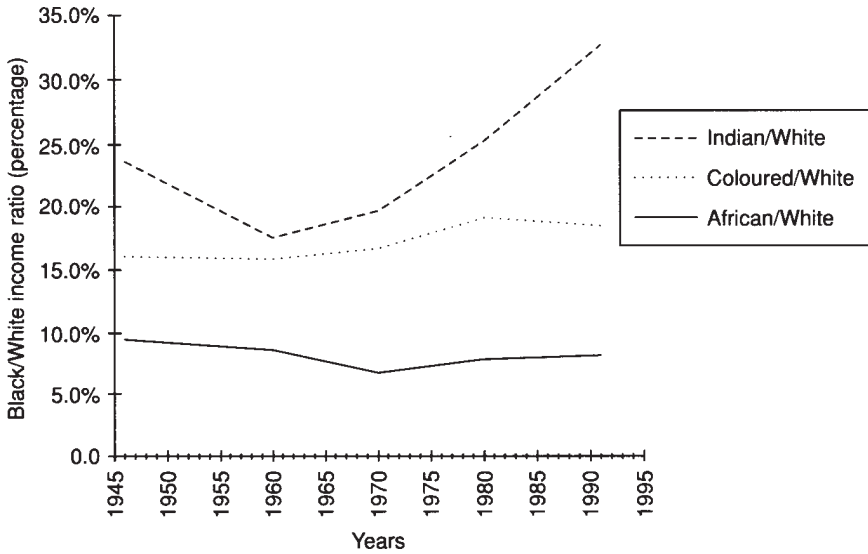


Figure 6.8 Black income as a proportion of white income, 1946–91

Source: Based on average incomes provided by A. Whiteford and M., McGrath, *The Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994, p. 36.

provides corroborative evidence of these trends. His study of 150 households between 1978 and 1986 showed that most households (64 per cent) which experienced rising incomes during this period did so because of the rising real wages of employed household members. Of the remaining households which increased their incomes over this period, about half did so through increasing the numbers of household members in employment. However, most households (62 per cent) which experienced falling real incomes did so because of increased unemployment among household members.³⁵

A final implication of these results is that unemployment may be affecting unskilled African workers more severely than semi-skilled African workers. Although mechanisation of production in the construction, manufacturing and mining sectors increased the demand for semi-skilled African labour, it also meant fewer jobs for Africans who were qualified only for unskilled labouring work. In the absence of detailed labour statistics which provide a comparison of the occupations and educational achievements of unemployed and employed workers, this question cannot be resolved with any certainty. None the less, there are some indications that less-educated African workers, usually rural migrants, bore the brunt of the combined effects of mechanisation and rising unemployment. Evidence provided by Hofmeyr's research demonstrates that the sharp rise in African wages in the early 1970s was the outcome of sustained economic growth since the Second World War. Although part of the rise in

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

Table 6.3 Black income as a proportion of white income, 1946–91
(percentage distribution)

Year	African/White	Coloured/White	Indian/White
1946	9.4	16.0	23.5
1960	8.5	15.7	17.5
1970	6.7	16.6	19.6
1980	7.7	19.0	25.5
1991	8.1	18.4	32.9

Source: Based on average incomes provided by A.Whiteford and M.McGrath, *The Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994, p. 36

African wages in the manufacturing and mining sectors was probably due to upward occupational mobility, the fact that African wages also rose steeply in the agricultural sector is strong evidence that upward pressure on African wages was also due to a general shortage of African labour, even in unskilled jobs. Further evidence that labour market pressures were an important force behind the rise of African wages in the early 1970s is the real decline in African wage rates after 1975 when recessionary conditions set in.³⁶

However, the period of low economic growth after 1975 saw the erosion of unskilled African wage rates relative to African wage rates in more skilled work. The analysis of two quite different types of surveys showed that, between the mid-1970s and mid-1980s, unskilled wage rates fared worse than higher-grade wage rates for African workers. Knight and McGrath's study showed that wage increases between 1976 and 1985 in jobs above grade 13 were substantially higher than the 'surprisingly slight' wage improvements in lower grade jobs.³⁷ Hofmeyr's study also revealed emerging differentiation between unskilled and other African workers during this period. According to the surveys that he used, wage rates for all occupations except professionals suffered a real decline between 1975 and 1985. However, unskilled wage rates fell more steeply than rates for any other occupation.³⁸

Hofmeyr attributes the relatively steeper decline in unskilled wage rates to rising unemployment, on the basis that, 'in times of rising unemployment, the unskilled are least able to defend their economic position'.³⁹ Although this is undoubtedly true, I believe that the rationalisation of African labour which took place during the 1970s and 1980s fundamentally altered the pattern in the demand for African labour. After employers successfully broke white union control over the production process through the fragmentation agreements in the late 1960s and early 1970s, they were better placed to mechanise production and advance Africans into semi-skilled work. Rising African wages in the early 1970s accelerated this trend, since higher wages induced management to make more efficient use of African labour.⁴⁰ This

ECONOMIC GROWTH AND THE WAGE AND INCOME GAP

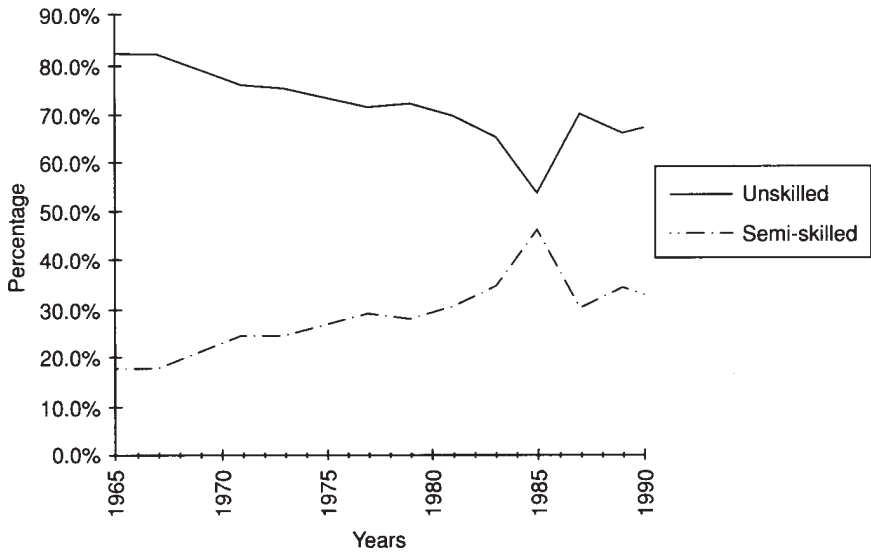


Figure 6.9 Relative proportions of unskilled and semi-skilled African workers, 1965–90

Source: My own analysis of the data tapes of the Manpower Surveys. For the data on which this graph is based, refer to Table A6.4 in the Appendix to Chapter 6

rationalisation usually entailed increasing the productivity of African workers through cutting back on the employment of unskilled workers in ancillary tasks, mechanising production and training African workers in order to promote them into semi-skilled operative jobs. As such, this response by employers to rising African wages dove-tailed neatly with government policy aimed at limiting the numbers of African workers employed in the major urban centres. Because they needed to train African labour, employers developed an interest in employing African workers who were better-educated and who would be stable employees. Consequently, management employment practices began to favour urbanised African workers at the expense of migrants. Since African wages had increased significantly, management were also able to attract and hold urban African labour. This meant a shift from a low-wage, low-skill style of production to one which entailed higher wages, skills training and higher productivity. As I argued in Chapter 3, this change in production technique resulted in dramatic changes to the occupational division of labour between unskilled and semi-skilled workers. Across all sectors, the proportion of semi-skilled African workers rose from only 17 per cent in 1965 to at least 33 per cent in 1990 (Figure 6.9).⁴¹ Within sectors where mechanisation is more advanced, such as construction, manufacturing and mining sectors, these trends were much

more pronounced (see Chapter 3). It seems reasonable to conclude, therefore, that the poor performance of unskilled wage rates is also a function, not only of recessionary conditions, but of a structural shift in the demand for labour away from unskilled work to semi-skilled work.

The evidence from case studies also supports the argument that employers responded to the rise in African wages during the early 1970s by rationalising their employment of African labour. One consequence of employer investment in training African labour is that they became more selective in their employment practices. For example, a director of British Leyland Corporation remarked in 1973 that '[w]e hope that by upgrading the jobs and getting better workers in we shall get better quality products, and that by paying them better we shall get greater productivity'.⁴² Similarly, a director of Courtaulds, speaking of the South African Industrial Cellulose Corporation, reported that '[w]e are taking the line that we are going to progress to fewer people and...that we are going to put in simple mechanisation so that we have fewer people, better paid'.⁴³ In the motor repair industry, employers also embarked on a policy of retrenching ancillary unskilled workers. To quote the chairperson of the South African Motor Traders' Industry in 1973, 'let us do away with the good old days idea that each journeyman [artisan] *must* have a tool attendant'.⁴⁴

On the basis of interviews conducted with managers soon after the rise in African wages, Knight reported that certain companies were becoming more selective in order to ensure that their training was effective. A certain soap manufacturing company, for example, began to insist on a Standard 5 qualification as the basic educational requirement for semi-skilled work. The consequence of this policy was that the company attracted better-educated urban labour instead of migrant workers who they had employed in greater numbers when wages were lower.⁴⁵ Similarly, Spandau reported that managers of an East Rand bottling factory began to train African operators in order to increase productivity. Furthermore, in order to reap the benefits of training, management encouraged trained workers to remain with the company by rewarding training, rather than long service, with higher wages. Since management was reluctant to invest in migrant workers, the training programme benefited urbanised African workers and the position of migrants 'deteriorated considerably'. On the basis of a survey of the workforce, Spandau showed that only one-quarter of migrants had experienced upward occupational mobility compared to one-half of urbanised workers. Similarly, migrant workers were over-represented in the most unskilled grades. Whereas 70 per cent of all migrants were employed in the lowest grades, this was true for only 34 per cent of urbanised workers.⁴⁶

It would appear that up until the early 1970s, African wages were so low that management employed unskilled workers with little regard to the cost. As a British director of British Leyland Motor Corporation remarked in 1973, '[t] here is a tendency, we notice, in South Africa to employ more people than

are really needed. For example, you may employ three or four watchmen when you only need two...because the cost is low'.⁴⁷ After the rise in African wages in the early 1970s, however, employers rationalised their African workforce by cutting back on the employment of unskilled ancillary workers by, for example, retrenching sweepers and gardeners.⁴⁸

Having successfully fragmented the skilled trades and advanced cheaper African workers into semi-skilled work previously performed by expensive white labour, employers were confronted by across-the-board increases in African wages. The rise in African wages at this point in time induced employers to go even further down the skill- and capital-intensive path of development. Rising wages meant that urban Africans were more likely to take up employment in manufacturing jobs which meant that employers were able to reap the rewards of training which had been denied them by migrant labour. In a curious way, the rise of African wages in the early 1970s therefore taught employers that they could increase their productivity by upgrading the skills of a better-educated urban workforce. So, even when the country entered a long-term phase of poor economic growth after 1975, this pattern of rationalising the African workforce continued and unskilled workers were steadily cut away as employers strove to increase productivity and make more efficient use of better-skilled and trained African labour. There are no case studies for the 1980s which could be used to demonstrate this process. However, a recent case study of restructuring showed how one company could still find room for improved productivity by retrenching African workers employed in unskilled, ancillary tasks.⁴⁹

CONCLUSION

The relationship between economic growth and decline, on the one hand, and racial inequality on the other, has been complex and contradictory. Although high rates of economic growth in the 1960s and early 1970s secured real wage increases for African workers, racial inequality none the less worsened as white workers secured even higher wage increases. White wages increased at a faster rate than African wages because of white trade union power, a shortage of skilled labour and because white workers were rewarded with bonuses, wage increases and promotions for conceding to the fragmentation of the skilled trades and to African advancement into semi-skilled work. However, some of the conditions which sustained the racial wage gap were substantially eroded during this period. First, the fragmentation of the skilled trades and the upward mobility of white workers could not proceed indefinitely. Once most white workers were concentrated in the skilled trades and in supervisory jobs, their wages could no longer increase as a consequence of upward mobility. Furthermore, the major fragmentation agreements of the late 1960s and early 1970s effectively broke white union control over production. In

subsequent years, African advancement into semi-skilled jobs proceeded with little opposition from white unions and management had no need to make concessions to white workers in return for African advancement. Second, after 1975 the skill shortage eased somewhat and upward pressure on white wages due to labour market conditions therefore diminished. Finally, the fragmentation of the skilled trades and the advancement of African workers into top semi-skilled jobs meant that white workers were progressively displaced from their strategic position within production. Correspondingly, white trade unions became less successful at winning high wages for their members.

In a different way, capitalist development had contradictory consequences for African workers. The mechanisation of production and the fragmentation of the skilled trades resulted in upward occupational mobility of a great many African workers. Although semi-skilled African workers still earned only a fraction of white workers' wages, upward African mobility was an important cause of rising African wages, especially after 1975. It is particularly striking that upward African mobility was not restricted to the boom years of the 1960s and early 1970s. Throughout the late 1970s and 1980s, in the face of poor economic growth, employers continued to mechanise production and to advance Africans into jobs previously performed by whites. However, although low economic growth after 1975 did not prevent African advancement, it did result in rising levels of unemployment. So, whereas upward mobility benefited Africans who were employed, higher rates of unemployment meant that per capita African incomes grew only marginally from 1975 and the racial income gap widened.

Rising real wages for some African workers and unemployment for others profoundly differentiated the African population over the apartheid period. The extent to which inequality among Africans has grown can be gauged from a comparison of the Gini coefficients for 1975 and 1991. Basing their Gini coefficient on total household income, Whiteford and McGrath showed that, between 1975 and 1991, inequality increased the most among Africans and the least among coloureds and Indians. In fact, they went as far as to say that the 'South African African population is almost as unequal as the most unequal societies in the world'.⁵⁰

These results suggest that racial categories are becoming increasingly inadequate for understanding occupational and income differentiation in South Africa. A measure of the breakdown in the correspondence between racial categories and social differentiation is given by the practice of advertising and market research companies which prefer to use 'marketing bands', rather than race, to measure consumer sophistication. Even more interesting is the fact that they find occupation and education to be more important indicators of consumption patterns than income.⁵¹

THE INCREASING SIGNIFICANCE OF CLASS

INTRODUCTION

What has this study of the racial and occupational division of labour contributed to our understanding of the relationship between capitalist expansion and apartheid? I believe that the findings of this research suggest that the effects of capitalist expansion and apartheid policies have been rather more contradictory than scholars anticipated. Liberal scholars, for example, argued that economic growth would erode racial inequality both by increasing unskilled African wage rates and by drawing Africans into more skilled work. The former would result from employment growth in the capitalist sector which would eventually deplete the supply of cheap labour from the African reserves, thus forcing wages upward.¹ The latter would result from capital intensification which would increase demand for more sophisticated, semiskilled, machine operative labour. In the face of a shortage of white labour, this demand for semi-skilled labour would erode the colour bar as more and more African workers were employed in jobs traditionally filled by whites.² In contrast, revisionist scholars argued that capitalist expansion would not run out of unskilled labour. To the contrary, they suggested that capitalist development would continue to underdevelop the reserves and that such poverty served to keep African wages low, even below subsistence level.³ Furthermore, they argued that when limited African advancement did take place, it would not erode the racial division of labour since capitalist production could accommodate the 'floating' of the colour bar.

AFRICAN ADVANCEMENT, CLASS FORMATION AND THE LABOUR PROCESS

How well do the above interpretations of South African capitalism face up to the findings of this study? This analysis of the extent and pattern of African advancement has thrown up some quite surprising answers. Although liberal scholars emphasised the contradiction between apartheid policy and manufacturing capital's growing need for large numbers of semi-skilled African

THE INCREASING SIGNIFICANCE OF CLASS

machine operatives, this was precisely the area in which capitalist expansion and apartheid were able to strike a compromise. Confronted during the 1960s with expanding markets on the one hand and a shortage of white labour on the other, manufacturers had a strong interest in employing cheaper African labour. However, the government was strenuously opposed to African advancement into traditionally white jobs and to expanding the African workforce employed in the major urban centres. In this, the government received the full support of white workers who were threatened with undercutting by cheaper African labour. This conflict between the interests of manufacturing capital and the apartheid government was resolved by a shift in government policy in the late 1960s which permitted employers to advance African workers into semi-skilled jobs provided that white workers were promoted ahead of them. The basis for this compromise was the shared interest of capital and the government in mechanisation. Manufacturers benefited from mechanisation for three reasons. First, mechanisation diluted the skilled trades and thereby strengthened capital's hand against the white artisan unions who vigorously opposed undercutting by cheaper African labour. Second, mechanisation offered capital the opportunity to expand their employment of cheaper African labour while simultaneously increasing labour productivity. Third, by re-organising production so that semi-skilled workers performed tasks previously done by white artisans, mechanisation partially addressed the skill shortage. For its part, the government supported mechanisation because it believed that this would reduce the numbers of African workers in the major urban areas and would encourage employers to make full use of urban African labour. So, the dynamics of the capitalist labour process and how it shaped the re-organisation of production played an important role in reconstituting and deepening the racial division of labour between semi-skilled African operatives and white artisans.

A consequence of this bargain between capital, white unions and the state is that African advancement into the skilled trades was blocked until the 1980s. By 1979, only 2 per cent of all artisans and apprentices were African. After the Wiehahn reforms, African employment in the skilled trades increased rapidly but, by 1990, had still reached only 20 per cent of the artisanal workforce. So, at least as far as manual work in construction, manufacturing and mining is concerned, revisionist arguments that capital would successfully accommodate a 'floating' colour bar proved correct. It should be added, however, that capital's accommodation of the colour bar could not, as early revisionists implied, be sustained over the long term. As Wolpe has recently suggested, the relationship between capitalism and racial inequality proved to be a contingent, rather than a necessary one.⁴ Furthermore, although earlier revisionists believed that capital could accommodate the 'floating' colour bar, they did not advance an explanation of why this would be so.

This is not to say that African workers did not experience upward occupational mobility into semi-skilled machine operative jobs.

THE INCREASING SIGNIFICANCE OF CLASS

Opportunities for upward mobility into semi-skilled jobs were created through mechanising unskilled manual work and through fragmenting the skilled trades. So, although African advancement into the skilled trades was delayed by almost two decades, the African workforce in construction, manufacturing and mining was transformed from a largely unskilled class of manual labourers in the 1950s to a class of semi-skilled machine operators in 1990. It was precisely the growth of this class of semi-skilled operatives that was emphasised by Lipton and which was down-played by early revisionist scholars. The findings of this study have shown just how dramatically production was reorganised over the apartheid period. In contrast to revisionist predictions, the formation of this operative class was an important cause of rising average African wages throughout the apartheid period. The growth of this class of semi-skilled African workers had important implications for trade union organisation. Unfortunately, there are no studies which have investigated the link between the rise of African trade union militancy and the decline of white unionism from the 1970s. It is widely suggested, however, that the displacement by semi-skilled African workers of white artisans and operatives from their central role in production was an important cause of the rise of African trade unionism in the early 1970s.

In contrast to the skilled trades, African advancement into routine white-collar and semi-professional jobs proceeded steadily throughout the apartheid period. In spite of state policy in the late 1950s and the 1960s to halt, and even reverse, African advancement, Africans made substantial inroads into routine white-collar jobs that were traditionally filled by whites. Between 1965 and 1990, the proportion of routine white-collar jobs filled by whites dropped from 75 per cent to 50 per cent. Most of the increase in black employment in these jobs was due to African advancement: the proportion of routine white-collar jobs which were filled by Africans doubled from 15 to 31 per cent. However, the proportion of coloured and Indian workers employed in routine white-collar jobs also increased substantially from 10 per cent in 1965 to 20 per cent in 1990.

Unlike the pattern of African advancement into the skilled trades, the racial division of labour within routine white-collar jobs is less polarised. African artisans and apprentices are concentrated in the building, furniture and jewellers trades whereas white artisans are found predominantly in the electrical, engineering and motor vehicle trades. This is not the case for routine white-collar occupations. Africans are well-represented in most routine clerical and sales jobs. What accounts for these differences in the pattern of African advancement in the skilled trades and routine white-collar jobs?

As I argued above, employers in the construction, manufacturing and mining sectors had strong interests in expanding their cheap African workforce. Given the benefits of mechanisation and white union opposition to apprenticing African workers in the skilled trades, employers pursued a capital-intensive path of development whereby they expanded their cheap

THE INCREASING SIGNIFICANCE OF CLASS

African workforce by fragmenting the skilled trades and by diluting craft skills through technological innovation and mechanisation. This particular balance of class forces was entirely absent in the commercial and financial sectors. Over the apartheid period, employers had no opportunity to de-skill and fragment occupations in clerical and sales work. Although computerisation automated many routine clerical occupations, it did not create a large class of de-skilled data input clerks. Consequently, employers were not able to undercut routine white-collar workers by drawing on a less-skilled and cheaper workforce. Furthermore, the larger white unions in the financial and commercial sectors did not oppose African advancement, if only because the threat of undercutting was absent. So, in contrast to the skilled trades, African advancement into routine white-collar jobs proceeded steadily throughout the apartheid period.

Whereas African advancement into routine white-collar jobs in the private sector took place in spite of state opposition, African advancement into the semi-professional jobs of nursing and school teaching was actively promoted by the state from the early 1970s. Since most semi-professional Africans are either nurses or school teachers, the expansion of racially-segregated health and educational systems boosted the African proportion of semi-professional employment from 24 per cent in 1965 to 41 per cent in 1990.

The extensive advancement of Africans into routine white-collar and semi-professional work went almost unnoticed in the debate between liberals and revisionists in the 1970s. A probable reason for this is that scholars relied mostly on press reports for information on African advancement and the boating' colour bar. Because African advancement into routine clerical and sales jobs in the commercial and financial sectors was not opposed by white unions, these developments did not attract the attention of the press. By contrast, African advancement in the construction, manufacturing and mining sectors was vigorously and controversially opposed by white unions and therefore received full coverage in the media. Since most African advancement into semi-professional jobs took place in racially-segregated bureaucracies and services, this development took place completely outside the reach of white unions and, indeed, beyond the eye of the white public more generally. Incidents of African advancement into semi-professional jobs which received attention in the press were restricted to the employment of black nurses in hospitals which catered for white patients.

The fact that the state was responsible for the formation of this class of African semi-professionals is most contradictory. It was precisely the aim of racial segregation which led to the expansion of African semi-professional employment. Clearly, the government never intended African nurses and school teachers to be employed on an equal footing with their white counterparts, let alone in the same institutions. However, by establishing institutions for the training and employment of African nurses and school teachers, the state set in motion a process which had unintended

THE INCREASING SIGNIFICANCE OF CLASS

consequences. Although African nurses and teachers originally earned lower salaries than whites, pressures for reform during the 1970s led the state to abolish racial differences in salary scales. So, the expansion of African health and education systems and the equalisation of salary scales resulted in the formation of a substantially large class of African semi-professionals who are socially distinct from the mass of African workers. Such a consequence could not have been further from the minds of the early apartheid planners.

ECONOMIC GROWTH AND RACIAL INEQUALITY

Another feature of African advancement during the apartheid period is that it proceeded fairly evenly throughout periods of high economic growth and through periods of substantially lower growth. This was not the case for the rate of unemployment, which fell during the early period of relatively high growth in the Gross Domestic Product and then rose steadily in the later period of much lower growth. Liberal scholars argued that employment would have to grow at a higher rate than the population if Africans were to benefit from capitalist expansion. If this were not so, then rising unemployment would negate any gains made by African workers through wage increases. Conversely, revisionists predicted that African advancement would be more likely to be associated with conditions of crisis and restructuring rather than with consolidation and growth.

The findings of this study therefore raise problems with both liberal and revisionist interpretations of the relationship between economic growth and racial inequality. If the liberal interpretation were to hold true, then one would have expected the period of slower, and even recessionary, economic growth after 1975 to have been associated with slower African advancement. Following the revisionist argument, one would have expected the converse, namely, a greater pace of African advancement during the post-1975 period of low economic growth and political reform.

In support of the liberal argument, a more generous interpretation of the evidence would be that the recessionary conditions after 1975 were not recessionary enough to ameliorate the shortage of white labour, but were recessionary enough to result in growing unemployment. In this way, African advancement still proceeded alongside growing African unemployment.

Whatever the merits of these competing interpretations of the relationship between economic growth and racial inequality, the combined effect of upward occupational mobility and rising unemployment had deeply contradictory consequences for the African population. On the one hand, African advancement into traditionally white jobs resulted in rising real average wages throughout the apartheid period. Although the racial wage gap widened during the late 1960s because white wages rose faster than African wages, stagnating white wages caused the racial wage gap to narrow after 1970. On the other hand, since Africans bore the brunt of rising

THE INCREASING SIGNIFICANCE OF CLASS

unemployment, average African incomes, as opposed to wages, fell between 1960 and 1990.

These twin processes of occupational advancement and unemployment have deeply differentiated the African population by both income and occupation. The extent of this inequality among Africans is such that per capita household income inequality among Africans is almost as great as the income inequality between Africans and whites. These occupational and income differences among Africans mean that racial categories are becoming increasingly inadequate for understanding social differentiation in South Africa. By contrast, occupational and class categories are becoming increasingly significant.

THE INCREASING SIGNIFICANCE OF CLASS

The increasing significance of occupational and income divisions among the urban African population means that it no longer makes much sense to conceptualise them as a homogeneous racial group. This is particularly true now that these class differences are manifesting themselves residentially. The strict enforcement of influx control for much of the apartheid period maintained, at least partly, the division between rural migrants and urbanites. Thus, the dominant social division which was expressed in terms of residential differentiation was between rural migrants who lived in single sex hostels and urbanites who lived in council housing in African townships. However, in the declining years of the apartheid period, emerging class divisions among the urban African population were an important force behind the breakup of this pattern of residential differentiation.

State policy to retard African urbanisation by freezing the provision of housing in the major urban centres after 1968 resulted, by the mid-1970s, in chronic overcrowding of council houses and the extensive construction of shacks in the back-yards of African township stands. Generally speaking, most Africans who were confronted with homelessness from the 1970s were ruralborn immigrants and the offspring of residents who were provided with state housing between the Second World War and 1968. It was precisely this younger generation who were subjected to the processes of increasing class differentiation that I have identified. A combination of developments during the late 1980s allowed these class differences to be expressed in new spatial and residential patterns. First, state housing reforms from the early 1980s allowed the private sector to build houses for ownership by Africans on the periphery of established African townships.⁵ Second, the crisis and restructuring of urban administrative structures in the mid-1980s opened up the political space for land invasions and the proliferation of shanty-towns on the periphery of African townships and in peri-urban white areas. Where African 'homeland' boundaries were within commuting distance of the major urban centres of employment, shanty-towns also sprang up on land governed by communal

tenure.⁶ Third, even before the abolition of the Group Areas Act, African families began to move into white residential areas, particularly in districts of predominantly rental housing.⁷ Whereas the state had provided subsidised and low-cost rental housing for urban Africans during the early apartheid period, in the 1980s it turned to the private sector to address the housing shortage. The result of this strategy was that formal housing provision was restricted to Africans who could afford to buy their own houses at prices which compared with those in white townships. Thus, these new privately-built houses were bought and occupied by Africans employed in relatively well-paid occupations or who were eligible for state housing subsidies. Typical and common occupations of residents in these new African townships are supervisors, artisans, technicians, personnel assistants, school-teachers, nurses and police officers.⁸

For a variety of reasons, blacks began to gain access to accommodation in white townships from the early 1980s. Such racial desegregation is taking place more rapidly in areas of cheaper accommodation and where the turnover of white residents is higher. The districts which are now substantially desegregated are therefore usually characterised by rented apartments rather than privately-owned houses. Since rents in such districts are less than the loan repayments on new houses, the incomes of African residents in these districts are somewhat lower than in elite African townships. Typical and common occupations therefore also include, along with semi-professional, professional and managerial occupations, the relatively poorly-paid occupations of drivers, semi-skilled machine operatives and routine clerical and sales jobs.⁹

The flip-side of the emergence of homogeneous middle class neighbourhoods in African townships and the racial desegregation of white townships has been the growth of shanty-towns. Without the provision of low-cost housing by the state, Africans who could not afford loan repayments on new houses or rent in white townships, resorted to squatting. Although a proportion of shanty-town residents could afford to pay for low-cost housing if it were available, evidence shows that most Africans living in shanty-towns have been excluded from formal accommodation because they cannot afford it. These shanty-towns and site-and-service settlements are therefore occupied largely by unskilled and semi-skilled manual labourers.¹⁰

So, in the declining years of the apartheid period, class differences among the urban African population reinforced and facilitated the breakup of neighbourhood differences which were based predominantly on race. Not only are certain white neighbourhoods becoming racially desegregated, but African neighbourhoods are becoming increasingly differentiated along class lines. Although the terms of this study have restricted it to analysing racial and class inequality in employment, the emergence of these new patterns of neighbourhood differentiation has important implications for the future development of class and racial identity. The emergence of class and residential differentiation among urban Africans also has important

THE INCREASING SIGNIFICANCE OF CLASS

implications for future government policy which aims to alleviate poverty and racial inequality.

If occupational differences are being reinforced by differential access to services such as housing and education, then class inequality is likely to worsen in the future. The new South Africa will therefore have its new 'winners' and 'losers' and, although the history of racial oppression will leave its own legacy of racial inequality, future inequality will be driven increasingly by class divisions.¹¹ This is the picture that Wilson paints of racial inequality in the United States of America. He argues that inequality among black Americans is increasingly a function of their class position and not their race:

On the one hand, poorly trained and educationally limited blacks of the inner city, including that growing number of black teenagers and young adults, see their job prospects increasingly restricted to the low-wage sector, their unemployment rates soaring to record levels (which remain high despite swings in the business cycle), their movement out of poverty slowing, and their welfare roles increasing. On the other hand, talented and educated blacks are experiencing unprecedented job opportunities in the growing government and corporate sectors, opportunities that are at least comparable to those of whites with equivalent qualifications.¹²

The findings of my study suggest that emerging processes of inequality among Africans in South African are not dissimilar to those at work in the United States of America. South African policy makers may therefore need to recognise that poverty among Africans today is not merely a consequence of racial oppression. If they are to pursue policies which successfully address poverty, they may have to turn to programmes which, as Wilson argues, 'go beyond the limits of ethnic and racial discrimination by directly confronting the pervasive and destructive features of class subordination'.¹³

CLASS THEORY AND RACIAL INEQUALITY

Finally, this study has implications for theories of social class. Some of the most interesting findings of this research have concerned differences and divisions within rather than among classes as they are defined by neo-Marxist models. Specifically, the identification of African advancement into semi-professional state employment and the expansion of African semi-skilled manual employment was not based on occupational categories derived from neo-Marxist class theory. These theories have therefore not been particularly useful for identifying social divisions which have emerged during the apartheid period. For the purposes of this study, which has relied on existing occupational categories, neo-Weberian models of class structure have been a somewhat more useful guide to occupational classification. This is largely

THE INCREASING SIGNIFICANCE OF CLASS

because questions of racial inequality have a lot to do with labour market dynamics. However, the limitation of neo-Weberian class schemes is that they do not provide an interpretation of the forces which shape the class structure and division of labour. For this I have relied on the contributions of labour process theory, rather than those of class theory. The novelty of my approach has been to incorporate concepts from labour process theory into an analysis of class structure. This has enriched our understanding of class categories by providing a theory of how capitalist dynamics of production reproduce and change the occupational division of labour.

APPENDIX TO CHAPTER 1

The following occupational classification is typical of the way in which I classified the occupations listed in the Manpower Surveys. This particular list is based on the occupational descriptions found in *Manpower Survey No. 15, 29th April 1983, Volume 1, Summary: Occupational Classification*, Pretoria, Department of Manpower, 1984. Although the occupations and their descriptions are not entirely consistent from survey to survey, the variation is minimal.

TOP MANAGEMENT

Managing Director.
General Manager.

MIDDLE MANAGEMENT

Mine Manager, Assistant and Underground Manager.
Hostel Manager (Licensed).
Manager or Superintendent of Factory, Production, Works Plant.
Manager or Director of Sales, Purchasing.
Manager of Credit, Finance, etc.
Manager: Personnel, Training.
Manager of Branch, District, Club, Airport, Region, Hotel, Shop, etc.
Company Secretary.
Secretary of Branch, Mine, Works, etc.
Control Administrative Officials and higher, e.g. Heads of Departments, Town Clerk, Departmental Head, Curator, as well as other Executives, Principal and Chief Clerk and Superintendent/Manager/Director of Section or Department of the Establishment.
Inspector of Construction, Premises, Housing, Drainage, etc.
Station Master, Station Foreman.

FRONT-LINE SUPERVISORS AND FOREMEN

Supervisor, Chargehand, Foreman, Overseer, Clerk of Works, Instructor.

PROFESSIONALS

Chemical Engineer (Professionally qualified).
Civil Engineer (Professionally qualified).
Electrical Engineer (Professionally qualified).
Electronical Engineer (Professionally qualified).
Mechanical Engineer (Professionally qualified).
Mining Engineer (Professionally qualified).
Industrial Engineer (Professionally qualified).
Agricultural Engineer (Professionally qualified).
Other Engineers (Professionally qualified).
Other Engineers.
Chemist (not Pharmacist).
Geologist, Geophysicist.
Physicist.
Natural Scientist (not elsewhere classified), e.g. Meteorologist, Hydrologist,
Astronomer.
Architect.
Town Planner, Regional Planner.
Quantity Surveyor.
Land Surveyor.
Topographical Surveyor.
Cartographer, Geographer.
Metallurgist.
Geologist, Hydrobiologist, Microbiologist, Algologist, Botanist, Zoologist,
Physiologist.
Life Scientist (not elsewhere classified), e.g. Oceanographer, Biophysicist,
Biochemist.
Mathematician, Statistician, Actuary.
Pathologist.
Veterinary Surgeon.
Medical Doctor (General Practitioner or Specialist).
Dentist.
Physiotherapist.
Speech Therapist.
Professor, Lecturer, Teacher (Universities).
Judge, Magistrate, Commissioner.
Advocate, Legal Adviser.
Attorney, Conveyancer, Notary, Sworn Appraiser.
Accountant, Auditor (Registered).

APPENDIX TO CHAPTER 1

Accountant, Auditor (Articled Clerk).
Economist, Economic Adviser, Financial Analyst.
Psychologist: Industrial, Clinical, etc.
Researchers.

SEMI-PROFESSIONALS

Engineer: Competency Certificate.
Designer (Industrial and Commercial) (not Fashion Designer or Engineering).
Agriculturalist, Horticulturist, Forester.
Technologist: Communication Engineering (Diploma).
Technologist: Control Engineering Electrical (Diploma).
Technologist: Power Engineering (Heavy Current) (Diploma).
All other technologists, e.g. textile, rubber, concrete, fuel, wood, plastic, paint, food, etc.
Technician: Communication Engineering (Diploma).
Technician: Control Engineering Electrical (Diploma).
Technician: Power Engineering (Heavy Current) (Diploma).
Technician: Engineering (Civil).
Technician: Engineering (Mechanical).
Technician: Engineering (Other).
Technician: Medical and Dental.
Technician: Draughtsman (Civil, Mechanical, Architectural, etc.).
Technician: Chemical.
Technician: Agricultural.
Technician: Other.
Technical Assistant: Tracer.
Technical Assistant: Engineering.
Technical Assistant: Other.
Radiologist.
Nurse, Male Nurse, Health Visitor (Qualified).
Student Nurse, Student Male Nurse.
Pharmacist, Dispensing Chemist, Druggist.
Optometrist (not Ophthalmologist/Eye Specialist).
Dietician, Domestic Scientist.
Radiographer.
Other Medical Auxiliaries: Masseur, Chiropodist, etc.
Health Inspector.
Homeopath, Chiropractitioner.
Lecturer, Teacher, e.g. Training colleges, Technikons, etc.
All Teachers attached to Nursery, Primary and Secondary Schools as well as all Training Institutions.

APPENDIX TO CHAPTER 1

Inspector of Education.
Clergyman, Priest, Missionary.
Other Legal Occupations, e.g. Legal Assistants, Sheriff, etc.
Artist, Painter, Sculptor, Commercial Artist, Display Artist, Colour
Consultant, Interior Decorator, Fashion Designer.
Author, Editor, Journalist, Reporter, Copy Writer, Translator.
Cost Accountant, Estimator, Valuer, Management Consultant.
Market Researcher.
Librarian, Archivist.
Public Relations Officer.
Programmer, Systems Analyst.
Work Study Officer.
Other Professional, Semi-Professional and Technical Employees.
Accountant, Internal Auditor (not registered).
Bookkeeper.
Auctioneer, Stockbroker.
Sales Engineer.
Mining Engineer (not professionally qualified).
Prospector.
Mine Surveyor.
Air Transport Worker: Pilot, Navigator, Air Traffic Controller.

ROUTINE WHITE-COLLAR WORKERS

Bank Clerk (Banking institutions only).
Cashier, Teller, Paymaster.
Clerk: Wages, Salary Payments, Pension Fund.
Clerk: Costing, Pricing, Invoice, Order, Purchasing, Sales (not Counter Assistants).
Clerk: Accounting, Audit.
Clerk: Administrative, Correspondence, Committee.
Clerk: Despatch, Mailing, Shipping, Mass-measuring Bridge, Station Agent.
Clerk: Factory, Production, Operation.
Clerk: Records, Registry, Filing, Statistics, Microfilming, Index, Recorder, Tallyman, Clip Counter.
Storeman, Stores Assistant, Stationery Clerk, Stock Clerk, Outfit Clerk, Paper/Document Keeper.
Clerk: Staff, Employment.
Reception Clerk, Receptionist, Secretary.
Typist, Stenographer, Shorthand Typist.
Typist, Clerk/Telephonist.
Office Machine Operator: Duplicating Machine, Printing Machine, Photostat Machine, etc.

APPENDIX TO CHAPTER 1

Library Assistant.
Operator: Computing Machine, Bookkeeping Machine, Calculating Machine.
Data Capturing: Data Type, Punch, Terminal.
Operator: Computer.
Timekeeper, Time Office Clerk, Clipper.
Meter Reader.
General Clerk: Senior Clerk, Clerk Grades I, II, III, Junior clerk, Personal Clerk, Clerical Assistant.
Other clerical employees not classifiable above, e.g. Travel, Advertising, Estate, Security, Totalisator, Booking, Examiner of Drivers' Licences, etc.
Estate Agent.
Insurance Agent, Insurance Broker.
Market Agent, Slaughter-stock Agent.
Other Agents, e.g. Indent, Shipping, Manufacturing, etc.
Representatives: Manufacturing, Sales, Services, Medical, etc.
Commercial Traveller.
Buyer.
Canvasser and other Outside Salesman.
Salesman, Demonstrator.
Mannequin.
Shop and Counter Assistant, Counterhand, Soda-fountainhand, Florist, Receiver of Dry-cleaning, etc.
Newspaper Boy, Other Street Vendors.
Floorwalker.
Other Sales Occupations, e.g. Negotiator, Sales Promoter, etc.
Ground Hostess, Cabin Attendant, Air Hostess.
Checker.
Inspector, Conductor, Ticket Examiner.
Other Transport Officials, e.g. Despatchers, Instructors, Regulators, etc.
Postman, Post Office Sorter.
Telegraphist, Teleprinter Operator.
Telephonist, Switchboard Operator.
Radio Operator: Ship, Aircraft, Broadcasting Station.
Quality Control Officer.
First-Aid Attendant.
Photographer.
Projectionist, Bioscope Operator.
Outdoor Officer: e.g. Customs and Excise.
Nursery School Supervisor, Children's Play Centre Assistant.
Other Service Occupations (Public), e.g. Lifeguard, Crematorium Superintendent, Medical/Clinic Orderlies, etc.
Occupations in Entertainment, e.g. Race Horse Trainer, Jockey, Golf Professional, Sports Director, Physical Culture Inspector, etc.

APPENDIX TO CHAPTER 1

Funeral Director, Undertaker.
Beautician, Powder Technician.
Caterer.
Chef, Cook, Staff Cook.
Matron: Hostel Matron, Housekeeper, Boarding-housekeeper, Housemaster.

ROUTINE SECURITY WORKERS

Military Staff (not elsewhere classified).
Fireman (all ranks).
Police and Detective Services (including Private, South African Police, South African Railways, Security Officer, Licensing, Depot and Market Constables, etc.).
Prison Warder.
Traffic Inspector (all ranks).
Field and Bush Ranger.
Watchman, Caretaker (building and premises) including Night Hall Attendant, Core Shed Supervisor, etc.
Cargo/Ship Guard.

MENIAL SERVICE WORKERS

Petrol Pump Attendant.
Porter.
Doorman, Gateman, Porter, Church Warden.
Cleaner.
Lift Operator.
Usher.
Groundsman, Gardener.
Nurse Maid.
Nursing Assistant (not registered).
Barman, Wine Steward, Waiter, Waitress.
Page.
Kitchen hand, Pantry-hand, Tea Servant.
Laundryman.
Linen-keeper.
Other: Servants in Business.
Shampoo Lady.
Other Service Occupations (Personal).
Domestic Servants.

**SEMI-SKILLED MANUAL WORKERS AND
MACHINE OPERATORS**

**Semi-skilled workers employed in transportation, delivery and
communication**

Other Transportation Workers, e.g. Driver/Van Assistant, Truck Attendant.
Water Transport Worker: Captain, Navigating Officer, Engineer Officer,
Marine Engineman, Pilot (Ship), Mate, Stoker, Boatsman.
Crane Driver, Crane Operator.
Other Water Transport Workers, e.g. Stevedoring Hand, Leader, Winchman,
Gangwayman, Induna, etc.
Train Driver: Steam Loco, Electric Unit or Diesel Engine (any industry).
Shunter.
Banksman, Signalman.
Bus, Tram or Trolleybus Driver.
Chauffeur, Taxi Driver, Ambulance Driver, Driver for Commercial Traveller.
Light Delivery Van Driver.
Driver: Heavy Lorry, Tanker, etc.
Driver: Extra Heavy Lorry, Tanker, etc.
Other Deliverymen (Motorcycle, Bicycle, etc.).
Driver: Stacker, Handling Equipment, Mechanised Internal Transporter, etc.

**Semi-skilled workers employed in the processing of metal, plastics or
machine parts in any industry and operators in the motor industry**

Blast Furnace Operator.
Cupola Attendant.
Coke Oven, By-products, Coal, Coke, Crushing Machine and Gas Producer
Operators.
Mill Hand.
Smelter, Melter, Heater.
Forging and Drop Forging Operator.
Production Moulder and Core Maker.
Casting, Die-casting and Spin-casting Machine Operator.
Machinist.
Turret and Capstan Lathe Operator.
All other Machine Setters and Adjusters (not elsewhere classified) (not
Artisans).
Drilling Machine Operator (not for water drilling purposes).
Broaching Machine Operator.
Arc/Gas Welding, Gas Cutting and Profile Cutting Operator.
Spot/Butt Welding Operator.
Other Welding Operators.
All Cutting and Sawing Operators (not elsewhere classified).

APPENDIX TO CHAPTER 1

Rough Grinding Operator.
Flattening and/or Straightening Machine Operator.
Hot and/or Cold Bending, Forming, Folding Machine Operator.
Universal Window and Door Jamb Maker.
Tube Fitter and/or Expander.
Platelayer.
Sheeter.
Riveter, Caulker.
Bolt, Nut, Chain, Nail, Rivet and Spring Making Machine Operator.
Press, Power Press, Trap Extrusion Press Operator.
Fly Treadle Manual Pressing Notching Machine Operator.
Guillotine Operator.
Stripping and/or Pickling Tank and Acid Reclaiming Operator.
Electro-, Spray and Hotdip Galvanising and Tinning Plant Operator.
Electroplating Bath Attendant.
Coil Winder.
Motors and/or Coils Sprayer.
Assembler.
Mechanic's Stripper and Body Stripper.
Radiator Repairer.
Pattern Cutter, Maker, Cutter, Chopper Out, Seaming Machinist.
Re-Metaller.
Vulcaniser.
Pelleting Machine, Calendring Machine Minder.
Moulding Press, Injection Moulding Machine, Extrusion Machine Operator.
Mixing and Rolling Machine Operator.
Pickling and/or De-greasing and/or De-enamelling Plant Operator.
Brushing, Dipping and/or Slushing, Spraying, Sign Brushing and Silk Screen Operator.
Carbon Grinder.
Operators and Semi-skilled Workers in the Manufacturing of Metal Containers.
Operators and Semi-skilled Workers (not elsewhere classified).
Crane Operator, Crane Driver.
Driver, Stacker, Handling Equipment, Mechanised Internal Transporter.

Semi-skilled workers employed in building and/or construction work

Asphalter.
Platelayer, Ganger.
Road Surfacing Men.
Pipe Layer, Pipe Fitter, Lead Burner.
Scaffolder.
Steel and Aluminium Fixer.

APPENDIX TO CHAPTER 1

Roofing Fixer, Sheeter, Slater, Insulation Fixer.
Erector of Fences, Poles, Windmills, etc.
Concreter, Cementation Operator, Dam Builder.
Glazier, Pole Painter, White Line Marker.
Floor Coverer: Carpets, tiles, etc.
Plant Operator (Building Industry: Tractor, Roller, Power Shovel, etc.).
Brushhand (not Artisan).
Other Operators.
Other Semi-skilled Workers (not elsewhere classified).

Semi-skilled workers employed in the processing of wood, furniture, etc

Kiln Attendant.
Machine Operator (Wood).
Machine Minder (Wood).
Grader of Hardwood Logs.
Furniture Manufacturing, Machining and Carving Operator.
Furniture Polishing and Veneering Operator.
Sandpaper Worker (Hand and/or Machine).
Upholstering Worker.
Other Semi-skilled Workers in Furniture and Bedding Manufacturing.
Mattress Maker.
Cooper, Vat Maker.
Brush and Broom Maker.
Weaver: Wicker, Cane, etc.
Other Semi-skilled Workers in Wood.

Semi-skilled workers employed in the manufacture of clothes and textiles and in washing and dry-cleaning, etc

Spinning Machine Operator (Including Mule Spinner, Thread and yam Spinner, etc.).
Weaver (Including Hand Loom, Cloth, Jacquard, Lace, Net and Carpet Machine Looms).
Dyer, Textile Printer.
Net, Rope and Twine Makers.
Other Textile Machine Operators (not elsewhere classified).
Other Skilled and Semi-skilled Workers in Textile Manufacturing.
Knitting Machine Operator.
Sewing Machine Operator.
Pattern Maker and/or Grader.
Pattern Laying Out and/or Marking In.
Cutter, Chopper Out (Hand or Machine).
Presser, Ironer (Hand or Machine).

Trimmer.
Layer-up.
Finisher.
Table Hand.
Other Machine Operators in Clothing Manufacturing (not elsewhere classified).
Other Skilled and Semi-skilled Workers in Clothing Manufacturing (not elsewhere classified).
Tailor, Dressmaker, Alteration Hand.
Milliner, Trimmer, Blocker.
Dry-cleaning Machine Operator, Washing Machine Operator.
Cleaner, Spotter, Dry-cleaner (not Machine Operator).
Brusher.
Other Skilled and Semi-skilled Dry-cleaning and Laundry Workers and Operators (not elsewhere classified).

Semi-skilled workers employed in food, drink and tobacco preparation and manufacturing processes

Abattoir Worker, e.g. Cutter, Slaughterman, Offal Attendant, Meat Stamper, Kraal Attendant, By-products Plant Operator, etc.
Blockman's Assistant.
Other Skilled and Semi-skilled Workers in Canning and Processing of Fish and Meat, e.g. Curer, etc.
Cheese Maker, Butter Maker.
Cream Grader, Cream Tester, Milk Tester.
Dairyman.
Brakesman.
Ovensman.
Confectioner's Assistant, Baker's Assistant.
Other Skilled and Semi-skilled Workers and Operators in Bread, Biscuit and Cake Manufacturing.
Beverage Maker, Brewer.
Juice Extractor, Syrupmaker.
Sugar Pan Boiler.
Sweet Maker.
Laboratory Assistant, Bench Chemist, Measurer (Food).
Retort Pressure Cooker, Vacuum Boiler Plant and Evaporator Attendant.
Refrigeration Attendant.
General Worker in Sweet Manufacturing Industry.
Other Skilled and Semi-skilled Workers in Beverage and Food Canning.
Operators of all Tobacco Preparing Machines.
Skilled and Semi-skilled Workers in the Preparation and Mixing of Tobacco by Hand.

APPENDIX TO CHAPTER 1

Operators of Cigarette and Filter Plug Making, Filter Tip Assembling and Inserting Machines.
Operators of other Machines in the Manufacturing of Tobacco and Cigarettes.

Semi-skilled workers employed in leather, artificial leather and shoe process work

Tannery Machine and Staking Machine Operator.
Splitting Machine, Shaving and Whitening Machine Operator.
Glazing and Buffing Machine Operator.
Sammying, Setting and Barkmill Machine Operator, Table-hand.
Other Machine Operators in Tanning Industry (not elsewhere classified).
Other Skilled and Semi-skilled Workers in the Preparation of Skins and Manufacturing of Leather (not elsewhere classified).
Pattern Cutter, Pattern Grader.
Clicking Machine Operator.
Splitting Machine Operator.
Stitching Machine Operator (including Puritan and Pilot Machines).
Eyeletting, Perforating, Skiving, Folding, Burnishing (Hand or Machine).
Cutter, Sorter, Fitter.
Pulling Over, Lasting (Hand or Machine).
Welt Sewing, Rough Rounding, Sole Sewing, Sole Stitching.
Stuck-on Process Worker.
Edge Trimming and Setting, Heel Trimmer.
Faking.
Other Machine Operators in Shoe Manufacturing (not elsewhere classified).
Other Skilled and Semi-skilled Workers in Shoe Manufacturing (not elsewhere classified).
Shoemaker, Harness Repairer.
Other Workers in Leather Products Manufacturing (not elsewhere classified).

Semi-skilled workers employed in the processing and manufacturing of glass, fibreglass, cement, lime, bricks, tiles, etc

Glass Cutter.
Glass Beveller, Silverer.
Glass Polisher or Rouger.
Furnaceman, Furnace Operator.
Batchman.
Operator of Machine Producing Glass and Fibre Glass Containers.
Process Hand and General Worker in Glass and Glass Products Manufacturing.

APPENDIX TO CHAPTER 1

Other Skilled and Semi-skilled Workers in Glass and Glass Products Manufacturing (not elsewhere classified).

Blaster.

Quarryman.

Burner.

Flotation Plant Attendant.

Miller and/or Rumbler Plant Attendant.

Scale, Crushers and/or Screening Plant Attendant.

Other Machine or Plant Operators and/or Attendants in Cement, Plaster of Paris and Lime Manufacturing (not elsewhere classified).

Other Skilled and Semi-skilled Workers in Cement, Plaster of Paris and Lime Manufacturing.

Control Table Operator of an Asbestos-Cement Pipemaking Machine.

Asbestos-Cement Pipe Lathe Operator.

Kollergang Operator.

Pipe Spinner.

Pole Spinner.

Beater or Hollander Operator.

Pipe Testing Machine Operator.

Wet Machine Minder.

Other Machine Operators and Skilled and Semi-skilled Workers in Cement Products Manufacturing.

Clay Worker.

Model or Mould Maker.

Potter.

Thrower.

Operators of Power-driven Crushing Machine, Tile and Brick-making Press and Pipemaking Machine.

Kiln-packer and/or Setter.

Kiln Attendant.

Other Machine Operators and Skilled and Semi-skilled Workers in the Manufacturing of Clay and Allied Products.

Semi-skilled workers employed in the processing and manufacturing of chemical and rubber products, soap, candles, edible oils and fats, plastics, explosives, fertilisers, etc

Laboratory Assistant (not qualified).

Colour Matcher, Paint Maker, Varnish Maker.

Operator of Machines for Paint Mixing, Blending and/or Straining.

Other Semi-skilled Workers in the Manufacturing of Paints, Polish and Chemical Products.

Pill and Tablet Maker.

Tester.

APPENDIX TO CHAPTER 1

Skilled Workers in the Manufacturing of Rubber and Rubber Products (except artisans).
Machine Operators in the Manufacturing of Rubber and Rubber Products.
General Workers and other Semi-skilled Workers in the Manufacturing of Rubber and Rubber Products.
Operators of Machines for Refining, Bleaching, Hardening, Deodorising, Chilling, Texturating of Edible Fats and/or Oils.
Operators of Machines for Blending, Splitting, Vacuum Bleaching, Melting Out and Filtering of Fats and Oils.
Operator of Crushing or Expelling Machine.
Operator of Glycerine Recovery Plant.
Other Machine Operators in the Manufacturing of Soap, Candles, Edible Oils and Fats.
Other Semi-skilled Workers in the Manufacturing of Soap, Candles, Edible Oils and Fats.
Operators and Process Workers in the Manufacturing of Acids, Chemicals, Explosives, Detonators, Ammonia, Chlorine, Plastic-coated Fabrics, Plastic Products and Solvents.
Operators and Process Workers in the Manufacturing of Fertilisers.
Other Semi-skilled Workers (not elsewhere classified).

Semi-skilled workers employed in the printing process and paper manufacturing

Binder's Assistant.
Copy Holder.
Monotype Caster Attendant (not Artisan).
Solid Typesetter.
Litho Operator.
Platen Pressman.
Screen Preparer, Silk Screen Printer.
Operators of Manually-operated Cutting Machines.
Corrugated Board and Container Assistant (Manual).
Other Operators in the Printing and Newspaper Industry.
Digester Operator.
Beaterman.
Pulp Handling Operator.
Super Calender Operator.
Machineman.
Other Operators and Semi-skilled Employees in the Manufacturing of Paper and Cardboard.

APPENDIX TO CHAPTER 1

Other semi-skilled workers

Boiler Attendant, Boiler Cleaner.

Pumpman, Attendant of Water Installation and Filtration Plant, Sewerage Plant, etc.

Packing Machine Operator.

Other Packing Workers, e.g. Despatch Packer, Labeller, Wrapper, Sampler, etc.

Visual Inspection Worker, including Sorter, Grader, Inspection Table Workers, Examiner of: Materials, Products, Vehicle Licences, Pipes and Pipe-lines, Waste Water, Meters, Maintenance, etc.

Fisherman, Farmer, Hunter.

Watchmaker, Locksmith, Camera and Film Repairer, Film Technician, Operative Worker in the Jewellery and Precious Metal Industry.

Bicycle, Sewing Machine, Knitting Machine, Office Machine and Scale Serviceman.

Rodent Exterminator, Fumigator.

Plant Propagator, Tree Pruner, Motor Lawn Mower Operator.

Driller: Water, Minerals.

Skilled and Semi-skilled Operators and Workers in Power Stations and Gasworkers, e.g. Turbine Driver, Switchboard Operator, Power Station Operator and Maintenance Attendant, Gasworks Fitter, Electricity Plant Operator, etc.

Handyman, including Artisan Hand or Mate, Unindentured Carpenter/Mason/Blacksmith/Mechanic, etc.

Transport Maintenance Workers, e.g. Truck Repairer (non-Artisan), Greaser, Truckbuster.

SKILLED MANUAL WORKERS: ARTISANS AND APPRENTICES

Metal and engineering trades

Plastic and Fibre-Glass Worker.

Aircraft Maintenance Mechanic, Aircraft Metal Worker.

Blacksmith.

Boat Builder and Shipwright (wood).

Plater (Boilermaker).

Bricklayer (Refractory and/or Chemical).

Coach Builder, Underframemaker.

Construction Steelworker, Architectural Metal Worker.

Coppersmith.

Domestic Appliance Mechanic.

Fitter and Turner.

APPENDIX TO CHAPTER 1

Fitter (including Machining).
Instrument Maker and Repairer/Mechanic (Electrical)/Mechanic (Industrial)
 Aircraft Instruments, Scientific Instruments.
Lift Mechanic.
Millwright (Electromechanical).
Moulder.
Pattern-maker.
Refrigeration Mechanic.
Rigger, Ropeman.
Roll Turner, Roll Tool and Template Maker.
Scale Fitter.
Sheetmetal Worker.
Telegraph and Telephone Mechanic.
Turner (including Machining).
Toolmaker, Tool and Jigmaker, Machine and Tool Setter.
Welder.
Die Maker.
Construction Plant Mechanic.

Electrical trades

Aircraft Electrical Mechanic.
Armature Winder.
Automotive Electrician.
Electrical Fitter.
Electrician (general).
Electrician: Wireman, Construction.
Electroplater.
Radiotrician, Aircraft Radiotrician, Aeradio Mechanic.
Telephone and Telegraph Electrician, Telephone Communication
 Electrician.
Radio and Television Mechanician.
Electronics Mechanician.

Motor trades

Automotive Machinist and Fitter, Motor Fitter, Engine Fitter.
Automotive Sheetmetal Worker.
Automotive Acetylene and Electrical Welder.
Diesel Mechanic.
Motor Mechanic.
Motor Cycle and Scooter Mechanic.
Panel-beater, Auto Body Repairer.
Panel-beater (including Spraypainting and Trimming).

APPENDIX TO CHAPTER 1

Spraypainter.
Toolmaker.
Tractor Mechanic.
Trimmer, Trimmer (including Spraypainting).
Automotive Turner and Machinist.
Vehicle Body Builder (including Composition Bodies).
Fuel Injection Mechanic.
Wood Machinist.

Building trades

Bricklayer.
Bricklayer and Plasterer.
Carpenter.
Carpenter and Joiner.
French Polisher.
Joiner.
Leadlight Maker.
Letter Cutter and Decorator.
Stonemason.
Painter and Decorator.
Plasterer.
Plumber.
Saw Doctor.
Sheetmetal Worker.
Shopfitter (Wood and Architectural Metal Work).
Signwriter.
Wall and Floor Tiler, Marble Mason, Reconstructed Stone and Terrazzo Worker.
Wood Machinist.
Electrician: Wireman, Construction.

Printing trades

Bookbinder, Ruler.
Carton Making, Corrugated Board and Container Machine Minder, Machine Minder (Packaging).
Compositor (Hand).
Compositor (including Machining), Machine Minder (including Composing).
Cutter, Printer's Warehousing.
Letterpress Machine Minder.
Lithographer, Photolithographer.
Monotype Caster Minder Mechanic.

APPENDIX TO CHAPTER 1

Photogravure.
Printer's and Lithographic Artist.
Printer's Mechanic (General, Type-setting Machine, Stationery and Envelope Making).
Process Engraver Proof Reader.
Rotary Machine Minder and Rotary Stereotyper.
Gravure Machine Minder.
Stereotyper.
Other Trades.

Furniture trades

Cabinetmaker.
Framemaker.
Chairmaker, Upholsterers' Framemaker.
Furniture Machinist, Wood Turner.
Furniture Polisher.
Upholsterer, Trimmer.
Veneering.
Wood-carver.

Food trades

Baker and Confectioner (Smalls).
Confectioner.
Maize Miller.
Miller.
Retail Butcher, Blockman.

Diamond cutting, jewellers' and goldsmiths' trades

Diamond Brillianteering Worker.
Diamond Crossworker.
Diamond Cutter.
Diamond Sawyer.
Diamond and Jewel Setter.
Engraver.
Precious Metal Worker and Mounting.
Medallist.

Hairdressing and miscellaneous trades

Gentlemen's Hairdresser.
Ladies' Hairdresser.

APPENDIX TO CHAPTER 1

Leather Trades: Clicking, Sole Cutting, etc.

Office Appliance Mechanic: e.g. Computer, Bookkeeping, Accounting and Dictating Machines, Cash Register, Typewriter and General, etc.

Sailmaker.

Armament Fitter.

Other Trades.

UNSKILLED MANUAL LABOURERS

Labourer.

APPENDIX TO CHAPTER 2

Table A2.1 Percentage distribution by race of employment in top and middle management jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	0.2	0.2	1.5	98.1	100.0
1967	1.1	0.3	1.9	96.8	100.0
1969	0.7	0.3	1.6	97.4	100.0
1971	0.5	0.5	1.9	97.0	100.0
1973	0.5	0.6	2.7	96.2	100.0
1975	2.6	0.8	2.3	94.2	100.0
1977	0.4	0.8	2.0	96.8	100.0
1979	1.4	1.3	2.0	95.3	100.0
1981	1.3	1.2	2.0	95.5	100.0
1983	1.5	1.7	2.0	94.8	100.0
1985	1.5	1.5	2.0	95.0	100.0
1987	2.3	2.2	3.3	92.2	100.0
1989	2.2	2.8	6.3	88.8	100.0
1990	2.7	3.6	6.1	87.6	100.0

APPENDIX TO CHAPTER 2

Table A2.2 Employment of top and middle managers by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	193	127	1,214	79,396	80,930
1967	955	236	1,735	87,741	90,667
1969	573	286	1,374	82,781	85,014
1971	632	587	2,260	112,892	116,371
1973	575	783	3,423	121,425	126,206
1975	3,552	1,062	3,161	127,002	134,777
1977	599	1,097	2,902	140,385	144,983
1979	2,464	2,243	3,414	163,557	171,678
1981	2,153	2,004	3,380	158,236	165,773
1983	2,700	3,181	3,580	173,491	182,952
1985	2,582	2,684	3,551	167,170	175,987
1987	4,967	4,949	7,217	202,966	220,099
1989	5,319	6,748	15,371	216,772	244,210
1990	6,455	8,668	14,783	210,860	240,766

Source: My own analysis of the Manpower Survey data tapes

Table A2.3 Percentage distribution by race of employment in professional jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	1.2	0.5	0.5	97.7	100.0
1967	1.4	0.4	0.7	97.5	100.0
1969	1.7	0.6	0.8	96.9	100.0
1971	1.4	0.8	1.6	96.2	100.0
1973	1.7	0.9	1.6	95.9	100.0
1975	2.5	1.1	1.8	94.7	100.0
1977	1.9	1.0	2.7	94.4	100.0
1979	1.7	1.5	2.2	94.6	100.0
1981	1.1	1.8	2.8	94.4	100.0
1983	2.1	1.6	3.3	93.0	100.0
1985	2.1	1.4	3.0	93.6	100.0
1987	3.8	2.1	3.5	90.6	100.0
1989	7.6	2.8	5.0	84.6	100.0
1990	11.4	3.7	4.2	80.6	100.0

APPENDIX TO CHAPTER 2

Table A2.4 Professional employment by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	479	209	193	38,047	38,928
1967	595	193	288	42,665	43,741
1969	818	269	383	45,924	47,394
1971	835	456	938	57,082	59,311
1973	974	502	909	55,796	58,181
1975	1,593	671	1,132	60,161	63,557
1977	1,228	675	1,765	62,381	66,049
1979	1,228	1,151	1,663	70,274	74,316
1981	841	1,386	2,183	73,937	78,347
1983	1,758	1,370	2,804	78,751	84,683
1985	1,754	1,179	2,500	78,815	84,248
1987	3,638	1,960	3,296	86,001	94,895
1989	11,616	4,187	7,622	128,581	152,006
1990	18,386	6,020	6,778	129,712	160,895

Source: My own analysis of the Manpower Survey data tapes

Table A2.5 Percentage distribution by race of employment in semi-professional jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	24.3	8.5	3.1	64.1	100.0
1967	21.4	8.3	3.3	67.0	100.0
1969	20.3	9.0	3.1	67.5	100.0
1971	21.9	7.9	3.3	66.9	100.0
1973	20.8	9.0	3.3	66.9	100.0
1975	19.0	9.5	3.6	68.0	100.0
1977	21.2	10.2	3.6	65.0	100.0
1979	17.1	11.6	4.1	67.2	100.0
1981	18.9	11.1	4.1	65.9	100.0
1983	20.1	11.6	4.3	64.0	100.0
1985	27.3	9.5	4.2	59.0	100.0
1987	28.0	9.5	4.0	58.4	100.0
1989	35.3	10.5	4.3	49.9	100.0
1990	31.0	11.4	5.2	53.0	100.0
1990*	41.1	9.7	4.4	44.7	100.0

*Note:** Adjusted with rough estimates for employment in Transkei, Bophuthatswana, Venda and Ciskei.

APPENDIX TO CHAPTER 2

Table A2.6 Semi-professional employment by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	51,023	17,744	6,543	134,621	209,931
1967	46,535	17,947	7,159	145,757	217,398
1969	47,641	21,228	7,357	158,548	234,774
1971	64,801	23,520	9,871	198,365	296,557
1973	65,195	28,255	10,323	210,066	313,839
1975	63,706	31,870	11,956	228,312	335,844
1977	82,166	39,361	14,124	251,939	387,590
1979	69,727	47,393	16,795	274,148	408,063
1981	77,687	45,860	16,973	271,593	412,113
1983	85,168	49,315	18,453	271,673	424,609
1985	134,567	47,036	20,826	290,755	493,184
1987	153,320	52,010	22,139	319,978	547,447
1989	193,544	57,581	23,602	273,524	548,251
1990	208,587	77,218	34,887	355,655	676,347
1990*	327,064	77,218	34,887	355,655	794,824

Source: My own analysis of the Manpower Survey data tapes

*Note** Adjusted with rough estimates for employment in Transkei, Bophuthatswana, Venda and Ciskei

Table A2.7 Percentage distribution by race of employment in routine white-collar jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	15.3	5.3	4.4	74.9	100.0
1967	16.6	5.9	4.6	73.0	100.0
1969	16.8	6.3	4.8	72.1	100.0
1971	17.1	6.3	6.6	70.0	100.0
1973	19.1	7.5	6.6	66.8	100.0
1975	18.2	8.5	7.2	66.2	100.0
1977	22.1	9.3	7.1	61.6	100.0
1979	21.8	9.7	7.4	61.2	100.0
1981	23.8	9.3	7.1	59.9	100.0
1983	25.4	11.0	7.0	56.5	100.0
1985	26.7	12.0	6.7	54.6	100.0
1987	25.4	11.1	7.0	56.5	100.0
1989	37.5	12.3	6.5	43.7	100.0
1990	29.8	13.2	7.4	49.7	100.0
1990*	31.0	12.9	7.3	48.8	100.0

APPENDIX TO CHAPTER 2

Table A2.8 Routine white-collar employment by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	89,425	31,089	25,942	436,657	583,113
1967	98,605	34,863	27,144	433,584	594,196
1969	109,005	40,595	31,325	467,117	648,042
1971	137,356	50,544	52,555	560,732	801,187
1973	157,359	61,868	54,484	550,019	823,730
1975	158,129	74,089	62,474	576,212	870,904
1977	211,014	88,273	67,428	587,371	954,086
1979	214,476	95,430	72,503	602,117	984,526
1981	238,136	92,851	70,700	598,960	1,000,647
1983	267,487	115,904	73,636	594,325	1,051,352
1985	277,067	124,122	69,850	566,779	1,037,818
1987	286,954	124,812	79,294	636,670	1,127,730
1989	487,634	160,743	85,225	568,380	1,301,982
1990	284,410	125,687	70,966	474,527	955,590
1990*	300,906	125,687	70,966	474,527	972,086

Source: My own analysis of the Manpower Survey data tapes

Note:* Adjusted with rough estimates for employment in Transkei, Bophuthatswana,

Table A2.9 Percentage distribution by race of employment in routine security jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	49.6	3.9	0.9	45.6	100.0
1967	52.4	3.9	0.9	42.7	100.0
1969	53.3	4.9	1.2	40.6	100.0
1971	54.0	4.4	1.1	40.5	100.0
1973	53.7	4.7	1.1	40.5	100.0
1975	55.7	4.8	1.1	38.4	100.0
1977	49.4	4.5	1.1	45.0	100.0
1979	47.7	6.1	1.4	44.9	100.0
1981	49.5	5.7	1.3	43.4	100.0
1983	53.6	5.8	1.7	38.9	100.0
1985	50.4	7.8	1.6	40.1	100.0
1987	47.0	6.7	2.5	43.8	100.0
1989	50.9	9.7	2.1	37.3	100.0
1990	54.5	9.0	2.2	34.3	100.0

APPENDIX TO CHAPTER 2

Table A2.10 Routine security employment by race, 1965–1990

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	38,267	3,025	721	35,214	77,227
1967	39,358	2,913	709	32,066	75,046
1969	41,146	3,799	921	31,388	77,254
1971	48,914	4,012	998	36,647	90,571
1973	49,723	4,327	1,012	37,548	92,610
1975	60,572	5,236	1,189	41,759	108,756
1977	69,620	6,386	1,564	63,461	141,031
1979	68,789	8,753	1,988	64,677	144,207
1981	73,548	8,523	1,940	64,508	148,519
1983	85,794	9,326	2,703	62,311	160,134
1985	96,238	14,978	3,097	76,604	190,917
1987	114,758	16,448	6,124	106,886	244,216
1989	129,832	24,867	5,318	95,207	255,224
1990	143,062	23,759	5,881	89,968	262,670

Source: My own analysis of the Manpower Survey data tapes

Table A2.11 Percentage distribution by race of employment in front-line supervisory jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	13.3	6.9	2.8	77.0	100.0
1967	11.7	8.4	2.5	77.4	100.0
1969	15.9	8.1	3.3	72.7	100.0
1971	15.9	8.1	4.2	71.7	100.0
1973	18.2	8.6	4.2	69.0	100.0
1975	18.0	7.9	4.9	69.1	100.0
1977	28.1	9.8	3.3	58.8	100.0
1979	28.1	11.5	3.5	56.9	100.0
1981	26.4	12.4	4.3	57.0	100.0
1983	38.1	10.0	3.6	48.3	100.0
1985	36.2	11.4	5.0	47.4	100.0
1987	29.9	12.4	4.2	53.5	100.0
1989	31.4	8.2	4.7	55.8	100.0
1990	15.7	10.8	5.8	67.7	100.0

APPENDIX TO CHAPTER 2

Table A2.12 Front-line supervisory employment by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	3,906	2,014	817	22,543	29,280
1967	3,924	2,822	825	25,888	33,459
1969	6,165	3,161	1,275	28,229	38,830
1971	7,658	3,902	2,030	34,454	48,044
1973	9,163	4,340	2,130	34,821	50,454
1975	11,305	4,981	3,089	43,331	62,706
1977	20,446	7,100	2,435	42,827	72,808
1979	21,086	8,621	2,625	42,728	75,060
1981	22,379	10,491	3,683	48,373	84,926
1983	44,400	11,616	4,236	56,330	116,582
1985	40,746	12,890	5,658	53,345	112,639
1987	26,108	10,884	3,706	46,751	87,449
1989	71,799	18,672	10,697	127,588	228,756
1990	29,758	20,555	11,035	128,723	190,071

Source: My own analysis of the Manpower Survey data tapes

Table A2.13 Percentage distribution by race of employment in the skilled trades, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	0.0	10.0	1.2	88.9	100.0
1967	0.0	10.8	1.5	87.8	100.0
1969	0.0	12.4	1.4	86.2	100.0
1971	0.0	12.9	2.3	84.8	100.0
1973	4.0	14.9	2.3	78.8	100.0
1975	1.8	16.2	2.8	79.2	100.0
1977	1.9	16.1	2.9	79.0	100.0
1979	1.7	17.7	3.8	76.7	100.0
1981	5.8	17.1	4.0	73.1	100.0
1983	6.8	19.2	4.2	69.8	100.0
1985	6.6	17.6	4.2	71.7	100.0
1987	8.9	13.4	4.0	73.8	100.0
1989	17.5	14.9	5.1	62.5	100.0
1990	18.9	16.6	5.0	59.7	100.0

APPENDIX TO CHAPTER 2

Table A2.14 Employment of artisans and apprentices by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	0	20,265	2,393	181,001	203,659
1967	0	24,184	3,322	197,188	224,694
1969	0	28,521	3,104	197,473	229,098
1971	0	34,775	6,227	228,152	269,154
1973	11,587	42,903	6,474	226,338	287,302
1975	4,884	43,442	7,455	212,748	268,529
1977	5,009	43,206	7,863	211,503	267,581
1979	4,570	47,627	10,240	206,047	268,484
1981	17,094	50,524	11,777	216,128	295,523
1983	21,335	60,043	13,202	218,534	313,114
1985	19,037	50,981	12,072	207,970	290,060
1987	23,449	35,368	10,654	195,204	264,675
1989	57,306	48,945	16,807	204,721	327,779
1990	59,486	52,924	15,839	190,100	318,348

Source: My own analysis of the Manpower Survey data tapes

Table A2.15 Percentage distribution by race of employment in semi-skilled jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	70.2	13.3	4.7	11.8	100.0
1967	69.3	13.8	4.5	12.3	100.0
1969	69.7	13.8	5.1	11.4	100.0
1971	71.6	13.8	5.1	9.6	100.0
1973	72.8	13.7	4.8	8.8	100.0
1975	72.7	14.3	4.7	8.2	100.0
1977	78.4	11.1	3.7	6.7	100.0
1979	75.8	12.8	4.3	7.1	100.0
1981	74.7	14.0	4.2	7.1	100.0
1983	73.1	14.8	4.5	7.7	100.0
1985	76.9	13.4	3.5	6.2	100.0
1987	74.2	14.8	3.7	7.3	100.0
1989	77.5	12.8	4.0	5.8	100.0
1990	76.1	14.4	4.0	5.5	100.0

APPENDIX TO CHAPTER 2

Table A2.16 Employment of semi-skilled operatives by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	682,148	129,532	45,617	114,727	972,024
1967	708,085	141,396	46,367	125,633	1,021,481
1969	774,794	153,069	56,325	126,799	1,110,987
1971	928,874	178,873	65,575	123,941	1,297,263
1973	950,274	178,822	62,059	114,415	1,305,570
1975	940,163	185,044	61,276	106,252	1,292,735
1977	1,157,252	164,275	55,310	98,622	1,475,459
1979	1,127,761	190,508	64,577	104,950	1,487,796
1981	1,203,014	224,681	68,204	113,766	1,609,665
1983	1,025,361	207,424	62,727	107,352	1,402,864
1985	1,305,428	227,018	59,380	105,080	1,696,906
1987	1,017,352	203,196	50,865	99,579	1,370,992
1989	1,286,353	211,616	65,586	95,708	1,659,263
1990	1,378,416	260,700	71,962	100,267	1,811,345

Source: My own analysis of the Manpower Survey data tapes

Table A2.17 Percentage distribution by race of employment in unskilled manual jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	86.2	10.2	1.3	2.2	100.0
1967	87.5	9.5	1.1	1.9	100.0
1969	87.5	10.1	1.0	1.4	100.0
1971	88.2	9.7	0.9	1.3	100.0
1973	88.0	9.9	1.0	1.0	100.0
1975	88.2	9.9	0.9	0.9	100.0
1977	87.6	10.9	1.0	0.5	100.0
1979	85.6	12.7	1.2	0.6	100.0
1981	86.3	12.5	0.9	0.3	100.0
1983	87.9	11.3	0.7	0.1	100.0
1985	87.6	11.1	1.1	0.2	100.0
1987	87.4	10.5	1.3	0.8	100.0
1989	89.0	9.1	0.8	1.0	100.0
1990	87.0	10.6	1.4	1.0	100.0

APPENDIX TO CHAPTER 2

Table A2.18 Employment of unskilled labourers by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	805,411	95,601	12,603	20,966	934,581
1967	925,672	99,981	11,519	20,235	1,057,407
1969	973,494	112,278	11,216	15,459	1,112,447
1971	1,038,524	114,289	10,231	14,943	1,177,987
1973	1,015,629	114,385	11,888	11,804	1,153,706
1975	1,052,734	118,621	10,949	10,867	1,193,171
1977	1,023,774	127,498	11,980	5,996	1,169,248
1979	937,725	138,916	12,837	6,111	1,095,589
1981	972,139	140,576	10,385	3,504	1,126,604
1983	981,229	126,037	8,253	856	1,116,375
1985	578,016	73,373	7,296	1,032	659,717
1987	1,019,482	122,965	14,637	8,837	1,165,921
1989	912,575	93,618	8,599	10,256	1,025,048
1990	935,762	113,923	14,831	10,755	1,075,270

Source: My own analysis of the Manpower Survey data tapes

Table A2.19 Percentage distribution by race of employment in menial service sector jobs, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>Total</i>
1965	70.8	14.0	6.6	8.6	100.0
1967	73.1	12.4	6.3	8.1	100.0
1969	74.0	13.4	5.3	7.4	100.0
1971	74.7	14.0	4.9	6.4	100.0
1973	76.0	13.4	4.7	5.9	100.0
1975	74.8	16.1	3.7	5.4	100.0
1977	75.9	13.9	5.1	5.1	100.0
1979	78.1	12.8	4.1	5.1	100.0
1981	77.6	14.5	3.4	4.4	100.0
1983	80.8	13.4	2.2	3.5	100.0
1985	80.8	13.7	2.0	3.5	100.0
1987	78.7	14.4	2.3	4.5	100.0
1989	75.6	14.8	2.7	6.9	100.0
1990	79.1	14.6	3.1	3.2	100.0

APPENDIX TO CHAPTER 2

Table A2.20 Employment of menial service workers by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	103,289	20,412	9,612	12,611	145,924
1967	108,566	18,370	9,422	12,082	148,440
1969	128,478	23,297	9,163	12,777	173,715
1971	148,838	27,938	9,795	12,806	199,377
1973	150,486	26,490	9,299	11,660	197,935
1975	171,238	36,818	8,527	12,454	229,037
1977	193,296	35,470	12,978	12,862	254,606
1979	200,400	32,729	10,435	12,973	256,537
1981	211,120	39,350	9,357	12,081	271,908
1983	221,813	36,893	6,133	9,601	274,440
1985	244,277	41,491	6,199	10,536	302,503
1987	253,045	46,265	7,460	14,557	321,327
1989	133,249	26,106	4,849	12,137	176,341
1990	262,933	48,404	10,394	10,603	332,334

Source: My own analysis of the Manpower Survey data tapes

Table A2.21 Racial and sexual division of labour across semi-professional occupations, 1990

Occupation	Whites		Coloureds		Indians		Africans		Unspecified Race/Sex	Total
	Men	Women	Men	Women	Men	Women	Men	Women		
Pharmacists	2,579	1,860	30	19	189	73	68	17	2	4,837
Technicians	41,121	4,702	2,637	217	61,806	120	2,583	169	777	114,132
Technologists	7,731	736	265	42	246	58	224	78	11	9,391
Computer Programmers & allied	9,469	5,408	779	306	1,059	210	581	99	344	18,255
Head Nurses/Matrons	139	1,791	21	121	0	33	72	605	15	2,797
Nurses	1,097	35,223	418	12,693	105	3,525	3,179	38,085	365	94,690
Accountants (not registered)	19,391	6,751	724	266	1,283	237	1,069	140	439	30,300
Journalists/Editors/Writers	1,972	2,351	124	53	55	10	367	70	2	5,004
Physiotherapists/Occupational & Speech Therapists,										
Radiographers	631	5,639	46	598	134	271	751	1,436	0	9,506
Artists & Musicians	4,827	4,566	567	275	398	107	1,186	178	123	12,227
Insurance Agents/ Estate Agents/ Auctioneers	9,540	7,332	1,817	409	737	229	2,973	712	0	23,749
Health Inspectors	1,657	240	153	17	124	13	413	79	123	2,819
Pharmacist's Assistants	186	578	21	42	47	112	205	56	0	1,247
Technician's Assistants	6,429	4,585	1,359	565	608	234	3,344	132	37	17,293
School teachers	18,529	41,177	12,430	22,609	5,906	6,157	47,286	75,893	0	229,987
Priests	9,368	857	958	5	110	44	4,404	157	0	15,903
School Principals/Inspectors	2,459	1,158	1,895	314	426	27	5,368	4,840	0	16,487

Source: Manpower Survey 1990: Occupational Information, Report No. 02-01-01, Pretoria, Central Statistical Service, 1991

APPENDIX TO CHAPTER 2

Table A2.22 Racial division of labour by sector, 1990: artisans

<i>Industrial sector</i>	<i>Whites</i>	<i>Coloureds</i>	<i>Indians</i>	<i>Africans</i>	<i>Race not specified</i>	<i>All races</i>	<i>Vacancy rate</i>
Metal & Engineering	65,802	7,320	2,627	7,189	594	83,532	3,452
Electrical & Electronic	33,143	2,738	1,781	2,486	256	40,404	1,879
Motor Vehicle	27,600	3,267	1,960	4,259	1,159	38,245	1,355
Building	14,292	19,335	3,050	13,983	201	50,661	1,273
Printing	6,105	2,642	1,770	2,085	1	12,603	178
Furniture	859	4,338	537	3,446	0	9,180	65
Jewellers & Goldsmiths	727	375	354	1,106	0	2,562	154
Other	1,070	136	8	41	4	1,259	59

Table A2.23 Racial division of labour by sector, 1990: apprentices

<i>Industrial sector</i>	<i>Whites</i>	<i>Coloureds</i>	<i>Indians</i>	<i>Africans</i>	<i>Race not specified</i>	<i>All races</i>	<i>Vacancy rate</i>
Metal & Engineering	12,385	1,547	804	2,604	126	17,466	460
Electrical & Electronic	7,401	677	333	1,159	178	9,748	254
Motor Vehicle	5,970	692	572	1,213	7	8,454	220
Building	773	3,364	139	6,736	6	11,018	48
Printing	715	291	57	142	2	1,207	28
Furniture	95	244	93	372	0	804	4
Jewellers & Goldsmiths	40	60	15	1,013	0	1,128	0
Other	99	143	6	41	0	289	32

Source: Manpower Survey 1990: Occupational Information, Report No. 02-01-01, Pretoria, Central Statistical Service, 1991

Table A2.24 Racial and sexual division of labour across routine white-collar occupations, 1990

Occupation	Whites		Coloureds		Indians		Africans		Unspecified		Total
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Race/Sex	
Secretary/Typist/Receptionist/ Telephoneist	2,813	110,207	838	9,545	1,013	5,688	1,952	5,504	1,740		139,300
Bookkeeper & Financial Clerk	12,469	65,905	2,843	9,370	4,859	5,430	5,684	3,300	1,337		111,197
Cashier	3,883	23,782	1,118	9,321	1,544	3,337	3,905	11,374	964		59,228
Data Typist/Computer Operator	2,150	6,280	968	1,469	1,228	667	1,009	811	27		14,609
Sales Representative/Agent	39,201	19,984	4,252	1,397	3,645	726	5,534	3,070	685		78,494
Shop & Counter Assistant	5,311	15,647	3,950	10,437	4,170	4,353	11,023	21,709	56		76,656
General Clerk	48,294	128,532	20,663	24,235	16,646	10,462	62,750	25,478	10,381		347,441
Office Machine Operator	285	1,563	451	319	145	74	1,144	350	24		4,355
Postal Sorter & Deliverer	2,170	1,737	1,355	22	582	2	2,136	81	2		8,087
Bus & Train Conductor	5,222	840	564	8	199	0	2,490	0	0		9,323
Messenger	851	180	2,525	855	273	11	12,855	3,120	256		20,926

Source: Manpower Survey 1990: Occupational Information, Report No. 02-01-01, Pretoria, Central Statistical Service, 1991

APPENDIX TO CHAPTER 3

Table A3.1 Employment of artisans, semi-skilled operatives and unskilled labourers in the construction industry, 1965–85

<i>Year</i>	<i>Artisans</i>	<i>Semi-skilled operatives</i>	<i>Unskilled labourers</i>	<i>Total</i>
1965	37,149	13,664	120,138	170,951
1967	48,089	23,573	166,711	238,373
1969	50,835	36,733	203,860	291,428
1971	62,828	57,149	245,885	365,862
1973	72,652	44,808	242,944	360,404
1975	64,231	58,029	253,050	375,310
1977	56,267	122,297	200,992	379,556
1979	55,213	122,037	185,300	362,550
1981	63,699	121,252	191,418	376,369
1983	67,071	90,718	200,030	357,819
1985	55,020	216,835	63,660	335,515

Table A3.2 Relative proportions of artisans, semi-skilled operatives and unskilled labourers in the construction industry, 1965–85 (percentages)

<i>Year</i>	<i>Artisans</i>	<i>Semi-skilled operatives</i>	<i>Unskilled labourers</i>	<i>Total</i>
1965	22	8	70	100
1967	20	10	70	100
1969	17	13	70	100
1971	17	16	67	100
1973	20	12	67	100
1975	17	15	67	100
1977	15	32	53	100
1979	15	34	51	100
1981	17	32	51	100
1983	19	25	56	100
1985	16	65	19	100

Source: Based on my own analysis of the Manpower Survey data tapes

APPENDIX TO CHAPTER 3

Table A3.3. Employment of artisans, semi-skilled operatives and unskilled labourers in the gold mining industry, 1960–90

<i>Year</i>	<i>Artisans & foremen</i>	<i>Semi-skilled operatives</i>	<i>Unskilled labourers</i>	<i>Total</i>
1960	30,260	91,359	262,777	384,396
1970	23,983	105,486	228,373	357,842
1980	26,959	138,498	226,381	391,837
1990	27,619	160,601	198,427	386,647

Source: Adapted from P.Pillay, *Future Developments in the Demand for Labour by the South African Mining Industry*, Geneva, International Labour Office, 1987, p. 7 and *South African Labour Statistics 1993*, Pretoria, Central Statistical Service, 1993

Table A3.4 Relative proportions of artisans, semi-skilled operatives and unskilled labourers in the gold mining industry, 1960–90 (percentages)

<i>Year</i>	<i>Artisans & foremen</i>	<i>Semi-skilled operatives</i>	<i>Unskilled labourers</i>	<i>Total</i>
1960	8	24	68	100
1970	7	29	64	100
1980	7	35	58	100
1990	7	42	51	100

Source: Adapted from P.Pillay, *Future Developments in the Demand for Labour by the South African Mining Industry*, Geneva, International Labour Office, 1987, p. 7 and *South African Labour Statistics 1993*, Pretoria, Central Statistical Service, 1993

Table A3.5 Employment of artisans, semi-skilled operatives and unskilled labourers in the manufacturing industry, 1965–85

<i>Year</i>	<i>Artisans</i>	<i>Semi-skilled operatives</i>	<i>Unskilled labourers</i>	<i>Total</i>
1965	72,127	389,674	300,042	761,843
1967	79,748	428,614	319,265	827,627
1969	81,990	486,691	322,675	891,356
1971	89,170	558,415	340,278	987,863
1973	92,911	580,785	347,395	1,021,091
1975	95,469	618,949	342,828	1,057,246
1977	94,742	630,960	389,171	1,114,873
1979	100,978	627,673	304,884	1,033,535
1981	110,236	685,828	303,822	1,099,886
1983	117,416	674,839	282,475	1,074,730
1985	105,342	743,981	127,834	977,157

Source: Based on my own analysis of the Manpower Survey data tapes

APPENDIX TO CHAPTER 3

Table A3.6 Relative proportions of artisans, semi-skilled operatives and unskilled labourers in the manufacturing industry, 1965–85 (percentages)

<i>Year</i>	<i>Artisans</i>	<i>Semi-skilled operatives</i>	<i>Unskilled labourers</i>	<i>Total</i>
1965	9	51	39	100
1967	10	52	39	100
1969	9	55	36	100
1971	9	57	34	100
1973	9	57	34	100
1975	9	59	32	100
1977	8	57	35	100
1979	10	61	29	100
1981	10	62	28	100
1983	11	63	26	100
1985	11	76	13	100

Source: Based on my own analysis of the Manpower Survey data tapes

APPENDIX TO CHAPTER 5

Table A5.1 Employment in routine computer operations, 1979–90

<i>Year</i>	<i>Data capturing operator</i>	<i>Computer operator</i>	<i>Data capturer & computer operator</i>	<i>Other routine clerical</i>	<i>All clerical occupations</i>
1979	9,026	6,577	15,603	628,828	644,431
1981	11,744	5,253	16,997	640,138	657,135
1983	14,533	7,525	22,058	676,971	699,029
1985	19,139	8,972	28,111	641,481	669,592
1987	15,268	13,073	28,341	705,804	734,145
1989	14,150	13,938	28,088	656,915	685,003
1990	12,488	14,582	27,070	650,287	677,357

Source: Manpower Surveys

Table A5.2 The supply of and demand for routine white-collar labour, 1960–85

<i>Year</i>	<i>Supply of labour with Std.8–10 Schooling</i>					<i>Demand</i>
	<i>Africans</i>	<i>Coloureds</i>	<i>Indians</i>	<i>All blacks</i>	<i>Whites</i>	
1960	88,350	27,670	21,243	132,890	846,967	519,900
1970	265,820	79,730	67,730	405,980	1,426,100	711,488
1980	787,400	198,920	158,740	1,145,060	1,882,120	1,098,631
1985	1,224,245	313,536	210,666	1,748,447	1,903,181	1,084,028

Sources: The data for the supply of labour were adapted from the following official reports: *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32–A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23–A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14. Estimates of the demand for labour were derived from the Manpower Survey results. The Transkei, Bophuthatswana, Venda and Ciskei are excluded

Table A5.3 Routine white-collar employment by race and sex, 1965–90

Year	Africans		Coloureds		Indians		Whites		Total
	Men	Women	Men	Women	Men	Women	Men	Women	
1965	79,497	9,928	21,745	9,344	24,125	1,817	201,738	234,919	583,113
1967	85,912	12,693	23,225	11,638	24,348	2,796	197,235	236,349	594,196
1969	93,544	15,461	26,096	14,499	27,963	3,362	204,126	262,991	648,042
1971	114,858	22,498	30,573	19,971	44,184	8,371	234,387	326,345	801,187
1973	130,460	26,899	34,944	26,924	45,448	9,036	218,324	331,695	823,730
1975	131,100	27,029	37,930	36,159	47,191	15,283	219,115	357,097	870,904
1977	170,606	40,408	47,705	40,568	50,962	16,466	215,937	371,434	954,086
1979	159,841	54,635	45,780	49,650	51,504	20,999	210,208	391,909	984,526
1981	172,798	65,338	42,548	50,303	47,752	22,948	195,404	403,556	1,000,647
1983	182,464	85,023	50,006	65,898	48,794	24,842	193,398	400,927	1,051,352
1985	180,561	96,506	49,371	74,751	45,817	24,033	179,400	387,379	1,037,818
1987	183,592	103,362	51,785	73,027	50,288	29,006	212,868	423,802	1,127,730
1989	270,137	217,497	60,652	100,091	47,692	37,533	157,387	410,993	1,301,982
1990	161,112	123,298	49,105	76,581	40,905	30,061	129,734	344,793	955,590

Source: My own analysis of the Manpower Survey data tapes

APPENDIX TO CHAPTER 5

Table A5.4 Level of education of the African population, 1960–85

<i>Level of education</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1985</i>
Unknown	64,278	6,820	0	28,590
None ¹	7,377,792	8,569,720	8,156,800	5,640,595
Sub A – Std 5	2,918,938	5,267,720	6,340,680	6,469,927
Std 6 & 7	432,676	883,540	1,556,880	1,709,651
Std 8 – 10 ²	88,350	265,820	787,400	1,224,245
Matric Only	14,421	39,780	133,240	296,897
Pre-Matric Diploma	0	32,780	47,620	39,903
Post-Matric Diploma or Degree ³	45,888	9,960	34,380	49,929
Total	10,927,922	15,036,360	16,923,760	15,162,840

Sources: Based on *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14

Notes: 1 Data for 1980 include ‘unknown’ educational level

2 Data for 1960 and 1970 include individuals with diplomas and degrees

3 Data for 1960 include individuals with part of a pre- or post-matric diploma or degree

Table A5.5 Level of education of the coloured population, 1960–85

<i>Level of education</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1985</i>
Unknown	20,412	4,960	0	6,332
None ¹	710,192	770,310	819,880	730,062
Sub A – Std 5	591,073	904,860	1,145,320	1,218,861
Std 6 & 7	146,460	246,750	413,340	505,874
Std 8 – 10 ²	27,670	79,730	198,920	313,536
Matric Only	8,429	19,090	42,540	78,784
Pre-Matric Diploma	0	0	15,900	24,590
Post-Matric Diploma or Degree ³	13,451	14,820	19,420	33,450
Total	1,509,258	2,021,430	2,612,780	2,832,705

Sources: Based on *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14

Notes: 1 Data for 1980 include ‘unknown’ educational level

2 Data for 1960 and 1970 include individuals with diplomas and degrees

3 Data for 1960 include individuals with part of a pre- or post-matric diploma or degree

APPENDIX TO CHAPTER 5

Table A5.6 Level of education of the Indian population, 1960–85

<i>Level of education</i>	<i>1960</i>	<i>1970</i>	<i>1980</i>	<i>1985</i>
Unknown	13,048	2,150	0	3,187
None ¹	178,709	178,910	214,560	162,567
Sub A – Std 5	207,429	254,530	268,840	245,734
Std 6 & 7	56,696	114,820	156,700	162,116
Std 8 – 10 ²	16,960	60,430	158,740	210,666
Matric Only	6,517	20,160	52,340	81,217
Pre-Matric Diploma	0	0	4,060	7,229
Post-Matric Diploma or Degree ³	4,283	7,300	18,420	29,862
Total	477,125	618,140	821,320	821,361

Sources: Based on *Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964, pp. A:32-A:37; *Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972, pp. A:23-A:26; *South African Statistics 1982*, Pretoria, Central Statistical Services, 1982, p. 1:26; *South African Statistics 1990*, Pretoria, Central Statistical Service, 1990, pp. 1:13–1:14

Notes: 1 Data for 1980 include ‘unknown’ educational level

2 Data for 1960 and 1970 include individuals with diplomas and degrees

3 Data for 1960 include individuals with part of a pre- or post-matric diploma or degree

Table A5.7 Nursing employment by race, 1946–91

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1946	3,125	401	33	11,667	15,226
1960	13,916	1,826	318	19,517	35,577
1970	17,182	3,491	512	19,068	40,253
1980	20,448	5,357	1,087	22,475	49,367
1985	29,341	8,858	1,626	25,136	64,961
1991	38,433	11,610	2,301	31,315	83,659

Sources: *Population Census, 7 May 1946, Volume V: Occupations and industries of the European, Asiatic, Coloured and Native Population*, U.G.41/1954, Pretoria, Union of South Africa, 1955; *Population Census, 6 September 1960, Vol. 8, No. 1: Occupations (by income, work status, industry and identity of employer)*, Pretoria, Department of Statistics, 1969; *Population Census 1970, Report No. 02–05–04: Occupations (income, industry and identity)*, Pretoria, Department of Statistics, 1975; *Population Census 80, Report No. 02–80–11: Economic characteristics*, Pretoria, Central Statistical Services, 1985; *Population Census 1985, Report No. 02–85–07: Economic characteristics (statistics according to occupation, industry and identity of employer)*, Pretoria, Central Statistical Services, 1986; *Population Census 1991, Report No. 03–01–08: Occupation by development region, statistical region and district*, Pretoria, Central Statistical Service, 1992

APPENDIX TO CHAPTER 5

Table A5.8 Nursing employment by race, 1965–90

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1965	12,543	3,718	325	20,332	36,918
1967	15,134	2,257	389	18,735	36,515
1969	16,295	2,987	392	20,272	39,946
1971	24,919	4,077	1,273	23,989	54,258
1973	24,765	4,934	584	24,533	54,816
1975	28,474	5,944	1,016	26,893	62,327
1977	33,301	8,154	1,473	32,680	75,608
1979	25,110	10,929	2,838	32,932	71,809
1981	29,681	9,398	1,007	30,407	70,493
1983	29,772	11,284	1,155	32,200	74,411
1985	19,472	7,366	1,780	28,413	57,031
1987	23,762	7,434	1,885	29,852	62,933
1989	44,001	12,233	3,602	36,508	96,344
1990	40,423	13,163	2,949	36,463	92,997

Source: Published and unpublished Manpower Survey data

APPENDIX TO CHAPTER 5

Table A5.9 Employment of school teachers by race, 1958–89

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1958		8,263	3,194	25,960	37,417
1959	–	8,687	3,522	26,664	38,873
1960	–	9,326	3,778	27,477	40,581
1961	–	9,801	3,940	28,084	41,825
1962	26,554	10,443	4,157	28,675	69,829
1963	29,969	11,356	4,347	29,236	74,908
1964	27,219	11,921	4,652	30,726	74,518
1965	26,374	12,486	4,957	31,817	75,634
1966	27,843	13,051	5,262	32,908	79,064
1967	29,517	13,616	5,567	33,999	82,699
1968	31,338	14,383	5,741	34,969	86,431
1969	40,297	15,576	5,999	35,775	97,647
1970	42,265	16,355	6,028	39,190	103,838
1971	49,488	17,085	6,214	40,183	112,970
1972	53,334	18,174	6,427	42,038	119,973
1973	57,433	18,651	6,474	40,189	122,747
1974	61,957	19,682	6,642	40,868	129,149
1975	67,841	20,720	6,835	41,755	137,151
1976	62,706	22,005	6,936	42,704	134,351
1977	69,469	23,142	7,260	43,954	143,825
1978	66,146	24,304	7,594	44,993	143,037
1979	71,423	25,319	8,224	45,652	150,618
1980	74,208	26,348	8,666	47,276	156,498
1981	82,121	27,144	9,041	48,314	166,620
1982	82,200	28,039	9,373	49,253	168,865
1983	89,742	29,215	9,733	49,946	178,636
1984	95,539	30,503	10,167	50,446	186,655
1985	101,790	31,425	10,394	49,335	192,944
1986	111,870	34,597	11,282	54,783	212,532
1987	114,836	34,839	11,282	54,789	215,746
1988	146,122	45,459	13,217	74,023	278,821
1989	153,494	46,167	13,086	70,214	282,961

Sources: South African Statistics 1988, Pretoria, Central Statistical Service, 1988, pp. 5:5–5:12 and South African Statistics 1990, Pretoria, Central Statistical Service, 1990, pp. 5:2–5:5

Table A5.10 Employment of school teachers by race and sex, 1965–90

Year	Africans		Coloureds		Indians		Whites		All races		
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Both Sexes
1965	19,559	16,034	6,828	6,319	3,737	1,491	16,427	22,180	46,551	46,024	92,575
1967	13,893	14,732	8,266	6,401	3,904	1,681	16,733	23,533	42,796	46,347	89,143
1969	14,772	13,203	9,005	7,906	3,998	1,696	19,312	25,215	47,087	48,020	95,107
1971	15,903	15,888	9,516	7,508	4,347	2,037	20,775	32,527	50,541	57,960	108,501
1973	15,680	15,600	8,127	11,680	4,513	2,240	22,911	34,829	51,231	64,349	115,580
1975	9,093	16,614	12,064	10,373	4,668	2,545	24,686	32,871	50,511	62,403	112,914
1977	13,044	22,138	10,005	16,341	4,852	2,906	24,734	34,690	52,635	76,075	128,710
1979	12,288	22,054	11,083	19,200	4,997	3,440	27,699	41,502	56,067	86,196	142,263
1981	13,713	25,161	11,096	18,669	5,450	4,161	24,614	43,276	54,873	91,267	146,140
1983	14,957	28,794	11,127	18,187	5,651	4,465	20,723	44,431	52,458	95,877	148,335
1985	16,004	30,501	12,168	18,919	5,999	4,808	21,357	47,080	55,528	101,308	156,836
1987	40,682	66,948	13,375	20,588	6,780	5,584	22,832	51,624	83,669	144,744	228,413
1989	40,700	65,564	12,120	20,752	6,284	6,246	22,610	45,784	81,714	138,346	220,060
1990	47,285	75,725	12,292	21,324	5,905	6,129	18,485	36,766	83,967	139,944	223,911

Source: Published and unpublished Manpower Survey data

APPENDIX TO CHAPTER 5

Table A5.11 Pupil enrolment by race, 1958–89

<i>Year</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All races</i>
1958		271,935	109,255	614,178	995,368
1959		286,163	117,055	630,509	1,033,727
1960	1,499,844	301,464	124,530	645,546	2,571,384
1961	1,603,196	320,619	128,825	658,271	2,710,911
1962	1,678,388	340,759	135,124	671,798	2,826,069
1963	1,764,150	360,598	139,630	681,663	2,946,041
1964	1,844,782	385,057	147,661	698,383	3,075,883
1965	1,950,558	390,123	152,697	714,318	3,207,696
1966	2,104,643	408,983	155,913	732,283	3,401,822
1967	2,233,504	427,043	154,409	737,213	3,552,169
1968	2,387,991	457,273	156,568	751,411	3,753,243
1969	2,542,365	493,705	160,183	762,971	3,959,224
1970	2,737,450	512,144	162,330	807,244	4,219,168
1971	2,916,519	535,659	169,084	819,459	4,440,721
1972	3,079,507	560,179	173,492	828,964	4,642,142
1973	3,286,499	586,252	176,916	839,960	4,889,627
1974	3,486,261	613,396	181,272	846,548	5,127,477
1975	3,697,441	633,517	183,594	861,318	5,375,870
1976	3,287,820	657,851	188,168	879,506	5,013,345
1977	3,469,432	683,553	195,480	895,348	5,243,813
1978	3,228,326	719,336	205,096	904,681	5,057,439
1979	3,464,866	740,685	212,749	911,590	5,329,890
1980	3,532,233	756,643	217,580	915,797	5,422,253
1981	3,698,490	757,723	221,219	921,073	5,598,505
1982	3,641,726	762,373	224,588	929,775	5,558,462
1983	3,836,149	774,738	227,190	939,049	5,777,126
1984	4,016,755	790,419	230,532	939,607	5,977,313
1985	4,194,441	798,060	233,002	938,581	6,164,084
1986	4,377,161	808,587	230,351	928,336	6,344,435
1987	4,670,235	822,858	229,588	918,293	6,640,974
1988	5,006,448	839,941	241,075	986,953	7,074,417
1989	5,136,435	852,235	241,749	977,411	7,207,830

Sources: *South African Statistics* 1988, Pretoria, Central Statistical Service, 1988, pp. 5:5–5:12 and *South African Statistics* 1990, Pretoria, Central Statistical Service, 1990, pp. 5:2–5:5

APPENDIX TO CHAPTER 6

Table A6.1 Trends in the African/white wage gap, 1960–89

<i>Average African wages as a proportion of average white wages (percentage)</i>			
<i>Years</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Mining</i>
1960	18.62	17.69	6.33
1961	18.83	17.45	6.09
1962	18.72	17.21	6.16
1963	19.29	17.26	6.07
1964	19.96	17.68	5.99
1965	19.43	18.37	6.01
1966	19.00	16.77	5.92
1967	18.46	16.58	5.62
1968	18.68	17.09	5.36
1969	17.85	15.60	5.28
1970	17.18	15.40	5.06
1971	16.60	15.00	4.99
1972	16.96	16.09	5.51
1973	18.46	17.52	6.11
1974	19.60	18.91	8.01
1975	20.74	20.40	11.64
1976	22.09	20.08	12.34
1977	22.79	19.36	12.97
1978	23.20	17.99	13.80
1979	23.33	18.05	14.75
1980	23.45	18.65	16.53
1981	23.97	18.19	17.17
1982	24.45	18.24	17.73
1983	25.04	19.41	18.65
1984	25.00	20.07	18.96
1985	25.21	21.26	–
1986	26.08	20.42	–
1987	27.25	20.51	–
1988	28.53	20.53	–
1989	28.97	19.89	–

Source: Calculated from data in J.Hofmeyr, 'The Rise in African Wages in South Africa After 1970', Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3

APPENDIX TO CHAPTER 6

Table A6.2 Average annual wages by race, 1960–89 (1975 Rands)

Year	Manufacturing			Construction			Mining		
	Africans	Whites	All races	Africans	Whites	All races	Africans	Whites	All races
1960	744	3,996	1,697	683	3,860	1,434	315	4,974	824
1961	763	4,052	1,712	657	3,766	1,391	301	4,945	796
1962	763	4,076	1,705	717	4,167	1,522	308	4,997	818
1963	808	4,189	1,755	685	3,969	1,455	307	5,059	825
1964	882	4,419	1,837	810	4,582	1,703	312	5,213	835
1965	901	4,638	1,896	859	4,675	1,771	323	5,371	855
1966	919	4,837	1,981	847	5,051	1,800	330	5,576	881
1967	917	4,967	2,009	852	5,138	1,811	331	5,890	919
1968	971	5,197	2,113	932	5,455	1,911	336	6,263	937
1969	947	5,305	2,106	903	5,790	1,897	340	6,441	959
1970	970	5,647	2,173	914	5,936	1,902	339	6,695	955
1971	985	5,933	2,234	928	6,188	1,933	335	6,714	942
1972	1,013	5,973	2,268	1,025	6,371	2,034	369	6,698	988
1973	1,095	5,931	2,296	1,095	6,250	2,007	441	7,223	1,064
1974	1,199	6,116	2,370	1,131	5,980	1,989	613	7,655	1,280
1975	1,272	6,132	2,436	1,236	6,060	2,076	888	7,632	1,572
1976	1,349	6,107	2,503	1,198	5,966	2,018	949	7,693	1,629
1977	1,380	6,055	2,537	1,195	6,172	2,060	972	7,493	1,613
1978	1,418	6,111	2,556	1,173	6,522	2,101	1,033	7,485	1,663
1979	1,455	6,236	2,600	1,137	6,298	1,957	1,068	7,242	1,687
1980	1,529	6,519	2,692	1,217	6,526	2,033	1,169	7,070	1,788
1981	1,605	6,696	2,767	1,221	6,714	2,041	1,245	7,251	1,876
1982	1,656	6,773	2,834	1,245	6,825	2,062	1,291	7,282	1,944
1983	1,698	6,781	2,892	1,350	6,955	2,196	1,304	6,992	1,940
1984	1,715	6,859	2,925	1,366	6,806	2,195	1,362	7,183	1,986
1985	1,648	6,537	2,837	1,355	6,372	2,131	–	–	1,940
1986	1,615	6,193	2,725	1,243	6,086	1,981	–	–	1,889
1987	1,665	6,111	2,708	1,179	5,749	1,842	–	–	1,934
1988	1,782	6,246	2,811	1,240	6,039	1,921	–	–	2,048
1989	1,831	6,321	2,865	1,172	5,892	1,857	–	–	2,093

Source: J., Hofmeyr, 'The Rise in African Wages in South Africa After 1970', Unpublished PhD thesis, Durban, University of Natal, 1993, Appendix 1, Table A3

APPENDIX TO CHAPTER 6

Table A6.3 Wage differences between unskilled and semi-skilled African workers employed in British-owned companies in South Africa, 1973¹

<i>Average wages (Rands)²</i>	<i>Semi-skilled wage as a proportion of unskilled wage</i>	<i>Proportion of semi- skilled operatives³</i>	<i>Company names</i>	
<i>Unskilled</i>	<i>Semi- skilled</i>			
0.38	0.99	2.6	3	South Wales Electric, Kempton Park (p. 3)
0.38	0.64	1.7	56	South Wales Transformers (p. 5)
0.31	0.37	1.2	83	ECC SA (p. 6)
63.24	69.19	1.1	24	Albright & Wilson (p. 8)
0.39	0.55	1.4	37	Amalgamated Power Engineering (p. 10)
15.86	24.32	1.5	12	Automotive & Girling (p. 13)
17.55	28.55	1.6	11	Girling Division of Joseph Lucas (p. 14)
15.73	20.66	1.3	15	Automotive Products of SA (p. 15)
14.50	27.20	1.9	50	Albert Vaux, Johannesburg (p. 26)
13.46	22.00	1.6	45	Albert Vaux, Durban (p. 26)
18.35	23.40	1.3	23	Albert Vaux, Port Elizabeth (p. 26)
14.50	20.69	1.4	17	Exner-Dickinson (p. 30)
99.53	101.60	1.0	40	Boots Company (p. 31)
64.92	79.13	1.2	14	Scottish Cables SA (p. 34)
91.00	115.50	1.3	27	BICC SA (p. 35)
54.71	105.51	1.9	12	Kilpatrick SA (p. 36)
46.90	71.70	1.5	48	Electric Transmission of SA (p. 36)
0.31	0.35	1.1	50	Haggie Rand (p. 42)
86.41	121.70	1.4	51	Brooke Bond Liebig, Pretoria (p. 47)
80.36	133.22	1.7	29	Brooke Bond Liebig, Johannesburg (p. 47)
88.28	93.82	1.1	22	Brooke Bond Liebig, Durban (p. 48)
83.25	110.15	1.3	47	Brooke Bond Liebig, PE (p. 48)
73.28	93.76	1.3	31	Castrol SA, Isando (p. 64)
88.82	126.43	1.4	25	Castrol SA, Cape Town (p. 64)
68.80	106.81	1.6	20	Castrol SA, Durban (p. 65)
82.41	76.69	0.9	20	Castrol SA, PE (p. 65)
83.65	97.88	1.2	33	Burmah-Castrol SA (p. 66)
78.25	103.49	1.3	39	Expandite-Rawlplug SA (p. 66)
67.00	112.00	1.7	28	Brooklyn Laboratories, Natal (p. 70)
66.00	63.00	1.0	20	Brooklyn Laboratories, Transvaal (p. 71)
0.28	0.40	1.4	43	Chubb Lock & Safe Co. (p. 80)
0.36	0.38	1.0	60	Josiah Parkes & Sons SA (p. 100)
0.35	0.44	1.3	89	Automatic Burglar Alarms (p. 101)
19.47	26.21	1.0	21	J&P Coats SA (pp. 119 & 122)
19.27	25.26	1.3	23	P&B SA (p. 119 & 122)
0.43	0.56	1.3	49	George Cohen 600 (pp. 132-3)
17.92	26.12	1.5	9	John Dickinson & Co. (p. 146)
18.68	23.36	1.3	20	Sellotape & Adhesive Products (p. 149)
0.36	0.74	2.0	13	Cold Air Installation (p. 154)
0.37	0.41	1.1	33	Eveready SA (p. 200)
18.01	20.70	1.1	28	Glaxo-Allenburys, Wadeville (p. 204)
79.64	106.81	1.3	36	Hawker Siddeley Electric Africa (p. 214)
74.00	84.23	1.1	84	Hawker Siddeley Electric ATW (p. 215)

APPENDIX TO CHAPTER 6

Table A6.3. (continued)

Average wages (Rands) ²		Semi-skilled wage as a proportion of unskilled wage	Proportion of semi- skilled operatives ³	Company names
Unskilled	Semi- skilled			
0.32	0.40	1.3	38	Compair SA, Wadeville (p. 242)
99.76	130.00	1.3	44	George Kent (p. 246)
11.93	26.04	2.2	6	Marley (p. 263)
117.00	132.00	1.1	53	Philips Electronic & Assoc. Industries (p. 274)
16.71	21.46	1.3	74	Reckitt & Colman (pp. 285-7)
84.00	106.00	1.3	17	Reed International (p. 292)
70.00	79.16	1.1	27	Polyfoil Packaging (p. 297)
71.00	76.19	1.1	55	Twyfords SA (p. 298)
88.00	160.00	1.8	16	Paper & Packaging Industries, Rosslyn (p. 298)
0.26	0.35	1.3	8	Simon-Carves (Africa) (p. 309)
67.00	116.80	1.7	36	Parkinson Cowan (p. 331)
58.00	65.00	1.1	94	Armstrong Hydraulics (p. 351)
25.15	70.48	2.8	7	Babcock & Wilson (p. 370)
18.00	31.77	1.8	20	Triplejay Equipment, Durban (p. 372)
21.90	55.10	2.5	18	Triplejay Equipment, Elandsfontein (p. 373)
29.00	35.00	1.2	31	Barton & Sons (p. 383)
18.00	25.02	1.4	15	United Tobacco Co. (p. 409)
20.29	33.38	1.6	19	Willards Foods (p. 418)
20.44	35.71	1.7	36	Pirie Appleton & Co. Johannesburg (p. 424)
18.16	23.86	1.3	32	Wiggins Teape Converters, Springs (p. 433)
16.86	19.95	1.2	54	British Flexible Packaging, Springs (p. 434)
18.00	23.25	1.3	15	Custom Packaging, Johannesburg (p. 435)
0.35	0.60	1.7	13	Grayston Plant Hire, Kempton Park (p. 451)
0.60	0.75	1.3	30	Grayston Plant Hire, Turfontein (p. 451)
16.97	22.49	1.3	8	The Lion Match Co., Durban (p. 457)
13.57	20.57	1.5	8	The Lion Match Co., Rosslyn (p. 459)
18.67	23.80	1.3	68	Interprint (p. 464)
0.44	0.77	1.8	6	David Brown Gear Industries (p. 480)
19.00	30.00	1.6	29	W.S. Thomas & Taylor (p. 488)
19.00	25.00	1.3	16	Cummins Diesel SA (p. 491)
86.37	116.46	1.3	2	Consolidated Brassfoundry (p. 538-9)
88.53	95.91	1.1	69	Fusegear (pp. 538-9)
82.83	97.47	1.2	45	Marthinusen and Coutts (pp. 538-9)
76.44	107.48	1.4	60	Switchboards (pp. 538-9)
105.74	148.41	1.4	6	Marthinusen (pp. 538-9)
93.86	112.14	1.2	42	Delta repetition Components (pp. 538-9)
121.16	160.63	1.3	32	Bonnycan Electric (pp. 538-9)
14.62	25.02	1.7	15	Fodens (p. 548)
15.82	16.60	1.0	5	Glynwed, Durban (p. 560)
15.59	45.14	2.9	4	Glynwed, Newcastle (p. 561)
14.86	19.72	1.3	8	Glynwed, Pinetown (p. 562)

APPENDIX TO CHAPTER 6

Table A6.3. (continued)

Average wages (Rands) ²		Semi-skilled wage as a proportion of unskilled wage	Proportion of semi- skilled operatives ³	Company names
Unskilled	Semi- skilled			
82.25	102.94	1.3	15	Guest Keen & Nettlefolds (facing p. 579)
0.44	0.72	1.6	16	Hall Thermotank, Johannesburg (p. 588)
0.36	0.54	1.5	9	Hall Thermotank, Durban (p. 588)
0.40	0.67	1.7	5	Searle Bush Africa, Johannesburg (p. 588)
1171.69	1656.50	1.4	11	Lamson Paragon SA, Johannesburg (p. 603)
1177.84	1312.00	1.1	40	Caribonum SA (p. 605)
993.00	2100.00	2.1	29	Lamson Engineering SA, Johannesburg (p. 606)
948.13	1644.92	1.7	30	Transcarbon, Johannesburg (p. 606)
81.44	92.53	1.1	16	Associated Lead, Durban (p. 611)
73.28	105.21	1.4	18	Fergusson Paints, Durban (p. 612)
78.25	100.76	1.3	27	Fry's Metals, Germiston (p. 614)
86.70	93.81	1.1	10	Fry's Metals, Cape Town (p. 614)
91.04	115.53	1.3	52	Manbre & Garton, Germiston (p. 634)
76.30	129.56	1.7	8	Manbre & Garton, Meyerton (p. 635)
89.53	121.54	1.4	19	Manbre & Garton, Bellville (p. 635)
680.00	953.28	1.4	53	Mather & Platt, Elandsfontein (p. 636)
772.00	1029.20	1.3	42	Mather & Platt, Durban (p. 636)
702.00	1122.00	1.6	12	Reliance Fire Fighting Eq., Johannesburg (p. 638)
80.99	104.00	1.3	11	Mitchell Cotts (pp. 645-6)
52.00	86.11	1.7	19	Cerebos, Merebank (pp. 682-3)
59.59	148.67	2.5	22	Cerebos, Alberton (pp. 683-4)
29.88	67.70	2.3	7	Cerebos, Port Elizabeth (p. 687)
19.25	30.29	1.6	20	Reyrolle Parsons SA (p. 703)
19.09	39.35	2.1	1	Rowntree Mackintosh (p. 707)
19.99	44.66	2.2	13	Smith & Nephew (p. 725)
53.95	106.53	2.0	60	Stone-Stamcor (pp. 735-6)
27.00	37.94	1.4	48	Benoni Jig & Tools (pp. 736-7)
29.50	69.67	2.4	39	Greenham Plant Hire (p. 746)
15.57	30.34	1.9	5	Trafalgar House Investments (p. 748)
15.41	24.15	1.6	-	Turners Asbestos Products (p. 760)
14.95	21.62	1.4	-	Turners Engineering Products (p. 761)
15.61	19.00	1.2	-	British Industrial Plastics (p. 762)
22.87	39.15	1.7	-	Flexitallic Gaskets Africa (p. 762)
18.66	28.00	1.5	-	Motobrake (p. 762)
97.35	132.95	1.4	22	Wellcome Foundation (p. 764)
98.12	192.68	2.0	28	Beecham SA (p. 779)
77.85	93.00	1.2	11	Hoover SA, East London (p. 786)
71.00	144.75	2.0	6	James Howden & Safanco (p. 789)
116.00	144.00	1.2	15	Attack Engineering (p. 789)
114.00	133.71	1.2	32	Godfrey Engineering SA (p. 789)
Average semi- Skilled/unskilled wage ratio		1.5		

APPENDIX TO CHAPTER 6

Source: Wages and Conditions of African Workers Employed by British Firms in South Africa, Volumes 3 and 4: Memoranda Parts I and II, London, HMSO, 1973

- Notes:* 1 The average wages are calculated from actual employment levels of unskilled and semi-skilled African workers and not from the wage scales alone. I have identified unskilled and semi-skilled workers according to job descriptions and not management definitions, since semi-skilled workers are often classified as 'skilled';
 2 Remuneration rates are either hourly or monthly rates;
 3 The proportion of the African workforce employed in semi-skilled work

Table A6.4 African employment in unskilled and semi-skilled jobs, 1965-90

Year	Employment			Percentages		
	Unskilled	Semi-skilled	Unskilled & semi-skilled	Unskilled	Semi-skilled	Total
1965	1,227,608	259,951	1,487,559	82.5	17.5	100.0
1967	1,345,532	288,225	1,633,757	82.4	17.6	100.0
1969	1,386,253	362,035	1,748,288	79.3	20.7	100.0
1971	1,491,798	475,600	1,967,398	75.8	24.2	100.0
1973	1,480,453	485,450	1,965,903	75.3	24.7	100.0
1975	1,456,810	536,087	1,992,897	73.1	26.9	100.0
1977	1,551,894	629,132	2,181,026	71.2	28.8	100.0
1979	1,489,167	576,319	2,065,486	72.1	27.9	100.0
1981	1,514,031	661,122	2,175,153	69.6	30.4	100.0
1983	1,310,885	695,705	2,006,590	65.3	34.7	100.0
1985	1,014,921	868,523	1,883,444	53.9	46.1	100.0
1987	1,426,705	610,129	2,036,834	70.0	30.0	100.0
1989	1,445,644	753,284	2,198,928	65.7	34.3	100.0
1990	1,549,841	764,337	2,314,177	67.0	33.0	100.0

Source: My own analysis of the data tapes of the Manpower Surveys

Note: The mining occupations of Rock-breaker, Reduction Worker/Processing and Recovery Worker, Mining Support Services (Underground) and Mining Support Services (Surface) have been classified as Unskilled. This is likely to underestimate the numbers of semi-skilled workers

NOTES

RACE, CLASS AND THE DIVISION OF LABOUR

- 1 H.Wolpe, 'The Changing Class Structure of South Africa: The African petitbourgeoisie', in P.Zarembka (ed.) *Research in Political Economy Volume 1: An annual compilation of research*, Greenwich, Connecticut, JAI Press, 1977, pp. 143–74; C.Simkins and D.Hindson, 'The Division of Labour in South Africa, 1969–1977', *Social Dynamics* 5(2), 1979, pp. 1–12.
- 2 O.Crankshaw, 'Apartheid and Economic Growth: Craft unions, capital and the state in the South African building industry', *Journal of Southern African Studies* 16(3), 1990, pp. 503–26; S.Greenberg, *Race and State in Capitalist Development: South Africa in comparative perspective*, Johannesburg, Ravan Press, 1980; D. Hindson, *Pass Controls and the Urban African Proletariat in South Africa*, Johannesburg, Ravan Press, 1987; J.Lewis, *Industrialisation and Trade Union Organisation in South Africa, 1924–55: The rise and fall of the South African Trades and Labour Council*, Cambridge, Cambridge University Press, 1984; M. Lipton, *Capitalism and Apartheid: South Africa, 1910–1986*, Claremont, David Philip, 1985; D.Posel, *The Making of Apartheid, 1948–1961: Conflict and compromise*, Oxford, Clarendon Press, 1991; E.Webster, *Cast in a Racial Mould: Labour process and trade unionism in the foundries*, Johannesburg, Ravan Press, 1985; H.Wolpe, *Race, Class and the Apartheid State*, London, James Currey, 1988.
- 3 C.Charney, 'Janus in Blackface? The African petite bourgeoisie in South Africa', *Con-Text* 1, 1988, pp. 5–44; R.Davies, *Capital, State and White Labour in South Africa, 1900–1960: An historical materialist analysis of class formation and class relations*, Brighton, The Harvester Press, 1979; P.Hudson and M.Sarakinsky 'Class Interests and Politics: The case of the urban African bourgeoisie', *South African Review III*, Braamfontein, Ravan Press, 1986, pp. 169–85; B.Nzimande, 'Managers and the New Middle Class', *Transformation* 1, 1986, pp. 39–62; B. Nzimande, 'The Corporate Guerillas: Class formation and the African corporate petty bourgeoisie in post-1973 South Africa', Unpublished Doctoral Thesis, Durban, University of Natal, 1991; B.Nzimande, 'Class, National Oppression and the African Petty Bourgeoisie: The case of African traders', in R.Cohen (ed.) *Repression and Resistance: Insider accounts of Apartheid*, London, Hans Zell, 1990, pp. 165–210; M.Sarakinsky, 'The Ideology and Politics of African Capitalists', *Africa Perspective* 1(3 and 4), 1987, pp. 43–61.
- 4 N.Natras, 'Controversies About Capitalism and Apartheid in South Africa: An economic perspective', *Journal of Southern African Studies* 17(4), 1991, p. 656.
- 5 M.Lipton, 'British Investment in South Africa: Is constructive engagement possible?', *South African Labour Bulletin* 3(3), 1976, pp. 10–18; M.O'Dowd, 'The Stages of Economic Growth and the Future of South Africa', in L. Schlemmer

- and E. Webster (eds) *Change, Reform and Economic Growth in South Africa*, Johannesburg, Ravan Press, 1978, p. 37; D. Yudelman, 'Industrialisation, Race Relations and Change in South Africa: An ideological and academic debate', *African Affairs* 74(294), 1975, p. 92.
- 6 A. Asheron, 'Race and Politics in South Africa', *New Left Review* 53, 1969, pp. 55–67; F. Johnstone, 'White Prosperity and White Supremacy in South Africa Today', *African Affairs* 69(274), 1970, pp. 124–40; H. Wolpe, 'Capitalism and Cheap Labour in South Africa: From segregation to apartheid', *Economy and Society* 1(4), 1972, pp. 425–56.
 - 7 D. Posel, 'Rethinking the "Race-Class Debate" in South African Historiography' *Social Dynamics* 9(1), 1983, p. 50.
 - 8 Wolpe, *Race, Class and the Apartheid State*, p. 75–6.
 - 9 J. Hofmeyr, 'Black Wages: The post-war experience', in N. Nattrass and E. Ardington (eds) *The Political Economy of South Africa*, Cape Town, Oxford University Press, 1990, pp. 129–47; M. McGrath, 'Economic Growth and the Distribution of Racial Incomes in the South African Economy', *South Africa International* 15(4), 1985, pp. 226–8; J. Nattrass, 'The Narrowing of Wage Differentials in South Africa', *South African Journal of Economics* 45(4), 1977, pp. 408–32.
 - 10 R. Davies, 'Capital Restructuring and the Modification of the Racial Division of Labour in South Africa', *Journal of Southern African Studies* 5(2), 1979, p. 194; M. Legassick and D. Innes, 'Capital Restructuring and Apartheid: A critique of constructive engagement', *African Affairs* 76, 1977, pp. 448–9; S. Nolutshungu, *Changing South Africa: Political considerations*, Cape Town, David Philip, 1983, p. 116; S. Trapido, 'South Africa in a Comparative Study of Industrialization', *Journal of Development Studies* 7(3), 1971, pp. 316–17.
 - 11 H. Wolpe, 'South Africa: Class, race and the occupational structure', Collected Seminar Paper No. 12, *The Societies of Southern Africa in the 19th and 20th Centuries, Volume 2*, London, Institute of Commonwealth Studies, University of London, 1971, pp. 98–119; Wolpe, 'The Changing Class Structure of South Africa', pp. 143–74.
 - 12 A. Roukens de Lange, *Manpower Demand and Supply in South Africa: A study of trends and interactions with the economy*, Stellenbosch, Institute for Futures Research, University of Stellenbosch, 1992.
 - 13 *Report of the National Manpower Commission on High-level Manpower in South Africa*, RP 113/1980, Pretoria, Department of Manpower Utilisation, Government Printer, 1980; *Report of the National Manpower Commission on High-level and Middle-level Manpower in South Africa: Recent developments*, RP 98/1987, Pretoria, Department of Manpower Utilisation, Government Printer, 1980; S. Terblanche and J. Jacobs, *Strukturveranderinge in Middelvlakmannekrag*, 1983, Report MN-102, Pretoria, Human Sciences Research Council, 1983.
 - 14 S. Ngidi and P. Zulu, 'Aspects and Tempo of De-racialisation in the South African Industry: A study of operating companies in South Africa', Unpublished Report, Durban, Maurice Webb Race Relations Unit, University of Natal, 1988.
 - 15 Their data from 1980 to 1987 is based on projections. S. Terblanche, *An Analysis of the Macro Manpower Demand and Supply Situation (1977–1987) in the RSA*, Report MM-83, Pretoria, Human Sciences Research Council, 1981.
 - 16 S. Terblanche, J. Jacobs and J. Beukes, 'Some Implications of the Structural Changes in the Labour Force of South Africa', in H. Marais (ed.) *South Africa: Perspectives on the Future*, Pinetown, Owen Burgess, 1988, pp. 125–43.
 - 17 G. Carchedi, 'On the Economic Identification of the New Middle Class', *Economy and Society* 4(1), 1975, pp. 1–86; N. Poulantzas, *Classes in Contemporary*

- Capitalism*, London, Verso, 1975; E.Wright, 'Class Boundaries in Advanced Capitalist Societies', *New Left Review* 98, 1976, pp. 3–42.
- 18 O.Crankshaw, 'Theories of Class and the African "Middle Class" in South Africa, 1969–1983', *Africa Perspective* 1(1 and 2), 1986, pp. 3–33; Davies, 'Capital Restructuring'; Wolpe, 'The Changing Class Structure of South Africa'.
 - 19 Carchedi, 'On the Economic Identification of the New Middle Class', pp. 48–54.
 - 20 Wright, 'Class Boundaries in Advanced Capitalist Societies', pp. 31–5.
 - 21 E.Wright, *Classes*, London, Verso Editions, 1985, p. 88.
 - 22 Poulantzas, *Classes in Contemporary Capitalism*, pp. 210–42.
 - 23 Crankshaw, 'Theories of Class and the African "Middle Class" in South Africa', pp. 17–18.
 - 24 J.Goldthorpe, *Social Mobility and Class Structure in Modern Britain* (2nd edn), Oxford, Clarendon Press, 1987, pp. 40–3.
 - 25 Goldthorpe, *Social Mobility and Class Structure in Modern Britain*, p. 40.
 - 26 G.Mackenzie, 'Class Boundaries and the Labour Process', in A.Giddens and G.Mackenzie (eds) *Social Class and the Division of Labour*, Cambridge, Cambridge University Press, 1982, pp. 76–7.
 - 27 H.Braverman, *Labor and Monopoly Capital: The degradation of work in the twentieth century*, New York, Monthly Review Press, 1974, p. 25.
 - 28 Braverman, *Labor and Monopoly Capital*, Chapters 8–10 and 15.
 - 29 Mackenzie, 'Class Boundaries and the Labour Process', p. 85.
 - 30 R.Edwards, *Contested Terrain: The transformation of the workplace in the twentieth century*, New York, Basic Books, 1979, Chapters 9 and 10.
 - 31 Webster, *Cast in a Racial Mould*, pp. 195–206.
 - 32 With only one exception, this is also true of the growing literature on affirmative action. See, for example: L.Human (ed.) *Educating and Developing Managers for a Changing South Africa: Selected essays*, Cape Town, Juta & Co., 1991; D.Innes, M.Kentridge and H.Perold (eds) *Reversing Discrimination: Affirmative action in the workplace*, Cape Town, Oxford University Press, 1993; R.Smollan (ed.) *Black Advancement in the South African Economy*, Johannesburg, Macmillan, 1986.
 - 33 *Summary of the Results of Manpower Survey No. 13, 27th April 1979: All industries and occupations*, Pretoria, Department of Manpower, 1980, p. 1; *Summary of the Results of Manpower Survey No. 14, 24th April 1981: All industries and occupations*, Pretoria, Department of Manpower, 1982, p. 1; *Summary of the Results of Manpower Survey No. 15, 29th April 1983: All industries and occupations*, Pretoria, Department of Manpower, 1984, p. 1.
 - 34 This information is based on an interview conducted by Doug Hindson and myself with Mrs Brelage at the Department of Manpower and Mrs de Jager at the Central Statistical Service, Pretoria.
 - 35 Roukens de Lange, *Manpower Supply and Demand in South Africa*, p. 23.
 - 36 *Report of the National Manpower Commission on High-level Manpower in South Africa*, pp. 5, 7, 13–18; A.Roukens de Lange and P.van Eeghen, *Employment in South Africa: Evaluation and trend analysis*, Bellville, Institute for Futures Research, 1984, p. 33; Wolpe, 'The Changing Class Structure of South Africa', p. 153.
 - 37 For example, the Training Institute of Personnel Consultants which offers a one year diploma. *My Career/My Loopbaan 1991*, Pretoria, Department of Manpower, 1991, p. 757.
 - 38 As I will use them here, the terms 'skilled', 'semi-skilled' and 'unskilled' do not refer to the ability or skill of workers but to the kinds of work that they do. Even 'unskilled' workers obviously exercise a variety of skills in their work. My choice of these terms is constrained by convention which uses them to refer to particular

NOTES

- places in a division of labour: E.Webster and J.Leger, 'Reconceptualising Skill Formation in South Africa', *Perspectives in Education* 13(2), 1992, p. 54.
- 39 Roukens de Lange and van Eeghen, *Employment in South Africa*, p. 33.
 - 40 Legassick and Innes, 'Capital Restructuring and Apartheid', pp. 448-9; Wolpe, 'South Africa: Class, race and occupational structure', p. 103.
 - 41 Trapido, 'South Africa in a Comparative Study of Industrialization', pp. 316-17.
 - 42 M.Legassick, 'South Africa: Forced labour, industrialization, and racial differentiation', in R.Harris (ed.) *The Political Economy of Africa*, New York, John Wiley & Sons, 1975, pp. 262-3.
 - 43 R.First, J.Steele and C.Gurney, *The South African Connection: Western investment in Apartheid*, London, Temple Smith, 1973, p. 62.
 - 44 Johnstone, 'White Prosperity and White Supremacy in South Africa', p. 135.
 - 45 Lipton, 'British Investment in South Africa', p. 18; Natrass, 'The Narrowing of Wage Differentials', p. 418.
 - 46 M.Lipton, 'The Debate About South Africa: Neo-Marxists and neo-Liberals', *African Affairs* 78(310), 1979, p. 69; Natrass, 'The Narrowing of Wage Differentials', p. 415.
 - 47 Legassick and Innes, 'Capital Restructuring and Apartheid', pp. 443-7.
 - 48 Davies, 'Capital Restructuring', p. 194.
 - 49 Davies, 'Capital Restructuring', pp. 187-9.
 - 50 Wolpe, 'The Changing Class Structure of South Africa', p. 153.
 - 51 Simkins and Hindson, 'The Division of Labour in South Africa', p. 9. The occupational categories do not comprise the same occupations as my categories of the same names.
 - 52 M.Legassick, 'Postscript to "Legislation, Ideology and Economy in Post-1948 South Africa"', in Schlemmer and Webster, *Change, Reform and Economic Growth*, p. 74.
 - 53 Legassick and Innes, 'Capital Restructuring and Apartheid', p. 451.
 - 54 J.Hofmeyr, 'Black Wages', pp. 129-47; N.Natrass, 'Economic Power and Profits in Post-War Manufacturing', in Natrass and Ardington, *The Political Economy of South Africa*, pp. 107-28.
 - 55 M.McGrath, 'Economic Growth and the Distribution of Racial Incomes in the South African Economy', *South Africa International* 15(4), 1985, pp. 226-8.
 - 56 A.Whiteford and M.McGrath, *Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994, p. 38.
 - 57 Hofmeyr, 'Black Wages', p. 139; J.Knight and M.McGrath, 'The Erosion of Apartheid in the South African Labour Market: Mechanisms and measures', Applied Economics Discussion Paper No. 35, Oxford, Institute of Economics and Statistics, University of Oxford, 1987, p. 29.

THE EXTENT AND PATTERN OF AFRICAN ADVANCEMENT

- 1 Refer to Tables A2.15, A2.17 and A2.19 in the Appendix to Chapter 2.
- 2 Refer to Table A2.9 in the Appendix to Chapter 2.
- 3 Refer to Tables A2.1 and A2.3 in the Appendix to Chapter 2.
- 4 C.Simkins and D.Hindson, 'The Division of Labour in South Africa, 1969-1977', *Social Dynamics* 5(2), 1979, p. 9. My own estimate for the African proportion of this occupational group is 22 per cent in 1977. However, our classification of occupations is obviously different: Simkins and Hindson include technicians in this category, whereas I have classified technicians as semi-professional.

- 5 H. Wolpe, 'The Changing Class Structure of South Africa: The African petitbourgeoisie', in P. Zarebka (ed.) *Research in Political Economy Volume 1: An annual compilation of research*, Greenwich, Conn., JAI Press, 1977, p. 154.
- 6 To calculate this figure I used the same criterion as Wolpe. In effect, I added up all employment in the occupational categories of Managers, Professionals, Semi-Professionals, Routine White-Collar Workers and Supervisors.
- 7 R. Davies, 'Capital Restructuring and the Modification of the Racial Division of Labour in South Africa', *Journal of Southern African Studies* 5(2), 1979, p. 195.
- 8 G. Carchedi, 'On the Economic Identification of the New Middle Class', *Economy and Society* 4(1), 1975, pp. 1-86; N. Poulantzas, *Classes in Contemporary Capitalism*, London, Verso, 1975.
- 9 Wolpe, 'The Changing Class Structure', p. 153.
- 10 S. Noluthungu, *Changing South Africa: Political considerations*, Cape Town, David Philip, 1983, p. 116.
- 11 *Population Census 1991: Occupation by development region, statistical region and district (Report No. 03-01-08)*, Pretoria, Central Statistical Service, 1992, p. 939.
- 12 This proportion only increases to 37 per cent of all semi-professional employment if an estimate of employment in the 'national states' of Transkei, Bophuthatswana Venda and Ciskei is included.
- 13 *Manpower Survey 1990: Occupational Information*, No. 02-01-01, Pretoria, Central Statistical Service, 1992; *Population Census: Bophuthatswana, 1985: Occupations*, Unpublished Printouts; *Transkei Population Census 1985*, Umtata, Institute for Management and Development Studies; *Population Census 1985, Statistical Report No. 2*, Thohoyandou, Republic of Venda, Office of the State President, 1987.
- 14 This figure excludes employment in the Transkei, Bophuthatswana, Venda and Ciskei: *Survey of Race Relations in South Africa: 1982*, Johannesburg, South African Institute of Race Relations, 1983, p. 466.
- 15 These estimates are based on 1988 data published in: *Race Relations Survey: 1988/89*, Johannesburg, South African Institute of Race Relations, 1989, pp. 839-41. Figures for Bophuthatswana, Venda and Ciskei pertaining to 1991 were supplied by the Institute for Education Planning, University of the Orange Free State.
- 16 P. Lundall and Z. Kimmie, 'Apprentice Training and Artisan Employment: Changing numbers but maintaining "job reservation"', *South African Labour Bulletin* 16(6), 1992, p. 44.
- 17 This analysis was designed by Doug Hindson and myself and implemented by Bharati Parekh. The data were kindly provided by P-E Corporate Services and the Institute for Social and Economic Research at the University of Durban/Westville provided the financial support.
- 18 Refer to Tables A2.21 and A2.22 in the Appendix to Chapter 2.
- 19 Refer to Tables A2.23 and A2.24 in the Appendix to Chapter 2.
- 20 Refer to Tables A2.25 and A2.26 in the Appendix to Chapter 2.
- 21 The 1987 figure of 636,670 for white employment is an outlier to the general trend and is probably wrong.
- 22 This occupational category comprises relatively few occupations with the result that changes in occupational definitions or even survey errors result in large fluctuations. Moreover, a new sample was drawn by the Central Statistical Service when they took over the Manpower Survey from the Department of Manpower in 1987. This is probably the cause of the discontinuities in the series.
- 23 Most of these supervisors were Indian (55 per cent) and coloured (35 per cent) supervisors, whereas only 10 per cent were African, *Report on Asiatic, Black and*

NOTES

- Coloured Advancement* 1979, Johannesburg, Fine Spamer Associates, 1979, Section 9, p. 4.
- 24 L.Human, P.Rainey and M.Rajah, *Occupational Mobility and Wage Differentiation: A qualitative study*, Pretoria, Human Sciences Research Council, 1986, p. 27.
- 25 Human *et al*, *Occupational Mobility and Wage Differentiation*, p. 42.
- 26 Human *et al*, *Occupational Mobility and Wage Differentiation*, p. 33.
- 27 Human *et al*, *Occupational Mobility and Wage Differentiation*, p. 22.

CAPITALIST INTERESTS, WHITE LABOUR AND APARTHEID LABOUR POLICY

- 1 H.Barker, *The Economics of the Wholesale Clothing Industry of South Africa, 1907–1957*, Johannesburg, Pallas Publ., 1962, p. 288; J.Lewis, *Industrialisation and Trade Union Organisation in South Africa, 1924–55: The rise and fall of the South African Trades and Labour Council*, Cambridge, Cambridge University Press, 1984, pp. 144–5 and 151–2; N.Meyer, ‘The Development of the Footwear Industry in South Africa, 1947–1961’, *South African Journal of Economics* 31, 1963, pp. 235–6.
- 2 D.Bendix, *The Manpower Situation and Black Labour in the South African Motor Car Repair Shop Industry*, Pretoria, Institute of Labour Relations, University of South Africa, 1976, pp. 14 and 21; J.Ewert, ‘The Political Maintenance of “Skill”: Labour process changes and artisan domination in the South African printing industry’, *Social Dynamics* 16(2), 1990, p. 40 and ‘Changing Labour Process and Worker Response in the South African Newspaper and Printing Industry’, Unpublished doctoral thesis, Stellenbosch, University of Stellenbosch, 1988, p. 206; Lewis, *Industrialisation and Trade Union Organisation*, p. 118.
- 3 Lewis, *Industrialisation and Trade Union Organisation*, p. 91; E.Webster, *Cast in A Racial Mould: Labour process and trade unionism in the foundries*, Johannesburg, Ravan Press, 1985, p. 57.
- 4 Webster, *Cast in A Racial Mould*, p. 99.
- 5 Lewis, *Industrialisation and Trade Union Organisation*, p. 123. In the metal and engineering sector the proportion of white operatives was somewhat higher at 50 per cent: Lewis, *Industrialisation and Trade Union Organisation*, p. 135. This trend is supported by an analysis of Wage Board statistics for the period. According to this source which covers light industry, commerce and personal services, the proportion of semi-skilled machine operators who were white declined from 50 per cent in 1938 to 34 per cent in 1948: R.Alexander and H.Simons, *Job Reservation and the Trade Unions*, Woodstock, Enterprise, 1959, p. 10.
- 6 M.Piercy, ‘Statutory Work Reservation in the Union of South Africa: Concluding article’, *South African Journal of Economics* 28(3), 1960, pp. 217–19.
- 7 ‘Report and Recommendation by the Industrial Tribunal to the Honourable the Minister of Labour Concerning the Reservation of Work for White Persons in the Building Industry in the Provinces of the Orange Free State and the Transvaal’, Annexure to the House of Assembly No. 211, 1960, p. 14.
- 8 F.Wilson, *Labour in the South African Gold Mines, 1911–1969*, Cambridge, Cambridge University Press, 1972, p. 19.
- 9 *A Survey of Race Relations in South Africa, 1964*, Johannesburg, South African Institute of Race Relations, 1965, pp. 242–6; *Race Relations as Regulated by Law in South Africa, 1948–1979*, Johannesburg, South African Institute of Race Relations, 1982, p. 85.

- 10 Although a significant proportion of the growing black workforce during this period were coloured workers, the vast majority were African; A.Roukens de Lange, *Manpower Demand and Supply in South Africa: A study of trends and interactions with the economy*, Stellenbosch, Institute for Futures Research, University of Stellenbosch, 1992, p. 4.
- 11 Roukens de Lange, *Manpower Demand and Supply in South Africa*, p. 4.
- 12 A.Roukens de Lange, and P.van Eeghen, 'Standardised Employment Series for South Africa's Formal Economy', *Journal of Studies in Economics and Econometrics* 14(2), 1990, pp. 27–31.
- 13 This is because the Manpower Survey questionnaire has a closed list of occupational descriptions which are not suitable for describing most semi-skilled mining jobs. The result is that a large proportion of operative jobs are classified as 'Mining supporting services: Surface' and 'Mining supporting services: Underground' which makes no distinction between semi-skilled and unskilled work.
- 14 Adapted from P.Pillay, *Future Developments in the Demand for Labour by the South African Mining Industry*, Geneva, International Labour Office, 1987, p. 7.
- 15 There is obviously an error in the estimate of unskilled and semi-skilled employment levels in the 1985 Manpower Survey and this makes a more precise estimate of the ratio of semi-skilled to unskilled employment impossible. Because of changes in the way that industrial sectors were defined, sectoral comparisons after 1985 are not possible with the Manpower Survey data.
- 16 C.Meth, 'Class Formation: Skill shortage and black advancement', *South African Review 1: Same foundations, new facades?*, Johannesburg, Ravan Press, 1983, p. 193; Webster, *Cast in a Racial Mould*, p. 158.
- 17 *The South African Builder* 38(3), 1960, p. 17.
- 18 A.Jensen, *A Statistical Study of Manpower in the Building Industry*, Braamfontein, National Institute for Personnel Research, 1963, pp. 36–9.
- 19 The rate of wastage among white apprentices was 24 per cent compared with only 14 per cent among coloured artisans: Jensen, *A Statistical Study of Manpower*, p. 39.
- 20 *The South African Builder* 42(4), 1964; 'Report to the Honourable the Minister of Labour by the Industrial Tribunal on the Labour Position in the Western Cape Province', Annexure of the House of Assembly No. 365, 1961, p. 32; 'Report by the Industrial Tribunal to the Minister of Labour on Reservation of Work in the Building Industry in the Cape Province and Natal', Annexure to the House of Assembly No. 136, 1963, p. 37.
- 21 A.Sitas, 'Rebels Without a Pause: The Mine Workers Union and the defense of the colour bar', *South African Labour Bulletin* 5(3), 1979, pp. 36–8.
- 22 Wilson, *Labour in the South African Gold Mines*, pp. 115–16.
- 23 J.Crush, A.Jeeves and D.Yudelman, *South Africa's Labor Empire: A history of black migrancy to the gold mines*, Cape Town, David Philip, 1991, p. 91.
- 24 M.Lipton, *Capitalism and Apartheid: South Africa, 1910–1986*, David Philip, Claremont, 1985, p. 145.
- 25 Lipton, *Capitalism and Apartheid*, p. 145.
- 26 *A Survey of Race Relations in South Africa, 1967*, Johannesburg, South African Institute of Race Relations, 1968, p. 107; *A Survey of Race Relations in South Africa, 1971*, Johannesburg, South African Institute of Race Relations, 1972, p. 232; *Natal Mercury* 8 December 1970.
- 27 Webster, *Cast in a Racial Mould*, p. 157.
- 28 R.Davies, 'Capital Restructuring and the Modification of the Racial Division of Labour in South Africa', *Journal of Southern African Studies* 5(2), 1979, pp. 183.

NOTES

- 29 D.Posel, *The Making of Apartheid: Conflict and compromise, 1948–1961*, Oxford, Clarendon, 1991, pp. 131–3.
- 30 Lipton, *Capitalism and Apartheid*, p. 31 (my emphasis); For similar policy statements during this period refer to: S.Coupe, ‘Apartheid in South African Industrial Relations’, Unpublished Doctoral Thesis, Oxford, Oxford University, 1993, pp. 69–73.
- 31 M.Legassick, ‘Legislation, Ideology and Economy in Post-1948 South Africa’, *Journal of Southern African Studies* 1(1), 1974, p. 28.
- 32 M.Piercy, ‘Statutory Work Reservation’, pp. 217–19; *A Survey of Race Relations in South Africa, 1962*, Johannesburg, South African Institute of Race Relations, 1963, p. 155; *A Survey of Race Relations in South Africa, 1966*, Johannesburg, South African Institute of Race Relations, 1967, p. 205; *A Survey of Race Relations in South Africa, 1968*, Johannesburg, South African Institute of Race Relations, 1969, p. 92.
- 33 W.Steenkamp, ‘Labour and Management in Manufacturing Development’, *South African Journal of Economics* 41(4), 1973, p. 439.
- 34 *A Survey of Race Relations in South Africa: 1970*, Johannesburg, South African Institute of Race Relations, 1971, pp. 87–8.
- 35 Steenkamp, ‘Labour and Management in Manufacturing Development’, p. 439.
- 36 Lipton, *Capitalism and Apartheid*, p. 33.
- 37 Posel, *The Making of Apartheid*, p. 251.
- 38 *A Survey of Race Relations in South Africa, 1969*, Johannesburg, South African Institute of Race Relations, 1970, p. 93.
- 39 Posel, *The Making of Apartheid*, p. 251.
- 40 The Act was not applied in Durban: A.Black, ‘Government Policy and Employment Creation in the South African Manufacturing Sector’, Unpublished masters thesis, Durban, University of Natal, 1985, p. 190.
- 41 Black, ‘Government Policy and Employment Creation’, p. 191.
- 42 *Ibid.*, p. 119.
- 43 S.Gelb, ‘South Africa’s Economic Crisis: An overview’, in S.Gelb (ed.) *South Africa’s Economic Crisis*, David Philip, Cape Town, 1991, pp. 14–15.
- 44 *Ibid.*, p. 16
- 45 A.Black, ‘Manufacturing Development and the Economic Crisis: A reversion to primary production?’, in Gelb, *South Africa’s Economic Crisis*, p. 163; Gelb, ‘South Africa’s Economic Crisis’, p. 16.
- 46 Black, ‘Government Policy and Employment Creation’, p. 125.
- 47 C.Meth, ‘Trade Unions, Skill Shortages and Private Enterprise’, *South African Labour Bulletin* 5(3), 1979, pp. 67–8.

RACIAL DIFFERENTIATION, CLASS FORMATION AND THE LABOUR PROCESS IN THE CONSTRUCTION, MANUFACTURING AND MINING SECTORS

- 1 The ‘stope’ is the term given to the working area at the rock face. ‘Stoping’ refers to the activities associated with the blasting and removal of rock from the stope.
- 2 A ‘cocopan’ is a small wagon which runs on narrow gauge rails. The name is derived from the Zulu *ngkumbana* for ‘short truck’. These wagons are also called ‘hoppers’ because of their capacity to unload rock or ore automatically.
- 3 H.Wagner, ‘The Challenge of Deep-Level Mining in South Africa’, *Journal of the South African Institute of Mining and Metallurgy* 86(9), 1986, p. 381; F.Wilson,

NOTES

- Labour in the South African Gold Mines, 1911–1969*, Cambridge, Cambridge University Press, 1972, p. 84.
- 4 D.Innes, *Anglo: Anglo American and the rise of modern South Africa*, Johannesburg, Ravan Press, 1984, p. 151.
 - 5 C.Jeppe, *Gold Mining on the Witwatersrand Vol. II*, Johannesburg, Transvaal Chamber of Mines, 1946, p. 1002.
 - 6 H.MacConachie, 'Progress in Gold Mining Over Fifty Years', *Optima* 17(3), 1969, p. 131.
 - 7 R.Black, 'Development of South African Mining Methods', *Optima* 10(2), 1960, p. 71; J.Guy and M.Thabane, 'Technology, Ethnicity and Ideology: Basotho miners and shaft-sinking on the South African gold mines', *Journal of Southern African Studies* 14(2), 1988, p. 270.
 - 8 The term 'lasher' is derived from the Xhosa *ukulayisha* which means 'to load'. Wilson, *Labour in the South African Gold Mines*, p. 84.
 - 9 M.Hermanus, 'The Gold Mining Industry: Changing technology and its implications', Paper presented to the Labour Studies Workshop, University of the Witwatersrand, October 1987, p. 4.
 - 10 N.Joughin, 'Progress in the Development of Mechanized Stopping Methods', *Journal of the South African Institute of Mining and Metallurgy*, March 1978, p. 215.
 - 11 Hermanus, 'The Gold Mining Industry', p. 5.
 - 12 B.Freund, 'South African Gold Mining in Transformation', in S.Gelb (ed.) *South Africa's Economic Crisis*, Cape Town, David Philip, 1991, p. 122.
 - 13 Hermanus, 'The Gold Mining Industry', p. 6.
 - 14 *Ibid.*, p. 5.
 - 15 Wilson, *Labour in the South African Gold Mines*, p. 15.
 - 16 Wagner, 'The Challenge of Deep-Level Mining', p. 380.
 - 17 *Report of the Commission of Inquiry into the Coal Resources of the Republic of South Africa*, Pretoria, Republic of South Africa, 1975, p. 81.
 - 18 J.Leger, 'Coal Mining: Past profits, current crisis?', in Gelb, *South Africa's Economic Crisis*, p. 134.
 - 19 A.Spandau, 'Mechanisation and Labour Policies on South African Mines', *South African Journal of Economics* 48(2), 1980, p. 170.
 - 20 Leger, 'Coal Mining', p. 135.
 - 21 R.Naude and M.Deats, 'The Pioneering of Fully Mechanized Longwall Coal Mining in South Africa', *Journal of the South African Institute of Mining and Metallurgy* 67(7), 1967, p. 328.
 - 22 Pillay, *Future Developments*, pp. 22 and 63.
 - 23 *Report of the Commission of Inquiry into the Coal Resources*, pp. 84–5.
 - 24 *Ibid.*, pp. 84–5
 - 25 Pillay, *Future Developments*, pp. 22 and 62.
 - 26 *Ibid.*, p. 24.
 - 27 The following information is drawn from N.Bromberger, *Mining Employment in South Africa, 1946–2000*, Working Paper No. 15, Cape Town, South African Labour and Development Research Unit, University of Cape Town, 1978, pp. 8–21.
 - 28 Spandau, 'Mechanisation and Labour Policies on South African Mines', p. 180.
 - 29 J.Knight, 'Black Wages and Choice of Techniques in South Africa', *Oxford Bulletin of Economics and Statistics* 41(2), 1979, p. 128; in W.Thomas (ed.) *Management Responsibility and African Employment in South Africa*, Johannesburg, Ravan Press, 1973, pp. 96–7.
 - 30 *Report of the Commission of Inquiry into Labour Legislation Part 6: Industrial relations in the mining industry*, RP 47/1979, Pretoria, Government Printer, 1979, p. 27.

NOTES

- 31 A.Sitas, 'Rebels Without a Pause: The Mine Workers' Union and the defence of the colour bar', *South African Labour Bulletin* 5(3), 1979, pp. 31–2.
- 32 According to the Manpower Survey Questionnaire, this occupation was merged with Stationary Engine Driver after 1981.
- 33 R.Fitzmaurice, 'Changes in Building Technique: New method of reducing costs and increasing productivity', *The South African Builder* 28(9), 1950, p. 21.
- 34 L.Cortis, P.Welch, R.Blake, R.Skawran and J.van Rooyen, *The Utilization of Bantu Labour in the Building Industry*, Johannesburg, National Development Fund for the Building Industry, 1962, p. 62.
- 35 'The Use of Machines on Building and Construction Projects', *The South African Builder* 33(4), 1955, p. 17.
- 36 Fitzmaurice, 'Changes in Building Technique', p. 23; 'New Ways with Building', *The South African Builder* 33(8), 1955, pp. 19–20; 'The Use of Machines', p. 19.
- 37 'Experiments with Packed Bricks: Quicker handling reduces costs', *The South African Builder* 36(1), 1958, p. 21; Fitzmaurice, 'Changes in Building Technique', p. 28.
- 38 E.Stubbs, 'Mechanisation within the Building Industry', *The South African Builder* 37(2), 1959, pp. 15–17.
- 39 Cortis, *et al.*, *The Utilization of Bantu Labour*, pp. 70–1.
- 40 According to a speech by the Minister of Bantu Administration and Development in 1965: M.Miodownik, 'Debate on Mechanisation in the Building Industry', *The South African Builder* 44(11), 1966, p. 44.
- 41 H.Vallings, 'Latest Trends in Machines for Building Site Work', *The South African Builder* 41(8), 1963, pp. 32–3.
- 42 D.Samson, 'Some Aspects of the Economics of Tower Cranes', *The South African Builder* 37(5), 1959, pp. 15–17.
- 43 Stubbs, 'Mechanisation within the Building Industry', p. 19.
- 44 *The South African Builder* 47(8), 1969, p. 28.
- 45 *The South African Builder* 53(7), 1975, p. 25.
- 46 J.Roberts, 'SA Development Techniques', *The South African Builder* 42(11), 1964, pp. 33–4.
- 47 'Latest Trends in Excavation', *The South African Builder* 42(8), 1964, pp. 17–19.
- 48 *The South African Builder* 42(2), 1964, p. 29.
- 49 Government Notice No. 1235, *Government Gazette* (Extraordinary) CLXXII (5079), 12 June 1953, pp. 4–5; Government Notice No. 202, *Government Gazette* (Extraordinary) CXCIV (6176), 6 February 1959, pp. 4–6.
- 50 A.Kraak, 'Uneven Capitalist Development: A case study of deskilling and reskilling in South Africa's metal industry', *Social Dynamics* 13(2), 1987, p. 17.
- 51 *The African Factory Worker: A sample study of the life and labour of the urban African worker*, Cape Town, Oxford University Press, 1950, p. 210.
- 52 'Dunlop Expansion Programme at Durban', *The Manufacturer*, August 1955, p. 33.
- 53 Kraak, 'Uneven Capitalist Development', p. 19.
- 54 Kraak, 'Uneven Capitalist Development', p. 20.
- 55 S.de Kock, 'Palletised Goods in Unit Loads', *The Manufacturer*, January 1958, p. 29.
- 56 'Examination of Witnesses: English Calico', in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume One: Minutes of evidence of the Trade and Industry Sub-Committee of the Expenditure Committee, House of Commons, Report HC-268*, London, HMSO, 1973, pp. 551–2.
- 57 I. White, 'The Changing Labour Process and its Consequences: A case study of a general engineering firm in Natal', *South African Labour Bulletin* 4(7), 1978, pp. 56–7.

- 58 Knight, 'Black Wages and Choice of Techniques in South Africa', p. 122.
- 59 Ibid., p. 123.
- 60 Ibid., pp. 121–2.
- 61 Ibid., p. 121.
- 62 J.Lever and W.James, *Towards a Deracialised Labour Force: Industrial relations and the abolition of the job colour bar on the South African gold mines*. Occasional Paper No. 12, Stellenbosch, Department of Sociology, University of Stellenbosch, 1987, p. 5.
- 63 *Report of the Commission of Inquiry into Labour Legislation Part 6: Industrial relations in the mining industry*, RP 47/1979, Pretoria, Government Printer, 1979, p. 15.
- 64 Sitas, 'Rebels Without a Pause', p. 31.
- 65 A 'development end' is that area of the stope which is actually being worked on.
- 66 Wilson, *Labour in the South African Gold Mines*, p. 117.
- 67 This paragraph draws on M.O'Donovan, 'The Politics of the Labour Process in Mining', Unpublished Honours Thesis, Johannesburg, University of the Witwatersrand, 1985, pp. 60–2.
- 68 *Report of the Commission of Inquiry into Labour Legislation Part 6*, p. 27.
- 69 O'Donovan, 'The Politics of the Labour Process in Mining', pp. 62–4.
- 70 Ibid., pp. 64–6.
- 71 Wilson, *Labour in the South African Gold Mines*, pp. 116–17.
- 72 R.Rafel, 'Job Reservation on the Mines', *South African Review* 4, Braamfontein, Ravan Press, 1987, p. 273; *Report of the Commission of Inquiry into Labour Legislation Part 6*, p. 26; *Report of the Commission of Inquiry into the Possible Introduction of a Five-Day Working Week in the Mining Industry of the Republic of South Africa*, RP 97/1977, Pretoria, Government Printer, 1977, pp. 137–9 and 157–9.
- 73 O'Donovan, 'The Politics of the Labour Process in Mining', p. 29. It is notable that these changes in the role of the skilled miner are almost identical to those that resulted from the re-organisation of work in Copperbelt mines between 1946 and 1966: C.Perrings, 'A Moment in the "Proletarianisation" of the New Middle Class: Race, value and the division of labour in the Copperbelt, 1946–1966', *Journal of Southern African Studies* 6(2), 1980, p. 193 and pp. 200–1.
- 74 Lever and James, *Towards a Deracialised Labour Force*, pp. 63–4.
- 75 J.Gallie, 'The Progress of Blacks in Engineering with Special Reference to the South African Mining Industry', *The South African Mechanical Engineer* 27(7), 1977, p. 210.
- 76 Gallie, 'The Progress of Blacks in Engineering', p. 205.
- 77 Ibid.
- 78 W.James, *Our Precious Metal: African labour in South Africa's gold industry, 1970–1990*, Cape Town, David Philip, 1992, p. 130; Lever and James, *Towards a Deracialised Labour Force*, Fig. 5.
- 79 M.MacMurray, *Black Labour in the South African Gold Mining Industry: 1966 to 1974*, Report No. 16, Johannesburg, Labour Research Programme, University of the Witwatersrand, 1978, p. 23.
- 80 J.Grotsius, 'Labour Relations in the Building Industry', *South African Journal of Labour Relations* 2(3), 1978, p. 17.
- 81 *The South African Builder* 28(2), 1950, p. 57 and 28(8), 1950, p. 21.
- 82 *The South African Builder*: 42(11), 1964, p. 17; *The Woodworker* 61, 1964, p. 7.
- 83 *The Woodworker* 64, 1964, p. 10.
- 84 'Building Trade: Costly Settlement', *Financial Mail*, 4 February 1966, p. 251; P.Scheiner, 'The Occupational Mobility of Black Workers in the Witwatersrand

NOTES

- Building Industry from 1960 with Some Reference to the Occupational Mobility of the Coloured People in the Western Cape Building Industry', Unpublished masters thesis, Rondebosch, University of Cape Town, 1976, p. 168; T.Lamb, 'Annual General Meetings: Views of Association Presidents', *The South African Builder* 44(4), 1966, p. 19.
- 85 Government Notice No. R.953, *Government Gazette* 48 (2432), 13 June 1969, p. 7.
- 86 Government Notice No. 1213, *Government Gazette* 26 (1810) 11 August 1967, p. 5; Government Notice No. R.1295, *Government Gazette* 37 (2136), 26 July 1968, p. 5.
- 87 Government Notice No. R.1956, *Government Gazette* 124 (4875), 17 October 1975, p. 6; Scheiner, 'The Occupational Mobility of Black Workers', p. 175.
- 88 Government Notice No. R.1956, *Government Gazette* 124 (4875), 17 October 1975, pp. 6–7.
- 89 *The South African Builder* 43(3), 1965, p. 11.
- 90 *Evening Post*, 12 December 1968; *Pretoria News*, 4 September 1968; *The Woodworker* 79, November 1965, p. 8; *The Woodworker* 115, November 1968, pp. 3 and 10.
- 91 *Natal Mercury*, 1 September 1971; *The Star*, 8 February 1971 and 10 June 1971.
- 92 *Natal Mercury*, 8 December 1970.
- 93 Scheiner, 'The Occupational Mobility of Black Workers', pp. 122–3.
- 94 *Rand Daily Mail*, 24 June 1971, 19 July 1972, 26 July 1974 and 3 October 1974; *The Star*, 22 January 1970; *The Woodworker* 35, June 1972, p. 3.
- 95 Scheiner, 'The Occupational Mobility of Black Workers', p. 123.
- 96 *A Survey of Race Relations in South Africa, 1975*, Johannesburg, South African Institute of Race Relations, 1976, p. 171.
- 97 N.Foster, *Labour in the South African Building Industry: Background and current trends*, Report No. 18, Johannesburg, Labour Research Programme, University of the Witwatersrand, 1978, p. 129.
- 98 Scheiner, 'The Occupational Mobility of Black Workers', p. 87.
- 99 M.Clarke, *Industrialised Building and its Impact on Labour*, Working Paper No. 44, Cape Town, South African Labour and Development Research Unit, University of Cape Town, 1982, pp. 19–22.
- 100 Clarke, *Industrialised Building and its Impact on Labour*, pp. 6–7.
- 101 M.Dryden, 'The Advantages of Factory-Assembled Components', *The South African Builder* 48(10), 1970, p. 43–5.
- 102 'Products Equipment Systems', *The South African Builder* 50(10), 1972, p. 33.
- 103 J.Ewert, 'Changing Labour Process and Worker Response in the South African Newspaper and Printing Industry', Unpublished doctoral thesis, Stellenbosch, University of Stellenbosch, 1988, p. 206.
- 104 J.Ewert, 'The Political Maintenance of "Skill": Labour process changes and artisan domination in the South African printing industry', *Social Dynamics* 16(2), 1990, p. 39.
- 105 Ewert, 'The Political Maintenance of "Skill"', pp. 48–9.
- 106 The following paragraph is drawn from Ewert, 'Changing Labour Process and Worker Response', pp. 206–9, 238–9; and 'The Political Maintenance of "Skill"', pp. 48–9.
- 107 A.Zimbalist, 'Technology and the Labor Process in the Printing Industry', in A.Zimbalist (ed.) *Case Studies on the Labor Process*, New York, Monthly Review Press, 1979, pp. 108–9.
- 108 Ewert, 'The Political Maintenance of "Skill"', p. 50.
- 109 Ewert, 'Changing Labour Process and Worker Response', pp. 144–5, 260–5.

NOTES

- 110 Ibid., pp. 147–8, 150.
- 111 Ibid., p. 171.
- 112 Ibid., p. 183.
- 113 Ewert, ‘The Political Maintenance of “Skill”’, p. 45.
- 114 E.Webster, *Cast in a Racial Mould: Labour process and trade unionism in the foundries*, Johannesburg, Ravan Press, 1985, p. 34.
- 115 Webster, *Cast in a Racial Mould*, p. 60.
- 116 Kraak, ‘Uneven Capitalist Development’, p. 20.
- 117 Webster, *Cast in a Racial Mould*, p. 59.
- 118 E.Webster, ‘Workers Divided: Five faces from a hidden abode’, in B.Bozzoli (ed.) *Class, Community and Conflict: South African perspectives*, Johannesburg, Ravan Press, 1987, p. 482.
- 119 The rest of this paragraph is based on Webster, *Cast in a Racial Mould*, pp. 101–2.
- 120 Webster, *Cast in a Racial Mould*, pp. 116–17.
- 121 Government Notice No. R.632, *Government Gazette* (Extraordinary) 34 (2046), 19th April 1968, pp. 59–61.
- 122 Webster, *Cast in a Racial Mould*, p. 157.
- 123 Ibid., p. 164.
- 124 Ibid., p. 164.
- 125 M.Morris and D.Kaplan, ‘Labour Policy in a State Corporation: A case study of the South African Iron and Steel Corporation’, *South African Labour Bulletin* 2(6), 1976, p. 30.
- 126 White, ‘The Changing Labour Process and its Consequences’, p. 57.
- 127 D.Bendix, ‘Manpower Development and Black Job Advancement for Higher Productivity in the Motor Repair Industry’, Unpublished doctoral thesis, Pretoria, University of South Africa, 1977, p. 5.19.
- 128 *Report of the Industrial Legislation Commission of Enquiry*, UG 62/1951 (Chairman H.Botha), Pretoria, Government Printer, 1951, p. 151; During the 1940s in Natal, MIEUSA also had a handful of Indian members: H.Ringrose, *Trade Unions in Natal*, Cape Town, Oxford University Press, 1951, p. 51.
- 129 University of the Witwatersrand, Church of the Province of South Africa Archives Collection, Records of the Trade Union Council of South Africa (AH 1426) (hereafter TUCSA), Correspondence with Individual Unions (Ab 4.2), File: Motor Industry Employees’ Union of South Africa, Correspondence from J.Grobbelaar, General Secretary TUCSA to Dannenberg, General Secretary International Metalworkers’ Federation, 26 March 1968.
- 130 J.Lever, ‘TUCSA: The trade-unionism of moderate opposition’, in F.Orkin and S.Welz (eds) *Society in Southern Africa, 1975–1978: ASSA 1975–1978 Congress proceedings*, Johannesburg, ASSA, 1979, p. 269.
- 131 TUCSA, Correspondence with Individual Unions (Ab 4.2), File: Motor Industry Coloured Workers’ Union, Correspondence from E.Deane, Honorary Secretary MICWU to the General Secretary, MIEUSA, 17 January 1966.
- 132 D.Bendix, *The Manpower Situation and Black Labour in the South African Motor Car Repair Shop Industry*, Pretoria, Institute of Labour Relations, University of South Africa, 1976, pp. 37–8.
- 133 Bendix, *The Manpower Situation and Black Labour*, pp. 25 and 37.
- 134 See the occupation of ‘motor, motorcycle, tractor mechanic (not artisan)’, *Manpower Survey 1990, Report No. 02–01–01 (1990): Occupational information*, Pretoria, Central Statistical Service, 1991, p. 72.
- 135 The total number of repair shop assistants could not exceed the total number of artisans minus one.

- 136 Bendix, *The Manpower Situation and Black Labour*, p. 40.
 137 Ibid., p. 51.
 138 Ibid., p. 62.

RACIAL SEGREGATION AND DE-RACIALISATION IN THE TERTIARY SECTOR

- 1 The numbers of automated teller machines per head of population in South Africa is on a par with many European countries: L.Hill, *An Overview of the South African Financial Services with Special Reference to the Banking Sector*, Stellenbosch, Institute for Futures Research, University of Stellenbosch, 1987, pp. 30–1.
- 2 R.Hirschowitz, 'Sociological Implications of Technological Change in Banking', in R.Hirschowitz (ed.), *The Influence of Technological Change on the Banking Sector*, Report MM-119, Pretoria, Human Sciences Research Council, 1986, p. 37.
- 3 A.Armstrong, 'Micro-Technology and the Control of Women in the Office', *South African Labour Bulletin* 9(3), 1983, pp. 68–9; F.Glenn, 'A Post-Braverman Analysis of Clerical Workers in the Finance Sector: A case study', *South African Sociological Review* 5(1), 1992, p. 30.; R.Visser, 'Die effek van Tegnologiese Veranderinge op Spesifieke Poste', in Hirschowitz, *The Influence of Technological Change*, pp. 64–5.
- 4 T.Chalmers, 'The Influence of New Technology on the Work Situation in Banks: An employee's perspective', in Hirschowitz, *The Influence of Technological Change*, p. 121.
- 5 Chalmers, 'The Influence of New Technology', p. 121.
- 6 Glenn, 'A Post-Braverman Analysis of Clerical Workers', p. 31.
- 7 These statistical results concur with the findings of a case study at branch level which revealed that a 'limited number of people (not more than 5 per cent) only process data': Glenn, 'A Post-Braverman Analysis of Clerical Workers', p. 32.
- 8 This estimate is based on a detailed analysis of the 1946 Population Census results by D.Hindson, B.Parekh and myself.
- 9 *Population Census 7th May, 1946: Volume V, Occupations and Industries of the European, Asiatic, Coloured and Native Population*, Pretoria, Union of South Africa, 1955.
- 10 E.Hellmann, *Sellgoods: A sociological survey of an African commercial labour force*, Johannesburg, South African Institute of Race Relations, 1953, p. 3.
- 11 *An Investigation into the Utilisation of Native Labour Employed by the Johannesburg City Council*, Braamfontein, National Institute for Personnel Research, South African Council for Scientific and Industrial Research, 1957, p. 21.
- 12 The Shops and Offices Act (as amended in 1960) empowered the state, where necessary, to force employers to provide segregated facilities and workplaces for employees of different races: *A Survey of Race Relations in South Africa, 1959–1960*, Braamfontein, South African Institute of Race Relations, 1961, pp. 182–3.
- 13 *A Survey of Race Relations, 1962*, Braamfontein, South African Institute of Race Relations, 1963, p. 155.
- 14 Work Reservation Determination No. 5 of 1960 applied to most institutions in Bloemfontein, Johannesburg and Pretoria where elevators conveyed whites: *Survey of Race Relations 1958–59*, Johannesburg, South African Institute of Race Relations, 1960, p. 233.

- 15 Work Reservation Determination No. 14 of 1963 applied only to 'public bars' and not 'bar lounges': *A Survey of Race Relations, 1964*, Braamfontein, South African Institute of Race Relations, 1965, p. 244.
- 16 Work Reservation No. 17 of 1965: *A Survey of Race Relations, 1965*, Braamfontein, South African Institute of Race Relations, 1966, p. 213.
- 17 Depending on the requirements of the job, routine white-collar work as I have defined it required a Junior Certificate (Standard 8) or a Senior Certificate (Standard 10). For example see the qualifications required for a stenographer in 1961: *My Career: Quarterly on vocational information* 12(1), 1961, p. 26.
- 18 The growth rates for the African population are a slight underestimate since the Population Census excludes the 'independent states' of Transkei, Bophuthatswana, Venda and Ciskei.
- 19 University of the Witwatersrand, Church of the Province of South Africa Archives Collection, Records of the Trade Union Council of South Africa (AH 1426) (hereafter TUCSA), Correspondence with Individual Unions (Ab 4.2), File 2: NUDW January-June 1969, Press Statement by S.R.Altman, General Secretary of the NUDW, 23 May 1969.
- 20 S.van der Horst, 'Statutory and Administrative Measures and Policy Directly Affecting the Employment of Coloured Persons', in H.van der Merwe and C. Groenewald (eds) *Occupational and Social Change Among Coloured People in South Africa*, Cape Town, Juta & Co., 1986, p. 160.
- 21 J.Hyslop, 'State Education Policy and the Social Reproduction of the Urban African Working Class: The case of the southern Transvaal, 1955-1976', *Journal of Southern African Studies* 14(3), 1988, pp. 466-8.
- 22 Hyslop, 'State Education Policy', p. 471.
- 23 'Examination of Witnesses: Barclays Bank', in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume One: Minutes of Evidence of the Trade and Industry Sub-Committee of the Expenditure Committee, House of Commons, Report HC-268*, London, HMSO, 1973, p. 560; Conference Seminars, 'Changing Job Patterns in South Africa', in *Trade Union Council of South Africa, Report of Proceedings, Eighteenth Annual Conference, held at Cape Town, August 1972*, p. 456.
- 24 M.Boulanger, 'Race and Employment: A sample study of Durban in the context of the political economy of South Africa', Unpublished masters thesis, Durban, University of Natal, 1974, p. 105.
- 25 'Examination of Witnesses: Great Universal Stores Ltd', in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume Two: Minutes of Evidence of the Trade and Industry Sub-Committee of the Expenditure Committee, House of Commons, Report HC-268*, London, HMSO, 1973, p. 847.
- 26 'Memorandum submitted by the Great Universal Stores Ltd', in *Wages and Conditions of African Workers, Volume Two*, p. 830.
- 27 See Figure 2.4 in Chapter 2.
- 28 Hyslop, 'State Education Policy', p. 455.
- 29 K.Hartshorne, *Crisis and Challenge: Black education 1910-1990*, Cape Town, Oxford University Press, 1992, pp. 67 and 68.
- 30 Hyslop, 'State Education Policy', p. 471.
- 31 Hartshorne, *Crisis and Challenge*, pp. 67 and 71; J.Hyslop, 'Schools, Unemployment and Youth: Origins and significance of student and youth movements, 1976-1987', *Perspectives in Education* 10(2), 1988/9, p. 64.
- 32 *A Survey of Race Relations in South Africa 1963*, Johannesburg, South African Institute of Race Relations, 1964, p. 229; *A Survey of Race Relations in South Africa 1965*, Johannesburg, South African Institute of Race Relations, 1966, p. 263.

NOTES

- 33 For 1980 figures for all races, the category of ‘None’ also includes ‘Unknown’ educational level. Published figures for 1960 do not distinguish between ‘Post-Matric Diploma or Degree’ and ‘Pre-Matric Diploma’. I have included them as ‘Post-Matric Diploma or Degree’.
- 34 D.Horner, *Registered Trade Unions in South Africa, August 1974*, Johannesburg, South African Institute of Race Relations, 1974, p. 18.
- 35 N.Herd, *Counter Attack: The story of the South African shopworkers*, Cape Town, National Union of Distributive Workers, 1974, p. 213.
- 36 ‘Obituary: Morris Kagan’, *South African Labour Bulletin* 9(2), 1983, p. 102; See Ray Altman’s position on the organisation of African workers in *Trade Union Council of South Africa, Report of Proceedings, Special Conference held in Johannesburg, 11th-12th December 1967*, Minutes of Proceedings, p. 22.
- 37 TUCSA, Affiliated Unions Ab 3, File 1: Correspondence 1955–1968.
- 38 Herd, *Counter Attack*, p. 218.
- 39 P.Lundall, I.Schroeder and G.Young, *Directory of Trade Unions: A complete guide to all South Africa’s trade unions*, Rondebosch, Southern African Labour and Development Unit, University of Cape Town, 1984.
- 40 M.Golding, ‘CCAWUSA: 10 Years’, *South African Labour Bulletin* 11(1), 1985, p. 27.
- 41 TUCSA, Ab 4.2, File 2: NUDW January-June 1969, Supreme Court Judgement in the Matter of the NUDW Against the Decision of the Industrial Registrar to Register Die Blanke Distribusie Werkers Unie.
- 42 Horner, *Registered Trade Unions in South Africa*, p. 18.
- 43 *Report on Asiatic, Black and Coloured Advancement 1979*, Johannesburg, Fine Spamer Associates, 1979, Section 16, p. 15.
- 44 E.Mashinini, *Strikes Have Followed Me All My Life: A South African Autobiography*, London, The Women’s Press, 1989, pp. 37–8.
- 45 R.First, J.Steele and C.Gurney, *The South African Connection: Western Investment in Apartheid*, London, Temple Smith, 1972, pp. 202–3.
- 46 J.Kane-Berman, *South Africa’s Silent Revolution*, Johannesburg, South African Institute of Race Relations, 1990, pp. 10–11.
- 47 L.Human, P.Rainey and M.Rajah, *Occupational Mobility and Wage Differentiation: A qualitative study*, Pretoria, Human Sciences Research Council, 1986, p. 51.
- 48 This policy of equal pay for equal work did not extend to sexual equality, however: ‘Examination of Witnesses: Barclays Bank’, in *Wages and Conditions of African Workers, Volume One*, pp. 561 and 555; Conference Seminars, ‘Changing Job Patterns in South Africa’, in *Trade Union Council of South Africa, Report of Proceedings, Eighteenth Annual Conference held at Cape Town, August 1972*, pp. 456–7.
- 49 ‘Interviews: The South African Society of Bank Officials’, *South African Labour Bulletin* 5(3), 1979, p. 90.
- 50 Minutes of Proceedings, *Trade Union Council of South Africa, Report of Proceedings, Special Conference held in Johannesburg, 11th-12th December 1967*, p. 20.
- 51 ‘Interviews: The South African Society of Bank Officials’, *South African Labour Bulletin* 5(3), 1979, p. 91.
- 52 See Figure 2.4, Chapter 2.
- 53 Hyslop, ‘State Education Policy’, p. 448; S.Marks, ‘The Nursing Profession and the Making of Apartheid’, in P.Bonner, P.Delius and D.Posel (eds) *Apartheid’s Genesis, 1935–1962*, Johannesburg, Ravan/Witwatersrand University Press, 1993, p. 354.
- 54 Marks, ‘The Nursing Profession and the Making of Apartheid’, p. 350.

NOTES

- 55 M. Jarrett-Kerr, *African Pulse: Scenes from an African hospital window*, London, The Faith Press, 1960, p. 74; Marks, 'The Nursing Profession and the Making of Apartheid', pp. 346-7.
- 56 Marks, 'The Nursing Profession and the Making of Apartheid', pp. 343 and 346-7.
- 57 Marks, 'The Nursing Profession and the Making of Apartheid', p. 353.
- 58 G. Coetzer, 'Development Criteria for the Selection of Black Nurses', Unpublished masters thesis, Johannesburg, University of the Witwatersrand, 1981, p. 15.
- 59 J. White, 'Some Attitudes of South African Nurses: A cross-cultural study', *The Journal of Social Psychology* 69, 1966, p. 21.
- 60 A. Cheater, 'A Marginal Elite: A study of African registered nurses in the greater Durban area', Unpublished masters thesis, Durban, University of Natal, 1972, p. 51.
- 61 S. Marks, *Divided Sisterhood: Race, class and gender in the South African nursing profession*, Johannesburg, Witwatersrand University Press, 1994, p. 189.
- 62 Marks, *Divided Sisterhood*, p. 870.
- 63 *Ibid.*, p. 191.
- 64 D. Radloff, *Socio-Economic Progress for Nurses in South Africa Through Professional Organisation, 1914-1969*, Pretoria, South African Nursing Association, 1970, p. 77.
- 65 *Ibid.*, pp. 71-73.
- 66 G. Cilliers, *Beroepstudie van Verpleegkundiges Deel 1: 1981 Finalejaarstudente*, Report MM-90, Pretoria, Human Sciences Research Council, 1982, p. 30.
- 67 G. Cilliers, *Beroepstudie van Verpleegkundiges Deel 2: Werksituasie van geregistreerde verpleegkundiges*, Report MM-94, Pretoria, Human Sciences Research Council, 1983, pp. 51 and 59-60.
- 68 G. Cilliers, *Occupational Study of Nurses Part 3: The work situation of nurses two years after qualifying*. Report MM-108, Pretoria, Human Sciences Research Council, 1984, p. 63.
- 69 D. Robbins and W. Hartley, *Inside the Last Outpost*, Pietermaritzburg, Shuter and Shooter, 1985, pp. 167-96.
- 70 This is because the Manpower Survey estimates of employment levels of African nurses for 1985 and 1987 are far too low. The low level of employment for 1979 was probably caused by the exclusion of Bophuthatswana and the Transkei from that year. However, the low employment levels for 1985 and 1987 do not coincide with the exclusion of Venda and the Ciskei from the sample which were, in fact, excluded respectively from 1981 and 1983.
- 71 The low level of employment for 1979 was probably caused by the exclusion of Bophuthatswana and the Transkei from that year. However, the low employment levels for 1985 and 1987 do not coincide with the exclusion of Venda and the Ciskei from the sample which were, in fact, excluded from 1981 and 1983, respectively.
- 72 The information in this paragraph is drawn from Hartshorne, *Crisis and Challenge*, pp. 235-8.
- 73 M. Horrell, *Bantu Education to 1968*, Johannesburg, South African Institute of Race Relations, 1968, p. 29.
- 74 Hyslop, 'State Education Policy', pp. 466-9.
- 75 Hartshorne, *Crisis and Challenge*, p. 246.
- 76 M. Bot, *Training on Separate Tracks: Segregated technical education and prospects for its erosion*, Braamfontein, South African Institute of Race Relations, 1988, pp. 18-21; Evan Rensburg, *Graduation Trends for Non-Whites at South*

NOTES

- African Universities 1960–1975, with Projections to 1990*, Report No. WS-20, Pretoria, Human Sciences Research Council, 1977, pp. 4–7.
- 77 Hartshorne, *Crisis and Challenge*, p. 235.
- 78 *A Survey of Race Relations in South Africa, 1977*, Johannesburg, South African Institute of Race Relations, 1978, p. 506.
- 79 J.Hyslop, 'The Concepts of Reproduction and Resistance in the Sociology of Education: The case of the transition from "Missionary" to "Bantu" education, 1940–1955', *Perspectives in Education* 9(2), 1987, pp. 19–20.
- 80 F.van Rensburg, *Trends in Bantu Education in the Republic of South Africa*, Pretoria, Human Sciences Research Council, 1975, p. 9.

ECONOMIC GROWTH AND TRENDS IN THE RACIAL WAGE AND INCOME GAP

- 1 D.Smit and B.van der Walt, 'Business Cycles in South Africa During the PostWar Period, 1946–1968', *South African Reserve Bank Quarterly Bulletin* 97, 1970, p. 44.
- 2 Smit and van der Walt, 'Business Cycles in South Africa, 1946–1968', p. 37.
- 3 D.Smit and B.van der Walt, 'Growth Trends and Business Cycles in the South African Economy, 1972–1981', *South African Reserve Bank Quarterly Bulletin* 144, 1982, p. 44.
- 4 B.van der Walt, 'Business Cycles in South Africa During the Period 1981 to 1987', *South African Reserve Bank Quarterly Bulletin* 171, 1989, p. 33.
- 5 Smit and van der Walt, 'Growth Trends and Business Cycles, 1972–1981', pp. 54–5.
- 6 van der Walt, 'Business Cycles, 1981 to 1987', p. 33.
- 7 R.First, J.Steele and C.Gurney, *The South African Connection: Western investment in Apartheid*, London, Temple Smith, 1973, pp. 62–70; M.Legassick and D.Innes, 'Capital Restructuring and Apartheid: A critique of constructive engagement', *African Affairs* 76(305), 1977, pp. 448–9.
- 8 M.Lipton, *Capitalism and Apartheid, 1910–1986*, Claremont, David Philip, 1985, p. 220.
- 9 J.Hofmeyr, 'Black Wages: The post-war experience', in N.Natrrass and E. Ardington (eds) *The Political Economy of South Africa*, Cape Town, Oxford University Press, 1990, p. 133.
- 10 This interpretation was first advanced by Lipton, who argued that 'the initial stages of African advance were often accompanied by a widening of the wage gap', Lipton, *Capitalism and Apartheid*, pp. 64 and 313.
- 11 First, Steele, and Gurney, *The South African Connection*, p. 62; M.Legassick, 'South Africa: Forced labour, industrialization, and racial differentiation', in R. Harris (ed.) *The Political Economy of Africa*, New York, John Wiley & Sons, 1975, pp. 262–3.; S.Trapido, 'South Africa in a Comparative Study of Industrialization', *Journal of Development Studies* 7(3), 1971, pp. 316–17.
- 12 Hofmeyr, 'Black Wages', p. 131; N.Natrrass, 'Economic Power and Profits in Post-War Manufacturing', in Natrrass and Ardington, *The Political Economy of South Africa*, p. 114.
- 13 This analysis is based on the submissions of 37 companies (125 establishments): *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volumes Three and Four, Minutes of Evidence of the Trade and Industry Sub-Committee of the Expenditure Committee, House of Commons, Report HC-268*, London, HMSO, 1973. For details, refer to Table A6.3 in the Appendix to Chapter 6.

- 14 I.Hume, 'Notes on South African Wage Movements', *South African Journal of Economics* 38(3), 1970, p. 244; D.Pursell, 'Bantu Real Wages and Employment Opportunities in South Africa', *South African Journal of Economics* 36, 1968, pp. 92-4.
- 15 D.Terrington, 'An Examination of the Occupational Wage Structure in Selected Industries Covered by the Wage Board, the Impact of Wage Board Determinations on the Occupational Wage Structure and the Politico-Economic Implications of Changes in the Occupational Wage Structure', Unpublished masters thesis, Rondebosch, University of Cape Town, 1974, pp. 149-50.
- 16 These are the 'Peromnes Surveys of Remuneration': J.Knight and M.McGrath, 'The Erosion of Apartheid in the South African Labour Market: Measures and Mechanisms', Applied Economics Discussion Paper No. 35, Institute of Economics and Statistics, Oxford, University of Oxford, 1987, p. 7.
- 17 These are the surveys conducted by the Bureau for Market Research at the University of South Africa: J.Hofmeyr, 'The Rise in African Wages, 1975-1985', *South African Journal of Economics* 62(3), 1994, p. 200.
- 18 Hofmeyr, 'The Rise in African Wages', p. 212; Knight and McGrath, 'The Erosion of Apartheid', p. 29.
- 19 E.Webster, *Cast in a Racial Mould: Labour process and trade unionism in the foundries*, Braamfontein, Ravan Press, 1985, p. 253.
- 20 P.Moll, 'Black South African Unions: Relative wage effects in international perspective', *Industrial and Labor Relations Review* 46(2), 1993, p. 260.
- 21 Moll, 'Black South African Unions', p. 256.
- 22 M.McGrath, *Racial Income Distribution in South Africa*, Black/White Income Gap Project Interim Research Report No. 2, Durban, Department of Economics, University of Natal, 1977, p. 6.
- 23 Legassick and Innes, 'Capital Restructuring and Apartheid', pp. 449-51.
- 24 M.Legassick, 'Legislation, Ideology and Economy in Post-1948 South Africa', *Journal of Southern African Studies* 1(1), 1974, p. 28; M.Legassick, 'The Record of British Firms in South Africa: In the context of the political economy', *South African Labour Bulletin* 2(1), 1975, pp. 30-2.
- 25 C.Simkins, *Employment, Unemployment and Growth in South Africa, 1961-1979*, Working Paper No. 4, Rondebosch, South African Labour and Development Research Unit, University of Cape Town, 1976, p. 19.
- 26 J.Gerson, 'The Question of Structural Unemployment in South Africa', *South African Journal of Economics* 49(1), 1981, pp. 24-5; M.Lipton, 'White Farming: A case study of change in South Africa', *The Journal of Commonwealth and Comparative Politics* 12(1), 1974, pp. 49-50.
- 27 These calculations are not explained or sourced, however. M.Lipton, 'British Investment in South Africa: Is constructive engagement possible?', *South African Labour Bulletin* 3(3), 1976, p. 19.
- 28 C.Simkins, 'Measuring and Predicting Unemployment in South Africa, 1960-1977', in C.Simkins and D.Clarke, *Structural Unemployment in Southern Africa*, Pietermaritzburg, Natal University Press, 1978, Table 20; and C.Simkins, *Structural Unemployment Revisited: A revision and updating of earlier estimates incorporating new data from the Current Population Survey and the 1980 Population Census*, Rondebosch, South African Labour and Development Research Unit, University of Cape Town, 1982, p. 6.
- 29 T.Bell and V.Padayachee, 'Unemployment in South Africa: Trends, causes and cures', *Development Southern Africa* 1(3 and 4), 1984, pp. 427-9.
- 30 D.Hindson, 'The Restructuring of Labour Markets in South Africa: 1970s and 1980s', in S.Gelb (ed.) *South Africa's Economic Crisis*, David Philip, Cape Town, 1991, p. 235.

NOTES

- 31 D.Lewis, 'Unemployment and the Current Crisis', in Gelb, *South Africa's Economic Crisis*, pp. 244–5.
- 32 These unemployment rates were updated to 1982 by Bell and are based on: Simkins, 'Measuring and Predicting Unemployment', Table 20 and Simkins, *Structural Unemployment Revisited*, p. 6.
- 33 T.Bell, 'Capital Intensity and Employment in South African Industry', *South African Journal of Economics* 46(1), 1978, pp. 52–5.
- 34 A.Whiteford and M.McGrath, *The Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994, p. 56.
- 35 J.Keenan, 'Reforming Poverty: A socio-economic profile of Soweto households during the "Reform" era, 1978–1986', *African Studies* 47(1), 1988, pp. 35–46.
- 36 Hofmeyr, 'Black Wages', pp. 133–8; Knight and McGrath, 'The Erosion of Apartheid', p. 29.
- 37 Knight and McGrath, 'The Erosion of Apartheid', pp. 20–5.
- 38 Hofmeyr, 'The Rise in African Wages', pp. 211–13.
- 39 Hofmeyr, 'The Rise in African Wages', p. 140.
- 40 C.Harvey, 'British Investment in South Africa: A sample study of firms', in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume One, Minutes of Evidence of the Trade and Industry Sub-Committee of the Expenditure Committee, House of Commons, Report HC-268*, London, HMSO, 1973, p. 315.
- 41 Certain numerically important occupations in the mining sector are not classifiable as either semi-skilled or unskilled. In order to emphasise the cross-sectoral trend, I have classified all the unclassifiable mining occupations as 'unskilled'. These figures are therefore certain to underestimate the numbers of semi-skilled workers.
- 42 'Examination of Witnesses', British Leyland Motor Corporation, in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume One*, p. 145.
- 43 'Examination of Witnesses', Courtaulds, in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume One*, p. 87.
- 44 D.Bendix, *The Manpower Situation and Black Labour in the South African Motor Car Repair Shop Industry*, Institute of Labour Relations, Pretoria, University of South Africa, 1976, p. 24.
- 45 J.Knight, 'Black Wages and Choice of Technique in South Africa', *Oxford Bulletin of Economics and Statistics* 41 (2), 1979, pp. 120–1.
- 46 A.Spandau, 'Residence and Workplace in Dynamic Tension: A study in the dual labor market of a South African plant', in A.Brown and E.Neuberger (eds) *Internal Migration: A comparative perspective*, New York, Academic Press, 1977, pp. 433–7.
- 47 'Examination of Witnesses', British Leyland Motor Corporation, in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume One*, p. 147.
- 48 Knight, 'Black Wages and Choice of Technique in South Africa', pp. 119–20.
- 49 L.Bethlehem, S.Buhlungu, O.Crankshaw and C.White, 'Co-Determination vs Co-Option: PPWAWU and PG Bison negotiate restructuring', *South African Labour Bulletin* 18(1), 1994, pp. 12–19.
- 50 Whiteford and McGrath, *The Distribution of Income in South Africa*, p. 56.
- 51 Interview with Nick Green, Managing Director, Markinor, 18 April 1991. See also N.Green and R.Lascaris, *Third World Destiny: Recognising and seizing the opportunities offered by a changing South Africa*, Cape Town, Human & Rosseau/Tafelberg, 1988, p 17–25.

THE INCREASING SIGNIFICANCE OF CLASS

- 1 M.O'Dowd, 'The Stages of Economic Growth and the Future of South Africa', pp. 31–2 and J.Nattrass, 'Economic Development and Social and Political Change: A suggested theoretical framework', pp. 78–80, both in L.Schlemmer and E.Webster (eds) *Change, Reform and Economic Growth in South Africa*, Johannesburg, Ravan Press, 1978.
- 2 M.Lipton, *Capitalism and Apartheid: South Africa, 1910–1986*, Claremont, David Philip, 1985, pp. 144–9
- 3 M.Legassick, 'Postscript to "Legislation, Ideology and Economy in Post-1948 South Africa"', in Schlemmer and Webster, *Change, Reform and Economic Growth*, p. 75.
- 4 H.Wolpe, *Race, Class and the Apartheid State*, London, James Currey, 1988, pp.75–6.
- 5 P.Hendler, *Politics on the Home Front*, Braamfontein, South African Institute of Race Relations, 1989, p. 5.
- 6 *Informal Housing Part 1: The current situation*, Braamfontein, Urban Foundation, 1991, p. 15.
- 7 A.Morris, 'The Desegregation of Hillbrow, Johannesburg, 1978–1982', *Urban Studies* 31(6), 1994, pp. 821–34; G.Saff, 'The Changing Face of the South African City: From urban apartheid to the deracialization of space', *International Journal of Urban and Regional Research* 18(3), 1994, pp. 383–5.
- 8 O.Crankshaw, "'On the Doorstep of Management": Upward mobility of African workers in the metal industry and its implications for trade union organisation', *South African Sociological Review* 6(1), 1993, pp. 10–11; O.Crankshaw, 'Homelessness, Affordability and Urbanisation in Bekkersdal: Results of a household survey', Doornfontein, Centre for Policy Studies, 1993, p. 12; R.Palmer, 'The New Elites of Keiskammahoek', Paper presented to the Annual Conference of the Association of South African Anthropologists, Umtata, University of the Transkei, 1990, pp. 6 and 12; T.Soga, 'The Emergence of Socio-Economic Residential Differentiation at Kwa-Ford, Thembalethu and Kwa-Magxaki, Port Elizabeth', Paper presented to the Annual Conference of the Society for Geography, Pretoria, University of 1989, p. 8; S.Rule, 'Propinquitous Social Diversity in Diepkloof, Soweto', *South African Journal of Sociology* 24(1), 1993, p. 11.
- 9 O.Crankshaw and C.White, 'Racial Desegregation and Inner City Decay in Johannesburg', *International Journal of Urban and Regional Research* 19(4), 1995, pp. 622–38; D.Hindson and M.Byerley, 'Class and Residential Movement: Report on a survey of households in Albert Park', Durban, Urban Studies Unit, Institute for Social and Economic Research, University of Durban-Westville, 1993, p. 13; S.Ownhouse and E.Nel, 'The "Greying" of Central: A case study of racial residential desegregation in Port Elizabeth', *Urban Forum* 4(1), 1993, p. 89.
- 10 O.Crankshaw, 'Apartheid, Urbanisation and Squatting on the Southern Witwatersrand', *African Affairs* 92 (366), 1993, p. 46; Crankshaw, 'Homelessness, Affordability and Urbanisation in Bekkersdal', p. 10; O.Crankshaw and T.Hart, 'The Roots of Homelessness: Causes of Squatting in the Vlakkfontein Squatter Settlement South of Johannesburg', *South African Geographical Journal* 72(2), 1990, p. 69; O.Crankshaw, T.Hart and G.Heron, 'The Road to Egoli: Urbanisation histories from a Johannesburg squatter settlement', in D.Smith (ed.) *The Apartheid City and Beyond: Urbanization and social change in South Africa*, London, Routledge, 1992, pp. 136–46; D.Hindson and M.Byerley, 'Class, Race and Settlement in Cato Manor: A report on surveys of African and Indian households in Cato Manor, 1992', Durban, Urban Studies

NOTES

- Unit, Institute of Social and Economic Research, University of Durban-Westville, 1993, p. 9; D.Hindson and M.Byerley, 'Class and Residential Movement: Report on a survey of households in the Umlazi/Malukazi area of Durban', Durban, Urban Studies Unit, Institute of Social and Economic Research, University of Durban-Westville, 1993, p. 11; C.White and O.Crankshaw, 'Results of the Household Survey of the Powa Park Squatter Settlement', Braamfontein, Human Sciences Research Council, 1991.
- 11 E.Webster, 'New Winners, New Losers: Five faces from a hidden abode', in E. Webster, L.Alfred, L.Bethlehem, A.Joffe and T.Selikow (eds) *Work and Industrialisation in South Africa: An introductory reader*, Randburg, Ravan Press, 1994, pp. 327-8.
 - 12 W.Wilson, *The Declining Significance of Race: Blacks and changing American institutions*, Chicago, University of Chicago Press, 1980, p. 151. 13 Wilson, *The Declining Significance of Race*, p. 154.

BIBLIOGRAPHY

UNPUBLISHED PRIMARY SOURCES

National Institute for Personnel Research Archive of Confidential Contract Reports. University of the Witwatersrand, Church of the Province of South Africa Archive: Records of the Trade Union Council of South Africa 1955-circa 1983. South African Institute of Race Relations, Newspaper Clippings Collection. Hartwell Labour Collection.

PUBLISHED PRIMARY SOURCES

Official and private sector reports

- Report and Recommendation by the Industrial Tribunal to the Honourable the Minister of Labour Concerning the Reservation of Work for White Persons in the Building Industry in the Provinces of the Orange Free State and the Transvaal*, Annexure to the House of Assembly No. 211, 1960.
- Report by the Industrial Tribunal to the Minister of Labour on Reservation of Work in the Building Industry in the Cape Province and Natal*, Annexure to the House of Assembly No. 136, 1963.
- Report to the Honourable the Minister of Labour by the Industrial Tribunal on the Labour Position in the Western Cape Province*, Annexure to the House of Assembly No. 365, 1961.
- Report of the Commission of Inquiry into Labour Legislation Part Six: Industrial relations in the mining industry*, RP 47/1979 (Wiehahn Commission), Pretoria, Government Printer, 1979.
- Report of the Commission of Inquiry into the Coal Resources of the Republic of South Africa* (Patrick Commission), Republic of South Africa, Pretoria, 1975.
- Report of the Commission of Inquiry into the Possible Introduction of a Five-Day Working Week in the Mining Industry of the Republic of South Africa*, RP 97/1977 (Franzsen Commission), Pretoria, Government Printer, 1977.
- Report of the Industrial Legislation Commission of Enquiry*, UG 62/1951 (Botha Commission), Pretoria, Government Printer, 1951.
- Report of the National Manpower Commission on High-level and Middle-level Manpower in South Africa: Recent developments*, RP 98/1987, Pretoria, Department of Manpower Utilisation/Government Printer, 1980.
- Report of the National Manpower Commission on High-level Manpower in South Africa*, RP 113/1980, Pretoria, Department of Manpower Utilisation/Government Printer, 1980.

BIBLIOGRAPHY

- Trade Union Council of South Africa, Report of Proceedings, Eighteenth Annual Conference held at Cape Town, August 1972.*
- Trade Union Council of South Africa, Report of Proceedings, Special Conference held in Johannesburg, 11–12 December 1967.*
- Wages and Conditions of African Workers Employed by British Firms in South Africa, Volumes 1 to 5: Minutes of Evidence of the Trade and Industry Subcommittee of the Expenditure Committee, House of Commons, Report Series HC-268, London, HMSO, 1973.*

Newspapers, journals and periodicals

- Government Gazette*
My Career: Quarterly on vocational information
Rand Daily Mail
The Star
The Woodworker
The South African Builder
The Manufacturer
Natal Mercury
Government Gazette
Evening Post
Pretoria News
Financial Mail

Employment statistics

The statistical results presented in this book are based on analyses performed on the Manpower Survey data tapes and on data provided in published reports. The data tapes are housed at the Human Sciences Research Council Computer Centre in Pretoria and the published reports are listed as follows:

- Summary of the Results of Manpower Survey No. 6, 30 April 1965, All industries and occupations, Pretoria, Department of Labour, 1966.*
- Summary of the Results of Manpower Survey No. 7, 28 April 1967, All industries and occupations, Pretoria, Department of Labour, 1968.*
- Summary of the Results of Manpower Survey No. 8, 30 April 1969, All industries and occupations, Pretoria, Department of Labour, 1970.*
- Summary of the Results of Manpower Survey No. 9, 30 April 1971, All industries and occupations, Pretoria, Department of Labour, 1972.*
- Summary of the Results of Manpower Survey No. 10, 27 April 1973, All industries and occupations, Pretoria, Department of Labour, 1974.*
- Summary of the Results of Manpower Survey No. 11, 25 April 1975, All industries and occupations, Pretoria, Department of Labour, 1976.*
- Summary of the Results of Manpower Survey No. 12, 29 April 1977, All industries and occupations, Pretoria, Department of Manpower, 1978.*
- Summary of the Results of Manpower Survey No. 13, 27 April 1979, All industries and occupations, Pretoria, Department of Manpower Utilisation, 1980.*
- Summary of the Results of Manpower Survey No. 14, 24 April 1981, All industries and occupations, Pretoria, Department of Manpower, 1982.*
- Manpower Survey No. 15, 29 April 1983, Volume 1, Summary: Occupational classification, Pretoria, Department of Manpower, 1984.*
- Manpower Survey No. 16, 26 April 1985, Volume 1, Summary: Occupational classification, Pretoria, Department of Manpower, 1986.*

BIBLIOGRAPHY

- Manpower Survey No. 17, Report No. 02-01-01 (1987): Occupational information*, Pretoria, Central Statistical Service, 1988.
- Manpower Survey 1988, Report No. 02-01-01 (1988): Occupational information*, Pretoria, Central Statistical Service, 1989.
- Manpower Survey 1989, Report No. 02-01-01 (1989): Occupational information*, Pretoria, Central Statistical Service, 1990.
- Manpower Survey 1990, Report No. 02-01-01 (1990): Occupational information*, Pretoria, Central Statistical Service, 1991.
- Manpower Survey No. 8, 30 April 1969, Volume 2: Sector groups*, Pretoria, Department of Labour, 1970.
- Manpower Survey No. 9, 30 April 1971, Volume 2: Sector groups*, Pretoria, Department of Labour, 1972.
- Manpower Survey No. 10, 27 April 1973, Volume 2: Sector groups*, Pretoria, Department of Labour, 1974.
- Manpower Survey No. 11, 25 April 1975, Volume 2: Sector groups*, Pretoria, Department of Labour, 1976.
- Manpower Survey No. 12, 29 April 1977, Volume 2: Sector groups*, Pretoria, Department of Manpower, 1978.
- Manpower Survey No. 13, 27 April 1979, Volume 2: Sector groups*, Pretoria, Department of Manpower Utilisation, 1980.
- Manpower Survey No. 14, 24 April 1981, Volume 2: Sector groups*, Pretoria, Department of Manpower, 1982.
- Manpower Survey No. 15, 29 April 1983: Occupations according to sector groups*, Pretoria, Department of Manpower, 1984.
- Manpower Survey No. 16, 26 April 1985: Occupations according to sector groups*, Pretoria, Department of Manpower, 1986.
- Manpower Survey No. 17, Report No. 02-01-02 (1987): Occupations by major industrial division*, Pretoria, Central Statistical Service, 1988.
- Population Census: Bophuthatswana, 1985: Occupations*, Unpublished printouts.
- Transkei Population Census 1985*, Umtata, Institute for Management and Development Studies, no date.
- Population Census 1985*, Statistical Report No. 2, Republic of Venda, Office of the State President, Thohoyandou, 1987.
- Population Census, 7 May 1946, Volume V: Occupations and industries of the European, Asiatic, Coloured and Native Population, U.G.41/1954*, Pretoria, Union of South Africa, 1955.
- Population Census, 6 September 1960, Vol. 8, No. 1: Occupations (by income, work status, industry and identity of employer)*, Pretoria, Department of Statistics, 1969.
- Population Census 1970, Report No. 02-05-04: Occupations (income, industry and identity)*, Pretoria, Department of Statistics, 1975.
- Population Census 80, Report No. 02-80-11: Economic characteristics*, Pretoria, Central Statistical Service, 1985.
- Population Census 1985, Report No. 02-85-07: Economic characteristics (statistics according to occupation, industry and identity of employer)*, Pretoria, Central Statistical Service, 1986.
- Population Census 1991, Report No. 03-01-08: Occupation by development region, statistical region and district*, Pretoria, Central Statistical Service, 1992.
- South African Labour Statistics 1993*, Pretoria, Central Statistical Service, 1993.
- Statistical Year Book 1964*, Pretoria, Bureau of Statistics, 1964.
- Statistical Year Book 1972*, Pretoria, Department of Statistics, 1972.
- South African Statistics 1982*, Pretoria, Central Statistical Service, 1982.
- South African Statistics 1988*, Pretoria, Central Statistical Service, 1988.

BIBLIOGRAPHY

- South African Statistics 1990*, Pretoria, Central Statistical Service, 1990.
- The South African Salary Survey: A definitive study of top executive remuneration and benefits*, 1979, Johannesburg, P-E Consulting Group SA, 1979.
- The South African Salary Survey: A definitive study of general staff remuneration and benefits*, 1979, Johannesburg, P-E Consulting Group SA, 1979.
- The South African Salary Survey: A definitive study of top executive remuneration and benefits*, 1981, Johannesburg, P-E Consulting Group SA, 1981.
- The South African Salary Survey: A definitive study of general staff remuneration and benefits*, 1981, Johannesburg, P-E Consulting Group SA, 1981.
- The South African Salary Survey: A definitive study of top executive remuneration and benefits*, 1982, Johannesburg, P-E Consulting Group SA, 1982.
- The South African Salary Survey: A definitive study of general staff remuneration and benefits*, 1982, Johannesburg, P-E Consulting Group SA, 1982.
- The South African Salary Survey: A definitive study of top executive remuneration and benefits*, 1983, Johannesburg, P-E Consulting Group SA, 1983.
- The South African Salary Survey: A definitive study of general staff remuneration and benefits*, 1983, Johannesburg, P-E Consulting Group SA, 1983.
- The South African Salary Survey, September 1984: Top executive remuneration and benefits*, Johannesburg, P-E Consulting Group SA, 1984.
- The South African Salary Survey, September 1984: General staff remuneration and benefits*, 1984, Johannesburg, P-E Consulting Group SA, 1984.
- The South African Salary Survey, September 1985: Top executive remuneration and benefits*, Johannesburg, P-E Consulting Group SA, 1985.
- The South African Salary Survey, September 1985: General staff remuneration and benefits*, 1984, Johannesburg, P-E Consulting Group SA, 1985.
- The South African Salary Survey, September 1986: Top executive remuneration and benefits*, Johannesburg, P-E Consulting Group SA, 1986.
- The South African Salary Survey, September 1986: General staff remuneration and benefits*, 1984, Johannesburg, P-E Consulting Group SA, 1986.
- The South African Salary Survey, September 1987: Top executive remuneration and benefits*, Johannesburg, P-E Consulting Group SA, 1987.
- The South African Salary Survey, September 1987: General staff remuneration and benefits*, 1984, Johannesburg, P-E Consulting Group SA, 1987.
- The South African Salary Survey, September 1988: Top executive remuneration and benefits*, Johannesburg, P-E Consulting Group SA, 1988.
- The South African Salary Survey, September 1988: General staff remuneration and benefits*, 1984, Johannesburg, P-E Consulting Group SA, 1988.
- The South African Salary Survey, September 1989: Top executive remuneration and benefits*, Johannesburg, P-E Consulting Group SA, 1989.
- The South African Salary Survey, September 1989: General staff remuneration and benefits*, 1984, Johannesburg, P-E Consulting Group SA, 1989.

SECONDARY SOURCES

Published books and articles

- A Survey of Race Relations in South Africa, 1959–1960*, Braamfontein, South African Institute of Race Relations, 1961.
- A Survey of Race Relations in South Africa*, 1962, Johannesburg, South African Institute of Race Relations, 1963.

BIBLIOGRAPHY

- A Survey of Race Relations in South Africa*, 1963, Johannesburg, South African Institute of Race Relations, 1964.
- A Survey of Race Relations in South Africa*, 1964, Johannesburg, South African Institute of Race Relations, 1965.
- A Survey of Race Relations in South Africa*, 1965, Johannesburg, South African Institute of Race Relations, 1966.
- A Survey of Race Relations in South Africa*, 1966, Johannesburg, South African Institute of Race Relations, 1967.
- A Survey of Race Relations in South Africa*, 1967, Johannesburg, South African Institute of Race Relations, 1968.
- A Survey of Race Relations in South Africa*, 1968, Johannesburg, South African Institute of Race Relations, 1969.
- A Survey of Race Relations in South Africa*, 1969, Johannesburg, South African Institute of Race Relations, 1970.
- A Survey of Race Relations in South Africa*, 1970, Johannesburg, South African Institute of Race Relations, 1971.
- A Survey of Race Relations in South Africa*, 1971, Johannesburg, South African Institute of Race Relations, 1972.
- A Survey of Race Relations in South Africa*, 1975, Johannesburg, South African Institute of Race Relations, 1976.
- A Survey of Race Relations in South Africa*, 1977, Johannesburg, South African Institute of Race Relations, 1978.
- Alexander, R. and Simons, H., *Job Reservation and the Trade Unions*, Woodstock, Enterprise, 1959.
- An Investigation into the Utilisation of Native Labour Employed by the Johannesburg City Council*, Braamfontein, National Institute for Personnel Research, South African Council for Scientific and Industrial Research, 1957.
- Armstrong, A., 'Micro-Technology and the Control of Women in the Office', *South African Labour Bulletin* 9(3), 1983, pp. 53-73.
- Asheron, A., 'Race and Politics in South Africa', *New Left Review* 53, 1969, pp. 55-67.
- Barker, H., *The Economics of the Wholesale Clothing Industry of South Africa, 1907-1957*, Johannesburg, Pallas Publ., 1962.
- Bell, T., 'Capital Intensity and Employment in South African Industry', *South African Journal of Economics* 46(1), 1978, pp. 48-61.
- and Padayachee, V., 'Unemployment in South Africa: Trends, causes and cures', *Development Southern Africa* 1(3 and 4), 1984, pp. 426-38.
- Bendix, D., *The Manpower Situation and Black Labour in the South African Motor Car Repair Shop Industry*, Pretoria, Institute of Labour Relations, University of South Africa, 1976.
- Bethlehem, L., Buhlungu, S., Crankshaw O. and White, C., 'Co-Determination vs Co-Option: PPWAWU and PG Bison negotiate restructuring', *South African Labour Bulletin* 18(1), 1994, pp. 12-19.
- Black, A., 'Manufacturing Development and the Economic Crisis: A reversion to primary production?', in S. Gelb (ed.) *South Africa's Economic Crisis*, Cape Town, David Philip, 1991, pp. 156-74.
- Black, R., 'Development of South African Mining Methods', *Optima* 10(2), 1960, pp. 65-77.
- Bot, M., *Training on Separate Tracks: Segregated technical education and prospects for its erosion*, Braamfontein, South African Institute of Race Relations, 1988.
- Braverman, H., *Labor and Monopoly Capital: The degradation of work in the twentieth century*, New York, Monthly Review Press, 1974.

BIBLIOGRAPHY

- Bromberger, N., *Mining Employment in South Africa, 1946–2000*, Working Paper No. 15, Cape Town, South African Labour and Development Research Unit, University of Cape Town, 1978.
- Carchedi, G., 'On the Economic Identification of the New Middle Class', *Economy and Society* 4(1), 1975, pp. 1–86.
- Chalmers, T., 'The Influence of New Technology on the Work Situation in Banks: An employees perspective', in R.Hirschowitz (ed.) *The Influence of Technological Change on the Banking Sector*, Report MM-119, Pretoria, Human Sciences Research Council, 1986, pp. 119–34.
- Charney, C., 'Janus in Blackface? The African petite bourgeoisie in South Africa', *Con-Text* 1, 1988, pp. 5–44.
- Cilliers, G., *Beroepstudie van Verpleegkundiges Deel 1:1981 Finalejaarstudente*, Report MM-90, Pretoria, Human Sciences Research Council, 1982.
- *Beroepstudie van Verpleegkundiges Deel 2: Werksituasie van ge-registreeerde verpleegkundiges*, Report MM-94, Pretoria, Human Sciences Research Council, 1983.
- *Occupational Study of Nurses Part 3: The work situation of nurses two years after qualifying*. Report MM-108, Pretoria, Human Sciences Research Council, 1984.
- Clarke, M., *Industrialised Building and its Impact on Labour*, Working Paper No. 44, Cape Town, South African Labour and Development Research Unit, University of Cape Town, 1982.
- Cortis, L., Welch, P., Blake, R., Skawran, R. and van Rooyen, J. *The Utilization of Bantu Labour in the Building Industry*, Johannesburg, National Development Fund for the Building Industry, 1962.
- Crankshaw, O., 'Theories of Class and the African "Middle Class" in South Africa, 1969–1983', *Africa Perspective* 1(1 and 2), 1986, pp. 3–33.
- 'Apartheid and Economic Growth: Craft unions, capital and the state in the South African building industry', *Journal of Southern African Studies* 16(3), 1990, pp. 503–26.
- "On the Doorstep of Management": Upward mobility of African workers in the metal industry and its implications for trade union organisation', *South African Sociological Review* 6(1), 1993, pp. 1–18.
- 'Apartheid, Urbanisation and Squatting on the Southern Witwatersrand', *African Affairs* 92 (366), 1993, pp. 31–51.
- and Hart, T., 'The Roots of Homelessness: Causes of Squatting in the Vlakfontein Squatter Settlement South of Johannesburg', *South African Geographical Journal* 72(2), 1990, pp. 65–70.
- and White, C., 'Racial Desegregation and Inner City Decay in Johannesburg', *International Journal of Urban and Regional Research* 19(4), 1995, pp. 622–38.
- and Heron, G., 'The Road to Egoli: Urbanisation histories from a Johannesburg squatter settlement', in D.Smith (ed.) *The Apartheid City and Beyond: Urbanization and social change in South Africa*, London, Routledge, 1992, pp. 136–46.
- Crush, J., Jeeves, A. and Yudelman, D., *South Africa's Labor Empire: A history of black migrancy to the gold mines*, Cape Town, David Philip, 1991.
- Davies, R., 'Capital Restructuring and the Modification of the Racial Division of Labour in South Africa', *Journal of Southern African Studies* 5(2), 1979, pp. 181–98.
- *Capital, State and White Labour in South Africa, 1900–1960: An historical materialist analysis of class formation and class relations*, Brighton, The Harvester Press, 1979.
- de Kock, S., 'Palletised Goods in Unit Loads', *The Manufacturer*, January 1958, pp. 29–31.

BIBLIOGRAPHY

- Dryden, M., 'The Advantages of Factory-Assembled Components', *The South African Builder* 48(10), 1970, p. 43–5.
- Edwards, R., *Contested Terrain: The transformation of the workplace in the twentieth century*, New York, Basic Books, 1979.
- Ewert, J., 'The Political Maintenance of "Skill": Labour process changes and artisan domination in the South African printing industry', *Social Dynamics* 16(2), 1990, pp. 38–55.
- First, R., Steele, J. and Gurney, C., *The South African Connection: Western investment in apartheid*, London, Temple Smith, 1973.
- Fitzmaurice, R., 'Changes in Building Technique: New method of reducing costs and increasing productivity', *The South African Builder* 28(9), 1950, p. 15–25.
- Foster, N., *Labour in the South African Building Industry: Background and current trends*, Report No. 18, Johannesburg, Labour Research Programme, University of the Witwatersrand, 1978.
- Freund, B., 'South African Gold Mining in Transformation', in S. Gelb (ed.) *South Africa's Economic Crisis*, Cape Town, David Philip, 1991, p. 110–28.
- Gallie, J., 'The Progress of Blacks in Engineering with Special Reference to the South African Mining Industry', *The South African Mechanical Engineer* 27(7), 1977, pp. 204–14.
- Gelb, S., 'South Africa's Economic Crisis: An overview', in S. Gelb (ed.) *South Africa's Economic Crisis*, Cape Town, David Philip, 1991, pp. 1–32.
- Gerson, J., 'The Question of Structural Unemployment in South Africa', *South African Journal of Economics* 49(1), 1981, pp. 10–25.
- Glenn, F., 'A Post-Braverman Analysis of Clerical Workers in the Finance Sector: A case study', *South African Sociological Review* 5(1), 1992, pp. 23–40.
- Golding, M., 'CCAWUSA: 10 Years', *South African Labour Bulletin* 11(1), 1985, pp. 27–8.
- Goldthorpe, J., *Social Mobility and Class Structure in Modern Britain* (2nd edn), Oxford, Clarendon Press, 1987.
- Green, N. and Lascaris, R., *Third World Destiny: Recognising and seizing the opportunities offered by a changing South Africa*, Cape Town, Human & Rosseau/Tafelberg, 1988.
- Greenberg, S., *Race and State in Capitalist Development: South Africa in comparative perspective*, Johannesburg, Ravan Press, 1980.
- Grotsius, J., 'Labour Relations in the Building Industry', *South African Journal of Labour Relations* 2(3), 1978, pp. 16–22.
- Guy J. and Thabane, M., 'Technology, Ethnicity and Ideology: Basotho miners and shaft-sinking on the South African gold mines', *Journal of Southern African Studies* 14(2), 1988, pp. 257–78.
- Hartshorne, K., *Crisis and Challenge: Black education 1910–1990*, Cape Town, Oxford University Press, 1992.
- Harvey, C., 'British Investment in South Africa: A sample study of firms', in *Wages and Conditions of African Workers Employed by British Firms in South Africa, Volume 1, Minutes of Evidence of the Trade and Industry Sub-Committee of the Expenditure Committee, House of Commons*, Report HC-268, London, HMSO, 1973, pp. 310–28.
- Hellmann, E., *Sellgoods: A sociological survey of an African commercial labour force*, Johannesburg, South African Institute of Race Relations, 1953.
- Hendler, P., *Politics on the Home Front*, Braamfontein, South African Institute of Race Relations, 1989.
- Herd, N., *Counter Attack: The story of the South African shopworkers*, Cape Town, National Union of Distributive Workers, 1974.

BIBLIOGRAPHY

- Hill, L., *An Overview of the South African Financial Services with Special Reference to the Banking Sector*, Stellenbosch, Institute for Futures Research, University of Stellenbosch, 1987.
- Hindson, D., *Pass Controls and the Urban African Proletariat in South Africa*, Johannesburg, Ravan Press, 1987.
- ‘The Restructuring of Labour Markets in South Africa: 1970s and 1980s’, in S.Gelb (ed.) *South Africa’s Economic Crisis*, Cape Town, David Philip, 1991, pp. 228–43.
- and Crankshaw, O., ‘New Jobs, New Skills, New Divisions: The changing structure of South Africa’s workforce’, *South African Labour Bulletin* 15(1), 1990, pp. 23–9.
- Hirschowitz, R., ‘Sociological Implications of Technological Change in Banking’, in R.Hirschowitz (ed.) *The Influence of Technological Change on the Banking Sector*, Report MM-119, Pretoria, Human Sciences Research Council, 1986, pp. 37–58.
- Hofmeyr, J., ‘Black Wages: The post-war experience’, in N.Natras and E.Aldington (eds) *The Political Economy of South Africa*, Cape Town, Oxford University Press, 1990, pp. 129–47.
- ‘The Rise in African Wages, 1975–1985’, *South African Journal of Economics* 62(3), 1994, pp. 198–215.
- Horner, D., *Registered Trade Unions in South Africa, August 1974*, Johannesburg, South African Institute of Race Relations, 1974.
- Horrell, M., *Bantu Education to 1968*, Johannesburg, South African Institute of Race Relations, 1968.
- Hudson P. and Sarakinsky, M., ‘Class Interests and Politics: The case of the urban African bourgeoisie’, *South African Review III*, Braamfontein, Ravan Press, 1986, pp. 169–85.
- Human, L. (ed.) *Educating and Developing Managers for a Changing South Africa: Selected Essays*, Cape Town, Juta & Co., 1991.
- Rainey, P. and Rajah, M., *Occupational Mobility and Wage Differentiation: A qualitative study*, Pretoria, Human Sciences Research Council, 1986.
- Hume, I., ‘Notes on South African Wage Movements’, *South African Journal of Economics* 38(3), 1970, pp. 240–56.
- Hyslop, J., ‘The Concepts of Reproduction and Resistance in the Sociology of Education: The case of the transition from “Missionary” to “Bantu” education, 1940–1955’, *Perspectives in Education* 9(2), 1987, pp. 3–26.
- ‘State Education Policy and the Social Reproduction of the Urban African Working Class: The case of the southern Transvaal, 1955–1976’, *Journal of Southern African Studies* 14(3), 1988, pp. 446–76.
- ‘Schools, Unemployment and Youth: Origins and significance of student and youth movements, 1976–1987’, *Perspectives in Education* 10(2), 1988/9, pp. 61–9.
- Informal Housing Part 1: The current situation*, Braamfontein, Urban Foundation, 1991.
- Innes, D., *Anglo: Anglo American and the rise of modern South Africa*, Johannesburg, Ravan Press, 1984.
- Kentridge, M. and Perold, H. (eds) *Reversing Discrimination: Affirmative action in the workplace*, Cape Town, Oxford University Press, 1993.
- James, W., *Our Precious Metal: African labour in South Africa’s gold industry, 1970–1990*, Cape Town, David Philip, 1992.
- Jarrett-Kerr, M., *African Pulse: Scenes from an African hospital window*, London, The Faith Press, 1960.
- Jensen, A., *A Statistical Study of Manpower in the Building Industry*, Braamfontein, National Institute for Personnel Research, 1963.

BIBLIOGRAPHY

- Jeppe, C., *Gold Mining on the Witwatersrand Vol. II*, Johannesburg, Transvaal Chamber of Mines, 1946.
- Johnstone, F., 'White Prosperity and White Supremacy in South Africa Today', *African Affairs* 69(274), 1970, pp. 124–40.
- Joughin, N., 'Progress in the Development of Mechanized Stopping Methods', *Journal of the South African Institute of Mining and Metallurgy*, March 1978, pp. 207–17.
- Kane-Berman, J., *South Africa's Silent Revolution*, Johannesburg, South African Institute of Race Relations, 1990.
- Keenan, J., 'Reforming Poverty: A socio-economic profile of Soweto households during the "Reform" era, 1978–1986', *African Studies* 47(1), 1988, pp. 35–46.
- Knight, J., 'Black Wages and Choice of Techniques in South Africa' *Oxford Bulletin of Economics and Statistics* 41(2), 1979, pp. 117–44.
- and McGrath, M., 'The Erosion of Apartheid in the South African Labour Market: Mechanisms and Measures', Applied Economics Discussion Paper No. 35, Oxford, Institute of Economics and Statistics, University of Oxford, 1987.
- Kraak, A., 'Uneven Capitalist Development: A case study of deskilling and reskilling in South Africa's Metal Industry', *Social Dynamics* 13(2), 1987, pp. 14–31.
- Legassick, M., 'Legislation, Ideology and Economy in Post-1948 South Africa', *Journal of Southern African Studies* 1(1), 1974, pp. 5–35.
- 'Postscript to "Legislation, Ideology and Economy in Post-1948 South Africa"', in L.Schlemmer and E.Webster (eds) *Change, Reform and Economic Growth in South Africa*, Johannesburg, Ravan Press, 1978, pp. 73–6.
- 'South Africa: Forced labour, industrialization, and racial differentiation', in R. Harris (ed.) *The Political Economy of Africa*, New York, John Wiley & Sons, 1975, pp. 229–70.
- 'The Record of British Firms in South Africa: In the context of the political economy', *South African Labour Bulletin* 2(1), 1975, pp. 7–36.
- and Innes, D., 'Capital Restructuring and Apartheid: A critique of constructive engagement', *African Affairs*, 76, 1977, pp. 437–82.
- Leger, J., 'Coal Mining: Past profits, current crisis?', in S.Gelb (ed.) *South Africa's Economic Crisis*, Cape Town, David Philip, 1991, pp. 129–55.
- Lever, J., 'TUCSA: The trade-unionism of moderate opposition', in F.Orkin and S. Welz (eds) *Society in Southern Africa, 1975–1978: ASSA Congress proceedings*, Johannesburg, ASSA, 1979, p. 255–84.
- and James, W., *Towards a Deracialised Labour Force: Industrial relations and the abolition of the job colour bar on the South African gold mines*, Occasional Paper No. 12, Stellenbosch, Department of Sociology, University of Stellenbosch, 1987.
- Lewis, D., 'Unemployment and the Current Crisis', in S.Gelb (ed.) *South Africa's Economic Crisis*, Cape Town, David Philip, 1991, pp. 244–66.
- Lewis, J., *Industrialisation and Trade Union Organisation in South Africa, 1924–55: The rise and fall of the South African Trades and Labour Council*, Cambridge, Cambridge University Press, 1984.
- Lipton, M., 'White Farming: A case study of change in South Africa', *The Journal of Commonwealth and Comparative Politics* 12(1), 1974, pp. 43–61.
- 'British Investment in South Africa: Is constructive engagement possible?', *South African Labour Bulletin* 3(3), 1976, pp. 10–48.
- 'The Debate About South Africa: Neo-Marxists and neo-Liberals', *African Affairs* 78(310), 1979, pp. 57–80.
- *Capitalism and Apartheid: South Africa, 1910–1986*, Claremont, David Philip, 1985.
- Lundall, P. and Kimmie, K., 'Apprentice Training and Artisan Employment: Changing numbers but maintaining "job reservation"', *South African Labour Bulletin* 16(6), 1992, pp. 40–5.

BIBLIOGRAPHY

- Lundall, P., Schroeder, I. and Young, G., *Directory of Trade Unions: A complete guide to all South Africa's trade unions*, Cape Town, Southern African Labour and Development Unit, University of Cape Town, 1984.
- MacConachie, H., 'Progress in Gold Mining Over Fifty Years', *Optima* 17(3), 1969, pp. 130–8.
- McGrath, M., *Racial Income Distribution in South Africa*, Black/White Income Gap Project Interim Research Report No. 2, Durban, Department of Economics, University of Natal, 1977.
- 'Economic Growth and the Distribution of Racial Incomes in the South African Economy', *South Africa International* 15(4), 1985, pp. 223–32.
- Mackenzie, G., 'Class Boundaries and the Labour Process', in A.Giddens and G. Mackenzie (eds) *Social Class and the Division of Labour*, Cambridge, Cambridge University Press, 1982, pp. 63–86.
- MacMurray, M., *Black Labour in the South African Gold Mining Industry: 1966 to 1974*, Report No. 16, Johannesburg, Labour Research Programme, University of the Witwatersrand, 1978.
- Marks, S., 'The Nursing Profession and the Making of Apartheid', in P.Bonner, P. Delius and D.Posel (eds) *Apartheid's Genesis, 1935–1962*, Johannesburg, Ravan/Wits University Press, 1993, pp. 341–61.
- Divided Sisterhood: Race, Class and Gender in the South African nursing profession*, Johannesburg, Witwatersrand University Press, 1994.
- Mashinini, E., *Strikes Have Followed Me All My Life: A South African autobiography*, London, The Women's Press, 1989.
- Meth, C., 'Trade Unions, Skill Shortages and Private Enterprise', *South African Labour Bulletin* 5(3), 1979, pp. 59–89.
- 'Class Formation: Skill shortage and black advancement', *South African Review 1: Same foundations, new facades?*, Johannesburg, Ravan Press, 1983, pp. 193–8.
- Meyer, N., 'The Development of the Footwear Industry in South Africa, 1947–1961', *South African Journal of Economics* 31, 1963, pp. 220–40.
- Miodownik, M., 'Debate on Mechanisation in the Building Industry' *The South African Builder* 44(11), 1966, pp. 44–8.
- Moll, P., 'Black South African Unions: Relative wage effects in international perspective', *Industrial and Labor Relations Review* 46(2), 1993, pp. 245–61.
- Morris, A., 'The Desegregation of Hillbrow, Johannesburg, 1978–1982', *Urban Studies* 31(6), 1994, pp. 821–34.
- Morris, M., and Kaplan, D., 'Labour Policy in a State Corporation: A case study of the South African Iron and Steel Corporation', *South African Labour Bulletin* 2(6), 1976, pp. 21–33.
- My Career/My Loopbaan* 1991, Pretoria, Department of Manpower, 1991.
- Nattrass, J., 'The Narrowing of Wage Differentials in South Africa', *South African Journal of Economics* 45(4), 1977, pp. 408–32.
- 'Economic Development and Social and Political Change: A suggested theoretical framework', in L.Schlemmer and E.Webster (eds) *Change, Reform and Economic Growth in South Africa*, Johannesburg, Ravan Press, 1978, pp. 77–90.
- Nattrass, N., 'Economic Power and Profits in Post-War Manufacturing', in N. Nattrass and E.Ardington (eds) *The Political Economy of South Africa*, Cape Town, Oxford University Press, 1990, p. 107–28.
- 'Controversies About Capitalism and Apartheid in South Africa: An economic perspective', *Journal of Southern African Studies* 17(4), 1991, pp. 654–77.
- Naude, R. and Deats, M., 'The Pioneering of Fully Mechanized Longwall Coal Mining in South Africa', *Journal of the South African Institute of Mining and Metallurgy* 67(7), 1967, pp. 322–57.

BIBLIOGRAPHY

- Nolutshungu, S., *Changing South Africa: Political Considerations*, Cape Town, DavidPhilip, 1983.
- Nzimande, B., 'Managers and the New Middle Class', *Transformation* 1, 1986, pp. 39–62.
- 'Class, National Oppression and the African Petty Bourgeoisie: The case of African traders', in R.Cohen (ed.) *Repression and Resistance: Insider accounts of Apartheid*, London, Hans Zell, 1990, pp. 165–210.
- O'Dowd, M., 'The Stages of Economic Growth and the Future of South Africa', in L.Schlemmer and E.Webster (eds) *Change, Reform and Economic Growth in South Africa*, Johannesburg, Ravan Press, 1978, pp. 28–50.
- Ownhouse, S. and Nel, E., 'The "Greying" of Central: A case study of racial residential desegregation in Port Elizabeth', *Urban Forum* 4(1), 1993, pp. 81–92.
- Perrings, C., 'A Moment in the "Proletarianisation" of the New Middle Class: Race, value and the division of labour in the Copperbelt, 1946–1966', *Journal of Southern African Studies* 6(2), 1980, pp. 183–213.
- Piercy, M., 'Statutory Work Reservation: Requirement of a static or of an expanding economy?', *South African Journal of Economics* 28(2), 1960, pp. 119–40.
- 'Statutory Work Reservation in the Union of South Africa: Concluding Article', *South African Journal of Economics* 28(3), 1960, pp. 206–33.
- Pillay, P., *Future Developments in the Demand for Labour by the South African Mining Industry*, Geneva, International Labour Office, 1987.
- Posel, D., 'Rethinking the "Race-Class Debate" in South African Historiography' *Social Dynamics* 9(1), 1983, pp. 50–66.
- The Making of Apartheid: Conflict and Compromise, 1948–1961*, Oxford, Clarendon, 1991.
- Poulantzas, N., *Classes in Contemporary Capitalism*, London, Verso, 1975.
- Pursell, D., 'Bantu Real Wages and Employment Opportunities in South Africa', *South African Journal of Economics* 36, 1968, pp. 87–103.
- Race Relations as Regulated by Law in South Africa, 1948–1979*, Johannesburg, South African Institute of Race Relations, 1982.
- Race Relations Survey: 1988/89*, Johannesburg, South African Institute of Race Relations, 1989.
- Radloff, D., *Socio-Economic Progress for Nurses in South Africa Through Professional Organisation, 1914–1969*, Pretoria, South African Nursing Association, 1970.
- Rafel, R., 'Job Reservation on the Mines', *South African Review* 4, Braamfontein, Ravan Press, 1987, pp. 265–82.
- Report on Asiatic, Black and Coloured Advancement 1979*, Johannesburg, Fine Spamer Associates, 1979.
- Ringrose, H., *Trade Unions in Natal*, Cape Town, Oxford University Press, 1951.
- Robbins, D. and Hartley, W., *Inside the Last Outpost*, Pietermaritzburg, Shuter and Shooter, 1985.
- Roberts, J., 'SA Development Techniques', *The South African Builder* 42(11), 1964, pp. 33–6.
- Roukens de Lange, A., *Manpower Demand and Supply in South Africa: A study of trends and interactions with the economy*, Stellenbosch, Institute for Futures Research, University of Stellenbosch, 1992.
- and van Eeghen, P., *Employment in South Africa: Evaluation and trend analysis*, Bellville, Institute for Futures Research, 1984.
- 'Standardised Employment Series for South Africa's Formal Economy', *Journal of Studies in Economics and Econometrics* 14(2), 1990, pp. 25–56.
- Rule, R., 'Propinquitous Social Diversity in Diepkloof, Soweto', *South African Journal of Sociology* 24(1), 1993, pp. 9–12.

BIBLIOGRAPHY

- Saff, G., 'The Changing Face of the South African City: From urban apartheid to the deracialization of space', *International Journal of Urban and Regional Research* 18(3), 1994, pp. 377–91.
- Samson, D., 'Some Aspects of the Economics of Tower Cranes', *The South African Builder* 37(5), 1959, pp. 15–19.
- Sarakinsky, M., 'The Ideology and Politics of African Capitalists', *Africa Perspective New Series* 1(3 and 4), 1987, pp. 43–61.
- Schlemmer L. and Webster, E. (eds) *Change, Reform and Economic Growth in South Africa*, Johannesburg, Ravan Press, 1978.
- Simkins, C., *Employment, Unemployment and Growth in South Africa, 1961–1979*, Working Paper No. 4, Rondebosch, South African Labour and Development Research Unit, University of Cape Town, 1976.
- 'Measuring and Predicting Unemployment in South Africa, 1960–1977', in C. Simkins and D. Clarke, (eds) *Structural Unemployment in Southern Africa*, Pietermaritzburg, Natal University Press, 1978.
- Structural Unemployment Revisited: A revision and updating of earlier estimates incorporating new data from the Current Population Survey and the 1980 Population Census*, Rondebosch, South African Labour and Development Research Unit, University of Cape Town, 1982.
- and Hindson, D., 'The Division of Labour in South Africa, 1969–1977', *Social Dynamics* 5(2), 1979, pp. 1–12.
- Sitas, A., 'Rebels Without a Pause: The Mine Workers Union and the defence of the colour bar', *South African Labour Bulletin* 5(3), 1979, pp. 30–58.
- Smit, D. and van der Walt, B., 'Growth Trends and Business Cycles in the South African Economy, 1972–1981', *South African Reserve Bank Quarterly Bulletin* 144, 1982, pp. 33–9.
- 'Business Cycles in South Africa During the Post-War Period, 1946–1968', *South African Reserve Bank Quarterly Bulletin* 97, 1970, pp. 21–46.
- Smollan, R. (ed.) *Black Advancement in the South African Economy*, Johannesburg, Macmillan, 1986.
- Spandau, A., 'Residence and Workplace in Dynamic Tension: A study in the dual labor market of a South African plant', in A. Brown and E. Neuberger (eds) *Internal Migration: A comparative perspective*, New York, Academic Press, 1977, pp. 417–39.
- 'Mechanisation and Labour Policies on South African Mines', *South African Journal of Economics* 48(2), 1980, pp. 167–82.
- Steenkamp, W., 'Labour and Management in Manufacturing Development', *South African Journal of Economics* 41(4), 1973, pp. 438–55.
- Stubbs, E., 'Mechanisation within the Building Industry', *The South African Builder* 37(2), 1959, pp. 15–21.
- Survey of Race Relations 1958–59*, Johannesburg, South African Institute of Race Relations, 1960.
- Survey of Race Relations in South Africa: 1982*, Johannesburg, South African Institute of Race Relations, 1983.
- Terblanche, S., *An Analysis of the Macro Manpower Demand and Supply Situation (1977–1987) in the RSA*, Report MM-83, Pretoria, Human Sciences Research Council, 1981.
- and Jacobs, J., *Strukturveranderinge in Middelvlakmannekrag (1983)*, Report MN-102, Pretoria, Human Sciences Research Council, 1983.
- Jacobs, J. and Beukes, J., 'Some Implications of the Structural Changes in the Labour Force of South Africa', in H. Marais, (ed.) *South Africa: Perspectives on the Future*, Pinetown, Owen Burgess, 1988, pp. 125–43.

BIBLIOGRAPHY

- The African Factory Worker: A sample study of the life and labour of the urban African worker*, Cape Town, Oxford University Press, 1950.
- Thomas, W. (ed.) *Management Responsibility and African Employment in South Africa*, Johannesburg, Ravan Press, 1973.
- Trapido, S., 'South Africa in a Comparative Study of Industrialization', *Journal of Development Studies* 7(3), 1971, pp. 309–20.
- Vallings, H., 'Latest Trends in Machines for Building Site Work', *The South African Builder* 41(8), 1963, pp. 32–4.
- van der Horst, S., 'Statutory and Administrative Measures and Policy Directly Affecting the Employment of Coloured Persons', in H. van der Merwe and C. Groenewald (eds) *Occupational and Social Change Among Coloured People in South Africa*, Cape Town, Juta & Co., 1986, pp. 146–68.
- van der Walt, B., 'Business Cycles in South Africa During the Period 1981 to 1987', *South African Reserve Bank Quarterly Bulletin* 171, 1989, pp. 309–20.
- van Rensburg, F., *Trends in Bantu Education in the Republic of South Africa*, Pretoria, Human Sciences Research Council, 1975.
- *Graduation Trends for Non-Whites at South African Universities 1960–1975, with Projections to 1990*, Report No. WS-20, Pretoria, Human Sciences Research Council, 1977.
- Visser, R., 'Die effek van Tegnologiese Veranderinge op Spesifieke Poste', in R. Hirschowitz (ed.) *The Influence of Technological Change on the Banking Sector*, Report MM-119, Pretoria, Human Sciences Research Council, 1986, pp. 180–93.
- Wagner, H., 'The Challenge of Deep-Level Mining in South Africa', *Journal of the South African Institute of Mining and Metallurgy* 86(9), 1986, pp. 377–92.
- Webster, E., *Cast in a Racial Mould: Labour process and trade unionism in the foundries*, Johannesburg, Ravan Press, 1985.
- 'Workers Divided: Five faces from a hidden abode', in B.Bozzoli (ed.) *Class, Community and Conflict: South African Perspectives*, Johannesburg, Ravan Press, 1987, pp. 478–94.
- 'New Winners, New Losers: Five faces from a hidden abode', in E.Webster, L.Alfred, L.Bethlehem, A.Joffe, and T.Selikow (eds) *Work and Industrialisation in South Africa: An introductory reader*, Randburg, Ravan Press, 1994, pp. 316–28.
- and Leger, J., 'Reconceptualising Skill Formation in South Africa', *Perspectives in Education* 13(2), 1992, pp. 53–68.
- White, I., 'The Changing Labour Process and its Consequences: A case study of a general engineering firm in Natal', *South African Labour Bulletin* 4(7), 1978, pp. 55–62.
- White, J., 'Some Attitudes of South African Nurses: A cross-cultural study', *The Journal of Social Psychology* 69, 1966, pp. 13–26.
- Whiteford, A. and McGrath, M., *Distribution of Income in South Africa*, Pretoria, Human Sciences Research Council, 1994.
- Wilson, F., *Labour in the South African Gold Mines, 1911–1969*, Cambridge, Cambridge University Press, 1972.
- Wilson, W., *The Declining Significance of Race: Blacks and changing American institutions*, Chicago, University of Chicago Press, 1980.
- Wolpe, H., 'South Africa: Class, race and the occupational structure', Collected Seminar Paper No. 12, *The Societies of Southern Africa in the 19th and 20th Centuries, Volume 2*, London, Institute of Commonwealth Studies, University of London, 1971, pp. 98–119.
- 'Capitalism and Cheap Labour in South Africa: From segregation to apartheid', *Economy and Society* 1(4), 1972, pp. 425–56.

BIBLIOGRAPHY

- ‘The Changing Class Structure of South Africa: The African petit-bourgeoisie’, in P.Zarembka (ed.) *Research in Political Economy Volume 1: An annual compilation of research*, Greenwich, Conn., JAI Press, 1977, pp. 143–74.
- Race, Class and the Apartheid State*, London, James Currey, 1988.
- Wright, E., ‘Class Boundaries in Advanced Capitalist Societies’, *New Left Review* 98, 1976, pp. 31–5.
- Classes*, London, Verso Editions, 1985.
- Yudelman, D., ‘Industrialisation, Race Relations and Change in South Africa: An ideological and academic debate’, *African Affairs* 74(294), 1975, pp. 13–26.
- Zimbalist, A., ‘Technology and the Labor Process in the Printing Industry’, in A. Zimbalist (ed.) *Case Studies on the Labor Process*, New York, Monthly Review Press, 1979, pp. 103–26.

Unpublished papers, reports and theses

- Bendix, D., ‘Manpower Development and Black Job Advancement for Higher Productivity in the Motor Repair Industry’, Unpublished doctoral thesis, Pretoria, University of South Africa, 1977.
- Black, A., ‘Government Policy and Employment Creation in the South African Manufacturing Sector’, Unpublished masters thesis, Durban, University of Natal, 1985.
- Boulanger, M., ‘Race and Employment: A sample study of Durban in the context of the political economy of South Africa’, Unpublished masters thesis, Durban, University of Natal, 1974.
- Cheater, A., ‘A Marginal Elite: A study of African registered nurses in the greater Durban area’, Unpublished masters thesis, Durban, University of Natal, 1972.
- Coetzer, G., ‘Development Criteria for the Selection of Black Nurses’, Unpublished masters thesis, Johannesburg, University of the Witwatersrand, 1981.
- Coupe, S., ‘Apartheid in South African Industrial Relations’, Unpublished doctoral thesis, Oxford, Oxford University, 1993.
- Crankshaw, O., ‘Homelessness, Affordability and Urbanisation in Bekkersdal: Results of a household survey’, Doornfontein, Centre for Policy Studies, 1993.
- Ewert, J., ‘Changing Labour Process and Worker Response in the South African Newspaper and Printing Industry’, Unpublished doctoral thesis, Stellenbosch, University of Stellenbosch, 1988.
- Hermanus, M., ‘The Gold Mining Industry: Changing technology and its implications’, Paper presented to the Labour Studies Workshop, Johannesburg, University of the Witwatersrand, October 1987.
- Hindson, D. and Byerley, M., ‘Class and Residential Movement: Report on a survey of households in Albert Park’, Durban, Urban Studies Unit, Institute for Social and Economic Research, University of Durban-Westville, 1993.
- ‘Class and Residential Movement: Report on a survey of households in the Umlazi/Malukazi area of Durban’, Durban, Urban Studies Unit, Institute of Social and Economic Research, University of Durban-Westville, 1993.
- ‘Class, Race and Settlement in Cato Manor: A report on surveys of African and Indian households in Cato Manor, 1992’, Durban, Urban Studies Unit, Institute of Social and Economic Research, University of Durban-Westville, 1993.
- Hofmeyr, J., ‘The Rise in African Wages in South Africa After 1970’, Unpublished doctoral thesis, Durban, University of Natal, 1993.
- Ngidi, S. and Zulu, P., ‘Aspects and Tempo of De-racialisation in the South African Industry: A study of operating companies in South Africa’, Unpublished report, Durban, Maurice Webb Race Relations Unit, University of Natal, November 1988.

BIBLIOGRAPHY

- Nzimande, B., 'The Corporate Guerillas: Class formation and the African corporate petty bourgeoisie in post-1973 South Africa', Unpublished doctoral thesis, Durban, University of Natal, 1991.
- O'Donovan, M., 'The Politics of the Labour Process in Mining', Unpublished honours thesis, Johannesburg, University of the Witwatersrand, 1985.
- Palmer, R., 'The New Elites of Keiskammahoek', Paper presented to the Annual Conference of the Association of South African Anthropologists, Umtata, University of the Transkei, 1990.
- Scheiner, P., 'The Occupational Mobility of Black Workers in the Witwatersrand Building Industry from 1960 with Some Reference to the Occupational Mobility of the Coloured People in the Western Cape Building Industry', Unpublished masters thesis, Rondebosch, University of Cape Town, 1976.
- Soga, T., 'The Emergence of Socio-Economic Residential Differentiation at Kwa-Ford, Thembalethu and Kwa-Magxaki, Port Elizabeth', Paper presented to the Annual Conference of the Society for Geography, Pretoria, University of Pretoria, 1989.
- Terrington, D., 'An Examination of the Occupational Wage Structure in Selected Industries Covered by the Wage Board, the Impact of Wage Board Determinations on the Occupational Wage Structure and the Politico-Economic Implications of Changes in the Occupational Wage Structure', Unpublished masters thesis, Rondebosch, University of Cape Town, 1974.
- White, C. and Crankshaw, O., 'Results of the Household Survey of the Powa Park Squatter Settlement', Braamfontein, Human Sciences Research Council, 1991.

INDEX

- accommodation 119–21
accumulation strategies 47
African advancement 14, 16–34,
118–19; class formation and labour
process 114–18; conditions of 46;
extent 16–22; pattern and ‘floating’
colour bar 22–33; wages and 94,
97–8, 101, 102–4, 113
African:white employment ratio 38, 45,
47, 58
Altman, R. 81
apartheid 2, 84; economic growth
and racial division of labour 11–15;
labour policy and capitalist interests
43–8
apprenticeships 25, 42, 48, 82, 153
artisan aides 61
artisans *see* skilled trades
- banking 72–4, 82–3, 93
Bantu Labour Amendment Act 1970
46
Barclays Bank 82, 83
Bell, T. 105, 106
Bendix, D. 69, 70
Black, A. 47, 48
blasting skills 59
Boulanger, M. 76
Braverman, H. 6
bricklaying 62
bricks, handling 54, 55
British-owned companies 102,
168–71
building *see* construction/building
industry
- Cape Chamber of Industries 76
capital-intensive production *see*
mechanisation
capitalism 22; and apartheid 2,
114–15; growth 97–8; labour policy
and capitalist interests 43–8
Carchedi, G. 4
carpentry 62
cashiers 72
class: formation and labour process
114–18; increasing significance
119–21; and occupational structure
4–7; and racial inequality
2–3, 121–2; structure and labour
statistics 2–3
clerical work 32–3, 36, 73–4, 76, 93
coal mining 52–3; *see also* mining
colour bar *see* ‘floating’ colour bar
coloured population 79, 80, 89, 90,
160
Commercial, Catering and Allied
Workers Union (CCAWUSA) 81, 82
computer operators 73–4
computerisation 72–4, 93, 158
concentrated mining 58–60
concrete pumps 54–5
construction/building industry 130–1,
138, 155; fragmentation of skilled
trades 61–4; mechanisation of
unskilled work 53–6; racial and
occupational division of labour
37–8; restructuring occupational
division of labour 38–41; wages
96–7, 98, 99–100, 166–7; white
skill shortage 42

INDEX

- consumption 82
 continuous mining 52
 crane drivers 56
- data input clerks 73–4
 Davies, R. 12, 20, 21, 33, 43
 deracialisation 74–83
 differentiation 104–12
 Dunlop tyre factory 56
- economic growth 38; apartheid and racial division of labour 11–15; periodisation and racial wage gap 94–5, 95–104, 112–13; and racial inequality 118–19
 education 78–9, 85–7; levels of 79, 80, 81, 160–1; *see also* teaching
 Edwards, R. 6
 electrical detonation 60
 employment statistics 21–2;
 occupational structure and 7–11
 explosives, new kinds of 59
- factory environments 33
 ‘floating’ colour bar 11–12, 46, 94–5, 115; pattern of African advancement 22–33
 fragmentation of skilled trades 6, 43–4, 46, 50–1, 58–70, 70–1
- gangsters 58–61
 Gelb, S. 47
 gender: semi-professional work 25, 152; teachers 88–9, 90–1, 164; white-collar work 27, 76–8, 154, 159
 Gini coefficients 113
 gold mining 39, 40, 41, 156;
 fragmentation 58–61; mechanisation 51–2; *see also* mining
 Goldthorpe, J. 5
 Gross Domestic Product (GDP) 95–6
- Hartwell, D. 81
 health care 84–5; *see also* nursing
 Hellman, E. 74
 Hindson, D. 13, 18
 Hofmeyr, J. 96–101 *passim*, 103, 108–9, 109
 housing 119–21
 Hume, I. 102
- hydraulic drills 51
 Hyslop, J. 87
- ignitor cord 59–60
 illegal employment of Africans on skilled work 63
 income gap 13–14, 15, 95, 119;
 differentiation and unemployment 104–12, 113
 Indian population 79, 81, 89, 91, 161
 Industrial Conciliation Act 1956 38, 69
 Industrial Council 43, 68; Agreements 55, 62, 63, 69, 70
 industrialised building techniques 63–4
 Innes, D. 12, 13
 integration: deracialisation and in whitecollar work 74–83; and racial equality in workplace 31–3
 Iron Moulders Society of South Africa 66–8 *passim*
 iron moulding 56, 66–7
- job-grading systems 65–6, 67–8
 Johannesburg Chamber of Commerce 76
 Johannesburg City Council 74
- Kagan, M. 81
 Keenan, J. 107–8
 Knight, J. 103, 109, 111
 Kraak, A. 56
- labour market: dynamics 6–7;
 segmentation 6
 labour policy 43–8
 labour process: African advancement and class formation 114–18; theory 5–7, 121–2
 labour quotas 47
 labour statistics: class structure, racial inequality and 2–3
 lecturers 88
 Legassick, M. 12, 13, 104 liberal scholars 114, 118; liberal/ revisionist debate 2–3, 11–14; unemployment 104–5
 linecaster operators 65
 linotype operators 64–5
 Lipton, M. 12, 99, 105
- machine operators 11; capital interests and labour policy 35–6, 36–7, 39–

INDEX

- 41, 43–4; class formation and labour process 114–16; mechanisation of unskilled work 53, 55–6
- Mackenzie, G. 6
- managers 9–10, 18, 123, 141–2
- Manpower Surveys 3, 32, 42–3; machine operative jobs 53; occupational division of labour 8–9, 39; repair shop assistants 69; semi-professionals 83
- manufacturing 156–7; fragmentation of skilled trades 64–70; mechanisation of unskilled work 56–7; occupational division of labour 36–7, 38–41; wages 96–7, 99–100, 166–7; white skill shortage 42–3
- Marxist class models 4–5
- mass production 36–7
- materials-handling 53–4, 56–7
- McGrath, M. 13–14, 103, 107, 109, 113
- mechanics 68–70
- mechanisation 14, 36–7; benefits to manufacturers 115; fragmentation of skilled trades 50–1, 64–8, 71; labour policy and capital interests 43–8, 104; unskilled work 44, 50, 51–7, 70; and wages 106, 109–10
- menial service workers 75, 128, 150–1
- metal and engineering sector 36–7, 136–7; fragmentation of skilled trades 66–8
- middle class 13; class theory and occupational structure 4–5; extent of African advancement 18–22, 33
- Mine Workers' Union 59, 60
- mining 156; capitalist interests and labour policy 35–6, 37–8, 38–41, 42; fragmentation of skilled trades 58–61; mechanisation of unskilled work 51–3; wages 96–7, 99–100, 166–7
- Moll, P. 103
- Motor Industry Employees Union of South Africa (MIEUSA) 69
- motor vehicle repair industry 68–70
- National Federation of Building Trade Employers 62
- National Party 37; government and employers 44–5
- National Union of Bank Employees 83
- National Union of Commercial and Allied Workers (NUCAW) 81
- National Union of Distributive and Allied Workers 81
- National Union of Distributive Workers (NUDW) 80–2
- Nattrass, J. 12
- neighbourhood differentiation 119–21
- Ngidi, S. 3
- Nolutshungu, S. 21
- nursing 117–18; African advancement 23–4, 36; employment by race 85, 86, 161–2; racial segregation and expansion 84–5, 86, 92–3
- Nursing Amendment Act 1957 84
- occupational classifications 3, 123–40; extent of African advancement 16–22; managers 123; menial service workers 128; pattern of African advancement 22–33; predominantly African pre-apartheid 16; professionals 124–5; profile of white workforce 30–1; racial distribution of employment 22–3; rationale for 9–11; routine white-collar work 126–8; security 128; semi-professionals 125–6; semi-skilled workers 129–36; skilled trades 136–40; supervisors 124; unskilled labour 140
- occupational division of labour: 1948 36–8; restructuring 38–41, 110–11
- occupational structure: class theory and 4–7; and employment statistics 7–11
- office environments 32–3
- offset lithographic printing 65–6
- open-cast mining 52
- Padayachee, V. 105
- Physical Planning and Utilisation of Resources Act 1967 47
- Pick 'n Pay 82
- plastering 62
- Poulantzas, N. 4, 5
- printer's attendant 66
- printing industry 135, 138–9; fragmentation of skilled trades 64–6
- production: mass 36–7; mechanisation *see* mechanisation; techniques and apartheid 22

INDEX

- production moulders 66–7
 productivity 51–2, 52–3
 professionals 9–10, 18, 124–5, 142–3
 pupil enrolment 79, 89, 92, 165
 Pursell, D. 102
- qualifications 24, 35
- racial distribution of employment
 141–51; extent of African
 advancement 16–19; managers
 141–2; menial service work 150–1;
 nursing 85, 86, 161–2; by
 occupation 22–3; pattern of African
 advancement 22–31; professionals
 142–3; routine white-collar work
 16–17, 18, 22, 23, 28, 30, 77, 78,
 144–5, 159; security 145–6; semi-
 professionals 16–17, 29, 30, 143–4;
 semiskilled work 148–9; skilled
 trades 16–17, 19, 28, 30, 147–8;
 supervisory work 17, 19, 29, 30,
 146–7; teaching 88, 89; unskilled
 work 149–50
- racial division of labour 3, 152–4;
 apartheid, economic growth and
 11–15; manufacturing, mining and
 construction 36–8, 38–9, 43–8;
 routine white-collar work 26–7,
 154; semi-professionals 23–5, 152;
 skilled trades 25–6, 153
- racial equality, integration and 31–3
 racial income gap *see* income gap
 racial inequality: class and 2–3, 121–2;
 economic growth and 118–19
 racial integration *see* integration
 racial wage gap *see* wage gap
 repair shop assistants 69–70
 residential patterns 119–21
 revisionist scholars 114, 118; liberal/
 revisionist debate 2–3, 11–14; racial
 wage gap 94–5, 97–8;
 unemployment 104
- Roberts Industrialised Building
 Company 63–4
 Roukens de Lange, A. 3
 routine security workers 10, 17–18,
 128, 145–6
 routine white-collar workers *see* white-
 collar workers
- sales work 76
- security workers, routine 10, 17–18,
 128, 145–6
- segregation: semi-professional
 employment 83–92, 92–3
 selectivity 111
- semi-professionals 9–10, 125–6, 152;
 class formation and labour process
 117–18; extent of African
 advancement 16–17, 18, 33; pattern
 of African advancement 23, 23–5;
 racial distribution of employment
 16–17, 29, 30, 143–4; racial
 segregation and expansion 83–92,
 92–3; wages 30; *see also* nursing,
 teaching
- semi-skilled workers 155–7; African
 employment 171; capitalist interests
 and labour policy 43–4, 45–6;
 increase in demand 108–12; machine
 operators *see* machine operators;
 manufacturing 65–6, 156–7;
 occupational classifications 129–36;
 racial distribution of employment
 148–9; wage differences with
 unskilled workers 102, 168–71
- services *see* tertiary sector
- sexual division of labour *see* gender
- shanty-towns 119, 120
- shell-moulding process 67
- Simkins, C. 13, 18, 104
- skilled trades 11, 14, 115; construction
 industry 61–4, 155; cost and
 mechanisation 48; extent of African
 advancement 16–17, 18, 19, 33;
 fragmentation 6, 43–4, 46, 50–1,
 58–70, 70–1; illegal employment of
 Africans on skilled work 63;
 manufacturing 64–70, 156–7;
 mining 58–61, 156; occupational
 classifications 136–40; pattern of
 African advancement 23, 25–6;
 racial distribution of employment
 16–17, 19, 28, 30, 147–8; racial
 division of labour 25–6, 153;
 restructuring occupational division
 of labour 39–41; shortage of white
 skilled labour 36, 42–3, 45–6, 48;
 wages 30
- South African Bank Employees' Union
 83
- South African Employers' Consultative
 Committee on Labour Affairs 42

INDEX

- South African Iron and Steel Corporation 68
- South African Nursing Association (SANA) 84, 85
- South African Society of Bank Officials (SASBO) 83
- South African Typographical Union 65, 66
- Spandau, A. 111
- Standard Bank 83
- stationary engine drivers 53
- Steel and Engineering Industries Federation of South Africa 43
- supervisory work 32, 124; mining 59, 60–1; racial distribution of employment 17, 19, 29, 30, 146–7
- teaching 117–18, 163–4; African advancement 23–4, 36; racial segregation and expansion 85–92, 93
- teletypesetting machines 64–5
- Terblanche, S. 3
- Terrington, D. 102–3
- tertiary sector 14–15, 36, 72–93; deracialisation and integration in white-collar employment 74–83; semi-professional racial segregation and expansion 83–92, 92–3
- tower cranes 54–5
- trade unions 116; and ‘floating’ colour bar 46; fragmentation of skilled work 50–1, 58–70; and wages 103; white-collar work 79–83
- training 110–12; teachers 87, 88; *see also* apprenticeships
- Trapido, S. 12
- unemployment 13, 15, 95, 118–19; differentiation and racial income gap 104–12, 113
- unskilled labourers 11, 140, 155–7; African employment 171; declining wage rates 109; racial distribution of employment 149–50; reducing number employed without mechanisation 57; replacement by mechanisation 44, 50, 51–7, 70; restructuring occupational division of labour 39–41; unemployment and 108–12; wage differences with semi-skilled workers 102, 168–71
- urban areas 46–7
- Verwoerd, H. 45
- wage gap 11–12, 13, 15, 118; periodisation of economic growth and 94–5, 95–104, 112–13; trends 166
- wages/salaries: average by race 167; decline in unskilled wage rates 109; differences between unskilled and semi-skilled workers 102, 168–71; equality in banking 83; gains from higher wages negated by unemployment 13, 15, 106–7; increased African 13, 101–4, 108–9; nursing 85;
- racial inequality 27–30
- Weberian class models 5, 7, 121–2
- Webster, E. 6, 103
- white: African employment ratio 38, 45, 47, 58
- white-collar workers, menial 75, 128, 150–1
- white-collar workers, routine 10, 116–17; computerisation of banking sector 72–4, 93; deracialisation and integration 74–83; extent of African advancement 16–17, 18, 33; gender and 27, 76–8, 154, 159; integration and racial equality 32; occupational classification 126–8; pattern of African advancement 26–7; racial distribution of employment 16–17, 18, 22, 23, 28, 30, 77, 78, 144–5, 159; racial and sexual division of labour 26–7, 154; supply and demand 158; wages 30
- White Distribution Workers’ Union 81
- White Motor Workers’ Union 69
- white teachers 89–92
- white wages 94–5, 99–101
- white workers: benefiting from African advancement 46, 68, 97–8; limits to up-ward mobility 98–9; occupational profile 30–1; shortage of white-collar workers 75–6;

INDEX

- shortage of white skilled labour 36,
42-3, 45-6, 48
- Whiteford, A. 14, 107, 113
- Wilson, W. 121
- winding engine drivers 53
- Wolpe, H. 2, 3, 33, 115; 'new middle
class' 13, 20-1
- work reservation determinations 37,
38, 42, 45, 46; exemptions 43,
67-8; white-collar work 74-5
- working class 4, 5
- workplace: dynamics 6-7; racial
integration and racial equality 31-3
- Wright, E. 4, 5
- Zulu, P. 3