THE IMPACT OF THE

AFFIRMATIVE PROCUREMENT POLICY

ON AFFIRMABLE BUSINESS ENTERPRISES

IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY

VOLUME 1

Thesis presented for the degree
Doctor of Philosophy
School of Civil Engineering, Surveying and Construction
University of Natal

S M Gounden

August 2000

SYNOPSIS

The construction industry in South Africa is envisaged to play a pivotal role in the reconstruction of the South African economy, via the delivery of economic and social infrastructure. The skewed ownership patterns prevalent in the construction sector, resulted in the South African government utilising public sector procurement as a mechanism to address these imbalances, and to promote wider participation in public sector construction opportunities.

This dissertation analyses the role of the construction industry in South Africa, and explores the rationale behind utilising public sector procurement as a mechanism to promote wider participation in the construction industry in South Africa. The research then focuses on the application of the Affirmative Procurement Policy (APP) on construction projects procured by the National Department of Public Works, in order to evaluate the impact which this policy has had on the growth and development of Affirmable Business Enterprises (ABEs).

The research evaluates the primary policy outcomes, via the development of appropriate indices and a diagnostic quadrant comparator, and concludes that the application of the APP has had a positive impact on ABE participation, with levels of participation varying across construction sub sectors and categories. It was also found that financial premiums, borne by the State in adopting this policy, were nominal when compared with the initial projected outcomes and the overall benefits.

The overall performance of ABEs, measured against that of non-ABEs, was then tested to ascertain whether the adoption of the APP was a necessary and sufficient condition for ABE enablement and empowerment. The research concludes that there is a difference in overall performance between ABEs and non-ABEs, and that supply side interventions and capacitation programmes are required to mitigate the increased risk exposure by the State, when engaging ABEs on construction projects. The research also analyses the variation in the levels of participation of ABEs, in the different construction sub sectors and concludes that the manner in which ABEs are structured and their internal business processes tend to establish operational limitations, which influence their scope of activities to a larger extent than the existence of eternal sub sector thresholds. Similar characteristics were observed in non-ABEs of a similar size, inferring that the problems encountered relate to business development and growth of small and medium enterprises, in general.

The research also analyses the impact that the APP has had on subcontracting relationships and the promotion of structured joint ventures. It concludes that whilst the requirements of the APP has seen the development of formalised subcontracting relationships, the form of subcontracts that are currently utilised do not comply with the requirements outlined in the APP, which are aimed at eradicating unfair subcontracting conditions. The adoption of the APP has seen an increase in structured joint ventures between ABEs and larger established contractors. The analysis of these joint ventures concludes that they provide an effective means of transferring expertise, provided that they are structured appropriately.

The dissertation concludes with recommendations on APP policy refinements, mechanisms to enhance compliance and opportunities for international application. The recent enactment of the Preferential Procurement Policy Act (Act 5 of 2000) in South Africa indicates that several elements of the APP are likely to be prescribed as mandatory requirements for public sector procurement by different government institutions and across the different industrial sectors. It is therefore important that the areas identified for further research be pursued, to ensure optimal policy outcomes across a range of industrial sectors.

DECLARATION

I, Sivandran Munsami Gounden, hereby declare that the work contained herein, is entirely original and my own, except where indicated in the text itself, and this work has not been submitted in full or partial fulfilment of the academic requirements for any other degree or qualification, at any other university.

Signed at PRETORIA on the 31st day of AUGUST, 2000

Gounden.

.....

SIVANDRAN MUNSAMI GOUNDEN

ACKNOWLEDGEMENTS

The author wishes to acknowledge the following people who provided assistance and support during this project:

My co-supervisors, Professor D Schreiner, Head: School of Civil Engineering, Surveying and Construction, University of Natal, and Professor R Taylor, Director: Leadership Centre, University of Natal, for their guidance and constructive advice.

Professor George Ofori, Faculty of Architecture, Building and Real Estate, National University of Singapore, for providing constructive criticism during the early development of the research ideas and for reading and commenting on Chapters 1-4.

Mr Ron Watermeyer, Mr Alain Jacquet, Mr Rod MacKinnon and Mr Dave Gertzen for valuable comments received throughout the development of this thesis.

Professor P D Rwelamila, Associate Professor Department of Construction Economics and Management, University of Cape Town, for reading and commenting on Chapters 1-8.

Dr O Chimere-Dan, for validating the statistical analysis of the empirical data contained in this thesis.

Mr Jeff Radebe, MP, Minister of Public Works (1994-1999) Republic of South Africa, for affording me the opportunity to explore the utilisation of public sector procurement as an instrument to achieve specific socio-economic objectives.

The National Department of Public Works, for granting permission to utilise its data-set in undertaking this project.

Ms Nan Hefer, Ms Alta Botes and Mr Louis Geldenhuys, who helped in the presentation of the document.

The experts, practitioners, contractors and organisations from the South African Construction Industry, who have contributed immensely to this project by providing different insights to the subject being researched.

My wife, Vanessa, my mother, Lutchmee, and my two children, Lee and Caelyn, for their patience and understanding over the last four years of this work.

Index

Page No

Volume 1

SCHEDULE OF ACRONYMS

ABE	-	Affirmable Business Enterprise
AGC	-	Association of General Contractors – South Africa
AJVP	-	Affirmable Joint Venture Partner
ANC	-	African National Congress
APP	-	Affirmative Procurement Policy
BCI	-	Black Construction Industry of South Africa
BIFSA	-	Building Industries Federation of South Africa
CIC	-	Construction Industry Confederation of South Africa
CIDB	-	Construction Industry Development Board
COCOSA	-	Council for Construction of South Africa
CSIR	-	Council for Scientific and Industrial Research
DOF	-	Department of Finance, South Africa
DOT	-	Department of Transport, South Africa
DPW	-	Department of Public Works, South Africa
DTI	-	Department of Trade and Industry in South Africa
ECA	-	Electrical Contractors Association
GDFI	-	Gross Domestic Fixed Investment
GDP	-	Gross Domestic Product
GEAR	-	Growth Employment and Redistribution – current economy policy in South Africa
IDC	-	Industrial Development Corporation of South Africa
MOF	-	Ministry of Finance
MPW	-	Ministry of Public Works
PDI	-	Previous Disadvantaged Individual
RDP	-	Reconstruction and Development Program
SADC	-	South African Development Community
SAFCEC	-	South African Federation of Civil Engineering Contractors
SMMEs	-	Small, Medium and Micro Enterprises
STB	-	State Tender Board

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

In 1994, following the first democratic election in the Republic of South Africa,, the South African government adopted the Reconstruction and Development Program (RDP), a comprehensive socio economic policy instrument aimed at eradicating the legacy of apartheid, which has left South Africa with an economy which was inward focussed, distorted by growth inequities, inefficiencies and under developed resources and markets. The RDP could be equated to the Rooseveldt New Deal which was designed to pull the United States of America out of the Great Depression, and to the Marshall plan which was aimed at rebuilding the war ravaged economies of Europe after the Second World War. The RDP is underpinned by four primary program themes: viz **meeting basic needs, the developing of human resources; building the economy and democratising the State and society in South Africa** (Gounden 1997).

The Reconstruction and Development Programme (ANC, 1994) recognises the potential for human resource development through construction projects, and contains recurrent themes, which call for :

1) The putting in place of a programme of affirmative action to address the deliberate marginalisation from economic, political and social power of black people, women and rural communities and to empower communities and individuals from previously disadvantaged sectors of society.
2) The development of small business, particularly, those owned and operated by black entrepreneurs.
3) The provision of jobs and the addressing of unemployment.

There are definite relationship between employment opportunities, available skills, entrepreneurship and the use of small scale enterprises in the construction and maintenance of assets ie in the core business of the construction industry (Watermeyer and Band, 1994). The strength of these relationships and links is, however, dependent on the strategies which are adopted in programmes aimed at the provision of such assets; in particular, those strategies associated with construction contracts. The construction and procurement strategies which are adopted can be used to address social and economic concerns and, depending upon how they are structured, to facilitate the economic empowerment of disadvantaged sectors of society and to address unemployment in a focussed manner. Thus the process of constructing assets can be just as important as the provision of the assets themselves.

Immediately after the national elections in 1994, the Ministry of Public Works identified an urgent need for the transformation of public sector procurement of construction projects. After an initial review of the regulatory environment that impacted upon public sector procurement, it was concluded that public sector procurement reform could not be undertaken on a sector by sector basis, but rather that there needed to be a fundamental review of the entire public sector procurement system. This then resulted in a joint initiative

being embarked upon by the Ministry of Public Works and the Ministry of Finance, which aimed at transforming public sector procurement policy and systems in South Africa.

The transformation of public sector procurement in South Africa has had two primary objectives, (MOF and NPW, 1997) viz:

1) To utilise public sector procurement as a vehicle to achieve specific socio-economic objectives such as the promotion of targeted small and medium enterprises, enhanced job creation opportunities, skills and technology transfer, and the like.

2) The promotion of good governance within the sphere of public sector procurement.

A preliminary review of the existing procurement policies and systems indicated the skewed nature of contract awards with the larger more established companies securing most of the public sector contracts. Further, the participation of small and medium enterprises, and in particular small and medium enterprises owned and controlled by previously disadvantaged individuals, on public sector projects, was negligible. The process of transforming the public sector procurement was supported from below underpinned by two concurrent approaches. The first element of the strategy was to develop substantially new procurement policy for South Africa, linked to legislative reform. Concurrent with this approach, it was decided that a series of interim strategies would have to be developed and implemented within the short term, within the ambit of existing legislation. The outcome of the first strategy has been the development of the Green Paper on Public Sector Procurement, (MOF and MPW, 1997) whilst the outcome of the second strategy has been the interim 10 Point Plan on procurement. The 10 Point Plan on Procurement (MOF and MPW, 1995) is a series of interim interventions primarily aimed at impacting positively on the participation of small and medium enterprises, in particular those enterprises owned by disadvantaged people, in public sector procurement opportunities.

The 10 Point Plan on Public Sector Procurement reform was adopted by the National Cabinet for implementation and after endorsement by the State Tender Board, actual implementation of elements on the 10 Point Plan by the Department of Public Works commenced in August 1996. The Affirmative Procurement Policy was then developed, drawing on elements of the 10 Point Plan, to provide a comprehensive policy and specifications within which public sector procurement could be used to promote small and medium enterprises that operate in the construction sector and owned and managed by previously disadvantaged individuals.

The constitutional basis for the development of the Affirmative Procurement Policy is found in Clause 217 of the Constitution of South Africa , viz:

> *(1) "When an organ of state in national, provincial or local sphere of government or any other institution identified in national legislation, contracts for goods or services, it must do so in accordance with a system which is fair, equitable, transparent, competitive and cost effective.*

(2) *Subsection (1) does not prevent the organs of state or institutions referred to in that subsection from implementing a procurement policy providing for -*

(a) *categories of preference in the allocation ofcontracts; and*

(b) *the protection or advancement of persons or categories of persons disadvantaged by unfair discrimination.*

(3) *National legislation must prescribe a framework within which the policy referred to in subsection (2) may be implemented."*

The development of the Affirmative Procurement Policy derives its constitutional basis from clause 217 of the Constitution.

1.2 THE USE OF PROCUREMENT AS AN INSTRUMENT OF SOCIAL POLICY

Governments have traditionally used their extensive powers of procurement to promote a variety of objectives unconnected with the immediate objective of the procurement. Internationally, these have ranged from the protection and development of national industry to social policy goals such as the promotion of equal opportunity. The very size of government markets provides significant opportunities to influence the economy. The Atkins study for the European Commission concluded that in 1984, procurement of public bodies and nationalised industries accounted for 21,8 percent of gross domestic product in the United Kingdom and about 15 percent across the European Community (Arrowsmith, 1995).

The use of procurement as an instrument of policy is not without controversy. Questions have been raised regarding its legitimacy and effectiveness. Certainly, many attempts to promote an industry or sector within an industry have failed, particularly where policies have been championed in an uncompetitive environment and isolated from national and international competition. Inefficiencies are also frequently encountered where policies seek to establish viable infant industries. All too often, the beneficial effects of policies which are promoted through procurement is doubtful or minimal. For example, the European Commission estimated that regional preference schemes in the United Kingdom applied to only 0,02% of government procurement and that there was no evidence that it had made a significant contribution in attaining its objectives. Even where benefits can be achieved, these must be weighed against the cost of doing so through procurement, either in terms of a price premium or a compromise of other matters such as time or quality. Enforcement costs must also be considered. (Arrowsmith, 1995)

There has been limited research on, and a lack of data regarding, most programmes to demonstrate the effectiveness of the use of procurement as an instrument of social policy. Frequently, deliverables are ill defined or vague and requirements are not quantifiable or measurable. As a result, the auditing

and verification of the effectiveness of the use of procurement as a means to an end is simply not possible. (Watermeyer *et al*, 1998)

Noting the above concerns, the drafters of the Affirmative Procurement Policy, in the formulation of the policy, set about developing a cost effective procurement system which provides, encourages and promotes a government's socio-economic objectives in a definable, quantifiable, measurable, verifiable and auditable manner, within a fair, equitable, competitive, cost effective and transparent environment, without:

- over-taxing the administrative capacity of government;
- creating unfair competition within sectors of the economy;
- abusing or lowering labour standards;
- exposing government to unacceptable risks;
- compromising value for money; or
- compromising the efficiency and effectiveness of the private sector in their ability to deliver.

(Watermeyer *et al* 1998)

1.3 SOUTH AFRICA'S AFFIRMATIVE PROCUREMENT POLICY

The Affirmative procurement policy (MOF and MPW, 1997), is a procurement policy which utilises procurement as an instrument of social policy in South Africa to affirm the changed environment, government's socio-economic objectives and the principles of the Reconstruction and Development Programme. The conceptual framework for an Affirmative Procurement policy is set out in the Green Paper on Public Sector Procurement Reform.

The Affirmative Procurement Policy, without resorting to set asides and compromising competitive tendering:

- Puts in place a programme of affirmative action.
- Facilitates the development of small businesses, particularly those owned by Previously Disadvantaged Individuals.
- Provides jobs in a targeted manner on engineering and construction contracts
- Increases the number of employment opportunities per unit of expenditure where choices in teachnology can be made.

The primary focus in the policy is currently on redressing the skewed business ownership patterns in South Africa; hence the focus on Affirmable Business Enterprises i.e. small businesses which are owned and controlled by Previously Disadvantaged Persons.

The Department of Public Works, being a national state institution, focused almost exclusively on the targeting of Affirmable Business Enterprises (ABEs) in its application of the policy.

1.4 MONITORING AND EVALUATING POLICY OUTCOMES

The authors of the Affirmative Procurement Policy in developing the Affirmative Procurement Policy looked both locally and internationally for some sort of benchmarking around what have been the benefits of policies which link procurement to socio-economic issues and whether or not this information can be presented in scientific terms in a consistent and integrated manner. They found very limited examples of this nature and as a result were forced to develop the system which is now commonly referred to as Targeted Procurement.[1] This was necessary to ensure that the procurement regime which was established could through a rigorous process of monitoring and evaluation provide government with adequate data to enable policy positions to be defended. It is important in the current policy environment that there has to be a notion that policies do not simply appear as wish lists but rather that there have to be mechanisms whereby objectives are set, monitored and evaluated to enable policy makers to be provided with an instrument to reassess policy, modify where necessary, or have the policy fundamentally changed if it is inappropriate.

The Department of Public Works piloted the application of an Affirmative Procurement Policy on the construction of the Malmesbury Prison Complex, when tenders were first called for in 1996. This project was the first project where Affirmable Business Enterprises (ABEs) were targeted on a contract in any sector of the South African economy. At the time when this thesis was being formulated, the only published assessment on aspects of the policy outcomes was the Soderlund and Schutte (1998) report on the Malmesbury Prison Contract and a paper by Watermeyer *et al* (1998) which was accepted for publication during 1997.

The Malmesbury Prison Contract was the first major project in which the Department of Public Works adopted a design and construct contracting strategy. It was also the first of the new generation prisons. Accordingly, the Soderlund and Schutte (Soderlund and Schutte, 1998) report examined all aspects of the project and as such only covered the Affirmative Procurement component to a limited extent. The paper by Watermeyer *et al* (1998) focussed on communicating the framework for policy implementation and confined its reporting to ABE participation for the period August 1996 to October 1997.

---

[1] Targeted Procurement is a system of procurement which provides employment and business opportunities for marginalised individuals and communities, enables procurement to be used as an instrument of social policy in a fair, equitable, competitive, transparent and cost-effective manner and permits social objectives to be quantified, measured, verified and audited. It is an international version of the Affirmative Procurement Policy.

The author was advised by the director of the Public Procurement Research Group , Professor S Arrowsmith of Aberystwyth University (Wales) in the U.K. that this group, at the time that this thesis was being formulated, was not aware of any programmes where use has been made of procurement as an instrument of social policy which can provide both quantitative and qualitative data to support that the intent of a policy had been met.

The Author accordingly identified the need for a holistic quantitative and qualitative study on the impact of the policy from August 1996 to July 1998.

1.5 RESEARCH OBJECTIVES

The research objective is to examine the impact of the National Department of Public Work's Affirmative Procurement Policy[2] on the participation of Affirmable Business Enterprises[3] in the South African Construction Industry

1.6 THE HYPOTHESIS

This thesis tests the following hypothesis:

The public sector in South Africa can contribute to increased participation of Affirmable Business Enterprises in the construction industry via the implementation of the Affirmative Procurement Policy.

The above primary hypothesis has been dis-aggregated into the following sub-hypothesis which will be tested to validate the primary hypothesis.

1. The National Department of Public Works can promote increased participation by ABEs in the construction economy, via its Affirmative Procurement Policy (APP).

2. The adoption of the Affirmative Procurement Policy has resulted in the state bearing a nominal financial premium, when compared to the initial projected project outcomes and overall benefits.

3. Increased procurement opportunities to Affirmable Business Enterprises via government's Affirmative Procurement Policy is a necessary, but not sufficient condition for the full enablement of ABEs in the construction sector.

4. Affirmable Business Enterprise participation varies according to subsector entry level thresholds.

5. The Affirmative Procurement Policy promotes joint venture relationships between established contractors and Affirmable Business Enterprises.

---

[2] The Affirmative Procurement Policy is a procurement policy which uses procurement as an instrument of social policy in South Africa to affirm the changed environment, government's socio-economic objectives and the principles of the Reconstruction and Development Programme.

[3] An Affirmable Business Enterprise is a business which is owned, managed and controlled by previously, disadvantaged persons and which has annual average turnovers within prescribed limits (refer to page 4.4 for full definition).

6. The application of the Affirmative Procurement Policy has resulted in better regulated relationships between prime contractors and sub-contractors.

1.7 THE STRUCTURE OF THE RESEARCH

Figure 1.1 sets out the logical framework for the research required to test the hypothesis. The chapters in this thesis follow the process flow set out in Figure 1.

Researchers such as Masterman (1992), Cox and Townsend (1998), Rwelamila (1996), Rowlinson and McDermott (1999) and Miller (1995) have contributed to a body of knowledge concerning conventional procurement systems and practices. This thesis, however examines procurement from a different perspective viz as a vehicle towards growth of Affirmable Business Enterprises. This field of research has a very limited literature base. It is therefore necessary to provide sufficient background information in the first phase of the thesis, to enable the field work and subsequent research results to be contextualised and understood.

Phase 1 of the research develops the theoretical framework for the research, and as such focuses on the nature of the industry and the role which the state can play in promoting the wider acceptance and improved functioning of the South African construction market by selective interventions. This phase develops the main argument for this dissertation and presents the background necessary to understand the phase 2 research.

Accordingly, Chapters 2 to 4 focuses on :

- The role of the construction industry in the South African context.
- The constraints and opportunities in the South African construction industry, and the development strategy for the construction industry.
- The rationale for the focus on ABEs in the South African Construction Industry.
- The identification of problems facing construction related ABEs in South Africa, and the identification of issues that could be addressed or partially addressed via public sector procurement interventions.

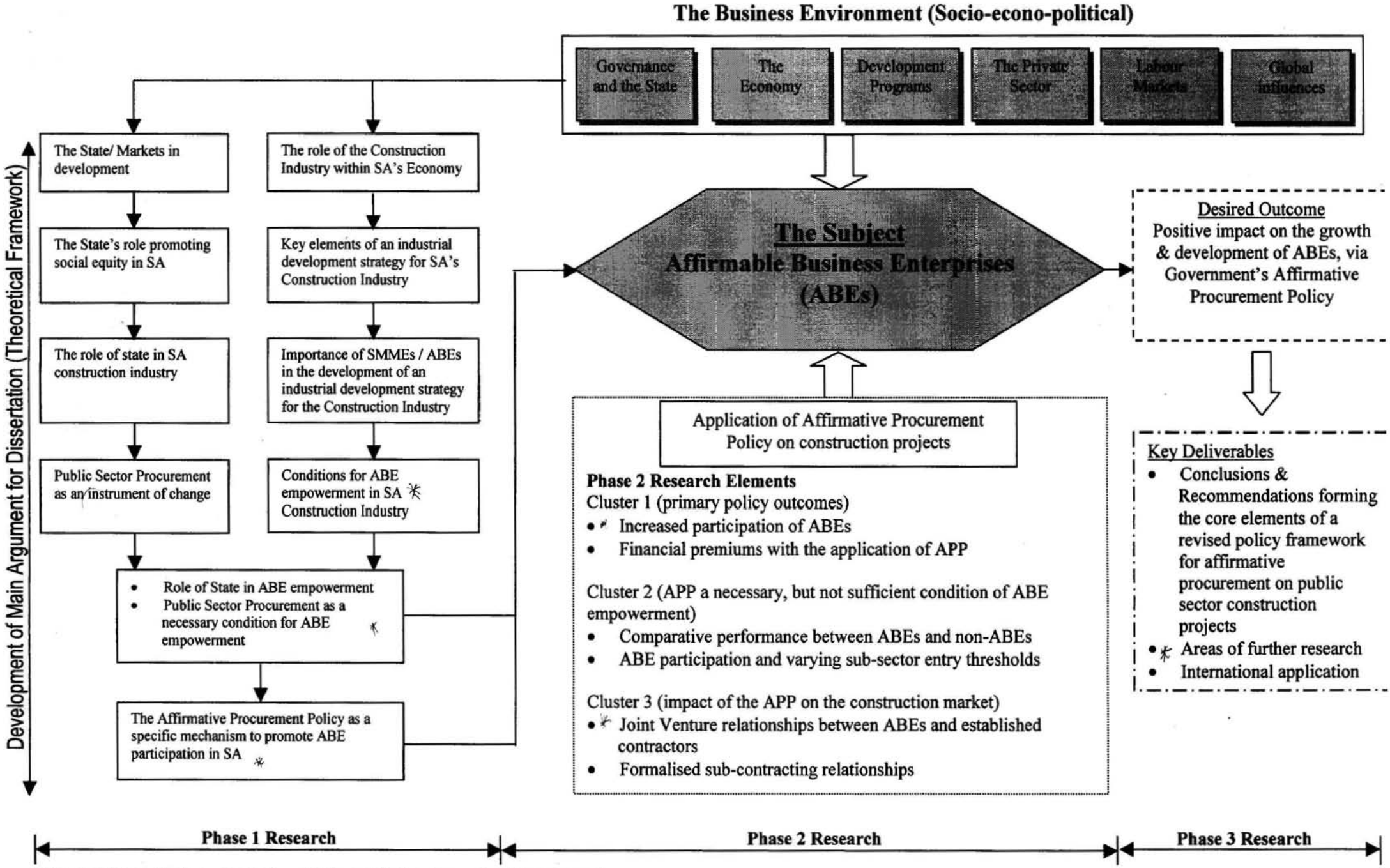


Fig. 1 Schematic Representation of Theoretical / Conceptual Framework

The phase 2 research focuses on the application of the Affirmative Procurement Policy on construction projects and the testing of the six sub-hypothesis. For convenience, the six hypothesis are grouped into 3 clusters, viz. :

Cluster 1 : Sub-hypotheses 1 and 2 focus on analysing the primary policy outcomes of the application of the Affirmative Procurement Policy on the National Department of Public Works, construction projects and are tested and analysed in Chapter 5.

Cluster 2 : Sub-hypotheses 3 and 4 focus on the Affirmative Procurement Policy being a necessary but not a sufficient condition for ABE empowerment and are tested and analysed in Chapters 6 and 7.

Cluster 3 : Sub-hypotheses 5 and 6, focus on the impact that the Affirmative Procurement Policy has had on the construction market in South Africa and are tested and analysed in Chapter 8 of this dissertation.

Phase 3 of the research in Chapter 9, locates the significance of the research, outlines the problems encountered in the research and examines the research conclusions in the context of the desired outcomes of a policy of this nature. It accordingly makes recommendations for policy refinements and adjustments and pinpoints areas of future research.

CHAPTER TWO

THE CONSTRUCTION INDUSTRY IN SOUTH AFRICA

AN OVERVIEW OF ITS STRENGTHS AND WEAKNESSES

AND

TOWARDS THE DEVELOPMENT OF AN INTEGRATED INDUSTRIAL DEVELOPMENT STRATEGY

2.1 THE ROLE OF THE CONSTRUCTION INDUSTRY IN THE SOUTH AFRICAN ECONOMY

2.1.1 Definition of the Construction Industry

The construction industry is, in any country, a complex sector of the economy, which involves a broad range of stakeholders and has wide ranging linkages with other areas of activity such as manufacturing and the use of materials, energy, finance, labour and equipment. Whilst elements of the construction industry have been researched rigorously over the past three decades, there is not, as yet, agreement amongst academics and researchers as to a definition of the industry (Hindle, 1997). At present, two views on a definition of the construction industry prevail.

The first view sees the construction industry as a single industry falling within a sector of the economy (Hillebrandt, 1984). Whilst it may be argued that this approach takes a fairly narrow view of the impact of the construction industry, considering its wide linkages with other sectors of the economy, it does, however, provide a practical and manageable basis on which to analyse various elements within the construction industry.

The second and more recent view, uses the market approach proposed by Hindle (1997). In order to address some of the inconsistencies that are likely to arise in conducting a business process analysis of the construction industry, Hindle suggests that construction should be described as a series of industries, markets, business entities and projects, inter-linked by a 'dynamic web' of common issues, resources and constraints. Whilst this approach does, indeed, provide a platform for a wider interpretation of the construction industry, it can be argued that the broadness of the definition could cause problems when conducting research on the industry using data captured on a sectoral basis. This definition therefore needs further scrutiny prior to acceptance.

Accordingly, for the purposes of this dissertation, the author subscribes to the more traditional sectoral definition of the construction industry, whilst attempting to address some of Hindle's concerns. Drawing on definitions adopted in other countries, the adoption of the following definition of the construction industry is proposed :

'The construction industry is a broad conglomeration of industries and sectors which add value in the creation and maintenance of fixed assets within the built environment.[1]'

Whilst the above definition is primarily sectorally focussed, in that it clearly defines a specific output, namely, the creation and maintenance of fixed assets within the built environment, it does accommodate an interplay between different sectors and thus accommodates some of the concerns

[1] This definition was proposed by the author and adopted by the Inter Ministerial Task Team on Construction Industry Development in South Africa, to which the author is an appointee.

expressed by Hindle. Having proposed the adoption of a definition for the construction industry, it is now important to analyse the role of that industry in the economy of a country.

2.1.2 The Role of the Construction Industry in National Economies

Turin (1973) set the agenda for researching construction and development in the late sixties and the seventies. Most current research on construction activities and their relationship with the wider economy draw on the work done by Turin (1973). Turin's work centred on determining mechanisms through which the construction sector contributes to the processes of economic and social development. The main argument presented by Turin, on the basis of an analysis of global construction activity, was that there were measurable and predictable causal relationships between the main aggregates of construction activity and indicators of economic change (Drewer, 1997). In analysing data from various countries of different economic standings in the 1970's, Turin concluded that there was a predictable and causal relationship between construction aggregates and the wider macro economy and thus, by inference, presented the construction industry as being an engine of growth and as being central to the process of economic and social development in any country.

The concept of the construction industry as an engine of growth has since been used by various researchers and policy formulators within the construction industry in various countries as their point of departure, when analysing, or defining, country specific policy as it relates to the construction industry. It is not the author's intention, in this section, to critically analyse the main arguments made by Turin, but rather to review these, as they have formed the basis of the macro economic analysis of the construction industry and its impact on a country's wider economy. The writer does, however, believe that it is important to locate Turin's findings in the 1970's, within the context of the 1990's. During the 26 years, since Turin initially postulated these relationships, we have seen the demise of the larger, centrally planned economies and an unprecedented globalisation of the world economy, which has had a significant impact on the delivery of construction services and products around the world.

Drewer's most recent review of Turin's work on construction and development (Drewer, 1997) attempts to revisit the Turin macro economic hypothesis, utilising updated global construction statistics. Drewer's analysis tends to indicate that over time an unstable relationship, subject to wide variations, exists between construction and the wider economy in a country. Greater stability is observed in developed countries and less in countries with lower levels of economic development, or smaller economies. It is the author's view that, whilst Drewer has highlighted some problems with Turin's macro economic argument, he has not conclusively demonstrated that an economic relationship between the construction industry and the macro economy of a country is invalid. Rather, his analysis indicated that this relationship may be unstable, and needs to be treated with some caution.

It was important to review the work of Turin and the subsequent work of Drewer in order to demonstrate the significance of the construction industry in the economy of a country. The author is of the view that the concept of the construction industry as an engine of growth, as initially postulated by Turin, is somewhat overstated. The author considers, rather, that based on a review of construction industry development strategies that have been developed in various countries over the last two decades (Ofori, 1994a and 1994b; Latham, 1994), the construction industry can serve as a short term catalyst for growth, if incorporated into a country's broader industrial development strategy. Further, the construction industry, due to its multi-facetted nature, and its contribution to the GDP of a country, does indeed have a significant bearing on a country's economy, although not to the extent that Turin postulated. The construction industry's contribution to a country's economy may be broken down into the following components :

- The production of specific, national, basic needs.
- The provision of most of the country's fixed capital assets and infrastructure, thereby playing a pivotal role in national development and generating the necessary infrastructure to enable other industrial sectors to develop.
- Direct contribution to the country's GDP, thereby stimulating further growth via its backward and forward linkages with other industrial sectors.
- The creation of jobs, especially in developing countries.

The above breakdown draws primarily on work done by Hillebrandt (1984), Ofori (1994a), and Department of Public Works (DPW, 1997). Clearly, the multi-facetted role of the construction industry makes it a significant component of the overall economy of a country. Interesting features of the construction industry's contribution to a national economy are its role in initiating investment (infrastructure provision) and its contribution to growth-dependant investments such as housing (Hillebrandt, 1984; DPW, 1997). It is within the foregoing conceptual framework that the contribution of the South African construction industry to the national economy of South Africa is reviewed.

2.1.3 Contribution of the South African Construction Industry to the Economy of South Africa

A review of South African Reserve Bank statistics over the past decade clearly indicates a declining demand for construction. For the 1996/97 financial year the contribution to GDP from the construction sector, which comprises of both the building and the civil engineering sub-sectors, was only 2,87 % (South African Reserve Bank). This closely correlates with an assessment done by the Industrial Development Corporation of sectoral prospects in South Africa for the next five years, which indicated that the construction industry's contribution to the total economy would be 2,89 % (IDC, 1998). These figures are in stark contrast to the construction industry's peak contribution to the GDP of 5,37 % in 1975 (South African Reserve Bank). It has been argued by some civil and building industry representatives that the construction industry's recent and projected contributions to the GDP are, in

fact, higher than those presented by the South African Reserve Bank and the Industrial Development Corporation (IDC). There is, however, no dispute amongst construction industry stakeholders in South Africa that since 1975 there has seen a steady decline in the industry's contribution to South Africa's GDP.

The current low contribution of the construction industry to GDP in South Africa contrasts sharply with figures given in a study undertaken by the World Bank in 1984 on the construction sector in developing countries, in which they found that the construction sectors in developing countries accounted for between 3 and 8 % of the countries' GDPs (World Bank, 1984). These findings conform to those of Turin, made in 1973. It is apparent from the foregoing that, even when viewed within the context of a developing country's economy, the potential of the South African construction industry is under-developed.

In South Africa, it is estimated that building construction makes up roughly two thirds of the contribution to the GDP by the construction sector, civil engineering making up most of the balance (IDC, 1998). An area of concern is the current low contribution of 18 % by the public sector to construction industry demand (IDC, 1998), compared with the average 50 % contribution by the public sector to construction industry demand in developing countries (World Bank, 1984). The construction sector in South Africa has seen a decline in formal employment opportunities within the sector from 410 000 in 1985 (South African Reserve Bank) to 370 000 in 1996 (IDC, 1998). Whilst some of the employment shedding could be attributed to the shift towards flexible production strategies, such as labour-only sub-contracting, which counteract the unevenness of construction demand, this cannot disguise the fact that the industry has, over the past decade, cut back significantly on employment opportunities.

2.1.4 Future Prospects for the South African Construction Industry

It is against this fairly uninspiring recent history that one needs to examine the future prospects for the construction industry in South Africa. Ultimately, prospects for the South African construction industry are linked to the macro economic policy of the country. The South African Government's macro economic policy, GEAR, commits the country to increased public sector fixed investment over the next five to ten years (DOF, 1996). A review of Government's current medium term expenditure framework, the various planned spatial development initiatives and the various infrastructural public-private partnerships being planned nationally and within the South African Development Community (SADC) region, provides a clear indication of Government's commitment to increase its capital spending (IDC, 1998). It is estimated that public sector, infrastructural investment of between R170 – R232 billion over the next five to ten years should increase the public sector's proportion of GDFI three to five fold, and cause total construction GDFI to more than double (DPW, 1997). With this increased public sector investment in infrastructure, it is expected that a concomitant increase in private sector investment is likely to follow, if international trends are to be taken as a precedent.

It can be argued that the current shortfalls in construction demand are attributable primarily to fundamental changes in economic policy, investor caution and the re-engineering of various public sector institutions to ensure an appropriate response to Government's new macro-economic strategy. This could be viewed as a short-term, transitory problem. A similar observation was made by Rwelamila *et al* (1997), in their review of the role of the public sector in the South African construction industry. The author, however, does not consider that the current decline in capital formation can be dismissed as a short-term transitional phenomenon that will be resolved as a matter of course. The author considers that careful and decisive management, especially in the public sector, will be required to ensure that the various institutions of State are transformed effectively to enable government's macro economic strategy, as enunciated in Growth, Employment and Redistribution (GEAR), to be implemented in the short term. Having made this point, it must be noted that transformation of the South African economy, or any specific sector within it, is a medium to long term endeavour. On a positive note, the basic fundamentals encapsulated in the Government's GEAR strategy appear to contain the ingredients for the successful development and growth of the construction industry in South Africa, if purposefully managed.

Recent studies and econometric modelling conducted by the IDC (1998) to analyse the sectoral prospects of 80 industries in South Africa, for the period 1997 to 2001, resulted in the following prognosis on the construction industry :

> *"With the full implementation of all facets of GEAR the construction industry and associated service industries (electricity, trade and finance) are likely to take the lead as the economy progresses towards the high scenario. It is also anticipated that the construction sector is likely to expand at a faster rate than the overall GDP growth. On the basis of macro econometric projections, it is likely that the current negative historical growth pattern in the construction industry (0,5% average annual growth between 1993 and 1996) is likely to be replaced by a high growth path of 3 % per annum, with this increase largely dependant upon:*
>
> - *Private sector investment in productive assets*
> - *Increased government investment expenditure*
> - *Capital expenditure by Public Corporations*
> - *Successful formation of Public/Private Partnerships in infrastructure development."*

In summary, whilst the short term view of the construction industry tends to indicate a less than positive outlook, it is apparent, from the current macro- economic framework adopted, that the Government is committed to increasing expenditure in fixed investment and stimulating private sector fixed investment. A significant increase in construction industry demand over the next five to ten years is likely to be seen.

2.2 STRENGTHS AND WEAKNESSES OF THE SOUTH AFRICAN CONSTRUCTION INDUSTRY AND THE NEED FOR AN INTEGRATED INDUSTRIAL DEVELOPMENT STRATEGY

2.2.1 Strengths and Weaknesses of the South African Construction Industry

Having defined the important role that the construction industry is likely to play in the economy of South Africa over the next five to ten years, it is important to develop a broad appreciation of the strengths and weaknesses of the industry. The following analysis enables us to identify the strengths of the South African construction industry, which should be nurtured and developed, as well as the weaknesses or constraints that would inhibit the industry in meeting the increased demand that is likely to be placed on it in the next five to ten years.

Whilst considerable research has been done on the construction industry in South Africa, only limited work has been done in analysing the strengths and weaknesses of the industry. Discussions held at the South African Construction Management Program (CMP) in June/July 1993 attempted to address this issue, based on the participants' own experiences, but with fairly limited input data. More recently, the Department of Public Works in its Green Paper 'Creating an Enabling Environment for Reconstruction, Growth and Development in the Construction Industry', incorporated elements of such an analysis (DPW, 1997). In the latter, analysis focussed primarily on constraints and weaknesses confronting the South African construction industry, whilst only fleeting reference was made to the strengths that exist in the industry. In spite of this limitation, the findings did highlight elements that could contribute significantly to an integrated analysis of the construction industry.[2]

The following commentary on the strengths and weaknesses of the South African construction industry draws primarily on the sources referred to above, the writer's own analysis of the South African construction industry, and strategic planning for the construction sector undertaken in other countries, in particular that for Singapore (Ofori, 1994(b)). The author is of the view that the limited research carried out in South Africa on the strengths and weaknesses of the industry seriously inhibits our ability to formulate a comprehensive, strategic plan for the industry that would build on our current strengths and would address our limitations. It is hoped that the commentary which follows will serve as an impetus for other researchers and policy analysts in South Africa to research the subject more rigorously. International research tends to indicate that such research is a prerequisite for the successful formulation of any industrial development strategy for the construction industry, e.g., Singapore (Ofori, 1996).

---

[2] The author was part of the management team responsible for the compilation of the DPW Green Paper and current comments of the author come with the benefit of hindsight since the development and publishing of the Green Paper.

2.2.2 Strengths of the South African Construction Industry

The strengths of the South African construction industry indicated below are viewed within the context of South Africa as an emerging market economy. The author considers that this clarification is important as any advantages that we have should be benchmarked against the situation in similar emerging markets, rather than against that in developed economies, where such strengths are seen as normal inputs for a thriving construction sector. Furthermore, the strengths will be located within the market in which the South African construction industry is likely to make the most significant gains, viz., South and Southern Africa. Having contextualised the comparative strengths, the author is of the view that the following are, currently, the strengths of the South African construction industry:

- **Sound macro economic policy**

The macro economic policy of the South African Government, GEAR, emphasises the need for capital investment as an integral part of economic growth and development, and encourages foreign investment (DOF, 1996). This policy represents a significant shift from the mode within which South Africa operated during the pre-1994 sanctions era. A significant beneficiary of this policy shift, in view of its contribution to Gross Domestic Fixed Investment (GDFI) (DPW, 1997), is the construction industry, which will benefit from increased capital investment.

- **Sovereignty over policy making**

South Africa has a significant advantage in terms of its sovereignty to develop policy. Donors and multi-lateral financing agencies have limited influence because of South Africa's low borrowing commitments. In many instances, foreign funding reinforces imported contractor and consultant participation to the detriment of local capacity. Hillebrandt's analysis of countries with under-developed construction industries highlights this issue as being one of the key inhibitors of growth of construction industries in the recipient countries (Hillebrandt, 1997).

- **Government empathy to the needs of the South African construction industry**

Whilst the short term reduction of capital spending by Government is impacting negatively on the construction industry in South Africa, it is evident that, for the first time in the history of the South African construction industry, the Government is empathetic to its needs and acknowledges its importance to the South African economy. Therefore, it is keen to draw on the expertise of stakeholders from the construction industry, the business sector and labour to formulate strategies aimed at development of the industry in South Africa (DPW, 1997). Whilst there is considerable work to be done, the endorsement of this process by the key stakeholders in the construction industry

augers well for its success in providing an appropriate platform for the integrated development of strategies to improve the industry in South Africa.

- **Strong domestic financial services sector**

South Africa has a very strong financial services sector (IDC,1998). The strength of this sector is of critical importance to the construction industry, especially in the light of the South African Government's endorsement of public/private partnerships within the sphere of infrastructural delivery. The strength of the domestic financial services sector was highlighted by the inclusion of domestic private sector resources into the Maputo Corridor project, within an environment of stiff competition from offshore lending agencies.[3] State-aligned institutions such as the Development Bank of Southern Africa and the Industrial Development Corporation also serve as important bodies to fund infrastructural investment.

- **Cross border construction opportunities**

Since the new political dispensation in 1994, there has been increased involvement by South African contractors in construction and construction-related work in Southern Africa. Whilst these construction-related opportunities have generally been limited to larger construction companies, it does indicate a significant move into markets where restricted access existed previously. Whilst the IDC has not highlighted the construction industry as being in the export sector, considerable export opportunities arising from such work are likely to arise in the spheres of construction material supplies and manufactured products.

- **Strong construction capability and track record**

Despite its developing country status, South Africa has an extremely strong construction capability and a track record that reflects its ability to undertake fairly large and technologically complex projects. This is reinforced by its proven ability to compete successfully for international contracts in sub-Saharan Africa, the Middle East and South East Asia.

- **South Africa is resource rich**

In the sphere of construction materials production and supply, South Africa is mature and places only limited reliance on imports.

[3] Assessment provided by Financial Advisors to the Department of Transport (DOT) on the project, in communication with the author.

- **Firm regulatory framework and strong voluntary professional and trade associations**

South Africa is fortunate to have a firm regulatory framework for the construction industry in terms of its built environment professional regulations, construction regulations, planning requirements, and occupational health, safety and labour legislation. Institutions such as the Engineering Council of South Africa (ECSA), the South African Bureau of Standards (SABS), the National Home Builders Registration Council (NHBRC), the Agrément Board and the strong voluntary professional and trade associations, such as the Institution of South African Architects (ISAA), the Association of South African (ASAQS) Quantity Surveyors, the South African Institution of Civil Engineering (SAICE), the Building Industries Federation of South Africa (BIFSA), and the South African Federation of Civil Engineering Contractors (SAFCEC), bear testimony to this. This richness of institutional capability clearly provides a good basis for the coherent regulation of construction and construction related activities, based on both construction-related statutes and regulations, and on voluntary compliance.

- **Strong research and development capability**

Whilst construction enterprises in South Africa have not invested as heavily as their counterparts in the developed countries in research and development, South Africa does have a strong platform for research and development in the construction industry, notwithstanding that this may not be located within the construction enterprises themselves. Institutions such as the Council for Scientific and Industrial Research and various built environment faculties at South African tertiary institutions have, over many years, provided valuable support to the South African construction industry in respect of research and technical development.

- **Strong consulting capability**

South Africa has a strong built environment professional consulting capability, as reflected in the large number of built environment consulting practices registered in South Africa in the disciplines of engineering, architecture and quantity surveying. The strength and capability of this sector is further reflected in the increasing number of consulting appointments secured beyond the borders of South Africa from multilateral funding agencies such as the World Bank.

2.2.3 Weaknesses of the South African Construction Industry

The weaknesses of the South African construction industry can largely be attributed to the fluctuation of construction demand during the apartheid-era in South Africa. It is important to highlight the following prevailing weaknesses in the industry.

- **Emerging market vulnerability**

As an emerging market, South Africa is subject to global currency speculation, which has a direct impact on the South African construction industry. The usual response of the South African Reserve Bank to this situation is to increase lending rates which puts a damper on capital investment, especially in the construction-related goods and services sector.

- **Fluctuating construction demand**

The decline in demand for construction-related goods and services in South Africa over the past decade has seen a loss of core capability within this sector. The cyclical nature of the construction industry, which is a global phenomenon, has accentuated this process. As a result, the South Africa construction industry currently operates primarily in a survivalist mode, to the detriment of long term planning and development.

- **Public sector capacity constraints**

Whilst it can be argued that Government policy has demonstrated a serious intent to address issues that confront the construction industry, capacity constraints at an operational level inhibit the translation of Government policy and intent into action. This is especially so at the second and third tiers of government and requires serious attention, since the main instruments of delivery are located at these levels. A further area of concern that requires attention, is the lack of synergy between public sector policy and the policies adopted by public corporations, such as Eskom, Transnet, etc., towards the construction industry.

- **Diminishing supervisory and managerial capacity in the construction industry**

As a result of the declining demand for construction goods and services in South Africa over the past decade, and the volatility of demand within the construction industry, South Africa has suffered a loss of core managerial and supervisory skills. Whilst it can be argued that adequate supervisory and management capability does exist in this current period of depressed demand, it is unlikely that resources will be able to meet projected demand in the construction industry if planning is not commenced as a matter of urgency (Gounden and Merrifield, 1994).

- **Flexible labour practices in the construction industry**

As a result of the volatility of demand and the survivalist mode in which the construction industry has been operating in South Africa over the past decade, most construction enterprises in South Africa have gravitated towards the adoption of flexible labour practices, in particular, labour-only sub-contracting. Whilst labour-only sub-contracting is not necessarily a problem in itself, it has been

poorly managed and controlled within the South African context. This has resulted in a reduction in artisan skills development, with an associated loss of productivity and the development of poor practices such as auctioning for sub-contracting services and unstructured relationships between prime contractors and sub-contractors (MOF and MPW, 1997). It must also be noted that the larger construction enterprises historically comprised a management echelon, which was primarily White, and a labour force which was primarily Black. With the shift towards flexible labour practices and labour-only sub-contracting, there has been a shedding of primarily Black labour from an environment where it was partially protected, into a totally unprotected environment.

- **Ownership patterns within the construction industry**

The current ownership pattern of construction enterprises in South Africa, is highly skewed along racial lines. This is a result of the nature of entrepreneurial opportunities and limited access to tertiary education provided during the apartheid era and the associated legislation that promoted Whites to the detriment of other race groups. Ownership of the large and medium sized construction enterprises in South Africa, including the well-established firms, vests with the White population group. The other population groups participate in the construction industry primarily as domestic sub-contractors, and as labour-only sub-contractors to the large prime contractors. The construction industry today remains polarised with the established, mainly White, construction sector represented by institutions such as BIFSA and SAFCEC, whilst organisations such as Black Construction Council (BCC) continue to press for greater participation of Black contractors in the main-stream of South African construction industry activities. Several attempts have been made to bring both groups under a common umbrella, e.g., the formation of the Council for Construction of South Africa (COCOSA) in 1995 and the establishment of Construction Industry Confederation (CIC) in 1998. Notwithstanding the attempts at unification, the author is of the view that the two groups remain highly polarised and that the stark inequalities that originated during the apartheid-era still exist within the construction industry today. The greatest constraint, or weakness, that needs to be addressed, in attempting to develop a vibrant and thriving construction industry in South Africa, is the remedying of the racial inequilities that still prevail in the industry.

- **Barriers to entry for the emerging construction enterprises**

Significant steps have been taken, since 1994, to promote small, medium and micro enterprises within the construction sector in South Africa, as part of the small business development initiative, as articulated in the White Paper on Small Business (DTI, 1995), and various institutions have been established to address supply side constraints. Nevertheless, small and medium size enterprises in the construction industry still have serious problems in access to finance, managerial training and development and work opportunities in the public and private sectors. New entrants to this sector are, primarily, from South Africa's historically disadvantaged population groups, which further contributes

to the polarisation of the construction industry along racial lines. This issue will be addressed in greater detail in Chapter 4.

Finally, several researchers and policy formulators, including Rwelamila *et al* (1997), Ofori *et al* (1996), Gounden and Merrifield (1994) and Hodgson (1997), when commenting on the South African construction industry, have indicated a need for an integrated development plan for the industry. For as long as such a plan, or strategy, remains not fully developed, the various initiatives undertaken to address problems in the construction industry will be 'ad-hoc' in nature and will not contribute optimally to the development of the construction industry in South Africa.

The Green Paper on the Enabling Environment for the Construction Industry (DPW, 1997) goes a long way towards addressing these concerns, especially the proposal for the establishment of the Construction Industry Development Board. The author is of the view that a far greater emphasis should have been placed on the need for the formulation of an integrated industrial development strategy, rather than on the institutional mechanism to manage such a strategy.[4] The author is confident that the processes of interaction that have followed the launch of the Green Paper and the establishment of the Inter-Ministerial Task Team, auger well for the refinement and finalisation of an integrated industrial development strategy.

2.2.4 Towards the Development of a Framework for an Industrial Development Strategy for the South African Construction Industry

The Green Paper on the Enabling Environment for the Construction Industry (DPW, 1997) serves as a valuable entry point for the development of an integrated industrial development strategy for the construction industry in South Africa.

There are various debates on what constitutes an industrial development strategy. The World Bank defines industrial strategy as ***'government's efforts to alter industrial structure to promote productivity based growth***' (World Bank, 1993). This approach limits consideration of the impact of different policies across economic sectors and restricts the co-ordination of economic policies across different sectors of government. The author subscribes to the broader approach advocated by Fine and Rustomjee (1996) wherein they argued that industrial policy is not ideologically neutral, and may include any policies which impact on the industry, as well as policies directed at the industry.

Noting the multi-facetted composition of the construction industry in South Africa, the extent of the impact that other aspects of the economy have on the construction industry, and its backward and forward linkages with other sectors of the economy, the author is of the view that the approach advocated by Fine and Rustomjee provides a more useful conceptual framework for the analysis and

---

[4] On the basis of interventions by the author, the White Paper on the 'Enabling Environment for the construction Industry, makes specific reference to the need for the finalisation of an industrial development strategy for the construction industry.

development of an industrial development strategy for the South African construction industry. It is not the author's intention to propose a comprehensive industrial development strategy for the construction industry in this dissertation. However, the cluster composition proposed in Figure 2.1 below, provides an extremely useful framework for the formulation of an integrated industrial development strategy for the construction industry in South Africa. Figure 2.1 establishes the construction industry's basic core activities and related secondary and non-core activities and identifies, on the one hand, the factors which can be the catalysts of industry development (industry drivers) and on the other, the factors which will affect the rate and pace of development (core capabilities). Any development strategy will accordingly need to take cogniscance of the nature of the industry and be developed around the strengths and drivers of change and growth within the industry. The cluster analysis draws on work done by Ofori in analysing the development of a construction industry strategy for Singapore (Ofori, 1994), and on the preliminary analysis of the strengths and weaknesses of the construction industry, highlighted in section 2.2 above. It also adopts the vision of the construction industry, as contained in the Department of Public Works document on the Enabling Environment for the Construction Industry. This is '***our vision is of a construction industry policy and strategy that promotes stability, consistent economic growth and international competitiveness, creates sustainable employment and to address this historical imbalances as it generates new industry capacity***', (DPW, 1997).

The author is of the view that the initial development of an industrial development strategy for the construction industry would be best co-ordinated by the Inter Ministerial Task Team for Construction Industry Development, and subsequently managed and further developed and refined by the yet to be established Construction Industry Development Board (DPW, 1997), comprised the stakeholders in the construction industry. Figure 2.2 on page 2.17 suggests a process for the formulation of an integrated industrial development strategy which commences with the identification of the elements of such a process and concludes with the implementation of such an intervention. The activities associated with the appraisal aspects and choices pertaining to such a strategy are also presented. This strategy draws on work done by Ofori (1994) in analysing the development of a strategic plan for the construction industry in Singapore.

The compilation of a preliminary industrial development strategy for the construction industry is urgently required. It would provide a common rallying point for all stakeholders within the South African construction industry, and would enable them to analyse and locate the various enabling and intervening strategies that are currently being proposed, within a broader framework, which has not yet been clearly defined. In the formulation and finalisation of such an industrial development strategy it is envisaged that the role of the State would be comprehensively analysed and assessed by those participating.

The author is of the view that the State must play both intervening and enabling roles to address structural problems inherent within the construction industry at present. A similar view is held by

Merrifield (1997) and is argued in the Green Paper on the Enabling Environment for the Construction Industry (DPW, 1997).

The Affirmative Procurement Policy is an intervening policy aimed at addressing some of the structural problems in the South African construction industry. It requires enablement on government's behalf to ensure that the policy intent is met. It as such, can form one of the building blocks in the broader process of industry development and illustrates how the state can play both intervening and enabling roles to address specific structural problems in an integrated industrial development strategy for the construction industry.

It is within this context, that this discourse will proceed to examine, in slightly greater detail, the role of the State in developing the construction industry and the rationale for selective State interventions in the construction industry in South Africa.

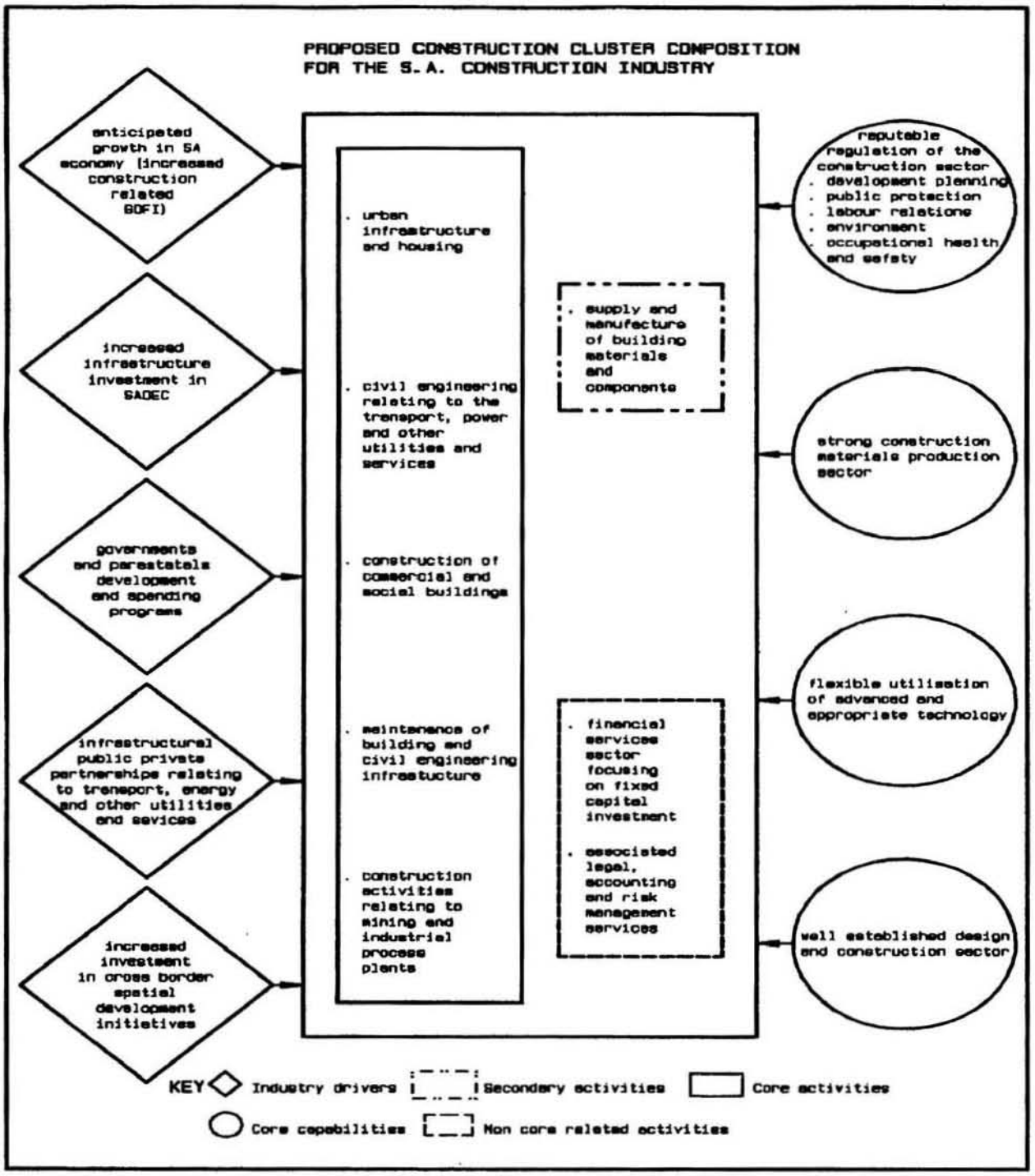


FIGURE 2.1 : Proposed construction cluster composition for the South African Construction Industry

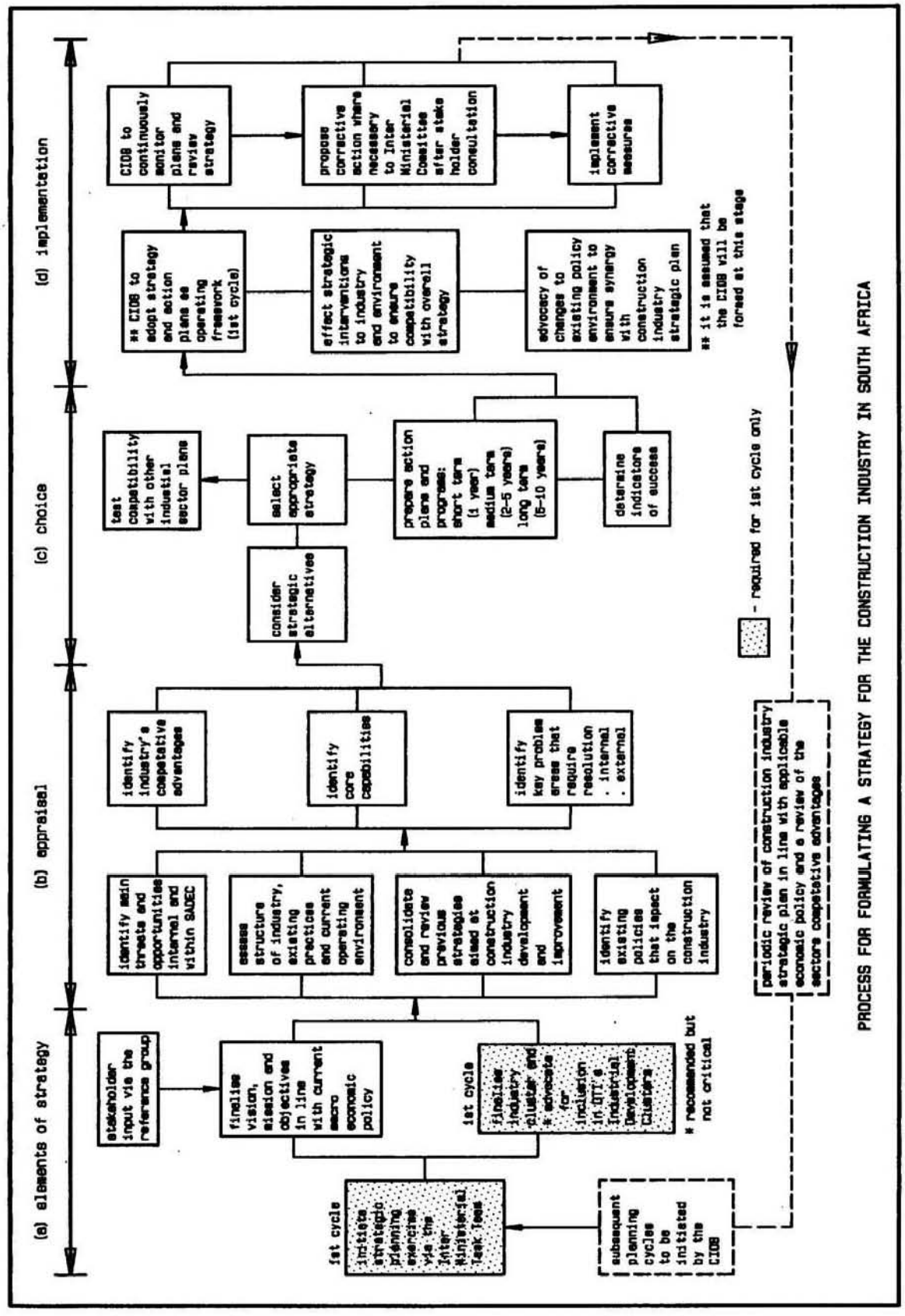


FIGURE 2.2 : Process for formulating a strategy for the Construction Industry in South Africa

CHAPTER THREE

THE ROLE OF THE STATE IN DEVELOPING THE CONSTRUCTION INDUSTRY, WITH A FOCUS ON PUBLIC SECTOR PROCUREMENT AS AN INSTRUMENT FOR EFFECTIVE STATE INTERVENTION

3.1 THE ROLE OF THE STATE IN DEVELOPMENT

No formulation, or analysis, of a sectoral industrial development strategy as outlined in Chapter 2 for the South African construction industry, would be complete without defining and analysing the various roles that the State should and is likely to play in giving effect to such a strategy. Traditionally, such analysis has departed from analysing the role of the State and looks also at markets in the unfolding of the strategy, and the extent to which State intervention through enabling strategies is required. The debate on the role of the State in markets is an ongoing one, especially within the context of a developing country such as South Africa. Unfortunately, most of the commentary and analysis on this subject has created a false dichotomy between the State and the markets, as it relates to development. Such analysis conceptualises the role of the State as replacing the market, and places significant limitations on the range of intervening and enabling strategies that Government is likely to offer. This 'either-or' approach assumes that either Government directly controls resource allocations, or that such allocations be left completely to market forces. This over-simplification does not take account of the various forces at play within a country's economy and, interestingly, excludes the impact of labour. Clearly, the State does not only have to spend money, or direct resources, to influence the functioning of markets, which is influenced by many Government policy choices, whether implicit or explicit. Rather than considering the State and markets as being distinctly separate, a better appreciation is obtained by acknowledging that they are interdependent but fragmented, and that both are heterogeneous entities comprising a wide range of institutions through which individual groups pursue their own interests (Fine and Rustomjee, 1996).

Having acknowledged the complex interplay between the State and the market in the economy of a country, the extent and the nature of State involvement and the specific role that it is likely to play is very much country and industry specific. South Africa's Reconstruction and Development Program (RDP) (ANC, 1994) clearly sees and acknowledges the link between growth and development, particularly in so far as the construction sector is concerned, and the need for the State to intervene strategically in the economy of the country. The subsequent development of GEAR, whilst placing a greater emphasis on the market, still acknowledges the need for both enabling and intervening strategies by the State to ensure a growing economy (DOF, 1996). It is apparent from the analysis of both the RDP, and GEAR, that there is an acknowledgement that a capitalist economy is subject to structural weaknesses which cannot be overcome without some degree of State intervention. The State can, via appropriate interventions and policy choices, contribute to better functioning and enabling of markets, whilst acknowledging the primary role that the private sector has to play in providing goods and services required by the citizenry (Coetzee, 1989).

This is the perspective adopted by the current South African Government in defining the State's role in the economy. Adam *et al* (1997) in their analysis of business in a post-apartheid South Africa, found that the vast inequities in South African society, which is structured along racial lines, arose primarily because of uneven development that stemmed from the previous government's apartheid

policy. They indicated that there is a need for a fine balance between government, labour and business in unlocking the development of the South African economy and acknowledged the need for strategic interventions by government to ensure redistribution and social equity. Reference is also made to the fact that this approach is necessary to maintain the fragile balance of the forces at play in the unfolding development of South Africa in the post-apartheid era. Eberhard and van Horen (1996), in analysing the minerals and energy sector in South Africa make a similar observation, namely, the need for strategic interventions by the State, primarily on the basis of promoting social equity, framed as an economic necessity, rather than a social responsibility. It is within this framework that the role of the State in developing the construction industry in South Africa needs to be located.

3.2 THE ROLE OF THE STATE IN THE CONSTRUCTION INDUSTRY IN SOUTH AFRICA

Several commentators and analysts have commented on the critical role that the State has to play in the construction sector. Whilst the 1970's saw a significant deregulation of the world economy, recent trends in the United Kingdom, Singapore and Malaysia, amongst others, support the argument for greater State involvement in the construction industries of those countries (Merrifield, 1997). The Green Paper on the Enabling Environment for the Construction Industry in South Africa (DPW, 1997) also argues for State intervention in the construction industry to promote equity and to locate it within the framework of the broader project of nation building and reconciliation currently taking place in South Africa.

It is useful, at this juncture, to define the various roles that the State may play in the construction industry of a country. Ofori, (1990) in analysing aspects of the construction industry's economics and management, presents three principal roles through which a government is likely to impact on the construction industry. These include an investor role, a regulatory role and a developmental role. The Green Paper on the Enabling Environment (DPW, 1997) sees the envisaged role of the State in the construction industry slightly differently. It suggests that the key roles of Government are those of a regulator, a facilitator and a client. An analysis of these proposals indicates that the difference in terminology is largely one of semantics, and does not indicate any fundamental differences at a conceptual level. For the purposes of further discussion, the author has chosen to adopt the terminology proposed by Ofori (1990). A brief commentary on the different roles that the State is likely to play in the construction industry of South Africa is as follows :

- **The State as investor**

In South Africa, the public sector and public corporations initiate between 40 and 50 % of construction related GDFI, and this is likely to increase if the current macro economic strategies are maintained (DPW, 1997). The State, therefore, has a responsibility to its citizenry to ensure a thriving and efficient construction industry and to promote productivity, quality and value for money, thereby ensuring a greater return on its investment. The State, with its significant share in the construction

market is also in a position to influence certain industry-related outcomes. This ability, is heightened within the South African environment, where established, private sector construction role players want to be seen to be responsive and receptive to the needs of the current government, in view of their chequered roles during the apartheid-era. Hodgson's (1997) historical perspective on the development of the construction industry in South Africa clearly demonstrates the impact apartheid and its associated policies have had on the construction industry, and their contribution to the skewed ownership patterns that currently prevail in the industry.

- **The State as regulator in the construction industry**

Regulatory intervention in South Africa is primarily aimed at public protection. To this end, the regulatory framework is largely in the form of statutes addressing issues such as standards for occupational health and safety, adherence to environmental requirements, specification of construction procedures and materials, compliance with planning requirements, and the like. A regulatory framework also exists in respect of the delivery of professional design services within the built environment.

- **Developmental role of the State**

The State has identified the construction industry as a sector of the economy where significant socio-economic objectives, such as job creation, skills transfer and entrepreneur promotion, can be realised via the delivery of construction related goods and services. This position is based on an appreciation of the multi-facetted nature of the construction industry and its potential to create employment and stimulate entrepreneurial opportunities within the sector and in other sections of the economy. Both the Green Paper for the Enabling Environment for the Construction Industry (DPW, 1997) and the Green Paper on Public Sector Procurement Reform (MOF and MPW, 1997) make specific reference to the role of the State in utilising its leveraging capability within the construction industry to realise specific socio-economic objectives. South Africa is in an advantageous position to ensure the realisation of such socio-economic objectives through the high investment envisaged by the public sector and public corporations in construction projects. The developmental role of the State in the construction industry is not only located within the context of the maximising of socio-economic outcomes on a project specific basis. It is also aimed at the promotion of public sector delivery programmes which target and support weaker sections of society, such as DPW's Community Based Public Works Programme.

3.3 ENABLING POLICY INSTRUMENTS WITHIN THE CONSTRUCTION SECTOR

The State's ability and effectiveness in influencing outcomes within the construction industry in South Africa is largely dependent on the choice of policy instruments that it uses to address specific areas of

concern. The Green Paper on the Enabling Environment (DPW, 1997) highlights the following policy instruments that are at the disposal of the State in its interaction with the construction industry :

- Regulation;
- Procurement policy;
- Government human resource strategy;
- Direct support including financial support; and
- Institutional support.

The policy instrument of regulation is used primarily for public protection and to ensure compliance with minimum standards, an example being standard building regulations. Procurement policy could be used either to promote efficiencies within the construction industry, or to promote socio-economic objectives. State utilisation of procurement policy to promote efficiencies and to realise specific socio-economic objectives within the construction industry has potential, especially in developing countries This view is confirmed by Aziz and Ofori, 1996; Masiyiwa, 1994; Watermeyer, 1997; Abeysekera and Dezylva, 1997; Watermeyer *et al*, 1998. Policy instruments aimed at human resource development within government are primarily intended to minimise delivery bottlenecks in the public sector, and, thereby, to promote overall efficiencies within the construction industry. Policy instruments of financial and institutional support by the State are primarily aimed at addressing supply side constraints, such as access to finance, managerial and technical skills and information.

The author will now focus more specifically on public sector procurement as a policy instrument for effective State intervention in the construction industry.

3.4 PUBLIC SECTOR PROCUREMENT AS AN INSTRUMENT FOR EFFECTIVE STATE INTERVENTION WITH SPECIFIC REFERENCE TO PREFERENCING

3.4.1 Public Procurement as an Instrument of Policy

Governments, in general, have utilised their public sector procurement capability to realise a range of objectives not necessarily connected with the immediate purpose of procuring specific goods and services. Arrowsmith, (1995) in her analysis of public procurement and its relationship with market liberalisation in the United Kingdom, refers to these objectives as secondary policies. Such secondary policies focus on a range of outcomes, from efficiency related issues, to objectives which could be broadly defined as socio-economic.

The utilisation of public sector procurement to realise socio-economic objectives can be traced back to public procurement preference schemes introduced in the 1930's to assist areas hit by the Great Depression. Following the Second World War, further schemes were adopted, some of which

survived in Europe until 1991. The South African government, prior to 1994, used procurement to promote South African goods and to provide incentives to produce goods within demarcated areas.
The tendency of governments to use public sector procurement as a policy instrument is understandable, particularly when noting that the size of government markets means that they provide significant opportunities to impact on the country's economy. The Green Paper on Public Sector Procurement in South Africa estimates that total, consolidated, general Government procurement expenditure was approximately R56 billion for the 1995/96 financial year. This amount constituted approximately 13% of GDP and represented approximately 30% of all Government expenditure (MOF and MPW, 1997). Similar observations were made in the United Kingdom in 1984, where it was estimated that procurement by public bodies and associated public corporations accounted for 21,8% of GDP in the United Kingdom (Arrowsmith, 1995). Governments are seen, therefore, to have the ability to utilise their large purchasing power to influence industrial, economic and social outcomes, and to create behaviour responses in the market. McCrudden (1995) in his analysis of public procurement and equal opportunities in the European Union, highlighted five principal domestic, socio economic, or political, functions which public procurement may be used to achieve:

- To stimulate economic activity
- To protect national industries against foreign competition
- To improve the competitiveness of certain industrial sectors
- To remedy regional disparities; and
- To achieve certain social policy functions, such as utilisation of local labour and increased employment of the disabled.

Arrowsmith (1995) makes a similar observation and identifies public procurement policy as having industrial, economic and social policy objectives. Both Arrowsmith (1995) and McCrudden (1995) make a clear distinction between the industrial, economic and social policy objectives of public procurement. This distinction is reinforced by McCrudden's (1995) definition of "contract compliance" as :

> ***'the use of public procurement as an instrument of social policy, particularly for the purpose of achieving equality of opportunity between different groups'***

The author stresses the importance of placing these observations within the context of developed economies, and considers that, within the South African context, the delineations are inappropriate. In South Africa, social policy is intimately linked to the economic and industrial well being of the country, especially taking into account the legacy of inequality based on race.

The Malaysian experience provides us with an interesting example of how public sector procurement was utilised to promote the economic development of its indigenous Bumiputra community, thereby enabling its integration into the overall Malaysian economy and contributing to its greater

competitiveness in the South East Asian market (Ministry of Finance, Malaysia, 1997). Whilst the recent collapse of the South East Asian economy indicates certain limitations in the manner in which countries like Malaysia have managed their economies, it is accepted that public procurement has contributed significantly to the economic integration of all sectors of the Malaysian population. This has contributed to Malaysia's competitiveness in the South East Asian market, especially in respect of design, build, finance and operate type projects in Southern and South East Asia (Aziz and Ofori, 1996).

Within the South African context, it is apparent that the current Government intends using public procurement as one of the instruments to realise broader developmental goals. This is clearly spelt out in the Green Paper on Public Sector Procurement where the twin objectives of public sector procurement reform and socio economic objectives are highlighted (MOF and MPW, 1997).[1]

3.4.2 Models for Public Sector Procurement Intervention

Various models for public sector procurement intervention have evolved internationally, based largely on country specific requirements. With the rapid rate of globalisation of the world economy, several countries have had to review public sector procurement strategies to ensure compliance with multi-lateral agreements emanating from organisations such as the World Trade Organisation. It is not intended in this dissertation to comment on the impact that trade liberalisation is likely to have on a country's ability to use public sector procurement as an instrument of policy. However, it would be a serious omission if this factor were not raised as an issue that needs to be constantly monitored, as it does have a bearing on the nature and the form of procurement interventions that countries are likely to adopt.

The procurement interventions or models that exist at present are as follows:

- **Price preferencing policy**

Under such a policy, targeted groups are given a price preference and, in general, there is no exclusion of non-targeted groups from the bidding process. An example of the implementation of this model is the case of Greece, where a price preference of up to 8% on public sector procurement was accorded to business enterprises located outside the prefecture of Attica, which encompasses the area of Athens (McCrudden, 1995). This was introduced to avoid an over concentration of economic activity in the Athens area. The Affirmative Procurement Policy currently utilised by the national Department of Public Works in South Africa also utilises a price preferencing mechanism to target woman-owned enterprises and Affirmable Business Enterprises for contracts of less than R2 million

[1] The author was a member of the management team responsible for the formulation of this Green Paper, and in the formulation of such policy, the nature and the extent of state intervention was primarily located within the context of the role of the State, as defined in the Reconstruction and Development Program.

- **Set asides**

Set asides refer to a procurement strategy whereby a percentage of the total value of transactions in a specified market segment, or sub-segment, is set aside for a particular targeted group. In such cases, businesses from non-targeted groups cannot participate in the bidding process. A good example of a set aside program occurs in the United States, where Federal contracts for the supply of goods and services that have estimated values of between US$ 2 500 and US$ 100 000 are reserved exclusively for small business (McCrudden, 1995).

- **Step-in mechanisms**

This phrase "step-in mechanism" has been coined by the author within the context of public sector procurement, as this cannot be viewed as a direct preference. Using this approach, targeted enterprises are granted the opportunity to step in once the cheapest bid has been established. A targeted enterprise is offered the contract, provided that it can match the terms and conditions offered by the cheapest bidder. Examples of this model of intervention are the step-in options for small and medium enterprises developed in Germany in 1976, and a modified version thereof entitled the Special Preference Scheme, which was used in the United Kingdom (Arrowsmith, 1995).

- **Contract participation goal-setting**

Using this model, the procurement agency specifies a minimum contract participation goal, being a percentage of the value of the contract which must to be undertaken by the targeted group. Achieving this contract participation goal could be either at a prime contract level by means of a joint venture relationship, or at a sub-contract level by the procurement of materials, supplies and services, including professional services, from the targeted group. Under this model, the responsibility of attaining the contract participation goal rests with the contractor and bonus points contributing towards the award of the contract are awarded to tenderers who offer to exceed the minimum contract participation goal. Examples of this model are the City of Atlanta's Equal Business Opportunity Program (City of Atlanta, 1994), and the South African Department of Public Works Affirmative Procurement Policy (APP) for construction projects in excess of R2 million (Watermeyer *et al,* 1998).

The foregoing illustrates that the various models of public sector procurement interventions, which have evolved internationally and locally, have done so on the basis of country-specific requirements. It is important to note that the use of procurement as an instrument of policy is not without controversy, with differing viewpoints as to its legitimacy and effectiveness. Resolution of points of view is hampered by limited research and the lack of data on most international programs and schemes. It is within this global context, that the South African Government has adopted a fairly controversial stance, from an international perspective, with the utilisation of government procurement as an instrument of policy. The author is of the view that, prior to presenting an overview on the

South African situation relating to public sector procurement as an instrument of policy, it will be useful to sketch a brief outline of the approach adopted in the United States in regard to contract compliance. Many of the issues raised in this connection are of relevance in South Africa, as the operational systems currently utilised in South Africa have drawn upon USA experience.[2]

3.4.3 An Overview of the USA Experience in regard to Contract Compliance

The utilisation of public procurement for socio-economic purposes relating to equal opportunities has been in operation for a substantial time in the United States (McCrudden, 1995). The basis of the current program can be traced back to Executive Order No 11246, promulgated by President Lyndon Johnson in 1965, which obliged government contractors to take affirmative action measures to ensure equality of opportunity. This order emanated primarily from observations as to the limited employment opportunities being made available to minority groups. It is important to note that the USA program was, initially, linked only to the issue of labour equity, and it was only in 1978 that the program was formally expanded to provide preferences to business enterprises owned by socially, or economically, disadvantaged persons. Interestingly, the construction industry has always been at the forefront in the utilisation of public sector procurement as an instrument of policy in USA, with the linkage between public procurement and employment equity in the construction industry being traceable to area programs such as the St Louis plan in 1965 and the Philadelphia plan in 1967 (McCrudden, 1995). In his analysis of contract compliance in America, McCrudden acknowledges that the construction industry was the first sector in the USA in which an explicit approach to affirmative action was developed by the US Federal Government. He attributes this to the construction industry's status as a major sector in the economy, which could generate employment opportunities for large numbers of unemployed and under-employed Black workers. It is important to note that, from a political perspective, employment opportunities generated within the construction industry are highly visible and much of the new work that was being undertaken at the time was within the context of urban renewal in, or in close proximity to, large Black neighbourhoods. A further factor that influenced the focus on the construction industry was that it was highly dependant on public funds, the Federal Government of the time being responsible for at least one third of expenditure on construction in the country, and consequently enjoying high leverage capability. Since the issuing of the Executive Order in 1965, the policy relating to contract compliance in the United States has evolved to embrace a wider range of target groups, such as woman-owned businesses, and has also been implemented at various levels of government.

Leonard's (1990) study of the effects of affirmative action regulation on employment equity in the United States indicates that significant gains were made in the sphere of both male and female Black

---

[2] As one of the co-authors of the Government's Affirmative Procurement Policy specifications, the author wishes to acknowledge that whilst the policy and the specifications respond to a need that is truly South African, the operational systems largely draw from the USA experience, and more specifically that of the US Department of Transport. The American system is located within the conditions of contract; the South African is in the resource (management) specifications. The Disadvantaged Business Enterprise Participants' Manual provided a useful basis from which the South African specifications and operational systems were developed.

employment via contract compliance. There was no evidence that affirmative action has resulted in a productivity decline (Leonard, 1990). Similar observations were made by Johnson (1990) in her analysis of affirmative action policy in the United States, and its impact on woman. The introduction and implementation of contract compliance policy have been unsuccessfully contested on the grounds of constitutionality of the USA. Various programs utilising the set aside model, or the preferencing model, or a combination of both, aimed at employment equity of minorities and the targeting of minority-owned and woman-owned businesses are applicable in all tiers of government in the United States today.

Some interesting observations which emanate from the author's review of the USA policy on contract compliance (Brimmer and Marshall, 1990; McCrudden, 1995; Office of Civil Rights and Office of Highways Operation, 1990; City of Atlanta, 1994) and which are of significance to South Africa are :

- The challenges to the policy were made, primarily, on the basis of constitutionality;
- The requirements for contract compliance are, currently, located within bid documents, as opposed to revolving around pre-award negotiations, as was previously the case;
- Stricter enforcement resulted in enhanced effectiveness of the program;
- The program is being applied at all levels of government, namely, federal, state, and city levels; and
- The program primarily targets minorities and is located within a social policy paradigm.

3.4.4 The current South African approach to Public Procurement aimed at realising Socio-Economic Objectives

3.4.4.1 The South African government's approach

It is quite apparent from the preceding sections that the current South African government has recognised the need for strategic interventions in the economy. These interventions are primarily aimed at ensuring a thriving, growing and competitive economy in global terms. The concept of social equity in the South African context cannot be viewed merely within the human rights perspective. Whilst this is of great importance, it is also necessary that interventions should increase the number of participants in the South African economy, thereby contributing to greater efficiencies and growth within the economy in the medium to long term. In the preceding sections it was demonstrated that public sector procurement is an important instrument that can facilitate state intervention in specific economic sectors. In the following sections, the author reviews South Africa's approach to public sector procurement as an instrument to realise socio-economic policy objectives.

3.4.4.2 Public sector procurement in South Africa the pre-1994 era

Prior to 1994, public sector procurement in South Africa was regulated in terms of the State Tender Board Act of 1968 (Act No 86 of 1968). The general conditions for procuring goods and services were contained in the State Tender Board's General Conditions and Procedures (ST 36). A review of the abovementioned legislation, including the regulations and amendments, indicates that the regulatory framework for public sector procurement in South Africa before 1994 was based on systems and procedures that are prevalent in developed countries. The emphasis of the regulatory framework was primarily, on financial rules and regulations, as opposed to the broader economic implications of public sector procurement. A similar observation was made in the Green Paper on Public Sector Procurement in South Africa (MOF and MPW, 1997). The only reference to targeting, or preferencing, is in Section 25 of ST 36, where consideration was given to tender preferences for products with local content, or work where local processes were involved; preferences for the utilisation of the South African Bureau of Standards standardisation mark; preferences related to the regional industrial development incentives in force at that time; and, in terms of clause 25.1.4, preferences as may be determined by the Minister of State Expenditure from time to time. The author has been unable to identify any instance where this latter option was exercised by the Minister of State Expenditure.[3]

The foregoing observations may be interpreted as indicating that a free and fair procurement system prevailed at the time. The author argues that the review of public sector procurement legislation in force in South Africa during that period was consistent with that prevalent elsewhere in the world. However, it is important to locate such legislation within the scope of the various statutes promulgated to promote apartheid, such as the Group Areas Act, and legislation relating to job reservation on racial grounds, since such legislation effectively restricted participation in public sector procurement. The disproportionate allocation of resources at the time, on the basis of racial classification, exacerbated biased participation. A review by the Procurement Task Team, in 1995, of contracts awarded during the five years preceding 1994 indicated that approximately 95 % of State contracts were awarded to White-owned and controlled enterprises. The author postulates that, whilst the regulatory framework relating to public sector procurement appears to have been fair and reasonable, the underpinning legislation of the apartheid paradigm ensured that the prime participants and beneficiaries of public sector procurement were from the White race group. It was, therefore, not necessary to effect targeting via public sector procurement, as this was largely achieved through decades of apartheid-related legislation. The author is of the view that this is important, because a superficial analysis of past public sector procurement policies and guidelines may result in a downplaying of the significant role that public sector procurement has played in the growth and development of White-owned

[3] This observation was based on an interview conducted with the Chief Director of the State Tender Board by the author, a review of State Tender Board directives from 1985 to 1994 and is also inferred in Van der Linden's commentary on new developments in state tendering systems (Van der Linden, 1992).

enterprises. The author contends that several of the larger civil engineering construction companies owe a significant proportion of their growth and development and, hence, their current status, to public sector procurement opportunities in the apartheid era.[4]

3.4.4.3 The Post -1994 Era

Following the first democratic elections in the Republic of South Africa, after decades of unequal development based on racial lines, the Government of National Unity, led by the Ministry of Finance and the Ministry of Public Works embarked upon initiatives to reform public sector procurement. This initiative was driven, primarily, by the need to ensure a more equitable distribution of public sector procurement opportunities, but, also, to ensure the promotion of efficiency in public sector procurement. Arising from a request from the Minister of Public Works in South Africa, the World Bank, via its institutional development grant facility, agreed to fund the first phase of this initiative. The primary objective was to define a policy framework that would be receptive to South Africa's current developmental needs, which, in turn, were driven by the twin reform objectives of realising socio-economic goals and promoting good governance through public sector procurement reform (MOF and MPW, 1997).

Processes were instituted to ensure that the views of a wide range of key stakeholders involved in public sector procurement in South Africa were obtained. The author, who was then special advisor to the Minister of Public Works, was privileged to be appointed as co-chairperson of the Public Sector Procurement Forum which was tasked with the development of a new policy framework for procurement in South Africa. The Forum was supported by the appointment of a Public Sector Procurement Task Team, whose members were drawn from both the public and private sectors.

During the development of the policy framework for public sector procurement, it became apparent that there was a need for an overhaul of the regulatory framework and legislation relating to public sector procurement in South Africa, in order to operationalise a range of policy reform proposals required to achieve both socio-economic and good governance objectives. Accordingly, the following concurrent strategies were adopted by the Procurement Task Team.

- **Development of a policy framework**

A new policy framework for public sector procurement was developed and is encapsulated in the Green Paper on Public Sector Procurement Reform in South Africa. This will ultimately lead to new legislation being enacted.

---

[4] The author wishes to clarify that this observation is not intended to downplay or to derogate from the significant role that these construction enterprises have and will play in the development of South Africa, but rather to record that they did derive business benefits from the apartheid State.

- **Development of interim procurement strategies**

The Ten Point Plan on Public Sector Procurement (MOF and MPWs, 1995) was developed to create a range of interim procurement strategies aimed primarily at increasing the participation of previously disadvantaged enterprises in public sector procurement. This strategy was introduced in order to prevent the perpetuation of the inequitable award of State contracts after 1994, whilst new policy was being developed.[5] It is important to note that the Procurement Task Team was given a clear mandate to ensure that there was synergy between the policy framework that was being developed and the interim strategies. This was to ensure that the interim strategies would serve to pilot initiatives that were likely to be encapsulated in new legislation.

The Ten Point Plan on Public Sector Procurement was adopted by the National Government Cabinet as its interim procurement policy in November 1995. The Ten Point Plan remains government's interim procurement policy. The State Tender Board adopted the Ten Point Plan for implementation in the procurement of goods and services during August 1996.

The Green Paper on Public Sector Procurement in South Africa was released with the full endorsement of the Cabinet of the Government of National Unity in April 1997. All policy perspectives contained in the Ten Point Plan have been incorporated into the Green Paper. The Department of State Expenditure has since been tasked with the responsibility of preparing the White Paper on Public Sector Procurement Reform in South Africa and associated legislation.[6]

On the basis of the proposals contained in the Green Paper, it is clear that the South African Government has embraced the policy of utilising public sector procurement as an instrument to realise socio-economic policy. It is also apparent that targeted procurement is intended to be a key instrument in addressing inequities in various sectors of the South African economy, and that a policy of affirmative procurement is likely to be included in forthcoming legislation (MOF and MPW, 1996). Any review of the implementation of affirmative procurement by the Department of Public Works should, therefore, not only be seen as a review of an interim strategy, but also of overall government policy that is likely to be implemented over the medium term in South Africa. Prior to an overview of the Ten Point Plan and its development into the Affirmative Procurement Policy specifications, the author presents the constitutional framework within which public sector procurement is currently located in South Africa.

---

[5] Based on public statements made by the Minister of Public Works, and the Deputy Minister of Finance in 1995, and directives given to the Procurement Task Team by these political office bearers.

[6] From discussions between the author and the Chief Director of the State Tender Board who is responsible for the formulation of the White Paper, it is apparent that such legislation is likely to be tabled in Parliament in the year 2000.

3.4.5 South African Constitutional Provisions for Public Sector Procurement

The Constitution of the Republic of South Africa makes specific constitutional provisions pertaining to public sector procurement in South Africa. Section 217 of the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) contains specific provisions relating to procurement (refer to 1.1 of chapter 1).

The Constitution provides the framework for targeted procurement via preferencing and specifies that national legislation should clearly prescribe the framework within which such preferencing should be effected by organs of State. The inclusion of public sector procurement in the constitution of a country is not common, and indicates the seriousness with which South Africa views public sector procurement as a socio-economic instrument. Interestingly, the initial clauses pertaining to public sector procurement that were included in the Interim Constitution did not make any specific provision for such preferences. Section 187 of the Interim Constitution for the Republic of South Africa, 1993 (Act no 200 of 1993), was framed as follows :

(1) The procurement of goods and services, for any level of government shall be regulated by an act of parliament and provincial laws which shall make provision for the appointment of independent and impartial Tender Boards to deal with such procurements.

(2) The tendering system referred to in sub section 1 shall be fair public and competitive, and the Tender Board shall on request give reasons for their decisions to interest parties.

(3) No organ of State and no member of any organ of State or any other person shall improperly interfere with the decisions and operations of the Tender Board.

(4) All decisions of the Tender Board shall be recorded'

The significant departure in South Africa's approach to procurement between the Interim Constitution of 1993 and the Final Constitution of 1996 can be largely ascribed to the work done by the Procurement Task Team during the intervening period. During this period the Procurement Task Team reviewed the various legal challenges to the USA preferencing/set-aside policy, and arrived at the following approach :

- The favouring of preferences which are non-exclusionary, rather than set asides, as the preferred *modus operandi* to give effect to targeted procurement in South Africa.
- The need for a national legislative framework to define such preferencing and targeting, especially noting the various strategies adopted by different tiers of government during the intervening period; these were well intended but many had undesirable outcomes, e.g., the preferencing policy adopted by the Free State Tender Board for Free State based business enterprises.

It was, primarily, on the basis of this work that changes were proposed for inclusion in the final version of the Constitution,[7] which is explicit in its approach to targeted procurement and the use of public procurement as an instrument to realise socio-economic policy objectives.

Having identified the importance attributed to the targeting of specific groups in public sector procurement in South Africa, the author is of the view that it is likely to play a significant role in the development of the South African economy in the medium term. An analysis and assessment of the Affirmative Procurement Policy (APP) currently being implemented by the Department of Public Works, therefore, needs to be undertaken with this in mind, as it can provide useful route markers for the refinement of the policy.

3.4.6 The Ten Point Plan on Public Sector Procurement in South Africa and the development of the Affirmative Procurement Policy Specifications

The Ten Point Plan on public sector procurement in South Africa represents a cluster of policy and strategies that are aimed at increasing the participation of small and medium enterprises, especially those owned by historically disadvantaged individuals, in Government procurement opportunities. Notwithstanding the limitations present in the regulatory and legislatory framework, it was the view of the drafters that these strategies could contribute significantly to increased participation by small and medium enterprises, especially those owned by historically disadvantaged individuals. In summary, the Ten Point Plan incorporated the following ten strategies :

1) The improvement of access to tendering information.

2) The development of tender advisory centres.

3) Broadening the participation base for small contracts.

4) The waiving of security / sureties on construction contracts having values of less than R100 000.

5) The unbundling of large projects into smaller projects.

6) Promotion of early payment cycles by government.

7) The development of a preference system for small and medium enterprises owned by historically disadvantaged individuals.

8) The simplification of tender submissions.

[7] The author, as co-chairperson of the Public Sector Procurement Forum and as part of the management team responsible for the development of the revised public sector procurement policy, was privileged to be part of the team that contributed to this constitutional change, in the sphere of public sector procurement.

9) The appointment of a procurement ombudsperson.

10) The classification of building and engineering contracts.

In developing the Ten Point Plan for public sector procurement, cognisance was taken of the work done by the Department of Trade and Industry on small business development, especially with regard to access to finance, training, and the development of entrepreneurial and managerial skills (DTI, 1995). The Department of Trade and Industry had the responsibility for addressing supply side constraints facing Small, Medium and Micro Enterprises (SMMEs), whilst the procurement reform initiative was required to create increased procurement opportunities for SMMEs, especially those owned by historically disadvantaged individuals. These two approaches were intended to create an enabling environment for growth and development of SMMEs.

Although the Ten Point Plan was adopted by the Cabinet in November 1995, it was only approved for implementation by the State Tender Board in August 1996. The preferencing scheme for Affirmable Business Enterprises (ABEs) was approved by the Minister of Finance, utilising the regulatory framework contained in Clause 25.1.4 of ST 36 (State Tender Board, 1991). It is suggested that the delay in implementation of the Ten Point Plan by the State Tender Board may, largely, be attributed to a lack of understanding by members of the Board regarding the location of responsibility within State institutions for the formulation of public sector procurement policy.

From a review of the current State Tender Board Act and ST 36, it is quite clear that the State Tender Board's responsibility relates, primarily, to ensuring that contracts are awarded in a free, fair and transparent manner and within the context of applicable government policy. The Act does not empower the Board to formulate public sector procurement policy and failure to appreciate this resulted in some tension within the Board. Similar tensions were noted at the time by the author in other government institutions and public corporations, such as the Gauteng Provincial Tender Board and the Transnet Tender Board. Whilst several reasons can be put forward for these transient difficulties, they can, broadly, be attributed to the public sector transformation taking place in South Africa.

A review of the Ten Point Plan indicates a bias towards influencing the construction industry as evidenced by the fact that two of the points dealt solely with construction issues and the degree of detail provided in point 10 of the plan. It could be argued that a similar bias is also present in the Green Paper on Public Sector Procurement Reform in South Africa. The author, having been involved in both processes, proposes two reasons for this. The first is that it is 'by design' whilst the second is the nature of the procurement reform process and the role players involved.

The focus on construction procurement 'by design' was based on acknowledgement that the procurement of construction goods and services is by far the most complex area of traditional

procurement in the public sector, and that any strategy addressing public sector procurement limitations in the construction sector could be utilised, quite easily, in other sectors of government procurement. The complexity of public sector construction procurement and its need for focussed attention was acknowledged in a procurement efficiency study conducted by the United Kingdom Government (HMSO, 1995). A further factor that influenced the focus on this specific sector was that most of the local and international operational strategies for using public sector procurement as a socio- economic policy instrument are well developed within the construction sector. Examples include the Bumiputra Contractor Development Programme in Malaysia[8], the CONQUAS Programme in Singapore and its preceding programmes,[9] Soweto's Contractor Development Programme, various programmes aimed at employment creation and small contractor development in South Africa (Watermeyer and Band, 1994), and the various programmes aimed at developing minority and women-owned businesses in the United States (McCrudden, 1995). The wealth of international documentation available to policy formulators in South Africa served as a useful departure point, notwithstanding that the policies mentioned above relate to country-specific needs. A factor that contributed to the focus on construction was the acknowledgement of the critical role that the construction industry is playing in the unfolding development of South Africa and the consequent need for the full enablement of this sector.

Reasons for the focus on construction procurement that can be attributed to the nature of the procurement reform process and the role players involved, are as follows :

- The Department of Public Works[10] has been one of the main drivers of public sector procurement reform in South Africa. Noting that its primary business in government relates to the construction sector, it is understandable that emphasis has been placed on a range of strategies relating to the construction industry.
- The key policy formulators of public sector procurement reform, including all members of the procurement task team and the co chairpersons of the Public Sector Procurement Forum, were from the built environment professions.[11]

With hindsight, it could be argued that a better balance of formulators of public sector procurement reform in South Africa should have been achieved by assembling a more diverse team of specialists. This argument can be countered by reference to the wide ranging public participation process that ensured that all stakeholders from different sectors of the economy were given adequate opportunity to make inputs during the policy formulation process. The author asserts, therefore, that the emphasis on construction within the public sector procurement reform process in South Africa is, largely, a reflection of the extent of work that has been done, both internationally and locally, in this

[8] Based on an interview with representatives of the Economic Policy Unit in Malaysia, 1995.
[9] Based on an interview with Singapore CIBD representatives in Singapore, December 1997.
[10] The Procurement Forum was co-chaired by a senior official nominated from the Department of State Expenditure (J Breytenbach) and a senior official from the Department of Public Works (S Gounden).
[11] The task team comprised D Letchmiah (team leader-quantity surveyor), R Watermeyer (engineer), J Breytenbach (engineer), J Nkosi (town planner) and L Gouws.

sphere. Issues that are likely to be encountered in other economic sectors in South Africa are addressed, and should be used as a basis for formulating other sector-specific procurement strategies within the framework outlined in the Green Paper on Public Sector Procurement.

The development of the Affirmative Procurement Policy specifications largely originated out of a need to define a cost effective procurement system which could incorporate socio economic objectives in accordance with the objectives described by Watermeyer, *et al* (1998) as set out in the preview presented in 1.5 of chapter 1.

The procurement of the Malmesbury prison and housing project in the Western Cape, in 1995, prompted the Department of Public Works to initiate the development of targeted procurement specifications that encapsulate the objectives highlighted in the Ten Point Plan (Letchmiah, 1997). Whilst the Ten Point Plan captured broad principles and goals, it did not provide well defined mechanisms whereby such a policy could be operationalised. The Affirmative Procurement Policy specifications therefore represented a logical progression of the development of the Ten Point Plan, and aimed to provide definable, quantifiable, measurable, verifiable and auditable procurement mechanisms, initially aimed at addressing the needs of the construction sector. These specifications were subsequently broadened to ensure applicability to a wide range of goods and services to be procured by the public sector (Watermeyer *et al*, 1998).

The Affirmative Procurement Policy being implemented by the National Department of Public Works targets ABEs via the procurement by the public sector of construction and construction related goods and services. In South Africa, contractors, suppliers and service providers are normally required to construct, supply or provide a service in accordance with a technical specification. The development and inclusion of the Affirmative Procurement Policy specifications now also requires contractors to execute their contracts in accordance with a human resource specification. These specifications define and sets out goals for targeted small, medium and micro enterprise participation in the performance of the contract in such a manner that it can be quantified, measured, verified and audited. These specifications also define the various permutations by which contractors can attain these goals in order to comply with the requirements of the contract. Furthermore, they set out the measures which a client-body has at its disposal to remedy and penalise non-compliance.

The specifications allow for direct preferences to be accorded to ABEs in respect of low value contracts. For projects of value less than R2 million, ABEs are encouraged to participate as prime contractors by way of a direct price preference of 8,3 % (maximum). For projects of value in excess of R2 million, participation goals are set. A participation goal is a percentage of the monetary value of the contract which is used to represent ABE participation and is defined as the value of goods and services for which a firm undertakes to engage ABEs in the performance of the contract. Prime Contractors can secure ABE participation in these contracts in one, or more, of the following ways :

- by sub-contracting parts of the contract to ABEs;
- through the purchase of supplies and materials from ABE suppliers;
- by obtaining manufactured articles from ABE manufacturers;
- by engaging ABE professional, technical, or management, service providers; or
- by entering into joint venture agreements with one or more ABEs.

In this changed environment, contracts are awarded on a point scoring system based on a development objective/price mechanism. Tenders are awarded points, in the first instance, for the financial offer and, in the second instance, for the extent to which the offer exceeds the minimum specified contract participation goal. Non-compliance with the minimum specified contract participation goal would render a tender submission non-responsive and lead to its automatic recjection. On average, the Department of Public Works sets its contract participation goal for ABE participation at 15%. Tenders are awarded up to 90 points for price and up to 10 points for the degree to which they offer to exceed the minimum participation goal. In the development of these specifications, which were designed for inclusion with standard contract documentation, careful attention was paid to the formulation of tender evaluation criteria, which are clearly spelt out to enable tenders to compete on a equitable basis.

A full definition of an ABE is provided in Chapter 4. It is, in summary, either a small, medium or micro enterprise owned and managed by previously disadvantaged individuals. The rationale for defining the targeted group in this manner and for the application of the Affirmative Procurement Policy within the Department of Public Works is also provided in Chapter 4. At this juncture it is, however, important to note that the enterprises earmarked for this preference is defined in terms of:

- being a legal registered business enterprise;

- having clearly defined ownership management and control characteristics; and

- having clearly defined turnover limits.

Utilising the experience gained on the Malmesbury Prison Project, the Department of Public Works, in conjunction with the Public Sector Procurement Task Team (1996), developed a range of standardised resource specifications relating to the Affirmative Procurement Policy. These specifications were :

- APP1: targeting of Affirmable Business Enterprises;
- APP2: Structured Joint Ventures (Affirmable Partners);
- APP3: Targeted Joint Ventures;
- APP4: Targeting of Local Resources;
- APP5: the engagement of Targeted Labour; and
- APP6: targeting of Affirmable Professional Service Providers

Whilst specifications APP1 to APP5[12] were approved for application on a pilot basis on the Department of Public Works' construction projects by the State Tender Board in August 1996, the Department concentrated its efforts primarily on the utilisation of the APP1 and APP2 specifications. This was in recognition of the fact that the APP1 and APP2 specifications, in the main, address the needs of ABEs and that the remaining specifications were designed to meet project-specific applications such as the stimulation of local economic development, employment creation and poverty alleviation (Watermeyer, 1998). The focused use of APP1 and APP2 was, also, motivated by the realisation within the Department of Public Works that the application of a new policy needs to be unfolded in an incremental manner, with the concurrent development of appropriate capacity and understanding by staff who are primarily responsible for its successful application.

The next chapter focuses on the rationale for the development of affirmable business enterprises within the construction sector in South Africa. Chapters 5, 6, 7 and 8 of this dissertation review the application of the Affirmative Procurement Policy specifications and, more specifically, the specification on construction projects procured by the National Department of Public Works during the period August 1996 to June 1998.

---

[12] The international community has expressed considerable interest in Targeted Procurement and suggested a name change from Affirmative Procurment which has South Africa undertones to Targeted Procurement. The Department of Public Works when it received and finalised the APP series of specifications renamed the South African edition as follows:

- TP1(APP1): Targeting of Affirmable Business Enterprises
- TP2(APP2): Structured Joint Ventures (Affirmable Partners)
- TP3(APP3): Structured Joint Ventures (Targeted Partners)
- TP4(APP4): Targeting of Local Resources
- TP5(APP5): Engagement of Targeted Labour
- TP6(APP6): Targeting of Affirmable Professional Sevice Providers

The international version don't have the bracketed reference. The international series of TP specifications in contrast to the South African editions have user defined definitions for the target groups.

CHAPTER FOUR

AFFIRMABLE BUSINESS ENTERPRISES IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY

4.1 INTRODUCTION

In this chapter, the author will consider SMMEs in general, and then focus more specifically on (ABEs) in the South African construction industry, their relevance and the constraints that confront them. It is acknowledged that small construction companies face similar problems to their counterparts in other industrial sectors and that most sectoral strategies aimed at developing small and medium size businesses have been based on an initial macro assessment of the impact that these businesses have on the growth and development of a country, across a spectrum of that country's economic activities.

4.2 DEFINITIONS OF SMALL, MEDIUM AND MICRO ENTERPRISES (SMMEs) AND AFFIRMABLE BUSINESS ENTERPRISES IN THE CONSTRUCTION INDUSTRY

Internationally, according to Ofori (1995), the definition of a SMME is, normally, linked to one or more of the following criteria :

- the total number of employees;
- value of fixed assets;
- paid up capital;
- annual turn-over; and
- annual volume of physical production.

It is apparent from a review of international literature that, whilst common trends are evident in the definition of SMMEs, these definitions are very much country and sector specific. Noting the heterogeneous nature of enterprises that are likely to be classified within the broad definition of small, medium and micro enterprises, Ofori (1995), in attempting to identify the different development needs of construction enterprises at different stages of their growth, utilises a categorisation of SMMEs based on their level of maturity. This categorisation draws on the work done by Ang (1992), who proposed three categories of SMMEs. The first of these is start-up companies, characterised primarily as family-owned businesses where basic management has not been put in place. The second category includes established SMMEs with structured management systems, which need improvement in productivity and modernisation. The third group are the globalising SMMEs, which require sophisticated management and systems to compete in the world market. Whilst Ang's proposal was based on an assessment of active SMME's in Asia, it demonstrates that the range of SMMEs' need is dependent on their level of business maturity.

In South Africa, the Department of Trade and Industry, in its White Paper on a National Strategy for the Development and Promotion of Small Business in South Africa (DTI, 1995), acknowledges the value of SMME classifications and proposes four broad categories. The four are survivalist enterprises; micro enterprises; small enterprises; and medium enterprises (DTI, 1995). The latter

three categories correspond to Ang's classification (Ang, 1992). The survivalist enterprise category covers activities in the informal sector, undertaken by people who are unable to find paid jobs or to get formal employment in the economic sectors of their choice. The focus of this dissertation is on SMMEs operating in the formal sector, because the aim of public sector procurement to reinforce tax morality can only be achieved through formal sector SMMEs. Survivalist enterprises do, however, remain an important component of the South African economy and a range of strategies beyond the scope of this dissertation needs to be developed. Nevertheless, the fine interplay between survivalist enterprises and micro and small enterprises in the South African construction industry is noted and is relevant.

It could be argued that, at present in South Africa, many of the unregistered labour-only sub-contractors in the construction industry fall into the category of survivalist enterprises. For the purpose of this dissertation, however, the author's focus will be on SMMEs operating in the formal sector. The Department of Trade and Industry defines an SMME as ***'a separate and distinct business entity, including co-operative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy mentioned in column 1 of the schedule and which can be classified as a micro, a very small, a small or a medium enterprise by satisfying the criteria mentioned in columns 3, 4 or 5 of the schedule, opposite the smallest relevant size or class as mentioned in column 2 of the schedule'***, (South African National Small Business Act, Act No. 102 of 1996).

An excerpt from this schedule for the construction sector is presented in Table 4.1.

TABLE 4.1 : SMME CRITERIA FOR THE CONSTRUCTION INDUSTRY AS PROVIDED FOR IN THE SOUTH AFRICAN NATIONAL SMALL BUSINESS ACT

COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	
SECTOR OR SUB SECTORS IN ACCORDANCE WITH THE STANDARD INDUSTRIAL CLASSIFICATION	SIZE OR CLASS	TOTAL FULL-TIME EQUIVALENT OF PAID EMPLOYEES LESS THAN	TOTAL ANNUAL TURNOVER LESS THAN	TOTAL GROSS ASSET VALUE (FIXED PROPERTY EXCLUDED) LESS THAN
CONSTRUCTION	MEDIUM	200	R20,00 M	R4,00 M
	SMALL	50	R5,00 M	R1,00 M
	VERY SMALL	20	R2,00 M	R0,40 M
	MICRO	5	R0,15 M	R0,10 M

The Act classifies SMMEs in terms of the number of employees, annual turnover, and total gross asset value, excluding fixed property. Whilst this sectoral classification represents a significant milestone in the definition of SMMEs in South Africa, it has limitations because of its broadness, which includes non-profit organisations. Furthermore, no sub-sector refinements, which are considered to be

critical in the construction industry, have been attempted. In the definition of SMMEs in the construction sector, it appears likely that general contractors, domestic sub-contractors, labour-only sub-contractors and consultants will all be similarly classified. This would, obviously, be incorrect as the turnovers, number of full time employees and total asset values vary widely between these subsectors and cannot be lumped together for procurement purposes. It is hoped that, in the development of sector-specific strategies for SMMEs, appropriate sub-categorisation will be forthcoming.

We will now examine the definition of an Affirmable Business Enterprise (ABE), which is the targeted beneficiary of the Affirmative Procurement Policy, and the definition for synergy in specific areas, e.g., with the SMME definition for the construction sector embodied in the Small Business Act of 1996. A comprehensive definition of an ABE as provided for in the standardised resource specification for the Targeting of Affirmable Business Enterprises (TP1(APP1)) (DPW, 1998) is as follows :

DEFINITION: Affirmable Business Enterprise

A business which adheres to statutory labour practices, is a legal entity, registered with South African Revenue Services and a continuing and ***Independent Enterprise*** *for profit, providing* ***a Commercial Useful Function*** *and:*

a) *which is at least two thirds* ***Owned*** *by one or more Previously Disadvantaged Individuals or, in the case of a company, at least two thirds of the shares are* ***Owned*** *by one or more Previously Disadvantaged Individuals; and*

b) *whose management and daily business operations are in the Control of one or more of the Previously Disadvantaged Individuals who effectively own it: provided, however, that the annual average turnover excluding Value Added Tax (VAT) and any turnover generated in respect of work performed by other parties in a joint venture or a consortium, of the business during the lesser of the period for which the business has been operating, or the previously three financial years, does not exceed:*
   1) *R25 million in respect of contractors who generate more than or equal to 75 % of their turnover as Prime Contractors;*
   2) *R10 million in respect of contractors who generate less than 75 % of their turnover as Prime Contractors;*
   3) *R2,5 million in respect of labour-only sub-contractors;*
   4) *R10 million in respect of Manufacturers;*
   5) *R15 million in respect of Suppliers*
   6) *R2,5 million, exclusive of any turnover generated in respect of outsourced activities which the enterprise does not have the in-house competence and expertise to perform, in respect of professional service providers; and*
   7) *R2,5 million in respect of other service providers, e.g. transporters; and*

c) *that the sum of the average annual turnovers over the same period of all the business concerns which are under the Control of Previously Disadvantaged Individuals within the business entity or* ***Affiliated Entities*** *does not exceed one and a half (1,5) times the maximum allowable annual average turnover for the particular category of enterprise as set out in b) above.*

Supplementary definitions:

Affiliated Entities*: A business entity which has control of or the power to control another business entity, albeit indirectly, e.g., where a third person has control of or has the power to control both entities. Indicators of control shall, without limitation, include interlocking management or ownership, identity of interests among family members, shared facilities and equipment, or common use of employees.*

***Commercially Useful Function**: The performance of real and actual work, or the provision of services, in the discharge of any contractual obligation which shall include but not be limited to the performance of a distinct element of work which the business has the skill and expertise to undertake and the responsibility for management and supervision.*

***Control:** The possession and exercise of legal authority and power to manage the assets, goodwill and daily operations of a business and the active and continuous exercise of appropriate managerial authority and power in determining the policies of and directing the operations of the business.*

***Executive Director:** A partner in a partnership, a sole proprietor, a director of a company established in terms of the Companies Act, 1973 (Act 61 of 1973) or a member of a close corporation registered in terms of the Close Corporation Act, who jointly and severally with his partners, co-directors or co-members, as the case may be, bears the risk of business and takes responsibility for the management and liabilities of the partnership, company, or close corporation.*

***Independent Enterprise:** An enterprise which is free of any degree of direct or indirect Ownership, or Control, by any firm which engages in activities similar to those in respect of which credit towards the Contract Participation Goal is sought, or by any Executive Director of such a firm, who is not a Previously Disadvantaged Individual.*

NOTE: Any enterprise whose owners include firms which engage in the majority of activities that are performed by that enterprise cannot claim Affirmable Business Enterprise status. Likewise any enterprise which has any non-PDI Executive Directors who have interests in such firms cannot claim Affirmable Business Enterprise status.

***Owned:** Having all the customary incidents of ownership, including the right of disposition, and sharing in all the risks and profits commensurate with the degree of ownership interest as demonstrated by an examination of the substance, rather than the form of ownership arrangements.*

In making comparisons, it is important to note that the definition of an ABE in the construction industry preceded the definition of an SMME in the construction sector, as contained in the Small Business Act. It is, therefore, likely that some discrepancies will be encountered.

The objective of the current definition of ABE is to ensure the effective targeting of small, medium and micro enterprises owned by previously disadvantaged individuals in the construction sector. It is evident from this definition that the SMME parameter of turnover, delineated on the basis of prime contractor, sub-contractor, manufacturer, supplier, service provider, etc. was adopted. This delineation draws primarily from the USA experience and, in particular, that of the Small Business Agency, which co-ordinates preferencing programs at Federal level. It is expected that, when the various policy strands of the Small Business Act are put into effect at a sectoral level, turnover thresholds will be individually set on a sub-sectoral basis to acknowledge the different roles and functions that different enterprises fulfil. The definition of an ABE could serve as a useful route marker for this process. The difference in the upper turnover limits of R25-million for prime contractors in the ABE definition and R20-million for medium sized enterprises specified in the Small Business Act can be attributed to the timing of the formulation of the definitions. The author is of the

view that the turnover thresholds for ABEs could quite satisfactorily be amended to conform with those contained in the Small Business Act of 1996.[1]

Two concepts used in the definition of an ABE, as it relates to its SMME status, are "independent enterprise" and "to render a commercially useful function". These were included to ensure that correct targeting takes place, and that targeted SMMEs are *bona-fide* business enterprises and not 'front' companies for larger, non-qualifying enterprises wishing to access tender preferences. The author argues that a similar approach should be adopted in operationalising the Small Business Act, if appropriate targeting is to take place. From the foregoing, it is apparent that the section of the ABE definition that focuses on its SMME status is more rigorously defined than the SMME definition contained in the Small Business Act. Rather than viewing this as a potential source of conflict, the author suggests that it provides a useful starting point to refine the definitions of SMMEs in other sectors, in order to ensure appropriate targeting.

Beyond the SMME categorisation contained in the Small Business Act, the White Paper on a National Strategy for the Development and Promotion of Small Business in South Africa (DTI, 1995) is explicit about the need to specifically focus on SMMEs owned by previously disadvantaged individuals and the rationale for this is discussed in greater detail in section 3.4. At this juncture, however, it is important to note that, in the definition of an ABE, the need for such focus is dealt with by specific reference being made to a minimum of two thirds ownership by previously disadvantaged individuals. Also, management and control of the enterprise must vest with previously disadvantaged individuals. The definition of an ABE, which was initially proposed in 1995, and which preceded the SMME definition contained in the Small Business Act, reflected both the spirit and intent of the White Paper on a National Strategy for the Development and Promotion of Small Businesses in South Africa, both in terms of its adoption of turnover thresholds and specific targeting of enterprises owned by previously disadvantaged individuals within the small, medium and micro enterprise sectors.

The author is of the view that this chapter would be incomplete without a brief review of the impact that SMMEs have on the economy of a country, and hence the attention they receive from governments around the world to ensure their ongoing growth and development. The next section, accordingly focuses on SMMEs and the economy, with an emphasis placed on SMMEs in the construction sector.

4.3 SMMEs AND THE ECONOMY

SMMEs play an important role in the economies of all countries, both developing and developed. In Singapore, for example, SMMEs comprise 94 % of business enterprises and account for 71% of total employment (Ang, 1992; Ofori, 1995). South Africa has a poor statistical base for SMMEs, but it is estimated that they account for approximately 60% of employment in the economy and 40% of output

[1] The author was part of the team that drafted the ABE definition, and notes that whilst the turnover thresholds prescribed in the ABE definition recognise local market conditions the preliminary nature of the assessment made at the time, does not warrant the strict adherence to the R25-million turnover threshold.

(DTI, 1998). SMMEs have played an important role in some countries in facilitating their transitions from developing to industrialised status and such transitions have generally been accompanied by the rapid growth and development of small and medium enterprises (Steel and Webster, 1991; Ofori 1995). The Reconstruction and Development Program (ANC, 1994) and the Growth Employment and Redistribution (GEAR) strategy, (DOF, 1996) both identify the promotion of SMMEs as a key element of Government's strategy for employment creation, economic growth, and the promotion of equity in South Africa.

The role and the contribution of the SMME sector are wide ranging and multi-facetted and SMMEs offer several benefits to the economy of a country (DTI, 1995; DPW, 1997; Ofori, 1995). Whilst these benefits relate to SMMEs across the economic spectrum, the author is of the view that they apply in greater measure to the construction sector. Some of the contributions by the SMME sector are the following :

- They are generators of employment opportunities at relatively low capital cost.
- SMMEs can be more competitive than larger firms on some spatially dispersed projects because of their relatively low overheads. Further, because SMMEs tend to be more geographically widespread, they have promoted economic activity beyond the traditional domain of the larger companies, thereby serving as important catalysts for local economic development.
- They provide an entry point into the economy for persons with limited capital, or technical skills.
- Their flexibility enables them to exploit niche markets both locally and internationally.
- They provide an opportunity to ensure more equitable income distribution and wider-ranging competition. This is particularly important in the South African context, noting South Africa's legacy of big business domination and unequal distribution of income.
- They are able to successfully effect backward and forward linkages between other sectors of the economy.
- Noting the global trends towards outsourcing, SMMEs provide a basis for sub-contracting by larger enterprises, thereby realising higher order efficiencies in some sectors of the economy.

This last point is of particular relevance in the construction industry, where the current trend is for the larger contractors to adopt a managing contractor approach. Cawthra (1991) observes that in the construction industry in the United Kingdom, project management and design skills are retained by the larger construction companies, whilst operational and artisan skills are located in small and medium enterprises. Edum-Fotwe *et al* (1997), in their review of small and medium contracting organisations, primarily in the United Kingdom, note that approximately 80 % of the turnover of general contractors and about 50% of the turnover of civil contractors is sub-contracted, and that the ability of larger contractors to deliver within project parameters is very much dependent on the small and medium contractors who are sub-contracted. In South Africa, a similar approach has been adopted by larger construction companies, primarily as a mechanism to counteract the volatility of demand.

It is estimated that between 20% and 30% of the firms in the construction sector in South Africa accounted for more than 80% of the construction output in 1991. There is no reason to believe that this pattern has changed significantly (DPW, 1997). There might be a temptation to conclude that this represents an unhealthy situation. Hindle (1997) observed, however, that the 80/20 ratio is applicable to construction sectors in several countries, and could largely be attributed to the structure of construction markets.

Accepting Hindle's statement, it is reasonable to assume that, in most countries, the distribution profile of construction enterprises contains four times more medium and small firms than large firms. Hindle further argues that this relationship should not be interpreted as market dominance, but reflects a response to the way the construction market operates. He proposes that larger firms are not necessarily in competition with smaller firms but that they are complementary within the construction industry. The author endorses this position, and is of the view that the dominance of larger firms should not be seen as a negative factor in the South African construction industry, but rather as an expected consequence of the structure of the construction markets.[2]

The role of SMMEs in the economy of a country is significant. The nature of construction markets globally has resulted in a necessary inter-dependence between SMMEs and larger construction companies. Whilst the larger construction companies account for a significant percentage of the construction output, it is clear that the overall performance of the construction sector is very much related to a thriving and vibrant SMME sector in the construction industry.

4.4 RATIONALE FOR THE FOCUS ON ABEs IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY

The importance of SMMEs in the construction sector has been highlighted in previous sections. This section explores the rationale for the specific focus on small, medium and micro construction enterprises that are owned, managed and controlled by previously disadvantaged individuals in South Africa. Internationally, most programs that have been aimed at promoting equal opportunities within the construction industry for marginalised people have been located within a human rights paradigm (McCrudden, 1995). Merrifield (1997), in his review of several conference papers on equal opportunities and/or empowerment of previously disadvantaged individuals in the construction industry, makes a similar observation. The author, as previously argued in Chapter 3, is of the view that the nature of the South African environment requires a focus on individuals and enterprises from previously disadvantaged communities on economic grounds, beyond social or human rights justification, which is, however, equally important. From an economic perspective the focus on accelerated development of 70% of South Africa's population, who were denied access to

[2] The presence of these larger firms in the South African construction industry and their contribution to the construction economy is not in question their ownership and management control, which could largely be attributed to the apartheid,

opportunities, growth and development by institutionalised discrimination, is a necessity. Not only is this necessary to promote reconciliation in a society that remains polarised along racial lines, but also to expand the economic base of the country and to develop resources that were previously neglected. It will, furthermore, ensure greater competition in the South African economy and, by extension will contribute to a competitive South Africa within the global economy.

The need for specific focus on SMMEs owned and managed by previously disadvantaged individuals, departing from a socio economic perspective, was seen, initially, in the Reconstruction and Development Program (ANC, 1994) and was carried through in DTI's White Paper on Small Business (DTI, 1995). Both the Green Paper on Public Sector Procurement (MOF and MPW, 1997) and the White Paper on Small Business (DTI, 1995) have identified the need for selective targeting of enterprises owned by previously disadvantaged individuals on both economic and social grounds. The Department of Trade and Industry in its Small Business White Paper (DTI, 1995) presents a historic rationale for the focus on black owned and controlled small enterprises. This is based, primarily, on the denial of equal access to opportunities to these enterprises during the apartheid-era which took the following form :

- Apartheid-based education restricted the acquisition of technical and professional skills by Black people.
- Apartheid confined Black people to dormitory type residential areas and, in the cases of many African people, to homelands which were not only poor, in terms of living standards and business opportunities, but also lacked a dynamic business environment.
- Racially segregated residential areas created under the Group Areas Act uprooted millions of Black South Africans from their places of residence and business and virtually destroyed the fabric of small black business.
- Forced segregation of the different race groups increased the distances between black residential and working areas, thereby increasing the cost and risk of conducting business.
- The restriction of ownership rights by Blacks made it impossible for them to buy assets that could serve as collateral for loan financing. It also excluded Blacks from the process of capital accumulation and growth through rising property and share values and from the possibility of acquiring fixed properties in high value added areas.
  (DTI , 1995).

In the construction sector, various pieces of labour legislation were promulgated during the apartheid era which prevented Blacks from attaining artisan status and prevented them from performing skilled work in White areas (Cattel, 1997). The current approach adopted by the South African Government on this issue is, appropriately, captured by DTI (1995) in its White Paper on Small Business which states

---

dispensation is however problematic and contributes to the polarisation of the South African construction industry along racial lines.

'Small business support policies will for a considerable time also have to focus on the particular needs of black enterprises and the ways to overcome the remaining consequences of that legacy [apartheid]. This does not mean that the policies should only focus on black owned or controlled enterprises but that policy differentiation will have to include affirmative action elements'.

Having presented the historical context for the targeted focus on ABEs it is important to note that a further justification for the accelerated development of previously disadvantaged enterprises in the construction sector is that it has brought to bear new value systems that are behavioural rather than rule orientated. These systems are likely to become inculcated into current industry culture, and will bring about and promote long term cultural change and transformation within the sector. This will draw on the strengths of the previously disadvantaged that were not formally factored into construction industry culture in South Africa (Merrifield, 1997).

The perceived close affinity between small Black contractors and Black communities provides a useful example of how such behavioural practices could help contribute to positive outcomes in a manner by which the construction industry in general addresses the needs of its clients. A further justification for the focus on ABEs in the South African construction industry is the current polarisation of the South African construction industry along racial lines, as noted in Chapter 2.

This polarisation serves as one of the major constraints that needs to be addressed in order to promote a unified, vibrant and sustainable construction industry in South Africa. Whilst some authors have argued that current government interventions could serve to further polarise the industry along racial lines (Rwelamila *et al*, 1997), the author is of the view that this polarisation has not decreased with the demise of apartheid in 1994. Further, there is no tangible evidence in the post-1994 era to indicate that private sector construction markets in South Africa have taken tangible steps to address this imbalance. The author is, therefore, of the view that the current focus on ABEs by Government, far from promoting further polarisation, has the potential to reconcile the established component of the construction industry with the emerging component and will serve to promote a unified construction industry in South Africa through the establishment of business linkages.

4.5 KEY CONSTRAINTS FACING ABEs IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY

The key constraints facing ABEs in the South African construction industry are no different to the problems encountered by emerging contractors in other developing countries. It may be argued, however, that when compared to other SMMEs in the South African construction sector, the problems confronting ABEs are more acute for the reasons outlined in the preceding section. Significant research has been conducted both internationally and locally on the problems facing emerging contractors. Ofori (1995), in a report prepared for the United Nations Centre for Human Settlements

(UNCHS) on policies and measures for small contractor development, identified a range of problems confronting SMMEs. These included :

- discrimination by financial institutions against SMMEs which have little collateral;
- projects are seldom packaged and structured to enable SMMEs to undertake them;
- weaknesses in management and a lack of entrepreneurship;
- difficulty in accessing information and a lack of market exposure; and
- excessive competition amongst SMMEs.

In South Africa, several researchers have analysed problems confronting emerging contractors (Atkins and Milne, 1996; Hodgson and Gwagwa, 1997). The most noteworthy of these was the recent study commissioned by the affected sector, represented by the Black Construction Industry (BCI) and funded by USAID. The problems identified in this study were inadequate skills, poor access to finance, poor access to work and negative market forces (BCI, 1995). Similar observations were made by Cattel (1994) in his study of small black builders in South Africa and Watermeyer and Band (1994) in their study commissioned by the National Housing Forum. The Green Paper on an Enabling Environment (DPW, 1997) also identified similar problems, as well as the following additional problems :

- conflict between community demands and SMME growth, with local communities in many instances wishing to reserve work for locals, thereby impacting negatively on SMMEs wishing to participate in the projects; and
- the lack of cohesion amongst the various provincial and national associations representing emerging contractors, which has resulted in the emerging sector being unable to articulate its needs and requirements in a coherent manner.

Whilst the Green Paper on the Enabling Environment identifies a tension between community demands and SMME growth, the author is of the view that local SMMEs tend to adopt a similar view towards SMMEs that do not come from the immediate environment, thereby tending to restrict the participation of SMMEs to defined geographic boundaries.[3]

The observation by Ofori (1995) regarding excessive competition amongst SMMEs is particularly relevant to the South African construction industry. Price undercutting at sub-contracting level has become commonplace in South Africa, with negative impacts on ABEs in the construction industry, who are forced to participate in this practice to ensure work continuity (MOF and MPW, 1997).

[3] In the erection of the Atlantis Magistrates Court in the Western Cape, demands for exclusive local business participation on the project were initially made by business associations from Atlantis. Following a series of protracted negotiations in which the author was involved this was subsequently changed to allow for greater participation of contractors from outside the immediate environment.

It is quite apparent that both enabling and intervening strategies are necessary to address problems confronting ABEs in the South African construction industry. The need for an integrated emerging contractor support program was recognised by the BCI Task Group (BCI, 1995) and endorsed by DPWs Green Paper on the Enabling Environment (DPW, 1997) in its proposals on the Emerging Contractor Development Program (ECDP). Ofori (1995) notes that contractor development programs must be linked to the prioritised needs of a nation's construction industry. In the same study, for the UNCHS, Ofori also notes the lessons learnt from past contractor development programs in developing countries. These lessons include the following (Ofori, 1995):

- Large companies can be used to develop small ones, making for stronger intra-industry linkages.
- Management contracting, or the development team approach can be used to transfer skills to emerging contractors.
- Contractor associations can play a key role in small contractor development.
- Skills training, focussing on technical and managerial skills has significantly improved the ability of small contractors to function effectively.
- Specific measures should be adopted to wean contractors off supporting schemes.

Some of the lessons highlighted by Ofori were evident in the Soweto Contractor Development Program in South Africa, one of South Africa's more successful small contractor development programmes (Watermeyer, 1992; Watermeyer and Band 1994; Watermeyer *et al*, 1995).

The author subscribes fully to the need for an integrated approach to the development of ABEs in the South African construction industry, and recognises that the full enablement of SMMEs in the construction industry, and ABEs in particular, requires the addressing of problems identified above in an integrated manner. The use of public sector procurement as a policy instrument to address some of the problems confronting ABEs in the South African construction industry is only one of the many instruments required for the enablement of this sector. The author is of the view that the full enablement of the ABE sector is dependent on strategies aimed at overcoming supply side constraints, such as access to finance, negative market forces, and access to technical and managerial skills development, as well as addressing the needs to improve access to markets, both in the public and private sectors.

Public sector procurement, as a policy instrument to address problems confronting ABEs, primarily targets the improvement of ABEs access to markets in the public sector. A review of the Department of Public Works' Affirmative Procurement Policy specifications, which, whilst primarily aimed at improving access to public sector markets, appear to have drawn on international lessons learnt in SMME development. These include, in particular, the encouragement of joint ventures between emerging and established construction enterprises, the utilisation of sub-contracting as a mechanism to promote SMMEs, the recognition of the need to wean SMMEs from support programs by setting upper turnover threshold limits, and the unbundling of larger contracts through the setting of contract

participation goals to ensure increased participation by ABEs. Table 4.2 (Watermeyer, 1998) provides a comprehensive outline of the various targeting mechanisms that are proposed in the Affirmative Procurement Policy specifications. Interestingly, a similar approach was proposed by the BCI task group, who argued for affirmative action principles to be incorporated into a public sector work access program for emerging contractors (BCI, 1996).

TABLE 4.2 : TARGETING MECHANISM FOR ABEs AND AJVPs IN TERMS OF AFFIRMATIVE PROCUREMENT POLICY (Watermeyer, 1998)

CONTRACT		TARGET GROUP	MEANS OF SECURING TARGET	REMARKS
TYPE	CLASS			
PRIME (Works contracts only)	MICRO (Quotations, or Tenders, if value is above a prescribed threshold and is less than R100 000).	ABEs (small and micro) performing as prime contractors	• Accelerated rotation through quotation rosters. • 7,5 adjudication points are awarded to ABEs in terms of a development objective / price mechanism when adjudicating both tenders and quotations.	• The accelerated rotation through the quotation roster enables ABEs to have more opportunities for the preparation of quotations and hence a greater chance of success. • Sureties are waived in respect of prime (micro) contracts. • 7,5 adjudication points translate into an effective price preference of 8,3 %.
PRIME (Goods, services and works contracts)	MINOR (Low risk works contracts or contracts which are below R2,0 m).	ABEs (small and medium) performing as prime contractors	• 7,5 adjudication points are awarded to ABEs in terms of a development objective / price mechanism when adjudicating tenders.	• Sureties are 2,5 % on works contracts where estimated tender value is less than R1,0 m. • Sureties are 5,0 % on works contracts where estimated tender value is greater than or equal to R1,0 m. • 7,5 adjudication points translate into an effective price preference of 8,3 %.
PRIME (Goods services and works contracts)	MAJOR (Relatively high risk works contracts or contracts having a contract value in excess of R2,0 m).	ABEs performing in the capacities of : • Prime contractor • Joint venture partner • Subcontractors • Suppliers • Manufacturers • Service providers	• Prime contractors are awarded up to 10 adjudication points in terms of a development objective / price mechanism should they engage ABEs in the performance of their contract. • The engagement of ABEs is defined, measured, quantified and audited in terms of a resource specification.	• An ABE can act as a prime contractor only if the contract value is not disproportionate to its annual turnover limits. • An ABE contracting to act as a prime contractor can be awarded a price preference of up to 11,1 % depending upon the amount of work subcontracted to others. • 10,0 adjudication points translate into an effective price preference of 11,1 %. • ABEs which outgrow their status by virtue of high turnovers can receive affirmative action milestone credits, equivalent to the attainment of a Contract Participation Goal, of up to 12 %. This provides them with a competitive advantage over non-targeted group enterprises. • Sureties in an amount of 10 % are required (works contracts only).
STRUCTURED JOINT VENTURE (Goods, services and works contracts)	- (Relatively high risk works contracts or contracts having a contract value in excess of R5,0 m).	Affirmable Joint Venture Partners or ABEs acting either as joint venture partners and ABEs acting as suppliers, manufacturers and service providers.	• Prime contractors are awarded upto 10 adjudication points in terms of a development objective / price mechanism should they engage Affirmable Joint Venture Partners in the performance of their contract. • The engagement of Affirmable Joint Venture Partners and ABEs is defined, measured, quantified and audited in terms of a resource specification.	• 10,0 adjudication points translate into an effective price preference of 11,1 %. • An Affirmable Joint Venture Partner is an enterprise which has outgrown its ABE status, by virtue of its increased turnover. • This approach enables the Target Group to act as prime contractors irrespective of their turnover limits. • An Affirmative Joint Venture Partner can be given control of the contract should the minimum Joint Venture Participation Goal percentage be set at 60 %. • A non-Affirmable Joint Venture Partner can provide the necessary finances or any resources which the Affirmable Joint Venture may lack. • It is admissible for two Affirmable Joint Venture Partners to form a joint venture for the purposes of the contract as it is not a requirement that one of the joint venture partners be a non-Affirmable Joint Venture Partner. Joint Ventures formed in this manner will be awarded an effective price preference of 11,1 %. • Sureties in an amount of 10 % are required (works contracts only).

In summary, Affirmable Business Enterprises in the construction industry in South Africa are confronted with problems not dissimilar to those faced by emerging construction enterprises in other developing countries. On the basis of lessons learnt from emerging contractor development programs internationally, it is apparent that integrated strategies, which address both supply side constraints and increased access to procurement opportunities, are necessary for the full enablement of Affirmable Business Enterprises in South Africa. Public sector procurement, as a policy instrument in this context, aims, primarily, to improve access by ABEs to public sector procurement opportunities. A review of the Affirmative Procurement Policy specifications indicates that the primary objective of these specifications is to increase public sector procurement opportunities for ABEs. The specifications also promote a range of 'good practice elements', such as the promotion of joint ventures etc. It is within this context that the primary hypothesis, and sub-hypotheses, pertaining to the National Department of Public Work's Affirmative Procurement Policy, are made below.

4.6 PRESENTATION OF KEY HYPOTHESIS AND SUB-HYPOTHESES

In the preceding sections and chapters of this dissertation, the author has argued for the wider participation of ABEs in the South African construction industry. More specifically, public sector procurement is identified as an important policy instrument to promote the growth and development of Affirmable Business Enterprises in the South African construction industry.

The primary hypothesis that is tested below in this dissertation is:

The public sector in South Africa can contribute to increased participation of Affirmable Business Enterprises in the construction industry, via the implementation of the Affirmative Procurement Policy.

The author wishes to record the following salient points arising out of an analysis of the above hypothesis:

- '**Public sector**', refers to all institutions of government, including the first, second and third tiers of Government. This dissertation focuses on a first tier government institution, namely the National Department of Public Works, because it is presently the only institution that has been granted approval by the State Tender Board to utilise the Affirmative Procurement Policy specifications on its construction projects.

- '**Can contribute**' is indicative of the following :

  - Public sector involvement is necessary, but not in itself, a sufficient condition for the full enablement of Affirmable Business Enterprises.

- The elements that impact on the extent to which the contribution can be successfully made, are the following :
    - : coherent and cohesive policy adoption and implementation within all sectors of government;
    - : policy framework should be routed within a sustainable development paradigm and should have measurable outputs;
    - : overall government capability and institutionalisation;
    - : effective monitoring and evaluation of policy;
    - : the needs of the construction industry and absorptive capacity of the targeted beneficiaries; and
    - : other enabling programs.

- '**Affirmable Business Enterprises**' refers to small, medium and micro enterprises, owned, controlled and managed by previously disadvantaged individuals as stated in this chapter.

- '**The Affirmative Procurement Policy**' refers to the policy that was developed by the Procurement Task Team in South Africa as one of the outcomes of the Public Sector Procurement Reform process currently taking place. The policy was approved by the Cabinet in November 1995 and approved by the State Tender Board in August 1996 for implementation on construction projects procured by the national Department of Public Works.

- '**Increased participation ..... in the construction industry**' infers some measurable outputs. These outputs would include:

    - increased participation of ABEs in public sector construction projects;
    - acceleration in the growth of ABEs;
    - increase in the successful completion of public sector construction projects by ABEs;
    - promotion of successful joint venture relationships between established contractors and ABEs; and
    - increased participation by ABEs in private sector projects.

The primary hypothesis outlined above will be tested by analysing the application of the Affirmative Procurement Policy on the Department of Public Works construction projects for the period August 1996 to July 1998. The primary hypothesis has been dis-aggregated into the following sub-hypotheses.

1. The National Department of Public Works can promote increased participation by ABEs in the construction economy, via its Affirmative Procurement Policy (APP).

2. The adoption of the Affirmative Procurement Policy has resulted in the State bearing a nominal financial premium, when compared to the initial projected outcomes and overall benefits.

3. Increased procurement opportunities to Affirmable Business Enterprises via government's Affirmative Procurement Policy is a necessary, but not sufficient, condition for the full enablement of ABEs in the construction sector.

4. Affirmable Business Enterprise participation varies according to sub-sector entry level thresholds.

5. The Affirmative Procurement Policy promotes joint venture relationships between established contractors and Affirmable Business Enterprises.

6. The application of the Affirmative Procurement Policy has resulted in better regulated relationships between prime contractors and sub-contractors.

These six sub-hypotheses derived from the primary hypothesis have been clustered as follows:

Cluster 1 - Sub-hypotheses 1 and 2 focus on analysing the primary policy outcomes of the application of the Affirmative Procurement Policy on the National Department of Public Works construction projects. These two sub-hypotheses will be tested and analysed in Chapter 5 of this dissertation.

Cluster 2 - Sub-hypotheses 3 and 4 focus on the Affirmative Procurement Policy being a necessary but not a sufficient condition for ABE empowerment. These sub-hypotheses are tested and analysed in Chapters 6 and 7of this dissertation.

Cluster 3 - Sub-hypotheses 5 and 6, focus on the impact that the Affirmative Procurement Policy has had on the construction market in South Africa. These sub-hypotheses will be tested and analysed in Chapter 8 of this dissertation.

CHAPTER 5

THE PRIMARY OUTCOMES OF THE AFFIRMATIVE PROCUREMENT POLICY

5.1 INTRODUCTION

The author, in this chapter, analyses the primary policy outcomes of construction contracts administered by the National Department of Public Works for the period August 1996 to July 1998. The primary policy outcomes viz, the increase in ABE participation via the application of Affirmative Procurement Policy and the extent of the direct financial premium borne by the Department in the application of the Affirmative Procurement Policy, will be assessed by testing the following two sub-hypotheses.

1) **The National Department of Public Works can promote increased participation of ABEs in the construction economy, via its Affirmative Procurement Policy.**

2) **The adoption of the Affirmative Procurement Policy has resulted in the State bearing a nominal financial premium, when compared to the initial projected outcomes and overall benefits.**

A review of the mechanisms whereby the Department of Public Works procures construction works contracts indicates that this is done either by soliciting quotations from a limited number of suppliers / service provides / contractors or by inviting tenders. Quotations are normally obtained from not less than three sources. This procedure is currently confined to contracts which have a value of R45 000 or less and usually involves work mainly of a building maintenance or minor renovation nature.

During the period August 1996 to October 1997, the Department awarded some 3423 works contracts, amounting to R914,5 million. Quotations accounted for approximately 80% of the number of contracts awarded, but less than 3% of the total financial value of contracts awarded; the average value of a quotation being R9 491 (Watermeyer *et al*, 1998).

Quotations have been excluded from this study as their award is largely dependent upon who is invited to submit quotations. Their consideration in the testing of the above-mentioned hypothesis would introduce an inherent bias in the analysis, and would in any event have a nominal impact on the outcomes.

5.2 DEFINITIONS AND INTERPRETATIONS

Affirmable Business Enterprises are defined in Chapter 4. It is necessary, however, to define the following additional terms to which reference will be made, later in this Chapter.

i) **Participation :**

Participation is the amount of money paid to an enterprise for work performed, goods supplied, services rendered or a combination thereof in the performance of a contract.

Participation is used to measure and represent the Commercially Useful Function performed by ABEs.

ii) **Commercially Useful Function :**

The performance of real and actual work, or the provision of services, in the discharge of any contractual obligation which shall include but not be limited to the performance of a distinct element of work which the business has the skill and expertise to undertake and the responsibility for management and supervision (TP1(APP1), 1998).

iii) **Financial Premium Index (FPI) :**

The Financial Premium Index in the context of the Affirmative Procurement Policy , is the difference in price between the awarded tender price i.e. the tender receiving the highest number of points, and the lowest tender price used for the awarding of adjudication points for price, divided by the lowest tender price used for the awarding of adjudication points for price

Financial premium is used to measure the financial premium associated with meeting development objectives.

iv) **Affirmable Business Enterprise Index (ABEI) :** The estimated total value of work undertaken by ABEs expressed as a percentage of the total value of contracts awarded, where ABEs are targeted.

5.3 REVIEW OF POLICY PROVISIONS OF THE POLICY FOR THE TARGETING OF AFFIRMABLE BUSINESS ENTERPRISES

5.3.1 General

In assessing the policy outcomes, it is important to understand the background to the policy and the precise manner in which the Department implemented this policy. Certain refinements made in the policy between the time that the policy was adopted and the time that it was implemented need to be understood, as these have a direct bearing on the manner in which the two hypotheses will be tested.

5.3.2 Provisions of the 10 Point Plan

5.3.2.1 General

The Affirmative Procurement Policy specifications draw its preferencing mechanisms for contracts less than R2 million and its classification of building contracts, from points 7 and 10 of the 10 Point Plan respectively (MOF and MPW, 1995). Points 7 and 10 will be discussed below as they provide useful background information, in assessing the impact of the Affirmative Procurement Policy.

5.3.2.2 Point 7 : Preferences / Targeting

Point 7 of the 10 Point Plan addressed the question of preferences and targeting. The interim strategy which was proposed was that a :

> *"price preference system be effected to target a specific group, i.e. "Persons disadvantaged by unfair discrimination" within the emerging SMME sector. This policy will be based on a percentage preference and shall apply to all contracts which are usually less than R2 million. (This limit is to control the possibility of any undue expenditure resulting from this preference policy during the untested period of implementing these interim strategies. In addition, this limit targets the emerging SMME sector rather than the better established businesses)."*

> *"This preference system will be operated via tender adjudication criteria. The following criteria is proposed :*

	POINTS
(a) Cost of the works	*88*

The calculation of these points will be based on the formula:

$$88\left(1 - \frac{T - T_{min}}{T_{min}}\right)$$

where T min = the lowest tender (offer)
and T = the tender submitted in each case.

(b) Equity owned by disadvantaged persons	*10*

1) *Maximum 100 % equity 10*
2) *Minimum 0 % 0*
3) *Pro-rata allocation within the maximum and minimum limits*

(c) Equity owned by women	*2*

1) *Maximum 100 % equity 2*
2) *Minimum 0 % equity 0*
3) *Pro-rata allocation within the maximum and minimum limits*

The tender selected will be the one with the highest number of points".

This policy proposal was conceptualised in the absence of clear and scientific definitions of small, medium and micro enterprises and was developed to initiate :

> *"a system that starts to deracialise business ownership and control through this focused policy of black economic empowerment".*

It also preceded the definition of small medium and micro enterprises as defined in the South African National Small Business Act of 1996 (Act No. 102 of 1996). As the application was restricted to contracts below R2,0 million in value, and the benefits targeted at a prime contractor level, it may be argued that in practical terms, black owned, SMMEs were the primary targets of Point 7. One of the limitations of Point 7 was that it made no reference to management and control of the enterprise and that it focused only on equity-ownership.

The policy proposal set out in this point of the 10 Point Plan also contained the following definitions :

- ***"Disadvantaged person"*** *refers to a South African citizen disadvantaged by unfair racial discrimination in the previous political dispensation.*

- ***"Equity"*** *refers to the value of the shareholding held in the tenderer's business entity as reflected in its financial statements and/or contractual agreement as at the closing date of tenders.*

5.3.2.3 Point 10 : Classification of building and engineering contracts

The interim strategy set out in point 10 (MOF and MPW, 1995) sought :

> *"to provide interventions that will assist towards establishing, regulating and promoting an enabling environment and thereby ensuring the meaningful and effective involvement of small, medium and micro enterprises".*

A framework for the following was provided to enable interim strategies to be effected viz. :

- Contract classification
- Performance bonds (security / sureties)
- Tender adjudication criteria

The first part of a contract classification system made provision for the following classes of contracts:

- International
- Major
- Minor
- Micro

A minor contract was defined as a contract in which :

- *"the potential risks involved in the works for both contracting parties are adjudged to be small;*
- *the period for completion of the contract does not normally exceed 6 months but certainly not more than 12 months;*
- *the contract value is usually less than R1 million and generally not more than R2 million;*
- *the works are of a straightforward nature in terms of complexity, quality and tolerances and the possibility of significant variations from the work envisaged is adjudged to be relatively low;*
- *the site establishment requirements are adjudged not to be onerous;*
- *the contractor has no responsibility for the design of the permanent works other than possible design of a specialist nature;*
- *the design of the works, save for design work for which the contractor is made responsible, is complete in all essentials before tenders are invited;*
- *the contractor's responsibility for nominated / selected sub-contractors is limited;*
- *the contractor is not required to undertake work of a specialist nature."*

It was suggested that :

"major contracts are contracts which have more onerous requirements than that described in respect of minor contracts. International contracts are major contracts where the necessary resources required are adjudged to be beyond the capacity / capabilities of most large South African companies. At the other end of the scale, micro contracts are contracts which are adjudged to have less onerous demands than is the case for minor contracts and where the

contract period is normally less than 3 months and certainly not more than 6 months; and the value of the works is usually less than R100 000".

In essence the above-mentioned classification is based on risk and the demands placed on those who have resources to execute such contracts.

A further means of classifying contracts was put forward to facilitate the integration of emerging / historically disadvantaged contractors into the main stream of the economy. This classification was based on who the contracting parties are, viz. :

- prime
- community / development
- structured joint ventures

Community /Development Contracts have not been included in the scope of this dissertation, as they have no material bearing on the analysis of Public Works contracts as this model was not utilised on any contracts awarded by the Department of Public Works.

It was suggested that :

"Prime contracts are contracts in which the contractor is unassisted by other contracting parties, separately appointed by the client. Community contracts are ones in terms of which the client has appointed a development and/or materials procurement contractor to provide certain resources which community / emerging contractors may lack. Typically, a development contractor would be required to establish the site, to advise, assist and train-on-the-job, administer payments made to community / emerging contractors to provide certain items of equipment, to report to the client on project expenditure, construction and progress and co-ordinate site activities. In some circumstances a development contractor may be required to engage specialist contractors to perform certain aspects of the works and/or to construct portions of the work. In structured joint venture contracts, established and emerging contractors are selected through independent processes and enter into a final joint venture agreement to execute the works".

The aforementioned classification of contracts was used to frame the interim strategies in respect of tender adjudication criteria and the levels of performance bonds required to reasonably share the risk of a contractor's failure to perform between the state and the contractor. The interim strategy for performance bonds was based on the premise that the Employer's risks associated with performance bonds (i.e. the additional cost of completing the works where the works are interrupted prior to their

completion, due to the termination of the contract for reasons which may include contractor insolvency or failure to perform) could be addressed by the management strategies which are adopted and the classification of contracts. It was accordingly proposed that performance bond requirements be as follows :

"Type of Contract			*% Performance Bond*
International			*10 - 12,5%*
Major			*10 - 12,5%*
Minor	-	*estimated contract price ≤ R1,0 m*	*2,5%*
	-	*estimated contract price > R1,0 m*	*5%*
Micro	-		*nil*

The strategy proposed that contracts be awarded on a points basis in a similar manner to point 7 with a maximum of 85 points being allocated to price and a maximum of 15 points being allocated to project specific RDP objectives[1].

5.3.2 Awarding of tenders in terms of the Affirmative Procurement Policy

Tenders, in support of an Affirmative Procurement Policy, are awarded in terms of a development objective / price mechanism as described in the Green Paper on Public Sector Procurement Reform in South Africa (MOF and DPW, 1997) i.e. a slightly modified version of that put forward in the 10 Point Plan (MOF and DPW, 1995).

It was envisaged in the 10 Point Plan that black owned SMMEs would be targeted on contracts below R2,0 million. No definitions for black owned small businesses were available when the 10 Point Plan was conceived. As a result black equity was used as an interim measure. The final approach put forward by the Procurement Forum and that which is currently being used in terms of the Department of Public Works' initiative for the Delivery of Targeted Procurement in support of an Affirmative Procurement Policy is as follows :

Prime (Minor) and Prime (Micro)	***Maximum adjudication points***
Price	90
Affirmable Business Enterprises status	7,5 (fixed)
Women Equity Ownership (WEO) where such equity exceeds 25% (0,0333 x (WEO - 25))	2,5 (variable)
TOTAL	**100**

[1] The Minister of Finance in June 1996 amended the 85/15 weighting to 90/10 for all building and construction contracts.

Prime (Major) and Structured Joint Venture Contracts

Price	90
Tendered contract participation goal in terms of one of the Resource Specification TP1(APP1) to TP5 (APP5)	10 (variable)
TOTAL	**100**

Points for price are awarded in accordance with the following formula :

$$Np = 90 - (1 - \frac{(P - Pm)}{Pm})$$

where Np = the number of tender adjudication points awarded for price.

Pm = the price of the lowest responsive tender adjusted to a common base, if applicable.

P = the price of the responsive tender under consideration adjusted to a common base, if applicable.

Development objective points are awarded as follows :

Prime (Minor) and Prime (Micro) contracts :

- 7,5 points (fixed) to those enterprises which enjoy Affirmable Business Enterprise status.
- a maximum of 2,5 points (variable) to enterprises where the Women Equity Ownership (WEO) exceed 2,5%, in accordance with the following formula:

$$\text{Number of points awarded} = 0{,}0333 \times (WEO - 25)$$

Prime (Major) and Structured Joint Venture contracts :

A maximum of 10 points may be awarded for the extent to which the tendered resource goal measured in accordance with a resource specification exceeds the specified minimum. The basis of award is :

$$Ng = \frac{10\,(D - Ds)}{(X - Ds)}$$

where Ng = the number of tender adjudication points awarded.

D = the tendered resource goal percentage.

Ds = the specified minimum goal percentage as stated in the Tender Data.

X = the maximum goal percentage above which no further adjudication points are

awarded, as stated in the Tender Data.

The abovementioned approach in essence refines Point 10 of the 10 Point Plan. It permits a direct preference to be applied to low value contracts and also provides a preferencing mechanism linked to an appropriate contract resource goal above a defined financial threshold, which in the case of the Department of Public Works was R2 million.

5.3.3 Awarding of tenders by the Department of Public Works

The 10 Point Plan was developed in September 1995 and adopted as national policy during November 1995. In January 1996 the APP1 (Targeting of Affirmable Business Enterprises) specification which permitted Affirmable Business Enterprises to be engaged in contracts was developed. The first guideline documents on how to implement the Ten Point Plan were released by the Procurement Forum during April 1996. Most of the Green Paper on Public Sector Procurement Reform in South Africa was complete by September 1996. This paper, however, was only released in April 1997. The State Tender Board adopted the 10 Point Plan in June 1996 and granted the Department of Public Works permission to implement the programme on a pilot basis during August 1996. The Affirmative Procurement Policy specifications were then used by the Department from August 1996.

The Department, in implementing the policy defined minor contracts as being works contracts having an estimated tender price not exceeding R2,0 million. State Tender Board officials directed that the price preference set out in Point 7 of the 10 Point Plan should apply.

As a result, the Department implemented the Affirmative Procurement Policy in the following manner:

Contracts below R2,0 million	***Maximum adjudication points***
Price	88
Equity of Previously Disadvantaged Persons	10 (variable)
Women Equity Ownership	2 (variable)
TOTAL	**100**

Contracts above R2,0 million	
Price	90
Resource specifications APP series	10 (variable)
TOTAL	**100**

The Department usually applied the APP1 specification (Targeting of Affirmable Business Enterprises) to contracts having a value in excess of R2,0 million. In some instances the APP2 (Structured Joint Ventures (General)); the APP4 (Targeting of Local Resources) and the APP5 (Engagement of Targeted Labour) was used. On certain civil engineering contracts having a value below R2,0 million,

the APP5 specification was used[2].

The Department also applied the provision of Point 10 insofar as sureties were concerned.

5.4 DEPARTMENTAL REPORTING ON ABE PARTICIPATION UP TO MAY 1998

The Department of Public Works tasked its Documentation Development Section to gather data on the outcomes of the policy and to report thereon. A reporting procedure was set up in terms of which each regional office was required to present basic statistics on contracts awarded within their region in terms of their delegated authority i.e. contracts having a value of less than R750 000. Generally, these reports listed tender number, project name, date, name of tenderer, adjudication points awarded, contract amount and lowest tender amount.

Data gathered at head office and from the regions was manually consolidated and captured on an electronic spreadsheet in order to arithmetically calculate certain basic statistics. No details pertaining to individual contracts were electronically captured. The data gathering and processing procedure which was adopted can best be described as being a paper-based, manual system.

The first progress report comprised a number of tabulations and covered the period August 1996 to August 1997. These reports provided statistics on PDI / ABE participation and cost premiums;

An analysis of the Department's Progress Report for the period August 1996 to October 1997 (see Appendix 5.1) revealed the following :

- of the 3423 contracts, totaling R914 million, reported on (head office still to award 173 tenders and the regional offices, 518), 321 or 9,4% were issued by the head office in an amount of R828 million i.e. 90,6% of the total value of contracts awarded;
- 118 (36,7%) of contracts awarded by head office and 1501 (48,4%) awarded by regional offices were awarded to firms with PDI equity/ABE participation;
- the value of awards to ABEs is reported as being R375 million or 45,3% of the expenditure at head office and R25 million (28,8%) at regional offices;
- the "ABE/PDI participation" is reported as being R189 million (26,1%) at head office, R19 million (25,4%) at regional offices, and R208 million (26,0%) in total;
- the overall cost premium based on the difference between the awarded price and the lowest acceptably priced tender, was calculated to be 0.8 %.

A review of the method in which data was captured by the Department indicated the following limitations:

[2] The designation of resource specifications was, following suggestions by international development experts, changed during April 1998 to TP to designate "Targeted Procurement". The South African editions which are used in support of an Affirmative Procurement Policy are designated (TP1(APP1) etc.). The TP(APP) specifications are essentially the same as the APP specifications.

- The parameter "value of awards to ABEs" which was reported on, appears to be the total value of contracts with ABE/PDI participation, however limited. Such a parameter is not representative of the Rand value of actual work performed by ABEs; nor is it representative of "commercially useful function". Accordingly, the "total ABE contract value" presented by the Department is inflated and does not represent actual ABE participation.
- The statistics are based on the date upon which a tender number is allocated and not on when a contract is awarded. Accordingly, they will change as more tenders having numbers allocated in the period under consideration are awarded. It is therefore not possible to analyse changes in participation between different time periods.
- The Department's analysis included quotation-type contracts, which in turn distorted the analysis of the number of contracts awarded to ABEs. Further, the quotation-type mechanism has an inherent bias, in that it allows for the potentially subjective identification of three contractors to be shortlisted to provide quotations, as opposed to the competitive bidding environment that prevails in a traditional tender situation.

Departmental records clearly indicated serious limitations, both in the nature of data captured, the methodology adopted in the capture of data and the data analysis itself. It was therefor quite apparent to the author that both the reliability and the validity of the Department's data was problematic and did not provide for an appropriate platform to further analyse the different delineations within the data set, and that a separate data-capturing exercise would need to be embarked upon to address the aforementioned limitations.

5.5 METHODOLOGY OUTLINE

5.5.1 Defining sample size and sub-categories.

The author, considering that part of the scope of this dissertation was to provide an improved mechanism to monitor and evaluate the Affirmative Procurement Policy and that the study was sponsored by the Department of Public Works, decided from the outset to analyse the full universe of available data for the period under review, as opposed to utilising an appropriate sample size for analysis. For reasons stated previously, only contracts which were awarded via an open tender process were included, and quotation type contracts were excluded.

The period of review for this study is 1 August 1996 to 1 July 1998, with 1 August 1996 being the commencement date of the implementation of the Affirmative Procurement Policy by the Department of Public Works. Data in three discrete time intervals are considered and analysed, viz. :

i) The start up phase : 1 August 1996 to 30 June 1997

ii) First six month period after start up : 1 July 1997 – 31 December 1997

iii) Second six month period after start up : 1 January 1998 to 30 June 1998

The Department of Public Works according to their records awarded 659 tender numbers during the period 1 August 1996 to 1 July 1998. The actual tender adjudication reports on all tenders awarded with the exception of those set out in Appendix 5.2 were located and logged for study purposes.[3] This reduced the universe analysed to 603 tenders and covered all tenders awarded by the various regions and head office.

The introduction of a new policy into any organ of state inevitably occurs in a phased manner. It also takes time for tenders already within the system to be awarded. Table 5.1 provides a breakdown of the number of contracts awarded within this period where the policy was applied (i.e. where targeted procurement was used) and where it was not applied.[4]

In the analysis of the Department's records, only those contracts where targeted procurement is used are considered. Table 5.2 summarizes the Departmental Record used in this study. It should however be noted that in many instances, the tender adjudication reports indicated the type of contract viz., general (building, renovations, etc.), civil, electrical or mechanical. Where the contract type was not indicated, contracts were classified on the basis of their description. In reviewing the record, certain anomalies in this regard were noted. For example, fencing, depending upon which section within the Department was responsible for the contract fell into all four types. Accordingly, the figures presented in Table 5.2 for the types of contracts should be considered as being indicative of contract types.

5.5.2 Categorisation of Departmental contracts

The Departmental contracts as described in 5.5.1 are categorised in accordance with the appropriate subconstruction sectors, viz general, civil, electrical and mechanical. However, in order to assess the impact of the Affirmative Procurement Policy on ABE participation, it is also necessary to categorise contracts in accordance with the targeting strategy which was employed. This enables the outcomes of the different policy interventions to be probed. Tables 5.3 and 5.4 set out the summary of measures designed to promote ABE participation in different classes of contract and the categorisation of contracts for the purpose of analysis, respectively.

---

[3] It is quite likely that some of these "missing" contracts were in fact cancelled (see Appendix 5.1).

[4] The Implementation Manual for the Use of Targeted Procurement to Implement an Affirmative Procurement Policy contains the following definitions:

- **Affirmative Procurement Policy:** A procurement policy which uses procurement as an instrument of social policy in South Africa to affirm the changed environment, government's socio-economic objectives and the principles of the Reconstruction and Development Programme.
- **Targeted Procurement:** A system of procurement which provides employment and business opportunities for marginalised individuals and communities, enables procurement to be used as an instrument of social policy in a fair, equitable, competitive, transparent and cost effective manner and permits social objectives to be quantified, measured, verified and audited. References by the author to the use of targeted procurement infers implementation of the Affirmative Procurement Policy.

TABLE 5.1: Summary of Departmental Record 1 August 1996 to 1 July 1998

TYPE OF CONTRACT	NUMBER OF CONTRACTS AWARDED				
	TARGETED PROCUREMENT NOT USED		TARGETED PROCUREMENT USED		TOTAL
	NUMBER	PERCENTAGE OF TOTAL (%)	NUMBER	PERCENTAGE OF TOTAL (%)	
General	94	63	313	69	418
Civil	15	10	32	7	47
Electrical	22	15	46	10	68
Mechanical	18	12	63	14	70
TOTAL	**149**	**100**	**454**	**100**	**603**

TABLE 5.2: Summary of Departmental Record used in study

TYPE OF CONTRACT	CONTRACT AWARDED	
	Sample Number	Percentage of Sample
General	313	69
Civil	32	7
Electrical	46	10
Mechanical	63	14
TOTAL	**454**	**100**

TABLE 5.3: Summary of measures designed to promote ABE participation in the different classes of contracts

CLASS OF PRIME CONTRACT	TENDER ADJUDICATION PROCEDURE	LEVEL OF PERFORMANCE BOND
Major	Award adjudication points for resource goals	10%
Minor	Direct preference	• 2,5% if contract value ≤ R1,0m • 5% if contract value > R1,0 m
Micro	Direct preference	Nil

TABLE 5.4: Categorisation of contracts for the purpose of analysis

CLASS OF CONTRACT	SUB-CATEGORY	IDENTIFICATION CHARACTERISTICS
Prime (Major)	-	Use is made of the TP1 (APP1) resource specification to engage ABEs on contracts as : • Joint venture partners • Prime contractors • Subcontractors • Suppliers • Manufacturers • Service providers
Prime (Minor)	> R1,0 m	• Use is made of a direct preference to tip the scales in favour of ABEs • The levels of surety bonds, depending upon the contract value vary from 2,5% to a maximum of 5%. • The contract value exceeds R100 000
	≤ R1,0 m	
Prime (Micro)	-	• Use is made of a direct preference to tip the scales in favour of ABEs • No sureties are called for • The contract value is less than or equal to R100 000

It can be seen from the Table 5.4 that an examination of the tender adjudication reports would enable contracts to be categorized as being "Major" or "Minor". The distinction, however, between Minor (≤ R1,0 m), Minor (> R1,0 m) and Micro, cannot be made without examining each and every contract document to ascertain the level of performance bond set. (Levels of performance bond are set on the basis of an estimated departmental value of the contract which can vary appreciably from the awarded tender price. In some instances departmental project managers reduced performance bond levels and deducted greater retention amounts to compensate for this. This information can once again only be obtained by reviewing the departmental files for each and every contract.). It is therefore necessary to make some assumptions in order to classify these latter classes of contract. A reasonable approach is to classify "minor" contracts into Minor (> R1,0 m); Minor (≤ R1,0 m) and Micro, purely on the basis of award value. Contracts, for the purpose of analysis, will accordingly be classified in accordance with Tables 5.3 and 5.4 based on the contract award value.

5.5.3 Reduction of Departmental records to focus on ABEs

Table 5.5 summarises the Departmental record used in the study. This record indicates no Structured Joint Venture contracts were awarded and some contracts did not target ABEs but other objectives. As a result, Structured Joint Venture contracts and contracts which targeted labour in terms of the TP5 (APP5) Specification for the engagement of Targeted Labour and local enterprises and local labour in terms of the TP4 (APP4) Specification are excluded from this study. Accordingly, the total number of contracts considered for ABE participation reduced from 454 to 443 as reflected in Table 5.6. Tables 5.7 to 5.9 present the breakdown of the data set for the different sub time increments.

TABLE 5.5: Summary of Departmental Record used in this study (1 August 1996 – 1 July 1998)

CLASS AND TYPE OF CONTRACT	SUBSECTOR				
	GENERAL	CIVIL	ELECTRICAL	MECHANICAL	TOTAL
Number of contracts					
Prime (Micro)	100	0	11	5	116
Prime (Minor) (≤ R1,0m)	79	9	27	34	149
(> R1,0m)	32	2	3	10	47
Prime Major (TP1(APP1)	97	15	5	14	131
Prime Major (TP5(APP5)	0	4	0	0	4
Prime Major – Other (including TP4(APP4) specification)	5	2	0	0	7
Structured Joint Venture (TP2(APP2)	0	0	0	0	0
TOTAL	313	32	46	63	454
Value of contracts (Rand)					
Prime (Micro)	R4 315 245	0	R768 756	R305 018	R5 389 019
Prime (Minor) (≤ R1,0m)	R35 929 820	R3 094 835	R8 215 151	R10 612 092	R57 851 898
(> R1,0m)	R53 237 230	R2 840 683	R5 380 597	R16 972 503	R78 431 013
Prime (Major) (TP1(APP1)	R1 270 125 041	R124 579 197	R20 142 859	R96 425 748	R1511 272 845
Prime (Major) (TP5(APP5)	0	R12 736 818	0	0	R12 736 818
Prime (Major) – Other (including TP4(APP4) specification)	R33 260 257	R12 478 841	0	0	R45 739 098
Structured Joint Venture (TP2(APP2)	0	0	0	0	0
TOTAL	R1 396 867 593	R155 730 374	R34 507 363	R124 315 361	R1 711 420 691

TABLE 5.6: Summary of Departmental Record where ABEs were targeted (1 August 1996 – 1 July 1998)

CLASS AND TYPE OF CONTRACT	SUBSECTOR				
	GENERAL	CIVIL	ELECTRICAL	MECHANICAL	TOTAL
Number of contracts					
Prime (Micro)	100	0	11	5	116
Prime (Minor) (≤ R1,0m)	79	9	27	34	149
(> R1,0m)	32	2	3	10	47
Prime Major (TP1(APP1)	97	15	5	14	131
TOTAL	308	26	46	63	443
Value of contracts (Rand)					
Prime (Micro)	R4315245	0	R768756	R305018	R5389019
Prime (Minor) (≤ R1,0m)	R35929820	R3064835	R8215151	R10612092	R57851898
(> R1,0m)	R53237230	R2840683	R5380597	R16972503	R78431013
Prime (Major) (TP1(APP1)	R1270125041	R124579197	R20142859	R96425748	R1511272845
TOTAL	R1363607336	R130514715	R34507363	R124315361	R1652944775

Table 5.6 represents the full universe of records of Departmental records, where ABEs were targeted for the period of study. The table indicates that a significant proportion of Departmental records fell within the general contracting category. (Approximately 82.5% of the Department's projects measured in financial terms fall in this category.) Further, whilst the number of contracts are relatively evenly spread across the Prime (Micro), Prime (Minor) and the Prime (Major) contract categories, it is important to note that in financial terms the Prime (Major) contracts represent approximately 91.4% of the financial total of contracts awarded under the APP Specifications. (The full universe of the departmental record for this study is summarised in Table 5.2).

TABLE 5.7: Summary of Departmental Record where ABEs were targeted (1 August 1996 – 30 June 1997)

CLASS AND TYPE OF CONTRACT	SUBSECTOR				
	GENERAL	CIVIL	ELECTRICAL	MECHANICAL	TOTAL
Number of contracts					
Prime (Micro)	52	0	9	3	64
Prime (Minor) (≤ R1,0m)	42	4	18	14	78
(> R1,0m)	11	1	1	2	15
Prime Major (TP1(APP1)	19	1	2	2	24
TOTAL	124	6	30	21	181
Value of contracts (Rand)					
Prime (Micro)	R1978342	0	R616291	R190977	R2785610
Prime (Minor) (≤ R1,0m)	R21788152	R1266233	R5001274	R4139476	R32195135
(> R1,0m)	R17905762	R1550900	R2409256	R2776743	R24642661
Prime (Major) (TP1(APP1)	R165774001	R 934213	R9472876	R10668845	R186849935
TOTAL	R207446257	R3751346	R17499697	R17776041	R246473341

TABLE 5.8: Summary of Departmental Record where ABEs were targeted (1 July 1997 – 31 December 1997)

CLASS AND TYPE OF CONTRACT	SUBSECTOR				
	GENERAL	CIVIL	ELECTRICAL	MECHANICAL	TOTAL
Number of contracts					
Prime (Micro)	37	0	1	1	39
Prime (Minor) (≤ R1,0m)	24	3	6	10	43
(> R1,0m)	10	0	1	17	17
Prime Major (TP1(APP1)	35	1	2	3	41
TOTAL	106	4	10	31	140
Value of contracts (Rand)					
Prime (Micro)	R1933597	0	R67695	R28856	R2030148
Prime (Minor) (≤ R1,0m)	R9126036	R877836	R1734544	R3202592	R14941008
(> R1,0m)	R18143911	0	R1727791	R31255614	R31255614
Prime (Major) (TP1(APP1)	R318993953	R1607030	R7424916	R12566803	R340592702
TOTAL	R348197497	R2484866	R10954946	R47053865	R388819472

TABLE 5.9: Summary of Departmental Record where ABEs were targeted (1 January 1998 – 1 July 1998)

CLASS AND TYPE OF CONTRACT	SUBSECTOR				
	GENERAL	CIVIL	ELECTRICAL	MECHANICAL	TOTAL
Number of contracts					
Prime (Micro)	11	0	1	1	13
Prime (Minor) (≤ R1,0m)	13	2	3	10	28
(> R1,0m)	11	1	1	2	15
Prime Major (TP1(APP1)	43	13	1	9	66
TOTAL	78	16	6	22	122
Value of contracts (Rand)					
Prime (Micro)	R403306	0	R84770	R85185	R573261
Prime (Minor) (≤ R1,0m)	R5015632	R950766	R1479333	R3270024	R10715755
(> R1,0m)	R17187557	R1289783	R1243550	R2811848	R22532738
Prime (Major) (TP1(APP1)	R785357087	R122037954	R3245067	R73190100	R983830208
TOTAL	R807963582	R124278503	R6052720	R79357157	R1017651962

5.5.4 ABE Participation

The participation of ABEs in the Department's contracts needs to be measured in a standard manner. Participation can be established by considering the value of contracts awarded to ABEs and those which will be offered to ABE in terms of the resource specification. Participation needs to be measured in relation to the total value of contracts awarded and needs to be measured over different time intervals to enable current participation to be compared with past participation and participation between sectors to be compared. An Affirmable Business Enterprise Index (ABEI) is considered to be a suitable instrument for such purposes; such an index being defined as follows:

The estimated value of work undertaken by ABEs expressed as a percentage of the total value of contracts awarded where ABEs are targeted.

$$\text{Thus ABEI} = \frac{\text{total value of contracts and subcontracts awarded to ABEs}}{\text{total value of contracts awarded where ABEs are targeted}} \times 100$$

This being the case, it is necessary to establish from the Department's record, the value of contracts contracted and subcontracted to ABEs.

Certain simplifying assumptions need to be made, however, in order to assess ABE participation and as such to calculate the ABEI as:

- ABEs were not directly targeted by the Department in the implementation of the policy in respect

of Prime (Minor) and Prime (Micro) contracts for the reasons set out in 5.3.3.

- The Contract Participation Goals provided in TP1 (APP1) specification for the targeting of Affirmable Business Enterprises do not directly measure ABE participation.

In order to overcome the problem relating to the targeting of ABEs in Prime (Minor) and Prime (Micro) contracts, it may be assumed that enterprises which received 6,7 or more adjudication points in respect of PDI equity are Affirmable Business Enterprises. This simplifying assumption merely confirms the ownership requirements of the ABE definition, namely that not less than two thirds of the ownership of the enterprise is in the hands of PDIs. Aspects such as control and turnover limits will remain unconfirmed. It may, however, be argued that most businesses which have a two thirds PDI ownership and are contracting to execute contracts having a typical value of less than R2,0 m, are likely to meet the ABE parameters for control and turnover.

There is a need to link the Contract Participation Goal contained in the TP1(APP1) specification to actual ABE participation. This can be addressed by initially reviewing the definition contained in the TP1(APP1) specification for this term. Contract Participation Goal is defined as being :

> "An amount equal to the sum of the :
> a) *portion of the Award Value of goods, services and works for which the Contractor contracts to engage ABEs in the performance of the Contract, expressed as a percentage of the Award Value of the Contracts; and*
> b) *additional credits, if any, granted in respect of 100% Ownership by Previously Disadvantaged Individuals; and*
> c) *bonus credits, if any, granted for the attainment of Affirmative Action milestones"*

Award Value is defined as:

> *"The value of the Contract at the time of the award, exclusive of VAT, provisional sums and all allowances for escalation and contingencies provided for by the Employer".*

The tender adjudication reports, however, provide only information on the tender value and the Contract Participation Goal for a particular contract. Detailed statistics from a sample of 12 tenders which were awarded (see Table 5.10) revealed the following:

Tender Price (including VAT)		R58 445 090
Award Value (including VAT)		R58 068 884
Average ABE participation based on Award Value	=	25,50 %
Average ABE participation based on Tender Price	=	25,33 %
Ratio of Tender Price to Award Value	=	1,00

The sample comprised all the Prime (Major) contracts awarded and whose file complete with a copy of the tender document was in the records room at the time the sample was drawn.

TABLE 5.10: Statistics obtained from a detailed examination of 12 tenders

REFERENCE NO.	TENDER NO.	TENDER PRICE (Rand)	CONTRACT PARTICIPATION GOAL	AWARD VALUE (INCL. VAT) (Rand)	ABE VALUE (Rand)
1	970013	3 735 411	27	3 382 011	913 143
2	970019	6 716 091	12	6 716 091	805 930
3	970052	3 987 654	12	3 987 654	478 518
4	970110	9 436 000	12	9 436 000	1 132 320
5	970125	5 411 887	40	5 411 887	2 164 754
6	970152	9 741 587	40	9 718 787	3887 515
7	970288	1 776 006	10	1 776 000	177 600
8	960343	1 620 000	15	1 620 000	243 000
9	960344	7 260 300	40	7 260 300	2 904 120
10	960361	1 496 325	15	1 496 325	224 448
11	960368	2 998 957	55	2 998 957	1 649 426
12	960376	4 264 872	40	4 264 872	1 705 949
TOTAL		**R58 445 090**	25	**R58 068 884**	**R14 806 723**

The relatively small difference between Tender Price and Award Value (0,6%) confirms officials adherence to the Department's policy of avoiding the use of provisional sums as far as is practicably possible. It is reasonable to assume for the purposes of this study, that the Award Value can be equated to the Tender Price and that no adjustment is necessary to adjust for any significant discrepencies between these values. It is important to note however, that in samples where there is a large utilisation of provisional sums in contracts, this could contribute to significant differences between the Tender Price and the Award Value and adjustments would need to be effected.

The awarding of bonus credits upto a maximum of 12% for the attainment of Affirmative Action milestones within an enterprise leads to a situation whereby the Contract Participation Goal tendered for, can be significantly higher than the actual ABE participation achieved in the performance of a contract. Most tenderers who have claimed these points have entered into joint ventures with partners who qualify for such points in order to secure such credits e.g. on the Malmesbury Prison Contract goal credits amounting to 8% were granted. Credits passed towards the Contract Participation Goal in respect of ABEs with 100% PDI ownership are increased by 10%. 100% PDI ownership of ABEs is frequently encountered on contracts e.g. all ABEs on the Malmesbury Prison contract had 100% PDI ownership.

A further complication is the manner in which credits are passed in respect of joint ventures. Credits are awarded on the basis of a Participation Parameter.[5] Clearly ABE participation does not equate to

[5] The concept of the" participation parameter" is explained in chapter 8. (See 8.3.2.1)

the Participation Parameter on Prime Major Contracts.

The ABEI which by definition measures the value of work clearly cannot equate to the Contract Participation Goal as some adjustments need to be made to take account of the aforementioned distortions[6]. The actual value of the factors used to adjust the recorded participation to reflect a more realistic participation level is not critical as the ABEI is used to compare participation over different time increments and between different subsectors. The author accordingly proposes that the ABEI for Prime (Major) Contracts be represented by:

ABEI (Prime(Major)) = **0,85[7] x sum of the products of all Prime (Major) Contracts awarded in the appropriate sub-sector, and their associated Contract Participation Goal divided by the sum of all contracts in the appropriate Prime (Major) sub-sector, represented as a percentage.**

In Prime (Minor) and Prime (Micro) contracts adjudication points, in terms of the Affirmative Procurement Policy, are awarded for ABE status subject to the ABE undertaking not to subcontract more than 25% of the value of the contract. (This provision was not initially applied by the Department, in applying the policy to Prime (Micro) and Prime (Minor) contracts). This requirement allows for an ABE to potentially sub-contract a maximum of 25% of the contract value to a non-ABE. Most construction related contracts in excess of R100 000 generally include some form of sub-contracting. It is assumed that on Prime(Minor) and Prime (Micro) contracts approximately 10% of the contract value is likely to be sub-contracted to non-ABEs. The author accordingly proposes that the ABEI for Prime (Minor) and Prime (Micro) contracts be represented by:

ABEI (Prime (Micro) and Prime (Minor)) = **0,9[8] the sum of all contracts awarded to ABEs in the sub-sector divided by the sum of all contracts in the sub-sector, reduced to a percentage.**

5.5.5 Description of data capture.

Data was gathered from the National Department of Public Works' archives. Copies of actual tender reports were obtained as well as a listing of all tender numbers issued. Data regarding the status of all contracts was obtained from the Department's WCS system. It was possible, using the sources of information, to reconstruct the complete record of contracts awarded with the exception of those listed

---

[6] The actual value of the factors used to adjust the recorded participation to reflect a more realistic participation level is not critical as the ABEI is used to compare participation over different time increments and between different subsectors.

[7] The factor 0,85 effectively adjusts the recorded participation to reflect the estimated actual participation if factors such as bonus credits, additional credits, value of work subcontracted by ABEs to non-ABEs (upto 15% permitted) and the manner in which joint venture participation is calculated, all of which are provided for in the TP1 (APP1) resource specification, are considered.

[8] The factor 0,90 effectively adjusts the recorded participation to reflect the estimated actual participation if permissable levels of subcontracting to non-ABEs is considered. (The factor of 0,90 in effect assumes that ABEs on average subcontract 10% of thier work to non-ABEs).

in Appendix 5.2.

Data pertaining to the contracts awarded where Targeted Procurement was used over the period 1 August 1996 to 1 July 1998 was captured on an Excel spread sheet in respect of the following (see Appendix 5.3) :

- Tender number
- WCS number
- Date of award
- Contract description
- Project Location
- Discipline : General
  Civil
  Electrical
  Mechanical
- Procurement arrangements : Prime (International)
  Prime (Major)
  Prime (Minor)
  Prime (Micro)
- Resource specifications used if any: Specification number
  Minimum resource goal set by Department
- Particulars of successful tenderer : Name
  ABE status of firm
  Address
  Telephone number
  Tender Price
  Tendered Resource Goal, if any
- Particulars of lowest responsive tender with a realistic price : Name of firm
  Tender Price

Research assistants were utilised to capture data, with the format being prescribed by the author.

Tenders with unrealistically low tender prices should be rejected before tendered judication points are awarded for price. Those adjudicating tenders did not follow this procedure in all instances. The logging of tenders with unrealistically low prices would have distorted the Financial Premium Index (FPI). As a result, it was not possible to log the price used as the benchmark for the calculation of adjudication points for price without considering whether or not it was realistic. Fortunately, it is the Department's policy to motivate why the lowest financial offer cannot be accepted e.g. unrealistically low price, not the tenderer with the highest number of points, has no experience in the type of work etc. The lowest financial offer of a tenderer whose price was acceptable was logged irrespective of whether or not such a tenderer presented a bad risk to the department for reasons other than price.

The FPI reported on represents the cost difference between the awarded price and the lowest responsive tenderer with a realistic price. The FPI accordingly measures the potential cost premium in respect of the system of tender adjudication and not the actual premium if risk is taken into consideration.

5.5.6 Assessing ABE participation prior to the introduction of the APP Policy

In order to test for an increase in ABE participation it is necessary in the first instance to establish what the probable ABE participation levels were prior to the introduction of the policy. The departmental record for 1993 was chosen for this purpose as this record is considered to be representative of contracting practices prior to the 1994 elections and the change in department senior management which took place during 1995[9].

The head office record for tenders awarded in 1993 logged data under the following headings:

- Contract number, dates sent and received
- File
- Service
- Contractor
- Contract amount
- Guarantee number and date of release
- Contract period
- Commencement date of contract
- Completion date

The number of tenders awarded and the total value of tenders awarded in a number of categories is set out in Table 5.11 Contracts were classified upon their present day value for comparative purposes i.e. award values were de-escalated by 26,9%. De-escalation was calculated from July 1993 to July 1997 in accordance with the following Contract Price Adjustment Formula[10] :

$$(1 - 0,15)(C_t/C_o - 1)$$

where C_t is the weighted average consumer price for urban areas in July 1997 and C_o is the weighted average consumer price for urban areas in July 1993.

[9] The records for the period 1994 to August 1996 are likely to be distorted by the implementation of certain policies adopted in the run up to the launch of the Affirmative Procurement Policy in August 1996.
[10] Statistics South Africa have discontinued with the publication of indices for the Construction industry. Current practice in South Africa is to utilise this formula to adjust construction prices.

TABLE 5.11: Departmental records of contracts awarded in 1993 (ex head office)

CLASS OF CONTRACT	NUMBER OF	TOTAL VALUE (RAND)	PERCENTAGE OF TOTAL	
			NUMBER	VALUE
			(%)	(%)
Major	55	289 284 718	27,8	84,1
Minor (> R1,0 m)	18	20 490 760	9,1	6,0
Minor (≤ R1,0 m)	107	33 358 810	54,0	9,7
Micro	18	833 433	9,1	0,2
TOTAL	**198**	**R343 967 721 ***	**100**	**100**

*** 1993 value**

A stratified sample of 20% was selected for follow-up on the ABE participation during the 1993 financial year (Cochran, 1997)[11]. Telephonic interviews with the contractors who could be contacted (see Appendix 5.4) were conducted to ascertain whether or not such contractors at the time when the contract was executed :

- had ABE status; or
- subcontracted portions of the work to ABEs.

Although the total sample accounted for 20% of the total number of tenders awarded, the sample size (see Table 5.12) varied according to the number of tenders awarded in each category, ranging from 10% to 72% of the number of tenders in respect of each class of contract awarded. The specific number of tenders awarded in each class of contracts was selected to ensure that the sample is representative of the universe.

TABLE 5.12: Statistics pertaining to contracts sampled to obtain ABE participation in 1993

CLASS OF CONTRACT	SAMPLE NUMBER		SAMPLE VALUE	
	NUMBER OF	PERCENTAGE OF TOTAL	RAND	PERCENTAGE OF TOTAL PER CLASS OF CONTRACT
Major	9	16	111 329182	38
Minor (> R1,0 m)	7	39	11 134 572	54
Minor (≤ R1,0 m)	11	10	3 925 057	12
Micro	13	72	669 262	80
TOTAL	**40**	**20**	**127 058 073**	**37**

[11] The sample was obtained by attempting to contact every fifth contractor entered into the departmental record. Where the contractor could not be contacted, the contractor above or below the uncontactable contract or in the record was contacted. Thereafter, contractors awarded contracts having a certain contract value were contacted, starting from the top of the record to improve the sample number within a particular class of contract.

5.6 THE AFFIRMABLE BUSINESS ENTERPRISE INDEX: AN INSTRUMENT TO MEASURE ABE PARTICIPATION OPTIMISATION

5.6.1 Definitions and formulae

The Affirmable Business Enterprise Index (ABEI) is by definition the estimated total value of work undertaken by ABEs expressed as a percentage of the total value of contracts awarded, where ABEs are targeted. This index provides a useful mechanism to access ABE participation in financial terms for the different construction subsections viz general, civil, mechanical and electrical and for the different contract classifications viz, Major, Minor and Micro.

Based on arguments made in section 5.5.4, ABE participation is not synonymous with the contract participation goals tendered for on Prime (Major) contracts. Further, for Micro and Minor contracts where direct preference to ABEs are applicable, the extent of ABE participation is assessed on the value of contracts awarded to ABEs, with no relationship to contract participation goals. For this and other reasons outlined in Section 5.5.4, the ABEI for the different contract classifications are calculated, in accordance with the following formulae:

ABEI (Prime (Micro)) = 0,9 X A/B X 100

Where: A = sum of all prime contracts awarded to ABEs in the micro sector.
B = sum of all prime contracts awarded in the micro sector under the APP programme.

The formula could be further delineated per subsector, e.g. Mechanical, Civil, etc.

ABEI (Prime (Minor)) = 0,9 X C/D X 100

Where: C = sum of all prime contracts awarded to ABEs in the minor sector.
D = sum of all prime contracts awarded in the minor sector under the APP programme.

The formula could be further delineated for minor contracts greater than R1,0 m and for minor contracts less than or equal to R1,0 m to account for the impact of varying performance bonds.

ABEI (Prime (Major)) = 0,85 X E/F X 100

Where: E = sum of the product of all prime major contracts and their associated contract participation goals divided by 100.

F = sum of all prime major contracts awarded under the programme.

ABEI (Composite) = (0,9xA + 0,9xC + 0,85xE) / (B + D + F) x 100

For practical purposes the ABEI (Prime (Minor)) and ABEI (Prime (Micro)) are calculated as a combined index viz. ABEI (Prime (Minor/Micro)).

5.6.2 Time increments

The indices referred to in 5.6.1 are calculated in respect of the following time increments:

- 1 August 1996 – 30 June 1997 - Start up phase
- 1 July 1997 – 30 Dec 1997 - First six month period after start up phase
- 1 Jan 1998 – 1 July 1998 - Second six month after start up phase

ABEIs applicable to the entire time period are also calculated and statistically analysed for variances in key parameters associated with each time increment.

5.6.3 Establishment of potential policy outcomes

In order to establish the degree to which the ABE participation meets with potential policy outcomes, appropriate targets or limits must be set for appropriate time increments[12].

A review of the tender adjudication parameters contained in the tender conditions associated with the awarding of Prime (Major) contracts, indicates that the only reference to an upper target for participation is made in Prime (Major) Contracts where reference is made to no further allocation of development objective tender adjudication points, in instances where the contract participation goal exceeds 40 %. (Refer to 5.3.2 for method of calculation) . This tends to indicate that the policy writers were satisfied with a contract participation goal of 40 % being realised for the period under review. For the purposes of this dissertation and in the absence of any other information, the upper threshold to ensure full compliance of the APP for the current time frame for Prime (Micro), Prime (Minor) and Prime (Major) contracts is assumed to be:

ABEI (upper threshold) = 0,857 x 40 %
= 34,3 %

The factor of 0,857 is applied to compensate for the difference between the ABEI and the overall ABE participation and is the weighted average of 0,85 and 0,90 calculated on the basis of a proportional split between Prime (Micro) and Prime (Minor) contracts on one hand, and Prime (Major) contracts, on the other. (Refer to Table 5.6)

[12] Targets for ABE participation were not set by the Department as there were no previous statistics against which appropriate benchmarks could be formulated.

Applying a 4 point incremental linear scale to the measurement of the ABEI with the upper threshold set at 34,3 % for the period under review, the author arrived at the descriptors for different ABEI outcomes which are tabulated in Table 5.13.

Table 5.13: Description for different ABEI outcomes

ABEI DESCRIPTOR	ABEI VALUE RANGE (%)
Low (L)	0 – 8,58
Below Average (BA)	8,59 – 17,15
Above Average (AA)	17,16 – 25,73
High (H)	25,74 – 34,30

The descriptors set out in Table 5.13 provide a simple means to assess different ABEIs against the envisaged initial outcomes. These descriptors are applied to all the ABEIs which are calculated.

5.6.4 Resource Goal Ratios as a diagnostic instrument

The introduction of minimum resource goals by the employer at tender stage on prime major contracts, requires tenderers to embrace the policy and guarantees some participation by ABEs. It is therefore important to log the minimum resource goals set for every Prime (Major) tender and to determine the ratio for the number of contracts under consideration of the weighted average of the contract participation goals and of the contracted minimum resource goals specified in the tender. A resource goal ratio close to unity would indicate that the minimum resource goal ratio is too high for one or more of the following reasons:

- The absorptive capacity of ABEs in the specific sector has been reached.
- The prices received from the targeted enterprises are not competitive when compared to those received from non-targeted enterprises.
- The scope for participation by ABEs is less than predicted.
- The cost to embrace the policy objective generally exceeds the reward which is provided in the development objective/price mechanism to do so.

The resource goal ratio serves as a useful diagnostic instrument to test the appropriateness of the minimum goals set, and allows for the establishment of appropriate threshold goals on subsequent tenders. Resource goal ratios are calculated for all subsectors in the Prime (Major) category to test the appropriateness of the minimum thresholds set.

5.7 QUANTIFYING THE FPI ASSOCIATED WITH THE IMPLEMENTATION OF THE APP POLICY

5.7.1 Introduction

The financial premium associated with the promotion of ABEs, has direct and indirect components. The direct component relates to the increased tender amount to promote ABEs, and the indirect costs relates to the hidden cost including increased administrative requirements, internal staff training etc, which are not necessarily included in the tender price. The direct financial premium associated with ABE promotion can be readily quantified where the development objective/price mechanism used for the award of a contract, provides for adjudication points for ABE status, i.e. where a direct preference is applied; the financial premium being the direct preference which is applied. Where adjudication points are awarded on the basis of achieving a contract participation goal e.g. Prime (Major) contracts, this may not necessarily be the case. It should be noted in this regard that:

- The introduction of a positive minimum resource goal requires that all tenderers must embrace the policy. Accordingly, the tender prices which are submitted include for both a threshold cost of embracing the policy and the cost to optimise ABE participation.

- The introduction of a zero resource goal allows tenderers to choose to embrace the policy, or not to do so. Accordingly the tender prices which are submitted under these circumstances include the total cost of embracing the policy, if the tenderer elects to embrace the policy. The Department of Public Works was reluctant to allow the principle of zero minimum goals to be applied on an appropriately sized sample, as they were of the view, that this approach might contribute to some perceptions of policy reversals during the initial implementation phase.

The true cost premium can in theory only be determined on Prime (Major) contracts if a zero contract participation goal is set and tenderers with the lowest financial offer always tender contract participation goals having a zero value. If a tenderer tenders the lowest financial offer and a positive resource goal, where a zero minimum goal is set, a benefit as opposed to a financial premium results. Accordingly, the calculation of true financial premiums within the context of the current APP framework, are possible only for Prime (Micro) and (Minor) contracts, whilst on Prime (Major) contracts, for the aforementioned reasons, the calculated financial premiums generally relate to the cost of optimising the policy, i.e. awarding of tenders in terms of the development objective/price mechanism.

5.7.2 Definitions and formulae

The Financial Premium Index (FPI) is defined as the difference in price between the awarded tender price, i.e. the tender receiving the highest number of points, and the lowest tender price used for the

awarding of adjudication point for price, divided by the lowest tender price used for the awarding of adjudication points for price, namely:

$$FPI = \frac{A - B}{B} \times 100$$

Where A = sum of the tender prices of awarded contracts in a particular sector
B = sum of the tender prices of the lowest responsive tender used as the base value for the awarding of tender adjudication points for price.

The theoretical maximum FPI for any prime contract where a 10/90 formulation is used for the development objective/price mechanism is 11,1%.

FPIs for all construction subsectors and for the full range of prime contracts are calculated for both discrete time increments and the overall period of study.

5.7.3 Establishment of different FPI scenarios

Applying a 4 point linear scale to the measurement of FPIs with the upper threshold set at 11,1 %, the descriptors tabulated in Table 5.16 can be used to describe different FPI scenarios.

TABLE 5.14: Descriptors for different FPI outcomes

FPI DESCRIPTORS	FPI VALUE RANGE (%)
LOW (L)	0 – 2,77 %
BELOW AVERAGE (BA)	2,78 – 5,55 %
ABOVE AVERAGE (AA)	5,56 – 8,32 %
HIGH (H)	8,33 – 11,10 %

The interpretation of the descriptors set out in Table 5.14 are as follows:

'Low' (FPI in the range 0 - 2,77 %) indicates that either a low direct financial premium is incurred on Prime (Micro) or Prime (Minor) contracts or that a low financial premium is incurred to optimise ABE participation on Prime (Major) contracts.

'High' (FPI in the range 8,32 – 11,10 %) indicates that either a high direct financial premium is incurred on Prime (Micro) or Prime (Minor) contracts or that a high financial premium is incurred to optimise ABE participation on Prime (Major) contracts.

The aforementioned descriptors provide a simplified measure to interpret the different FPI outcomes against the potential maximum FPI. These descriptors are applied to all FPIs which are calculated.

5.8 LINKING FPIs AND ABEIs VIA A QUADRANT COMPARATOR

Descriptors for ABEIs and FPIs which were developed in 5.6 and 5.7, respectively, cannot be interpreted in isolation from each other. A mechanism is required to provide a collective interpretation of these parameters.

Unique ABEIs and FPIs can be readily calculated for each construction subsector within a particular contract classification e.g. Prime (Major-General), and can be plotted as ordinates on a graph. This graph can be divided into four equal quadrants if lines parallel to the x and y axis are drawn along the mid and maximum value ranges of the descriptors for ABEIs and FPIs as tabulated in Table 5.13 and 5.14, respectively. (See Figure 5.1)
The quadrant comparator can best be explained by considering four ordinates located on the extremities of the quadrants shown in Figure 5.1.

Ordinate (a): low FPI and very high ABEI.

Ordinate (a) indicates that a very high ABE participation is being achieved at a very low financial premium, i.e. the most desirable condition from a policy position. The outcome is indicative of appropriate absorptive capacity amongst the ABEs and efficiently operating ABEs.

Ordinate (b): high FPI and high ABEI.

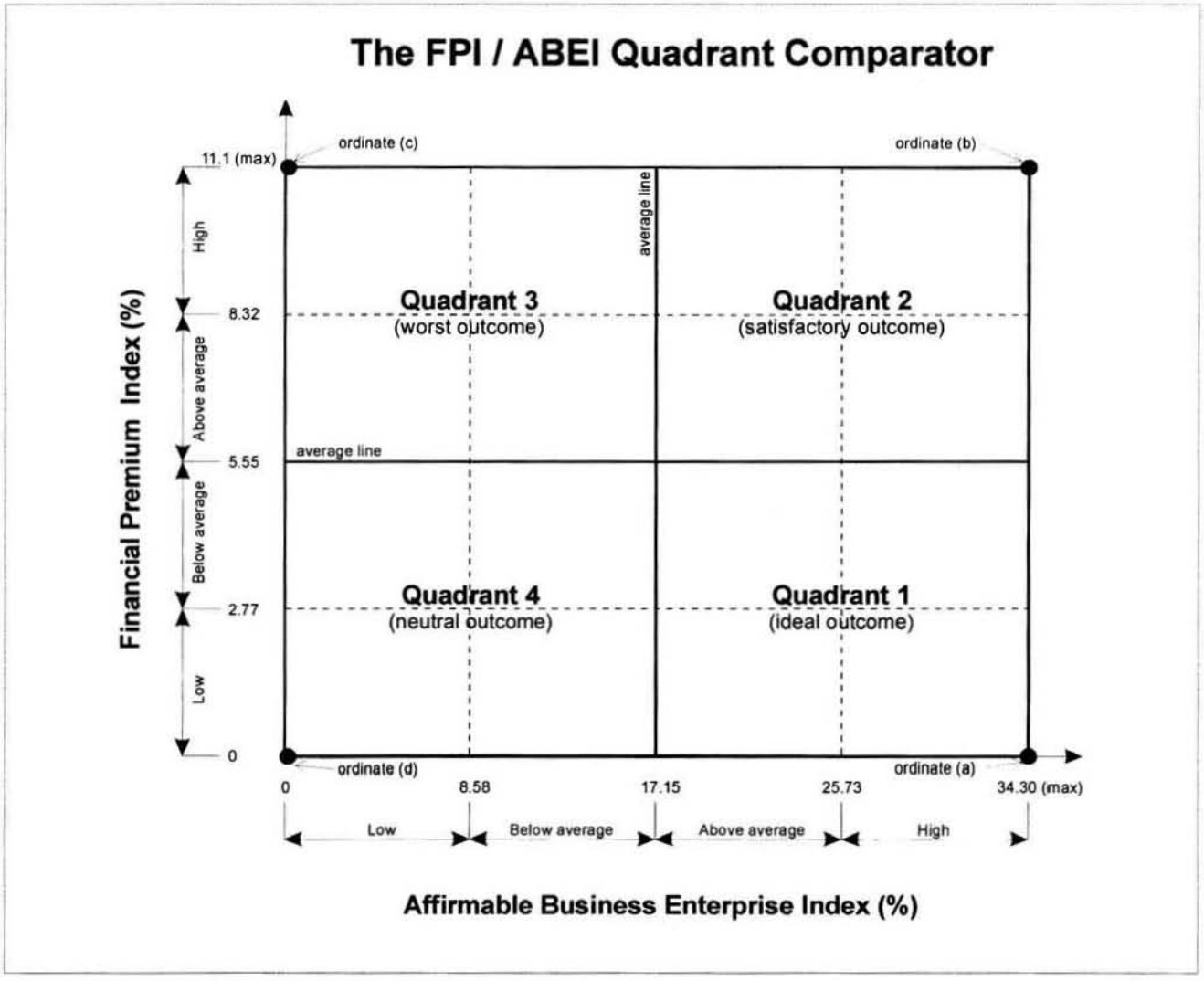
Ordinate (b) indicates that a very high ABE participation is being achieved, but at a high financial premium. This outcome is indicative of ABE availability in the sector but which is not necessarily operating as efficiently as non-ABEs.

Ordinate (c): high FPI and low ABEI.

Ordinate (c) indicates that very small gains in ABE participation occur at very high financial premiums. This outcome is indicative of limited ABE availability in this sector, or possibly a very small group of ABEs controlling the market niche, resulting in high financial premiums. It could also indicate entry

threshold difficulties for ABEs entering into a sector, such as requirements for specialised skills or specialised work processes. Corrective measures which would need to be taken to improve policy outcomes include focussed interventions of a supply side nature to increase ABE participation.

FIGURE 5.1: The FPI / ABEI Quadrant Comparator



Ordinate (d): very low FPI and very low ABEI.

Ordinate (d) indicates that there are no or a negligible number of ABE participants in this sector. As a consequence, the tenders received are predominantly from non-ABEs. As such the Affirmative Procurement Policy is having little or no impact.

This interpretation of the four quadrants from a policy perspective may be described as follows:

Quadrant 1

Policy Application:	Ideal outcome; policy intent being met in a cost effective manner.
Indications:	There is appropriate absorptive capacity amongst ABEs; ABEs are operating effectively.
Action:	Maintain policy with continuous monitoring.

Quadrant 2

Policy Application:	Satisfactory outcome; the policy is yielding satisfactory outcomes but not at optimum efficiency.
Indications:	ABE availability with the sector. ABEs not necessarily operating as effectively as non-ABEs.
Actions:	Focus on supply side measures to improve efficiency.

Quadrant 3

Policy Application:	Worst outcome; the policy is yielding disappointing participation level for the financial premium incurred.
Indications:	Limited ABE capacity in the sector, arising from a small group of ABEs controlling the market, which accounts for the high premiums.
Actions:	Focus on supply side interventions to develop new ABE capacity in sector.

Quadrant 4

Policy Application:	Neutral outcome; the policy is yielding disappointing participation levels, but is not attracting significant financial investments to do so.
Indications:	Limited or negligible ABE capacity in this sector, probably relating to entry thresholds, e.g. specialised skills, plant requirements, etc, which mitigate against ABE participation.
Action:	Focus on supply side interventions to develop new capacity. Increased ABE participation levels only likely in the medium term.

The impact of the Affirmative Procurement Policy, both in terms of ABE participation and potential financial premiums can be readily assessed should FPIs and ABEIs be calculated for all four construction sectors in respect of Prime (Minor/Micro) contracts and Prime (Major) contracts and the resulting 8 sets of ordinates are plotted on the FPI/ABEI Quadrant comparator.

5.9 PRESENTATION AND INTERPRETATION OF RESULTS

5.9.1 ABE participation levels

The projected ABEI of the representative sample of 40 contracts awarded by the Department of

Public Works Head Office in 1993 are presented in Table 5.15. The combined ABEI for Prime (Micro/Minor) Contracts was found to be 1,93% with the projected ABEI for Prime (Major) Contracts being 0,32%. In the Prime (Minor/Micro) Category, only one out of the thirty one contracts sampled, was awarded to an ABE, whilst in the Prime (Major) category no contracts out of the nine contracts sampled were awarded to ABEs. In the Prime (Major) category ABE participation was confined solely to ABEs participating as sub-contractors with the ABEI being limited to 0,32%. The composite ABEI for all prime contracts was a mere 0,52%. The author anticipated a relatively low ABE index.[13] However, the exceptionally low ABEI for Prime (Major) contracts warrants further comment. Historically ABEs have participated primarily as sub-contractors to established prime contractors, and one would therefore have expected a higher ABEI in this category. Upon further investigation the author concludes that this exceptionally low index reflected in Table 5.15 above can be attributed to, *inter alia* :

- ABE sub-contractors not being registered as formal business enterprises
- The lack of formal sub-contracting agreements between the ABEs and the Prime Contractors being in place.

TABLE 5.15: Projected ABE Indices based on sample of 1993 head office contracts

DESCRIPTION	PRIME (MINOR/ MICRO)	PRIME (MAJOR)	TOTAL
ABEI	1,93	0,32	0,52
Number of Contracts awarded to ABEs	1	0	1
Percentage of Contracts awarded to ABEs	3,23%	0%	2,50%
Value of ABE participation	R337 000	R424 500	R761 500
Percentage value of Contracts awarded to ABEs	2,14%	0%	0,27%
Total number of contracts in sample	31	9	40
Total value of contracts in sample	R15 728 891	R111 329 182	R127 058 073

The aforementioned two factors were made known to the respondents during the telephonic interviews when clarifying the recording of ABE status. The exceptionally low ABE percentage for Prime (Major) contracts during this period therefore does not necessarily infer that there were no black sub-contractors participating on these projects, but rather that these business enterprises operated in the informal sector with limited structured relationship with the prime contractor. Clearly from the definition of an Affirmable Business Enterprise provided in Chapter 4, informal enterprises are excluded from this definition and therefor the results in Table 5.15 are not unexpected.

The ABEIs for the different classes and categories of contracts, for the period under review (August 1996 – July 1998) are tabulated in Table 5.16. Contracts totaling R1,65 billion were awarded under the APP programme during this period, with the overall ABEI being 26,84%. In terms of the different construction sub-sectors, the General sub-sector has the highest ABEI of 29,35%, with the Civil, Mechanical and Electrical sub-sectors having lower ABEIs of 19,93%, 11,33% and 9,88%, respectively.

[13] Watemeyer et al (1998) had postulated that ABE participation levels in 1995 were around 3%. Watermeyer and Band (1994)

The ABEI for all Prime (Micro/Minor) contracts is 16,25%, which is substantially lower than the ABEI of 27,84% for all Prime (Major) contracts. It is immediately apparent from Table 5.16 that a significant contribution to the overall ABEI of 26,84% has been the contribution of Prime (Major) contracts where use is made of the TP1(APP1) specification to secure ABE participation.

The number and the value of contracts awarded to ABEs operating as Prime contractors, either in the Prime (Micro/Minor) or Prime (Major) class, is relatively low (10,84% in number; and 6,5% in financial terms), when assessed against the overall ABE index of 26,84% which was achieved.

Of the total of 312 contracts in the Prime (Micro/Minor) category, only 34 contracts (10,9%), were awarded to ABEs as prime contractors. In Prime (Major) contracts, 14 of the 131 contracts awarded or 10,69% were awarded to ABEs.

Tables 5.17 to 5.19 set out comparative statistics for the time increments identified in 5.6.2.

Tables 5.17 to 5.19 show an increase in ABE participation as measured in terms of the ABEI index for all construction sub-sectors from 22,29% during the start-up period to 25,67% in the first six month period after start-up, and thereafter to 28,39% in the second six month period after start-up. These figures suggest an increase in ABE participation over the study period. The ABEI is, however, made up of a number of statistics. As such increases in value may not necessarily reflect increases in ABE participation but rather changes in the distribution of work within construction sub-sectors and prime contract classifications.

Table 5.20 sets out the composition of the ABEI in respect of each time increment under consideration. Table 5.20 shows that the percentage value of contracts awarded in each construction sub-sector and prime contract classification varies considerably over the study period. If the ratio of percentage contribution to ABEI to the percentage value of contracts is considered, only in the Prime (Major- General) category is this value consistently above 0,8 i.e contracts in this category of contracts are consistently efficient in securing high levels of ABE participation. As this category contributes between 78,4 and 92,2% to the overall ABEI for the time increment under consideration, an increase in ABE participation in this category would imply increased ABE participation over the study period.

---

reported that SAFCEC, despite being founded in the 1930's had no black members in 1994.

TABLE 5.16: ABE Indices (August 1996 – July 1998)

CONSTRUCTION SUB-SECTOR	DESCRIPTION	PRIME (MICRO / MINOR) CONTRACTS	PRIME (MAJOR) CONTRACTS	ALL PRIME CONTRACTS
General	ABEI	10,63	29,90	29,35
	No of contracts awarded to ABEs	31	13	44
	% of contracts awarded to ABEs	14,69%	13,40%	14,29%
	Tender value of contracts awarded to ABEs	R22 652 546	R80 305 004	R102 957 550
	% of Tender value of contracts awarded to ABEs	24,23%	6,32%	7,55%
	Total number of contracts for sub-sector	211	97	308
	Total value of contract per sector	R 93 482 295	R 1 270 125 041	R 1 363 607 336
Civil	ABEI	0,00	20,88	19,93
	No of contracts awarded to ABEs	0	1	1
	% of contracts awarded to ABEs	0,00%	6,67%	3,85%
	Tender value of contracts awarded to ABEs	R 0	R 1 529 831	R 1 529 831
	% of Tender value of contracts awarded to ABEs	0,00%	1,23%	1,17%
	Total number of contracts for sub-sector	11	15	26
	Total value of contract for sub-sector	R 5 935 518	R 124 579 197	R 130 514 715
Mechanical	ABEI	6,41	12,76	11,33
	No of contracts awarded to ABEs	2	0	2
	% of contracts awarded to ABEs	4,08%	0,00%	3,17%
	Tender value of contracts awarded to ABEs	R 1 985 836	0	R 1 985 836
	% of Tender value of contracts awarded to ABEs	7,12%	0,00%	1,60%
	Total number of contracts for sub-sector	49	14	63
	Total value of contract for sub-sector	R 27 889 613	R 96 425 748	R124 315 361
Electrical	ABEI	5,86	12,74	9,88
	No of contracts awarded to ABEs	1	0	1
	% of contracts awarded to ABEs	2,44%	0,00%	2,17%
	Tender value of contracts awarded to ABEs	R 934 744	0	R 934 744
	% of Tender value of contracts awarded to ABEs	6,51%	0,00%	2,71%
	Total number of contracts for sub-sector	41	5	46
	Total value of contract for sub-sector	R 14 364 504	R 20 142 859	R 34 507 363
All	ABEI	16,25	27,84	26,84
	No of contracts awarded to ABEs	34	14	48
	% of contracts awarded to ABEs	10,90%	10,69%	10,84%
	Tender value of contracts awarded to ABEs	R 25 573 126	R 81 834 835	R 107 407 961
	% of Tender value of contracts awarded to ABEs	18,05%	5,41%	6,50%
	Total number of contracts for all sub-sectors	312	131	443
	Total value of contract for all sub-sectors	R 141 671 930	R 1 511 272 845	R 1 652 944 775

TABLE 5.17: ABE Indices (August 1996 – June 1997)

CONSTRUCTION SUB-SECTOR	DESCRIPTION	PRIME (MICRO / MINOR) CONTRACTS	PRIME (MAJOR) CONTRACTS	ALL PRIME CONTRACTS
General	ABEI	20,62	25,99	24,91
	No of contracts awarded to ABEs	14	3	17
	% of contracts awarded to ABEs	13,33%	15,79%	13,71%
	Tender value of contracts awarded to ABEs	R 9 549 438	R 18 800 303	R 28 349 741
	% of Tender value of contracts awarded to ABEs	22,92%	11,34%	13,67%
	Total number of contracts for sub-sector	105	19	124
	Total value of contract for sub-sector	R 41 672 256	R 165 774 001	R 207 446 257
Civil	ABEI	0	0	0,00
	No of contracts awarded to ABEs	0	0	0
	% of contracts awarded to ABEs	0,00%	0,00%	0,00%
	Tender value of contracts awarded to ABEs	0	0	0
	% of Tender value of contracts awarded to ABEs	0,00%	0,00%	0,00%
	Total number of contracts for sub-sector	5	1	6
	Total value of contract for sub-sector	R 2 817 133	R 934 213	R 3 751 346
Mechanical	ABEI	3,73	19,02	12,90
	No of contracts awarded to ABEs	1	0	1
	% of contracts awarded to ABEs	5,26%	0,00%	4,76%
	Tender value of contracts awarded to ABEs	R 294 291	0	R 294 291
	% of Tender value of contracts awarded to ABEs	4,14%	0,00%	1,66%
	Total number of contracts for sub-sector	19	2	21
	Total value of contract for sub-sector	R 7 107 196	R 10 668 845	R 17 776 041
Electrical	ABEI	0	10,16	5,50
	No of contracts awarded to ABEs	0	0	0
	% of contracts awarded to ABEs	0,00%	0,00%	0,00%
	Tender value of contracts awarded to ABEs	0	0	0
	% of Tender value of contracts awarded to ABEs	0,00%	0,00%	0,00%
	Total number of contracts for sub-sector	28	2	30
	Total value of contract for sub-sector	R 8 026 821	R 9 472 876	R 17 499 697
All	ABEI	14,86	24,66	22,29
	No of contracts awarded to ABEs	15	3	18
	% of contracts awarded to ABEs	9,55%	12,50%	9,94%
	Tender value of contracts awarded to ABEs	R 9 843 729	R 18 800 303	R 28 644 032
	% of Tender value of contracts awarded to ABEs	16,51%	10,06%	11,62%
	Total number of contracts for all sub-sectors	157	24	181
	Total value of contract for all sub-sectors	R 59 623 406	R 186 849 935	R 246 473 341

TABLE 5.18: ABE Indices (July 1997 – December 1997)

CONSTRUCTION SUB-SECTOR	DESCRIPTION	PRIME (MICRO / MINOR) CONTRACTS	PRIME MAJOR CONTRACTS	ALL PRIME CONTRACTS
General	ABEI	12,96	28,85	27,52
	No of contracts awarded to ABEs	8	4	12
	% of contracts awarded to ABEs	11,27%	11,43%	11,32%
	Tender value of contracts awarded to ABEs	R 4 203 980	R 16 082 929	R 20 286 909
	% of Tender value of contracts awarded to ABEs	14,40%	5,04%	5,83%
	Total number of contracts for sub-sector	71	35	106
	Total value of contract for sub-sector	R 29 203 544	R 318 993 953	R 348 197 497
Civil	ABEI	0	13,60	8,80
	No of contracts awarded to ABEs	0	0	0
	% of contracts awarded to ABEs	0%	0%	0%
	Tender value of contracts awarded to ABEs	0	0	0
	% of Tender value of contracts awarded to ABEs	0%	0%	0%
	Total number of contracts for sub-sector	3	1	4
	Total value of contract for sub-sector	R 877 836	R 1 607 030	R 2 484 866
Mechanical	ABEI	0	19,50	9,01
	No of contracts awarded to ABEs	0	0	0
	% of contracts awarded to ABEs	0%	0%	0%
	Tender value of contracts awarded to ABEs	0	0	0
	% of Tender value of contracts awarded to ABEs	0%	0%	0%
	Total number of contracts for sub-sector	17	3	20
	Total value of contract for sub-sector	R 14 615 360	R 12 566 803	R 27 182 163
Electrical	ABEI	0	17,89	12,13
	No of contracts awarded to ABEs	0	0	0
	% of contracts awarded to ABEs	0%	0%	0%
	Tender value of contracts awarded to ABEs	0	0	0
	% of Tender value of contracts awarded to ABEs	0%	0%	0%
	Total number of contracts for sub-sector	8	2	10
	Total value of contract for sub-sector	R 3 530 030	R 7 424 916	R 10 954 946
All	ABE Index	7,85	28,20	25,67
	No of contracts awarded to ABEs	8	4	12
	% of contracts awarded to ABEs	8,08%	9,76%	8,57%
	Tender value of contracts awarded to ABEs	R 4 203 980	R 16 082 929	R 20 286 909
	% of Tender value of contracts awarded to ABEs	8,72%	4 72%	5,22%
	Total number of contracts for all sub-sectors	99	41	140
	Total value of contract for all sub-sectors	R 48 226 770	R 340 592 702	R 388 819 472

TABLE 5.19: ABE Indices (January 1998 – July 1998)

CONSTRUCTION SUB-SECTOR	DESCRIPTION	PRIME (MICRO / MINOR) CONTRACTS	PRIME (MAJOR) CONTRACTS	ALL PRIME CONTRACTS
General	ABEI	35,43	30,28	31,27
	No of contracts awarded to ABEs	9	6	15
	% of contracts awarded to ABEs	25,71%	13,95%	19,23%
	Tender value of contracts awarded to ABEs	R 8 899 128	R 45 421 772	R 54 320 900
	% of Tender value of contracts awarded to ABEs	39,37%	5,78%	6,72%
	Total number of contracts for sub-sector	35	43	78
	Total value of contract for sub-sector	R 22 606 495	R 785 357 087	R 807 963 582
Civil	ABEI	0	21,14	20,76
	No of contracts awarded to ABEs	0	1	1
	% of contracts awarded to ABEs	0%	7,69%	6.,5%
	Tender value of contracts awarded to ABEs	0	R 1 529 831	R 1 529 831
	% of Tender value of contracts awarded to ABEs	0%	1,25%	1,23%
	Total number of contracts for sub-sector	3	13	16
	Total value of contract for sub-sector	R 2 240 549	R 122 037 954	R 124 278 503
Mechanical	ABEI	24,69	15,51	17,02
	No of contracts awarded to ABEs	1	0	1
	% of contracts awarded to ABEs	7,69%	0%	4,55%
	Tender value of contracts awarded to ABEs	R 1 691 545	0	R 1 691 545
	% of Tender value of contracts awarded to ABEs	27,43%	0%	4,51%
	Total number of contracts for sub-sector	13	9	22
	Total value of contract for sub-sector	R 6 167 057	R 73 190 100	R 79 357 157
Electrical	ABEI	29,96	0.00	2,97
	No of contracts awarded to ABEs	1	0	1
	% of contracts awarded to ABEs	20,00%	0%	16,67%
	Tender value of contracts awarded to ABEs	R 934 744	0	R 934 744
	% of Tender value of contracts awarded to ABEs	33,29%	0%	3,30%
	Total number of contracts for sub-sector	5	1	6
	Total value of contract for sub-sector	R 2 807 653	R 3 245 067	R 6 052 720
All	ABEI	30,67	28,31	28,39
	No of contracts awarded to ABEs	11	7	18
	% of contracts awarded to ABEs	19,64%	9,09%	14,75%
	Tender value of contracts awarded to ABEs	R 11 525 417	R 46 951 603	R 58 477 020
	% of Tender value of contracts awarded to ABEs	34,08%	4,62%	5,75%
	Total number of contracts for all sub-sectors	56	66	122
	Total value of contract for all sub-sectors	R 33 821 754	R 983 830 208	R 1 017 651 962

The contract participation goal as determined in accordance with the TP1(APP1) specification determines the value of the ABEI for Prime (Major) Contracts. The mean and standard deviation for Prime (Major-General) contracts in respect of each time increment is set out in Table 5.21.

TABLE 5.20: Composition of ABEI for different time increments

CONSTRUCTION SUB-SECTOR AND PRIME CONTRACT CLASSIFICATION	CONTRIBUTION TO OVERALL ABEI FOR TIME INCREMENT (%)*				VALUE OF CONTRACTS AWARED DURING TIME INCREMENTS EXPRESSED AS A PERCENTAGE OF THE TOTAL VALUE OF CONTRACTS AWARDED (%)			
	August 1996 to June 1997	July 1997 to December 1997	January 1998 to July 1998	STUDY PERIOD	August 1996 to June 1997	July 1997 to December 1997	January 1998 to July 1998	STUDY PERIOD
General	**15,6**	3,8	**2,8**	4,6	16,9	7,5	2,2	5,7
(Minor/ Micro)	**78,4**	**92,2**	**83,6**	**85,4**	67,3	82,0	77,2	76,8
(Major)								
Civil	0	0	0	0	1,1	0,2	0,2	0,4
(Minor/ Micro)	0	0,2	8,9	6,1	0,4	0,4	12,0	7,5
(Major)								
Mechanical	0,5	0	0,5	0,4	2,9	3,8	0,6	1,7
(Minor/ Micro)	**3,7**	2,5	3,9	2,7	4,3	3,2	7,2	5,8
(Major)								
Electrical	0	0	0,3	0,2	3,3	0,9	0,3	0,9
(Minor/ Micro)	1,8	1,3	0	0,6	3,8	2,0	0,3	1,2
(Major)								
All (Composite)	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

* Bolded values indicate that the ratio of percentage contribution to ABEI to the percentage value of contracts for corresponding time increments exceeds 0,8.

TABLE 5.21: Contract participation goal statistics in respect of Prime (Major-General) Contracts

TIME INCREMENT	MEAN VALUE OF CONTRACT PARTICIPATION GOAL	STANDARD DEVIATION
August 1996 - June 1997	26,47	12,40
July 1997 – December 1997	29,37	12,86
January 1998 - July 1998	33,40	9,71

Table 5.22 sets out the results of the application of an analysis of variance technique on the data used to generate Table 5.21. The F value at the 5% level of significance confirms the null hypothesis meaning that there are no significant differences for the means for the different time increments at the 5% level of significance. This result is not unexpected given the relatively high standard deviations recorded in respect of each time increment. If, however, significance tests are conducted on the first and the last time increments and it is assumed that the variances are not equal, a two-tailed test rejects the null hypothesis with a probability of less than 0,05; meaning that there are significant differences between the two mean contract participation goals. Accordingly, the primary reasons for an increase in the overall ABEI from the first time increment to the last time increment are two fold;

viz., an increase in value of Prime (Major-General) contracts and an increase in participation within Prime (Major-General) contracts[14].

TABLE 5.22: Analysis of variance on contract participation goals in respect of Prime (Major-General) Contracts

SOURCES OF VARIATION	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F
Treatments	712,318	2	356,159	2,711
Error	12351,187	94	131,396	-
(Total)	13063,505	96	-	-

Table 5.23 presents the results of Prime (Major) contracts for the overall period under review. This table highlights the decreasing contract participation goal as one moves from the general construction sub-sector through to the Civil, Mechanical and Electrical sub-sectors. This table also highlights the limited number of contracts awarded to ABEs as prime contractors, 13,4% of the Prime (Major-General) contracts awarded to ABEs, 6,7% of Prime (Major-Civil) contracts awarded to ABE Prime contractors, whilst no Prime (Major-Electrical) or Prime (Major-Mechanical) contracts were awarded to ABE prime contractors. It should, however, be borne in mind that the ABE turnover limits for a prime contractor are R25,0 million. If, however, only contracts having a value of say R20,0 million and less are considered, the number of Prime (Major-composite) contracts awarded to ABEs would increase from 10,7 to 11,1% whilst the value of contracts awarded would increase from 5,4% to 7,5%. Accordingly, the value of a Prime (Major) contract has some influence over the results, but does not account for the relatively low levels of performance.

The Goal ratios (i.e. average contract participation goal for a series of awarded contracts to the minimum contract participation goal above which no further adjudication points are awarded) tabulated in Table 5.23, range from 1,46 to 2,70. These goal ratios indicate that the thresholds (minimum) goals which were set are attainable and there was some scope for tendering goals above the minimum. The minimum contract participation goals set for the Mechanical constructor subsector, however, appear to be set at too high a threshold when compared to the other sub-sectors.

[14] There is insufficient data to perform similar analysis for other construction sub-sectors.

TABLE 5.23 : Prime Major (TP1) Contracts for the period 1 August 1996 to 1 July 1998

	General	Civil	Mechanical	Electrical	All Sub-sectors
Number of contracts	97	15	14	5	131
Value of contracts	R1,270,125,041	R124,579,197	R96,425,748	R20,142,859	R1,511,272,845
Average contract participation goal	35,02%	24,6%	15,0%	15,0%	32,7%
Minimum contract participation goal	13,0%	12,5%	10,3%	7,6%	12,8%
Goal Ratio*	2,70	1,96	1,46	1,96	2,57
Number of contracts awarded to ABEs	13	1	0	0	14
% number of contracts awarded to ABEs	13,4%	6,7%	0%	0%	10,7%
Value of contracts awarded to ABEs	R80 305 004	R1 529 831	0	0	R81 834 835
% value of contracts awarded to ABEs	6,63	1,23	0%	0%	5,41%

* ABE index for all prime contracts.

5.9.2 Financial Premium Indices

Financial Premium Indices for the study period and for each of the time increments set out in 5.6.2 are tabulated for each construction subsector in Tables 5.24 to 5.27 respectively. The values for DFI presented in these tables should be interpreted against a theoretical maximum possible DFI of 11,1%

It may be observed from these tables that :

- The overall financial premium index is 0,32% which is significantly lower than the maximum potential index 11,1%
- The FDI for Prime (Micro/Minor) contracts is 0,25%, which is slightly lower than the FPI for Prime (Major) contracts which is 0,33%
- In Prime (Micro/Minor) contracts, the General construction sub-sector had the highest FPI of 0,32%, whilst in Prime (Major) contracts, the Civils construction sub-sector had the highest FPI of 0,87%, which was also the highest FPI measured for the overall period under review.

Although there are variances in FPI between periods and construction subsectors, all FPIs may be described in terms of Table 5.14 as being "low".

The relatively insignificant FPI incurred in Prime (Minor/Micro) contracts where a direct financial preference is accorded to ABEs suggests that the extent to which ABEs can access work opportunities through such preferences is moderated by the level of competition that exists.

The financial premium index for the Prime (Micro/Minor) class of contract, calculates the actual direct financial premium, which in this case is 0,25%. The financial premium index for the Prime (Major)

contracts, on the other hand, calculates the cost of optimising the Affirmative Procurement Policy. Table 5.26 shows the FPI for Prime (Minor/Micro) contracts to be lower than that for Prime (Major) contracts. This trend is unexpected.

Tables 5.25 to 5.27 do not indicate any clear trends with the FPI for the initial start up period, being 0,4% reducing to 0,12% in the first six month period after start up, and subsequently increasing to 0,3% in the second six month period after start up. FPIs for the Prime (Micro/Minor) contracts in the General and Mechanical sub sectors record comparatively high FPIs of 0,89 and 0,91% respectively, in the last time increment under review. The significance of this observation for the General construction sub sector could be linked to the increase in ABE participation in Prime (Micro/Minor) contracts for the second six month period after start up, which was measured at 39,7%. Limited significance is given by the author to the FPI index for the Mechanical sub sector in this time increment, as this was influenced by one contract awarded to an ABE.

TABLE 5.24 : Financial Premium Indices (August 1996 – July 1998)

FINANCIAL PREMIUM INDICES	MINOR / MICRO COMBINED (%)	MAJOR (%)	TOTAL (%)
General	0,32	0,31	0,31
Civil	0,00	0,87	0,83
Mechanical	0,20	0,00	0,04
Electrical	0,00	0,00	0,00
TOTAL	0,25	0,33	0,32

TABLE 5.25 : Financial Premium Indices (August 1996 – June 1997)

FINANCIAL PREMIUM INDICES	MINOR / MICRO COMBINED (%)	MAJOR (%)	TOTAL (%)
General	0,23	0,54	0,48
Civil	0,00	0,00	0,00
Mechanical	0,00	0,00	0,00
Electrical	0,00	0,00	0,00
TOTAL	0,16	0,48	0,40

TABLE 5.26: Financial Premium Indices (July 1997 – December 1997)

FINANCIAL PREMIUM INDICES	MINOR / MICRO COMBINED	MAJOR	TOTAL
General	0,01	0,71	0,57
Civil	0,00	0,00	0,00
Mechanical	0,00	0,00	0,00
Electrical	0,00	0,00	0,00
TOTAL	0,00	0,70	0,12

TABLE 5.27 : Financial Premium Indices (January 1998 – July 1998)

FINANCIAL PREMIUM INDICES	MINOR / MICRO COMBINED	MAJOR	TOTAL
General	0,89	0,21	0,23
Civil	0,00	0,89	0,88
Mechanical	0,91	0,00	0,07
Electrical	0,00	0,00	0,00
TOTAL	0,76	0,28	0,30

It is clear from the quadrant comparator in Figure 5.2 that the ordinate for all prime contracts for all subsectors plots in quadrant 1 indicating that the policy intent is being met in a cost effective manner. This outcome has been influenced by the nature of the sample with its large component of major contracts and general contracts.

The ordinate for Prime (Major) contracts for all subsectors also plots in quadrant 1, indicating an ideal outcome, whilst the ordinate for all Prime (micro/minor) contracts plots in quadrant 4, close to the average line. This difference is attributed to the large contract participation goal contribution of ABE subcontractors on Prime (Major) contracts. The close proximity of the Prime (micro/minor) contracts for all subsectors ordinate to the average line infers that the conclusions for quadrant 4, namely a neutral outcome, is not applicable as clearly there has been an increase in ABE participation in this sector. The difference, however, between the Prime (Major-combined) and the Prime (Micro/Minor-combined) do indicate a slower rate of participation of ABEs as prime contractors.

5.9.3 Linking FPIs and ABEIs via a quadrant comparator

The paired values for FPI and ABEI in respect of each construction subsector and class of contract as tabulated in Table 5.28 are plotted on the quadrant comparator in Figure 5.2. The results of the quadrant comparator are summarised in Table 5.29.

It should be noted that the upper threshold in the quadrant comparator has been set at 34,3%, based on a maximum participation of 40% (Refer to 5.6.3). Figure 5.2 shows that supply side measures need to focus on the development of prime contractors in the civil, mechanical and electrical construction subsectors and on electrical and mechanical subcontractors, suppliers and service providers.

TABLE 5.28 : FPI/ABE Index (Aug 96 – July 98)

CONSTRUCTION SUB-SECTOR	INDICE	Prime (Micro/Minor) Contracts	Prime (Major) Contracts	All Prime Contracts
General	ABEI	21,81	29,90	29,35
	FPI	0,32	0,31	0,31
Civil	ABEI	0,0	20,88	19,93
	FPI	0,0	0,87	0,83
Mechanical	ABEI	6,41	12,76	11,33
	FPI	0,20	0,00	0,04
Electrical	ABEI	5,86	12,74	9,88
	FPI	0,00	0,00	0,00
All	ABEI	16,25	27,84	26,84
	FPI	0,25	0,33	0,32

TABLE 5.29 : Summary of quadrant comparator results

CONSTRUCTION SUBSECTOR	QUADRANT NUMBER		
	PRIME (MINOR/MICRO) CONTRACTS	PRIME (MAJOR) CONTRACTS	ALL PRIME CONTRACTS
General	1#	1#	-
Civil	4§	1#	-
Mechanical	4§	4§	-
Electrical	4§	4§	-
All	4§	1#	1#

Ideal outcome

§ Neutral outcome

It can be seen from Table 5.29 and Figure 5.2 that each policy outcome falls into one of two categories viz. :

Ideal outcome (Quadrant 1) :

Policy intent is being met in a cost effective manner. There is appropriate absorptive capacity amongst ABEs; ABEs are operating effectively. No action is required.

Neutral outcome (Quadrant 4)

The policy is yielding disappointing participation levels but is not attracting significant financial investments to do so. Limited or negligible ABE capacity in this sector, probably relating to entry thresholds e.g. specialised skills, plant requirements, etc. which mitigate against ABE participation. The actions necessary include a focus on supply side interventions to develop new capacity. Increased ABE participation levels are only likely in the medium term.

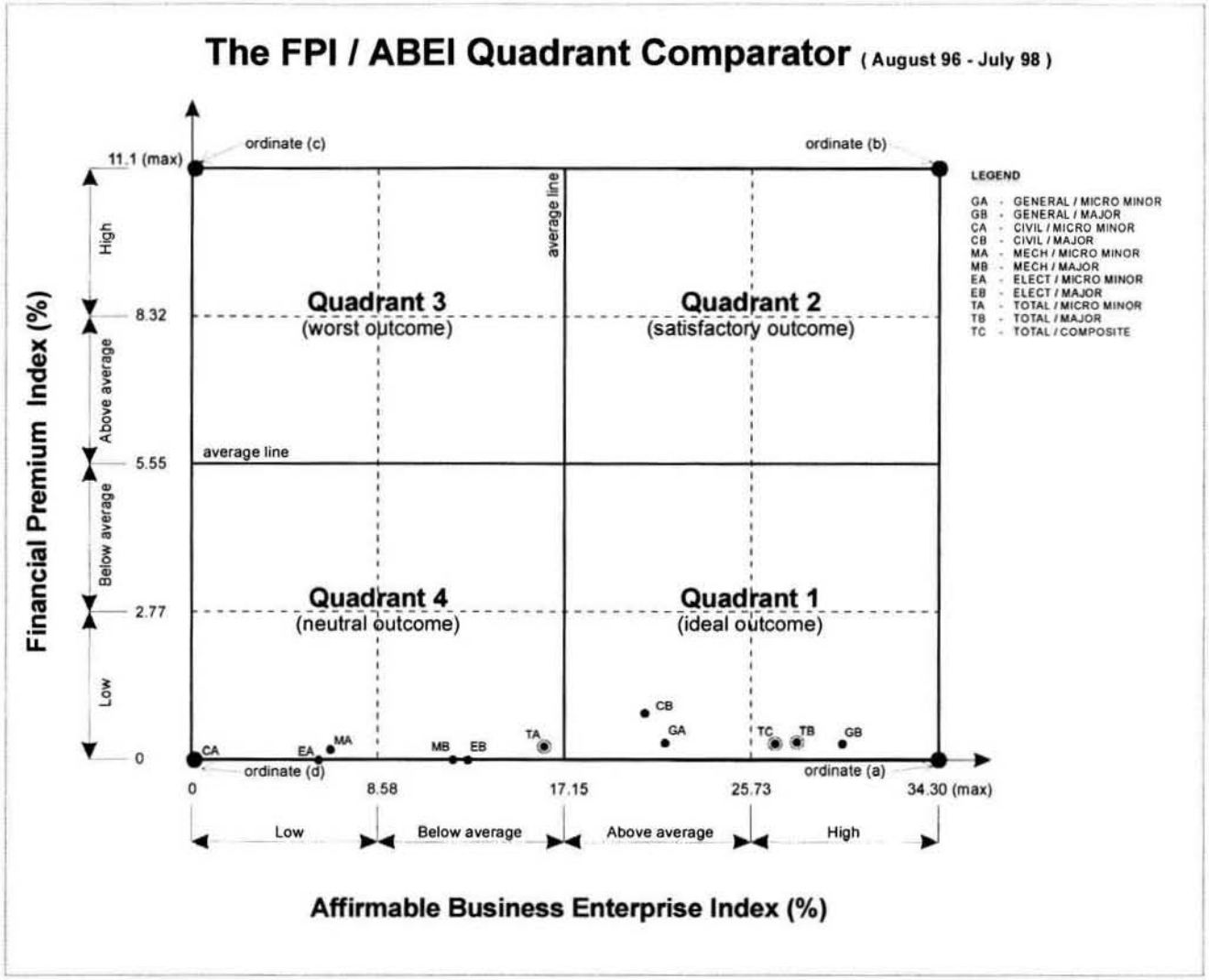


FIGURE 5.2 : The FPI / ABEI Quadrant Comparator for outcomes between August 1996 and July 1998

5.10 RESEARCH FINDINGS

The policy has resulted in an increase in ABE participation as measured in terms of the ABEI from 0,5 in 1993 to 26,8% during the period 1 August 1996 to 1 July 1998. The General construction sub-sector yielded the highest participation levels with an ABEI value of 29,4% followed by the Civil sub-sector (19,9%); the Mechanical subsector (11,3%) and the Electrical sub-sector (9,9%). ABE participation as measured by the ABEI was consistently and significantly higher in every subsector in Prime (Major) contracts than in Prime (Minor/Micro) Contracts.

The number and value of contracts awarded to ABEs operating as Prime Contractors is relatively low (Refer to Table 5.16). The number of contracts awarded to ABEs at prime contract level in all subsectors accounted for a mere 6,5% of the total value of contracts awarded and 18,1% in respect of

Prime (Minor/Micro) contracts. Accordingly, the bulk of the ABE participation reflected in the ABEI was achieved through the engagement of ABE subcontractors, suppliers, manufacturers and service providers in terms of the resource specification, TP1(APP1).

The participation level of ABE prime contractors in Prime (Minor / Micro) contracts in the General subsector of 24,2% is significantly higher than in the civil (0%), electrical (6,5%) and mechanical (7,2%) subsectors. This is not unexpected as Watermeyer and Band (1994) reported that the South African Federation of Civil Engineering Contractors (SAFCEC), despite being founded in the 1930's to serve civil engineering contractors, still had no black members by the end of 1992. The overall Prime (Minor/Micro) contract value of 18,1% is, however, higher than the figure of 11% reported by Watermeyer et al (1998) for the period August 1996 to October 1997. This suggests that there is either an increase in ABE participation in this category of contract or less ABEs have failed to claim the direct preference provided for in the policy.

An analysis of the ABEI (Composite) in respect of each subsector indicates that the ABEI (Prime (Major)) is the dominant contributor to this index. An examination of the average contract participation goals associated with the TP1(APP1) specification, i.e. Prime (Major) Contracts, is significantly higher in the General construction subsector than for any other subsector. A statistical analysis of the contract participation goals achieved in respect of Prime (Major) contracts for each time increment showed that there is a significant increase ($p \leq 0,05$) between the average goal for the period August 1996 to June 1997 and the period January 1998 to July 1998. Although the percentage by value of General construction work increased between these two periods, the increase in ABEI from 22,3% to 28,4% for these periods can in part be attributed to an increase in ABE participation. This increase could be attributed to the popularisation of the APP policy and the familiarisation by the industry with the policy and not necessarily to the formation of new ABEs or the growth of existing ones, as the incubation period for construction enterprises exceeds the period under review.

Watermeyer *et al* (1998) have undertaken research into ABE participation levels prior to the introduction of the Affirmative Procurement Policy. They postulated a participation level of around 3% in 1995 based on information obtained from three large contracting firms in South Africa who analysed their subcontracting arrangements. This level of participation would approximate to an ABEI of around 2,5% and is probably representative of participation levels after the changes in Senior Management within the Department took place, but immediately prior to the introduction of the Affirmative Procurement Policy. It may accordingly be argued that the order of magnitude increase in ABE participation between 1995 and the study period is directly attributable to the introduction by the Department of the Affirmative Procurement Policy.

The minimum contract participation goals set by the Department appear to be reasonable. Consideration should, however, be given to the lowering of the minimum contract participation goal

set by the Department in respect of the mechanical construction subsector.

The Direct Financial Premiums are on average below 0,35% for the study period. This result is lower than the figure of 0,8% quoted by Watermeyer *et al* (1998). This is probably due to the correction of errors made in the tender reports. (The Department frequently used unrealistic tender prices to calculate development objective / price mechanism points and then discarded the lowest tender on the basis of an unrealistically low tender price, thus distorting the statistics).

Commentators at the time when the policy was first implemented on a pilot basis on the Malmesbury Prison Complex during the tender period (February 1996 to April 1996) stated that the cost to implement the policy would be between 10 and 15%. However, when a team co-ordinated by Soderlund & Schutte (1998) interviewed the unsuccessful tenderers, they found that some of the tenderers interviewed considered there to be no cost premium to implement the policy whilst others considered this not to be the case. Bruce (1999), the leader of the interministerial task team on construction industry development and the managing director of one of the largest construction companies in South Africa, is of the view that the cost to implement the policy is the cost to manage the process. He cites a potential cost premium of 1,2% which his company arrived at in a study prepared for the Industrial Development Corporation. He points out, however, that in his experience that where more management is provided, the cost savings associated with improved performance usually out weighs the cost of such management. His conclusion is that there is no effective cost premium. The relatively high participation levels, high goal ratios and relatively low DFIs support Bruce's obsevations.

The low FPI supports the notion that the cost premium is associated with the Department's choice of contractor rather than costs incurred by a contractor to structure his resources to satisfy the requirements of the policy. An analysis of policy outcomes in terms of the quadrant comparator suggests that in the main, the policy intent is being met viz., high levels of participation which attract relatively insignificant direct financial premiums. The analysis also suggests that policy intent in Prime (Major) contracts is being met at a faster rate than is the case for Prime (Minor/Micro) contracts. Supply side measures are, however, necessary to develop prime contractors in the civil, mechanical and electrical construction subsectors and subcontractors, suppliers and service providers in the electrical and mechanical subsectors.

5.11 CONCLUSIONS

The Research supports both the sub-hypotheses which were tested viz. :

1) The National Department of Public Works can promote increased participation of ABEs in the construction economy via its Affirmative Procurement Policy.
2) The adoption of the Affirmative Procurement Policy has resulted in the State bearing

a limited financial premium, when compared to the initial projected outcomes and overall benefits.

CHAPTER 6

THE PERFORMANCE OF AFFIRMABLE BUSINESS ENTERPRISES

6.1 INTRODUCTION

The author has in the preceding chapters indicated that the State is required to take specific policy positions in order to effect real and sustainable changes to the structure of the construction industry. The Affirmative Procurement Policy (APP) was introduced by the state to facilitate an increase in participation of small scale enterprises, owned, managed and controlled by previously disadvantaged persons in public sector procurement. In this chapter the author examines the impact of the application of the policy on the Affirmable Business Enterprise sector of the construction industry. The following sub-hypothesis is tested:

Increased procurement opportunities to Affirmable Business Enterprises via government's Affirmative Procurement Policy is a necessary, but not sufficient, condition for the full enablement of Affirmable Business Enterprises in the construction sector.

The process of effecting a fundamental change in the structure of enterprise participation in the construction sector is not a simple one. Change at a scale that will have an impact may result from:

1) The empowerment processes presently operating in the South African economy in terms of which changes are occurring in the structure of equity ownership of large firms.

2) The establishment and nurturing of significant numbers of SMMEs with ownership by previously disadvantaged individuals through which overall levels of participation will rise on a sustainable basis. (MOF and MPWs, 1995, 1997).

The first option is shaped more by high level financial mechanisms that are structured by operating factors in the construction industry. The result of such changes in ownership tend to manifest at company board level and are rarely felt in the company operating structures at the lowest levels. Such deals tend to be concentrated in high technology and high value sectors because they are generally underwritten by substantial borrowings. The construction sector is not generally considered to have these characteristics and such deals are not common in it. Moreover the numerical majority of companies which participate in public sector construction contracts are privately owned, as opposed to being publicly listed. Significant changes in the structure of participation would thus be slow and limited if the government placed passive reliance on changes that are driven primarily by exogenous financial factors. The potential to manage change would be severely limited under this option.

The second option, that of supporting growth in participation by ABEs, provides for management and adjustment of some of the factors which have a direct bearing on the participation and performance of companies in public sector construction activities. In particular, opportunities exist for government to encourage participation through smaller value contracts and thereby provide for growth of competent, profitable and sustainable enterprises. The potential contribution of the public sector procurement

system as an incubator of enterprises with these characteristics has been both recognised and explored by the drafters of the Affirmative Procurement Policy. (MOF and MPWs, 1997; Watermeyer *et al,* 1998).

The Affirmative Procurement Policy makes provision for the targeting of ABEs whose principal business activities relate to physical construction as prime contractors, subcontractors and joint venture partners as set out in Table 4.2 of Chapter 4. It should be noted, however, that ABEs are targeted directly as prime contractors in only the Prime (Minor) and Prime (Micro) targeting strategies. An analysis of the Departmental record of contracts awarded during the period 1 August to 1 July 1998, as tabulated in Table 5.6 of Chapter 5, reveals that a total of 196 Prime (Minor) contracts were awarded. These accounted for 43% of the 454 contracts awarded in the period, and 8% by value. Prime (Minor) contracts accordingly represent an incubation price range through which ABEs contracting as prime contractors ought to progress, subject to both the acquisition of suitable management skills and a desire to grow their business.

As indicated below, a number of substantial supply side initiatives have commenced following the introduction of the affirmative Procurement Policy. They will provide broad support to structure and manage increased levels of enterprise creation and growth. Government procurement provides one of several spheres of business activity in which emerging enterprises may operate. All of the policies and mechanisms are predicated on the ability of sufficient numbers of ABE owners to create, manage and maintain value in their businesses. It will only be through these capacities that growth and expansion of activities into other sectors will occur.

The author in this chapter tests the sub-hypothesis by considering only those enterprises which completed Prime (Minor) contracts i.e. where ABEs were directly targeted as Prime Contractors on contracts having a value in the range R100 000 to R2 000 000 and which were completed during the period May 1996 to 31 August 1998.

6.2 REVIEW OF FACTORS WHICH SHAPE AND GUIDE POLICY FOR AN AFFIRMATIVE SMALL, MEDIUM AND MICRO ENTERPRISE PROGRAMME IN SOUTH AFRICA

6.2.1 Background

The ANC, in developing its Reconstruction and Development Programme (ANC, 1994), identified the following four constraints facing small businesses:

1. Credit.
2. Access to markets.
3. Skills.
4. Supportive institutional arrangements.

The ANC -lead government has since 1994 embarked upon a number of initiatives which have sought to address facets of these constraints. Procurement reform can open up markets by providing access to work opportunities and promoting business linkages between large and small business and as such can only address some aspects of the four constraints. Supplying side measures are, however, necessary to ensure that targeted enterprises can access and realise the opportunities presented by the reformed procurement regime.

6.2.2 The reformed procurement regime

The Green Paper on Public Sector Procurement Reform in South Africa was published in April 1997 (MOF and MPW, 1997). This paper proposes certain procurement reforms to achieve both economic and social ideals. Institutional and economic reforms are set out to support good governance of procurement and the achievement of socio-economic objectives through procurement.

The reform proposals were based on four key principles, which are identified in the introduction to the paper. These are the use of procurement to make public tendering accessible for new and emerging businesses and eliminate the injustices of the past; to attain and maintain good governance in procurement, including achievement of sound financial control; to eliminate and counter all forms of corruption; and to ensure good standing of tenderers in terms of service charges and tax obligations.

The first of these principles is central to the concerns of this study. The Green Paper proposes reform objectives for the socio-economic and good governance thrusts of procurements reform. Of the fifteen objectives listed in the paper, the following six objectives indicate that the reform framework is of relevance to the subject of this study (MOF and MPW, 1997):

- *"to make the public procurement process accessible to all by simplifying the process, and by encouraging fairness and transparency;*
- *to encourage greater competition in the public procurement process through the creation of an enabling environment for small, medium and micro enterprises while retaining quality and standards;*
- *to support participation of a broadened range of enterprises with appropriate inland revenue registration and acceptable labour practices in order to ensure suitability;*
- *to set out targeting policies in order to create opportunities for the broadest possible participation in the public procurement process;*
- *to achieve a uniform procurement system with standardised tendering procedures, policies and contracts documentation for implementation at national and regional level; and*
- *to ensure that public sector procurement complies with the provisions of the constitution."*

The Green Paper puts forward the primary purpose of an affirmative procurement policy as being:

> *"To provide equal access in contracting and procurement opportunities for targeted businesses and, in so doing, eradicate the effects of past and present discrimination in public and private sector procurement practices and assist in creating and developing business enterprises which are reflective of population demographics. The adoption of such a policy should not imply "reverse discrimination" but should be regarded as an endeavor to ensure that all sectors of the population have access to opportunities on a competitive basis and are advanced according to their relative abilities. "*

The following vision for an affirmative SMME participation programme is proposed in this paper:

> *"To promote and advance small, medium and micro enterprises, particularly those owned and operated by previously disadvantaged individuals, in public sector procurement without attracting undue costs and overloading procurement agencies' administrative capacities."*

It is in this context that the Department of Public Works has proceeded with structured efforts aimed at broadening participation in public sector construction contracts. The Department has followed the principles proposed in the Green Paper, namely:

- *"making the tender process accessible to the target group without, however, guaranteeing work; and*
- *linking the flow of money into target business enterprises with a concomitant flow of responsibility."*

6.3 GENERAL APPROACH TO TESTING THE HYPOTHESIS

The sub-hypothesis tested through this portion of research is:

Increased procurement opportunities to Affirmable Business Enterprises via government's Affirmative Procurement Policy is a necessary, but not sufficient condition for the full enablement of Affirmable Business Enterprises in the construction sector.

The author chose to explore through structured questionnaires whether there are in fact measurable differences in performance of contracts by ABEs and non-ABEs. The author contends that structured knowledge of any differences, which may exist, will improve the focus of management responses by the Department. The following sub-hypothesis is therefore tested:

Performance differences exist between Affirmable Business Enterprises and non-Affirmable Business Enterprises in building contracts in the price range R100 000 to R2 000 000.

6.3.1 Methodology outline

In Chapter 5 it was established that:

1) ABE participation in Prime (Minor) contracts which were categorised as being General is greater than those categorised as being Electrical, Civil or Mechanical.
2) General contracts accounted for 111 or 57% of all Prime (Minor) contracts.

The author accordingly confined the investigation to Prime (Minor) contracts to the "General" construction sub-sector.

Two areas of performance were selected for review under the sub-hypothesis, viz:

1) Mobilisation of sureties by contractors.
2) Contractor compliance with general contractual requirements.

Interviews for each contract in the sample were conducted with the project managers from the Department of Public Works and the responsible principal agent. The interviews were conducted in person with project managers based in the head office of the Department of Public Works in Pretoria. Due to logistical factors personal interviews could not be conducted with respondents based elsewhere in the country. Questionnaires were faxed to project managers in regional offices of the Department and to principal agents in their own offices. These questionnaires were subsequently completed through telephonic interviews.

Structured interviews with each contractor in the sample were considered but not persued for two reasons. Firstly, sample testing of the contact particulars pertaining to contracts in the sample revealed a lack of current contact details for some contractors. Secondly, Department officials reported a known lack of access to telephones and faxes by some contractors. Thus the potential for obtaining a full interview with each contractor across the whole sample was considered unlikely. The author's experience in obtaining interviews with contractors for the research reported in Chapter 7 confirmed the logistical and time delay problems with direct interviews. The author therefore chooses to maximize sample size by conducting interviews with readily accessible officials.

6.3.2 The research sample

Early investigations to establish the research sample indicated that the recording and archiving practices of the Department of Public Works were not structured to facilitate the extraction of pertinent data on APP contracts from the regional offices. At the time of this research reliable access to all relevant data in all regional offices for sample selection was not possible. As a result, the contracts in the samples were drawn from the records of the Department's head office in Pretoria.

A sample of 44 contracts was achieved, representing 88% of the universe of contracts meeting the research sample criteria which were let by the Department in Pretoria. The sample comprised 19 ABE contracts and 25 non-ABE contracts. The ABE contract sample constitutes 86,36% of the ABE contract universe. The non-ABE sample comprises 25 contracts and constitutes 89,29% of the non-ABE contact universe. The derivation of the sample from the universe is set out in Table 6.1.

TABLE 6.1: Derivation of the sample of contracts for research into mobilization of sureties and contract compliance.

PROVINCE	CONTRACTOR STATUS			
	ABE		non-ABE	
	Number	%	Number	%
All contracts awarded by Department Head Office (Pretoria)	22	100,00	28	100,00
No response received from project manager	3	13,64	1	3,,27
Project manager could not be traced	0	0	2	7,14
Respondents contacted	19	86,36	25	89,29

The Department awarded a total of 115 general contracts priced between R100 000 and R2 000 000 nationally in the research sample time period. The research sample of 44 records constitutes a sample of 38,26% and is seen as being representative of the national universe.

The greatest proportion of contracts in the sample were located in Kwa Zulu-Natal where 12 contracts (27,27%) were awarded. The second highest provincial concentration of contracts was 9 (20,45%) which were awarded in the Northern Province. The highest number of ABE contracts (7) was awarded in the Northern Province, with the second highest (5) being awarded in Kwa Zulu-Natal. The highest number of non-ABE contracts (7) was awarded in Kwa Zulu-Natal, with the second highest number (5) being awarded in the Northern Province. The provincial distribution of contracts in the sample is shown in Table 6.2.

TABLE 6.2: Provincial distribution of contracts for research into mobilisation of sureties and contract compliance.

PROVINCE	CONTRACTOR STATUS				FULL-SAMPLE	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
1 Eastern Cape	2	10,53	4	16,00	6	13,64
2 Free State	0	0	0	0	0	0
3 Gauteng Province	0	0	4	16,00	4	9,09
4 KwaZulu -Natal	5	26,31	7	28,00	12	27,24
5 Mpumalanga	2	10,53	2	8,00	4	9,09
6 Northern Cape	1	5,26	5	20,00	6	13,64
7 Northern Province	7	36,84	2	8,00	9	20,45
8 North West	0	0	0	0	0	0
9 Western Cape	2	10,53	1	4,00	3	6,82
TOTAL	19	100,00	25	100,00	44	100,00

The Department is obliged to award the contract to the tenders that score the highest number of adjudication points (Refer 5.3.3). Of the research sample 31 (70,45%) of the contracts were awarded to the lowest price tender. The distribution of lowest-price awards is presented in Table 6.3.

TABLE 6.3: Distribution of lowest-price tender awards in the sample for mobilisation of sureties and contract compliance research.

DESCRIPTION	CONTRACTOR STATUS				FULL-SAMPLE	
	ABE		Non-ABE			
	Number	%	Number	%	Number	%
Lowest tender	9	47,37	22	88,00	31	70,45
Not lowest tender	10	52,63	1	4,00	11	25,00
No data	0	0	2	8,00	2	4,55
Total	19	100,00	25	100,00	44	100,00

There are observed differences between ABE and non-ABE tenders from the data in Table 6.3. Over half (53%) of the ABE tenders were awarded to companies because they scored the highest number of adjudication points and not because their tender price was the lowest. At least 88% of non-ABE tenders were awarded to the lowest tenderer.

Date of tender award

The research sample time period runs from May 1996 to August 1998. The distribution of tender award dates of the sample is shown in Table 6.4. The sample is not evenly spread over the research period. No tenders were awarded after October 1997.

TABLE 6.4: Distribution of tender award dates for the research sample for mobilisation of sureties and contract compliance.

PERIOD	CONTRACTOR STATUS				FULL-SAMPLE	
	ABE		Non-ABE			
	Number	%	Number	%	Number	%
May 96-Oct 96	11	57,89	6	24,00	17	38,64
Nov 96-April 97	3	15,79	6	24,00	9	20,45
May 97-Oct 97	5	26,32	13	52,00	18	40,91
Nov 97-April 98	0	0	0	0	0	0
May 98-Aug 98	0	0	0	0	0	0
Total	19	100,00	25	100,00	44	100,00

There is a cluster of tenders awarded to ABEs in the first six months of the research period i.e. from May 1996 to October 1996. There is a cluster of tenders awarded to non-ABEs in the period from May 1997 to October 1997. The full sample, however, shows a reduction in the number of tenders awarded from November 1997 to April 1998.

The author suggests that two factors bear on the observed distribution of tender award dates. Firstly, the sample contains only tenders which were completed before August 1998. Tenders awarded and administered by the Department in Pretoria between November 1997 and August 1998, but which were not completed by August 1998 were not included in the sample. Secondly, the administration of qualifying tenders was increasingly performed by regional offices of the Department from mid-1997 onwards whereas the sample was drawn only from records of the Department's Head Office in Pretoria.

The nature of general contracts awarded by the Department was the same throughout the country during the research period, and the author is confident that the sample is representative of the national universe of qualifying contracts.

Tender award prices

The distribution of tender award prices for the sample is shown in Table 6.5.

TABLE 6.5: Distribution of contract prices for research into mobilisation of sureties and contract compliance.

TENDER AWARD VALUE (R)	CONTRACTOR STATUS				FULL-SAMPLE	
	ABE		Non-ABE			
	Number	%	Number	%	Number	%
100 000-500 000	11	57,89	10	40,00	21	47,73
500 001-1 000 000	2	10,53	10	40,00	12	27,27
1 000 001-1 500 000	3	15,79	5	20,00	8	18,18
1 500 001-2 000 000	3	15,79	0	0	3	6,82
Total	19	100,00	25	100,00	44	100,00

The contact prices for tenders awarded to both ABEs and non-ABEs are concentrated between R100 000 and R500 000. The contract price distribution of the research sample is not dissimilar to the contract price distribution of all contracts let by the Department.

6.3.3 Survey Instrument

A structured survey method was used which employed questionnaires as a survey instrument. The questionnaire is reproduced in Appendix 6.1.

The questionnaire was structured in seven sections as follows:

- Contracts details;
- Time frames;
- Mobilisation of guarantees and sureties;

- Management;
- Labour;
- Safety; and
- Product quality.

During September 1998 a pilot survey was conducted. This work suggested that there might be certain factors external to the completion of contracts by contractors for which control data may provide useful cross tabulations. The following factors were incorporated into the research.

1. Contract value.
2. Execution of the contracts in an 'urban' or 'rural' location.
3. Age of the contracting company.
4. Number of permanent employees in the enterprise at the time of the contract
5. Level of management effort applied to the contract by the principal agent

These factors were incorporated into the research from the sources indicated in Table 6.6.

TABLE 6.6: Incorporation of external factors into research.

FACTOR	METHOD OF INCORPORATION
Contract value	Contract documentation
Location of contract	Contract documentation
Age of company	Registrar of Companies
Number of permanent employees	Principal agent
External management	Questionnaire

The primary data obtained from the questionnaire was nominal, with the majority of questions requiring a yes/no answer. Respondents were offered an opportunity to provide comments for all questions. Data related to time was collected on an arithmetic five-point scale of 1,2,4,8,or 'other' units. Units of weeks or months were used. Questionnaire questions were nested. Primary questions for each of the sections of the questionnaire were supported by secondary questions. The data was captured and analysed in the Statistical Package for the Social Sciences, which is commonly known by the acronym SPSS.

Two levels of analysis are carried out on the data. Firstly, the percentage distributions of the responses to the performance indicators used in the survey are analysed. For these ABE and non-ABE response are compared. The second level of analysis involved statistical tests of the significant of the differences that result in the bivariate cross-tabulations. For this analysis simple X^2 test and T-test were used. (SPSS 1997)

The X^2 non-parametric test produced statistically acceptable results on the data. One weakness of the data lies in the size of the sample, which is not large enough to meet the minimum cell requirements in all cases. As a result, some of the observed differences may or may not have been captured by the X^2 as statistically significant. The X^2 results are therefore examined with the percentage differences shown in the tables of bivariate analysis in section 6.3.

The T-test was used to assess the significance of the differences in ABE and non-ABE performances. For this test, seven performance scores were calculated, one for overall performance and one for each group of factors for which information was collected. The use of these scores for groups of performance indicators and for overall assessment minimizes the effects of small samples encountered by the X^2 test.

As with the research into re-directed and cancelled contracts, this is the first structured research effort to review contractor performance under the APP. Once the purpose of the research had been clearly explained to the respondents they participated willingly and with interest. Because the APP had not been formally reviewed prior to this research, respondents freely engaged the questions in the questionnaire, and introduced discussion of matters of interest that were not covered by questions.

The participation in the research by both Departmental project managers and appointed principal agents provided a wider range of data than could have been obtained from interviews with only one of these. Project managers have knowledge of contractual and performance matters. Principal agents have knowledge of management and on-site performance due to their frequency of visits to the sites.

All respondents received the questionnaire prior to the interview taking place. No difference was found in the quality of data between the personal interviews and the telephone interviews.

All of the respondents answered all the primary questions in the questionnaire. The level of response to the secondary questions was variable. The author proposes that the secondary question opened lines of enquiry that had not previously been considered by the respondents because they were outside their 'normal' sphere of oversight. The variable response to the secondary questions has not reduced the author's confidence in representing the main findings of the research. The author proposes that this experience does, however, illustrate that project management and principal agent functions should be reviewed by the Department to bring them in line with the broad oversight requirements of the APP.

In the light of the above the data are presented with confidence that they accurately represent the experience of the execution of the contracts in the sample.

The author intended to develop control data through cross-tabulated analysis of the five external factors identified in Table 6.6 (contract value, contract location, company age, number of permanent employees, and external management contribution). This was not successful in all cases. Generally, the data obtained appears too small for further cross-tabulations or elaborate parametric tests on four of the five proposed factors. The first four of these yielded insufficient data for analysis as indicated below:

1. **Contract value:** Accurate data was obtained for all contracts in the sample. The size of the sample did not, however allow for analysis using this variable as a control.
2. **Location of the contract:** The contract documentation did not provide sufficiently specific descriptions to determine 'urban' or 'rural' locations. The reference definitions were obtained from the standard place name classification of the Department of Constitutional Development. Classified locations could not be determined from Department records for all contracts in the sample, and control variable analysis was consequently not performed.
3. **Age of the company:** A list of company names was compiled from Departmental records and submitted for analysis to the Registrar of Companies in Pretoria. The Registrar was not able to identify all companies from records held. As a result this data could not be used for control variable analysis. The authors inability to obtain data on some companies from the Register identifies a matter of procedural concern for the implementation of the APP [1].
4. **Number of permanent employees in companies:** Neither the project managers nor the principal agents were able to confidently provide data. Their knowledge of company sizes was restricted to their observations of companies on site. They could not accurately indicate the full complement of permanent employees for companies. In the absence of accurate data this factor was not analysed as a control variable.

Data on external management contribution was obtained for all contracts through questions in the questionnaire. Discussion of this analysis is given below, but the size of the sample precluded cross tabulation analysis.

The author contends that collection of reliable data on these factors will allow the Department to refine the analysis and understanding of the impact of the APP. It is recommended that these factors are included in future real-time data collection by The Department.

[1] One of the four key principles underpinning the reform proposals in the Green paper on Public Sector Procurement Reform in South Africa is to ensure good standing of tenderers in terms of service charge and tax obligations. The in-ability to obtain data in all of the companies in the sample from the Register suggests that compliance with this key principle is not always adhered to. The author recommends that this aspect of contract management be reviewed by the Department.

6.4 PRESENTATION AND INTERPRETATION OF RESULTS

6.4.1 General

The sub-hypothesis is tested below under the following headings, using data collected in the structured survey:

- Time frames;
- Management;
- Mobilization of contract securities;
- Labour;
- Safety; and
- Product quality.

The reporting presents results and observations of ABE and non-ABE performance derived from bivariate analysis of each factor. The statistical strength of the observations are assessed through the reporting of the results of the X^2 test and T-test for each factor. The level of significance selected for the X^2 and T tests is 5%. Relationships of data at $p<0,05$ and $p<0,01$ are discussed.

In the presentation of results the bivariate analysis of all questions in the questionnaire is presented, with some indicative analysis. Secondly, the statistical significance of the observed differences in performance between ABEs and non-ABEs is reported for selected primary questions of the questionnaire. The results are derived from the application of the X^2 test. Results are also reported for the application of the T-test in order to test the significance of the observed differences between ABEs and non-ABEs for all the selected variables.

The author is confident that this structure of analysis provides indicative and statistical evidence for testing the hypothesis. The analysis also provides differing levels of data interpretation, which can be used to consider the relationships, which are revealed for a range of management purposes by the Department.

6.4.2 Time Frames

Tables 6.7, 6.8 and 6.9 presents the comparative bivariate analysis of the primary questions from the structured survey relating to time factors, the results of the X^2 tests to assess the difference in performance between ABEs and non-ABEs and the results of the T-test respectively.

Commencement of contracts

The data show that 30% of all contracts in the sample did not start on time. Table 6.7 indicates that ABEs appear to be twice as likely to start late (42%) as non-ABEs (20%). The data suggest that where there is slippage in the start of a contract, it is likely to start between four and eight weeks late. ABEs have a greater tendency to longer extensions of start dates that non-ABEs. The latter appear more likely to start within fours weeks of due start date if they are late.

The dominant cause for late start by ABEs is recorded as delay in providing sureties, which is the recorded reason for half of the late start ABEs. The dominant cause for late start by non-ABEs is delay due to the Department's contract arrangements (contracts delays, site hand-over delays, and changes in specifications). No contract price adjustments or penalties were identified as a result of delays in starting.

Site establishment

The data in Table 6.7 indicates that over 90% of non-ABEs are judged to establish site quickly and efficiently once a contract has started. The data suggest that ABEs appear to be generally slower to establish a site, with 32% of the sample of non-ABEs not doing it so quickly and efficiently.

Work programme

The data in Table 6.7 suggests that ABEs show a slightly greater degree of adherence to contract time once they have started than non-ABEs. ABEs time slippage appears generally to be less than 4 weeks. ABEs are less likely than non-ABEs to work extra hours during the week, or to work over weekends.

The data suggests that most non-ABEs whose programme shows time slippage, are between 4 and 8 weeks behind at peak slippage on their contract. The responses to the length of any resulting over-run of contracts are inconclusive due to the very small number of contracts involved.

Submission of payment certificates.

Submission of payment certificates is a very important activity for SMMEs because it directly affects cash flow, and hence the sustainability and potential for growth of a company. Table 6.9 shows that over one third of ABEs (36,89%) failed to submit their certificates timeously. All but one of the non-ABEs submitted on time.

TABLE 6.7: Structured survey bivariate analysis of questions on time factors.

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Contractor started on time?						
Yes	11	57,9	20	80,0	31	70,5
No	8	42,1	5	20,0	13	29,5
If start was late, how late?						
Less than 4weeks	*2*	*25,0*	*3*	*60,0*	*5*	*38,5*
4-8 weeks	*4*	*50,0*	*2*	*40,0*	*6*	*46,2*
More than 8weeks	*2*	*25,0*			*2*	*15,4*
Number of cases	*8*	*100,0*	*5*	*100,0*	*13*	*100,0*
Cause of delay						
Delayed sureties	*4*	*50,0*			*4*	*30,8*
Staff problems	*3*	*37,5*			*3*	*23,1*
PWD delays			*4*	*80,0*	*4*	*30,8*
Other problems	*1*	*12,5*	*1*	*20,0*	*2*	*15,4*
Number of cases	*8*	*100,0*	*5*	*100,0*	*13*	*100,0*
Established site quickly and efficiently						
Yes	13	68,4	23	92,0	36	81,8
No	6	31,6	2	8,0	8	18,2
Contractor kept to programme						
Yes	9	75,0	18	72,0	27	73,0
No	3	25,0	7	28,0	10	27,0
Length of slippage (work progress)						
Less than 4 weeks	*2*	*66,7*	*3*	*42,9*	*5*	*50,0*
4-8 weeks			*5*	*57,1*	*4*	*40,0*
More than 8weeks	*1*	*33,3*			*1*	*10,0*
Number of cases	*3*	*100,0*	*7*	*100,0*	*10*	*100,0*
Completed contract within allowed time						
Yes	9	75,0	21	84,0	30	81,1
No	3	25,0	4	16,0	7	18,9
Length of overrun						
Less than 4 weeks			*1*	*25,0*	*1*	*14,3*
4-8 weeks	*1*	*33,3*	*2*	*50,0*	*3*	*42,9*
More than 8 weeks	*2*	*66,7*	*1*	*25,0*	*3*	*42,9*
Number of cases	*3*	*100,0*	*4*	*100,0*	*7*	*100,0*
Contractor worked extra hours						
Never	7	58,3	15	60,0	22	59,5
Occasionally	3	25,0	7	28,0	10	27,0
Frequently			1	4,0	1	2,7
Don't Know	2	16,7	2	8,0	4	10,8
Contractor worked over weekends						
Never	10	83,3	18	72,0	28	75,7
Occasionally	1	8,3	5	20,0	6	16,2
Frequently	1	8,3			1	2,7
Don't Know			2	8,0	2	5,4
Contractor submitted payment certificate on time						
Yes	12	63,2	24	96,0	36	81,8
No	7	36,8	1	4,0	8	18,2
Number of cases	19	100,0	25	100,0	44	100,0

NOTE: data for secondary questions from the questionnaire are italicized.

Result of the X^2 Test and T-test for time factors

It can be inferred from Table 6.8 that in general ABEs tend to start contracts later that non-ABEs. Once they have started they appear to keep to the work programme more than non-ABEs and to work extra hours during the week and at weekends less frequently than non-ABEs.

TABLE 6.8: X^2 test of the difference between ABEs and non-ABEs contractors on time factors

FACTORS	STATISTICS		
	X^2 value	Degree of Freedom	p-values
1. Did contractor start on time	2,53	1	0,111
2. Established site quickly and efficiently+*	4,03	1	0,044
3. Contractor kept to programs	6,116	1	0,013
4. Completed contract within allowed time	2,223	1	0,135
5. Contractor worked extra hours+	1,074	3	0,783
6. Contractor worked over weekends+	3,861	3	0,104
7. Contractor submitted payment cert on time+**	7,827	1	0,005

+ Over a quarter of all cells in these tests are empty, and therefore the statistics presented for these factors should be interpreted with caution.

* p <0.05; ** p < 0,01

The three factors that show statistically significant differences between ABEs and non-ABEs are as follows:

- Quick and efficient establishment of site (p<0,05) which indicates that ABEs are likely to be slower in establishing sites than non-ABEs.
- Keeping to work programme (p<0,05); which indicates that ABEs are more likely to keep to work programmes that non-ABEs.
- Timely submission of payment certificates (p<0,01); which, at this higher level of probability indicates that ABEs are less likely that non-ABEs to submit payment certificates on time.

TABLE 6.9: T-test results for performance scores of ABEs and non-ABEs on time factors.

Score on time factors	Number of cases	Mean Score	T-Value	Degrees of Freedom	Significance +
ABE	19	38,42	-2,80	42	0,008 **
Non –ABE	25	52,40			

** p< 0,01; + two tailed

The T-test confirms that there is a statistically significant difference between ABEs and non-ABEs for time factors, and that the data relating to these factors support the sub-hypothesis.

6.4.3 Mobilization of Contract Securities

This section presents the analysis of the primary questions from the structured questionnaire regarding factors relating to the mobilization of contract securities by contractors. Tables 6.10, 6.11 6.12 present the comparative bivariate analysis, the results of the X^2 test to assess the difference in performance between ABEs and non-ABEs and the results of the T-test, respectively.

TABLE 6.10: Structure survey bivariate analysis of primary questions on securities factors

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Contractor provided the required security						
Yes	17	89,5	23	92,0	40	90,9
No	2	10,5	1	4,0	3	6,8
Not required			1	4,0	1	2,3
Contractor difficulties in proving security						
Yes	6	31,6	1	4,0	7	15,9
No	13	68,4	22	88,0	35	79,5
Not applicable			2	8,0	2	4,5
Number of cases	19	100,0	25	100,0	44	100,0
Mobilized security on time						
Yes	15	78,9	20	80,0	35	79,5
No	4	21,1	3	12,0	7	15,9
Not applicable			2	8,0	2	4,5
Number of cases	19	100,0	25	100,0	44	100,0
Gave assist in mobilizing security						
Yes	1	5,3			1	2,4
No	18	94,7	23	100,0	41	97,6
Number of cases	19	100,0	25	100,0	44	100,0

Provision of securities

Table 6.10 indicates that 93% of contractors who were required to provide securities (N=43) did so. Non-ABEs appear more likely to provide securities (96% of qualifying contractors, N=24) than ABEs (90%). Those contractors who did not provide securities were assisted by the substitution of a progressive deduction from progress payments in lieu of securities.

Table 6.10 suggests that 17% of applicable contractors (N=42, where "not applicable" contracts are excluded) had difficulties in providing securities. A very small proportion of non-ABEs (4% where N=23) are reported to have experienced difficulties. In contrast 32% of ABEs are reported to have experienced difficulties.

Timely mobilisation of securities

The data in Table 6.10 indicates that 81% of all contractors in the sample raised securities on time i.e. within 21days of award of the tender by the Department. Non-ABEs appear to be able to mobilise securities on time (78% of applicable contracts, N=23) more frequently than ABEs (79%).

Results of the X^2 Test and T-test for contract securities factors

TABLE 6.11: X^2 test of the difference between ABEs and non-ABEs contractors on contract securities factors

FACTORS	STATISTICS		
	X^2 value	Degrees of Freedom	p-values
1. Contractor provided the required security+	1,447	2	0,486
2. Difficulties in providing security+ *	7,201	2	0,027
3. Mobilized security on time+	2,077	2	0,353

+Over a quarter of all cells in these tests are empty, and therefore the statistics presented for these factors should be interpreted with caution.

* $p < 0,05$

The data was insufficient to populate all the cells for all of the factors for this test. The test indicates that the differences observed between ABE and non-ABE contractors in Table 6.10 in respect of providing security are statistically significant ($p<0,05$). It can be generally concluded that ABEs will experience more difficulties in obtaining securities than non-ABEs.

TABLE 6.12: T-test results for performance scores of ABEs and non-ABEs on contract securities factors

Score on time factors	Number of cases	Mean Score	T-Value	Degrees of Freedom	Significance +
ABE	19	25,78	-2,13	42	0,225
Non –ABE	25	28,00			

+ two tailed

The T-test result shows that the observed difference in performance between ABEs and non-ABEs with regard to contract securities factors are generally not statistically significant.

6.4.4 Management Factors

Tables 6.13, 6.14 and 6.15 presents the comparative bivariate analysis of the primary questions from the structured relating sample to management factors, the results of the X^2 test for management factors and the results of the T-test, respectively.

Number of full time employees

Table 6.13 indicates the a proportion (18%) of companies for which respondents could not provide accurate data. From the data which was collected some trends are evident, which should be considered in the light of the evaluation of the quality of this data component of the structure survey made above. In the full sample there is a relatively even spread of company sizes across the ranges 0-10, 10-20 and > 20 permanent employees.

In comparing the types of contractor, it is observed that most ABEs in the sample have fewer than 10 permanent employees and none of the sample ABEs fall in the mid-range size. Non-ABEs are spread across the size range with a concentration in the range of 10-20 employees.

Cash flow, purchasing and credit

The data from the primary questions of the structured survey data in Table 6.13 indicate with respect to management of spending and cash flow that the respondents identified only 14% of all companies as not having managed these aspects well. The high number of 'don't know' responses for the non-ABEs leaves the full picture of comparison between ABEs and non-ABEs in the some doubt for this factor. The ability to manage cash flow may be more-or-less the same between both types of company.

Table 6.13 suggests, with respect to the materials supply and supplier credit data, that those ABEs which experienced problems with supply of material may also have experienced difficulties in obtaining credit with suppliers (5 contractors had problems identified for each question). This suggests that there is a higher risk profile attached to ABEs.

The data in Table 6.13 also reveals different intimacy of knowledge of this aspect between respondents working on ABE and non-ABEs contracts. Of the respondents reporting on non-ABE contracts (16%) did not know management of spending and cash flow. This information was not known by only 1 (5%) of respondents working with ABEs.

Maintaining a drawing register

The data for this factor for the ABE sample is reduced by 16% (3 records) because these jobs were too small to require drawings registers to be kept. A higher degree of lack of knowledge is again exhibited by respondents responsible for non-ABE contracts. For the full sample, there is an almost even split between those contractors which kept a register (39%) and those which did not (36%). The balance of the sample is tipped to a majority not keeping registers if the 5% held by principal agents are added. Clearly this specified condition of contract is not being met by a large proportion of all contractors in the sample. The ABE contractors are, however, more likely than non-ABEs not to maintain a drawings register.

Working relationships

The data in Table 6.13 indicates a generally low level of negative reaction to contract variations, at 16% of the full sample and 23% of the applicable sample of 37 records.

A relatively high level of 35% of ABEs did not react positively to contract variations, whilst 5% of the applicable non-ABE sample did not react positively. With respect to agreement to final quantities, a lower figure of 8% of the qualifying sample did not agree. All of the finalised non-ABEs in the sample agreed to final quantities. Respondents recorded disagreement by 9% of the finalised ABE contracts.

TABLE 6.13: Structured survey bivariate analysis of primary question on management factors

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
How many full-time employees?						
<10	8	53,3	4	17,4	12	31,66
10-20			9	39,1	9	23,7
>20	5	33,3	5	21,7	10	26,3
Don't Know	2	13,3	5	21,7	7	18,4
Managed spending and cash flow						
Yes	14	73,7	19	76,0	33	75,0
No	4	21,1	2	8,0	6	13,6
Don't Know	1	5,3	4	16,0	5	11,4
Supplies problem resulting from non-payment						
Yes	5	26,3	1	4,0	6	13,6
No	11	57,9	22	88,0	33	75,0
Don't Know	3	15,8	2	8,0	5	11,4
Difficulty obtaining credit from suppliers						
Yes	5	26,3	1	4,0	6	13,6
No	11	57,9	17	68,0	28	63,6
Don't Know	3	15,8	7	28,0	10	22,7
Maintained a drawing register						
Yes	4	21,1	13	52,0	17	38,6
No	8	42,1	8	32,0	16	36,4
Don't Know	2	10,5	4	16,0	6	13,6
Not applicable	3	15,8			3	6,8
Principal agent	2	10,5			2	4,5
Maintained good relations with Architects staff						
Yes	16	84,2	24	96,0	40	90,9
No	2	10,5	1	4,0	3	6,8
Not Applicable	1	5,3			1	2,3
Reacted positively to variations by Architect						
Yes	11	57,9	19	76,0	30	68,2
No	6	31,6	1	4,0	7	15,9
Not Applicable	2	10,5	5	20,0	7	15,9
Agreed to final quantities without dispute						
Yes	13	68,4	21	84,0	34	77,3
No	3	15,8			3	6,8
Not finalized	3	15,8	4	16,0	7	15,9
Number of cases	19	100,0	25	100,0	44	100,0

Results of the X^2 test and T-test for management factors

It may be surmised from Table 6.13 that, in general, ABEs tend to have fewer than 10 full-time employees, whilst non-ABEs tend to have more than 10. ABEs have more supply problems than non-ABEs. ABEs appear to have more problems than non-ABEs in maintaining drawings registers, and they tend to exhibit less positive reactions to variations and additional work required.

TABLE 6.14: X^2 test of the differences between ABE and non-ABE contractors on management factors.

FACTORS	STATISTICS		
	X^2 value	DF	p-values
1. How many full-time employees+*	10,395	3	0,015
2. Managed spending and cash flow+	2,451	2	0,293
3. Supplier problem resulting from non-payment+	5,823	2	0,054
4. Difficulty obtaining credit from supplies+	4,824	2	0,089
5. Agreed to final quantities without dispute+	4,286	3	0,117
6. Maintained a drawing register+ *	9,795	3	0,044
7. Maintained good rel with Architects staff+	2,155	2	0,340
8. Reacted positively to variations by Architect+*	6,347	2	0,041

+Over a quarter of all cells in these tests are empty, and therefore the statistics presented for these factors should be interpreted with caution.

- $p < 0,05$

The X^2 test results in Table 6.14 results indicate that three of the factors show statistically significant differences between ABEs and non-ABEs as follows:

- In the size of full-time employees complements ($p<.05$) ABE enterprises are shown to be generally smaller than non-ABE enterprises, with over half having fewer than 10 full time employees; and non-ABEs tend to range in size from 10 to 20 full-time employees.
- In the keeping of drawings registers ($p<0,05$) at least half of the non-ABEs are likely to do so, whilst less than a quarter of ABEs are likely to do so.
- In reacting to variations and additional work requirements ($p<0,05$) ABEs are likely to react negatively in almost one case out of three, whilst non-ABEs are rarely likely to react negatively.

TABLE 6.15: T-test results for performance scores of ABEs and non-ABEs on management factors

Score on time factors	Number of cases	Mean Score	T-Value	Degrees of Freedom	Significance +
ABE	19	53,15	-2,12	42	0,,047*
Non –ABE	25	64,80			

* $p < 0,05$; + two tailed

The T-test shows that the observed differences in performance between ABEs and non-ABEs with regard to management factors are statistically significant.

6.4.5 Labour Factors

Table 6.16, 6.17 and 6.18 presents the comparative bivariate analysis of the questions from the structural survey relating to labour factors, the results of the X^2 test for labour factors and the T-test results, respectively.

The data reported in this section reflect varying levels of neutral answers (i.e. "don't know") by respondents. The greatest level of lack of knowledge by respondents occurs in respect of contracting relationships between the contractors and their employees. For this factor, 44% of respondents have insufficient knowledge to report. The data indicates a clear trend showing that respondents in ABE projects have a higher degree of knowledge of all the labour questions asked in the structured survey than the respondents reporting on non-ABE projects.

Mobilisation of personnel and labour

The data in Table 6.16 indicate that at least 91% of all contractors in the sample mobilized suitable personnel for their contracts. The data suggest a marginally poorer performance by ABEs, but these results may be sensitive to the single respondent who was unable to clearly answer this question.
More labour was hired locally than was brought in by the contractors in over two thirds of contacts in the sample (67%). In this practice ABEs hired the majority of labour locally in 83% of contracts while non-ABEs did so in 56% of contracts.

An observed characteristic of the contracts in the sample is illustrated by the data in Table 6.16 is the high proportion of labour which is hired only for the contract. In 63% of the projects in the sample this is reported. Unfortunately, in 14% of the projects respondents did not know this information, and the sample strength is therefore reduced. The proportion of contracts rises to 73%, almost three quarters, of the sample if the "don't knows" are excluded.

The data indicate that ABEs appear to be more likely to hire labour for the contract only (67% of the full sample, 80% of known cases, N=15) than non-ABEs (60% of the full sample, 68% of known cases N=22). The data suggest that local temporary employment was created through the contracts sampled. In recording this employment only 3 respondents (7%) were able to positively report the existence of formal contracts between contractors and employees. There is a high level of neutral response to this question by respondents, with over half (56%) of the respondents reporting on non-ABE contracts having no knowledge of this aspect.

In spite of these high levels of neutral responses, 72% of ABE contractors are recorded positively as not having formal contracts with employees. Respondents report that 32% of non-ABE contractors are known not to have entered into formal contracts with employees.

Employee training

Table 6.16 indicates the extent to which contractors in the sample are recorded as having submitted employees for training.

Over half of the contractors in the full sample (56%) did not submit employees for external training. Of the sample, 16% of contracts are reported by respondents as not being applicable for external training and 7% provided neutral answers. Thus in 73% of applicable contacts for which training submission is reported, and in 67% of the applicable sample of contracts, employees were not submitted for external training.

Respondents reported that 80% of the applicable, known ABE contracts did not submit employees for external training. Reporting of this for non-ABEs indicates a level of 67%.

Table 6.16 indicates that less than half of the contractors in the full sample (47%) provided for on-the-job training. A high level of neutral reporting (24%) of non-ABE contracts unfortunately reduces the comparative value of these data. The Table suggests, however, that ABEs and non-ABEs tend to operate at generally the same level (44% and 48% respectively) in providing on-the-job training.

Labour unrest

Table 6.16 indicates labour unrest (9%) in the full sample. ABEs are reported to have had no unrest for 89% of contacts, whilst non-ABEs are reported to have been free of unrest for 76% of projects. Respondents returned neutral answers for 16% of non-ABE contracts.

TABLE 6.16: Structured survey bivariate analysis of questions on labour factors.

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Contractor mobilized suitable personnel						
Yes	16	88,9	23	92,0	39	90,7
No	1	5,6	2	8,0	3	7,0
Don't Know	1	5,6			1	2,3
Contractor hired the majority of labour locally						
Yes	15	83,3	14	56,0	29	67,4
No	2	11,1	10	40,0	12	27,9
Don't Know	1	5,6	1	4,0	2	4,7
Contractor hired labour for the contract only						
Yes	12	66,7	15	60,0	27	628
No	3	16,7	7	28,0	10	23,3
Don't Know	3	16,7	3	12,0	6	14,0
Contractor submitted employees for external training						
Yes	3	16,7	6	24,0	9	20,9
No	12	66,7	12	48,0	24	55,8
Don't Know	2	11,1	1	4,0	3	7,0
Not Applicable	1	5,6	6	24,0	7	16,3
Contractor submitted employees for on-the-job Train						
Yes	8	44,4	12	48,0	20	46,5
No	9	50,0	6	24,0	15	34,9
Don't Know	1	5,6	6	24,0	7	16,3
Not Applicable			1	4,0	1	2,3
Contractor had formal contracts with employees						
Yes	13	72,2	3	12,0	3	7,0
No	5	27,8	8	32,0	21	48,8
Don't Know			14	56,0	19	44,2
Any labour unrest						
Yes	2	11,1	2	8,0	4	9,3
No	16	88,9	19	76,0	35	81,4
Don't Know			4	16,0	4	9,3
External effort to assist in labour unrest						
Normal			1	50,0	1	25,0
Above normal	2	100,0			2	50,0
Not Applicable			1	50,0	1	25,0
Number of cases	19	100,0	25	100,0	44	100,0

Results of the X^2 test and T-test for labour factors

From the above the following general observations are made. Neither type of enterprise is reported to have difficulties in mobilising suitable personnel, but ABEs appear to hire more local labour than non-ABEs. ABEs appear less likely than non-ABEs to provide access to external or on-the-job training for employees. The data report extremely poor employment practices by both types of contractor, with none and 12% of ABEs and non-ABEs respectively having formal contractors with employees.

TABLE 6.17: X^2 test of the differences between ABE and non-ABE contractors on labour factors.

FACTORS	STATISTICS		
	X^2 value	Degrees of Freedom	p-values
1. Mobilized suitable personnel+	1,489	2	0,474
2. Hired the majority of labour locally+	4,343	2	0,113
3. Hired labour for the contract only+	0,815	2	0,665
4. Submitted employees for external training+	3,867	3	0,276
5. Submitted employees for on-the-job training+	4,963	3	0,174
6. Formal contracts with employees+*	7,513	2	0,023
7. Any labour unrest+	3,202	2	0,201

+Over a quarter of all cells in these tests are empty, and therefore the statistics presented for these factors should be interpreted with caution.

* $p < 0,05$

The X^2 test results presented in Table 6.17 indicate that for only one labour factor, formal contracts, there are statistically significant differences between ABEs and non-ABEs ($p<0,05$).

TABLE 6.18: T-test results for performance scores of ABEs and non-ABEs on labour factors

Score on time factors	Number of cases	Mean Score	T-Value	Degrees of Freedom	Significance +
ABE	19	40,52	-3,20	42	0,,876
Non –ABE	25	41,20			

+ two tailed

The T-test shows that the differences in performance between ABEs and non-ABEs observed above are not significant.

6.4.6 Safety Factors

Table 6.19, 6.20 and 6.21 presents the comparative bivariate analysis of the questions from the structured survey relating to safety factors, the results of the X^2 test for safety factors results of the T-test, respectively.

The data reported in this section reflect a high level of neutral answers by respondents. There is a relatively consistent level of lack of awareness or knowledge in about 20% of the sample. This is probably related to the fact that the safety aspects of the works are not the responsibility of the respondents. It may indicate, if the lack of awareness/knowledge occurs for the same respondents across all questions, that some respondents routinely pay greater attention to this aspect than others. The trend reflected by the data is of lower levels of knowledge amongst respondents reporting on non-ABE projects.

Accidents

The data indicates low occurrences of major and minor accidents. No major accidents are identified across the full sample, with one non-ABE project being reported with an unknown status. The data for minor accidents indicates one minor accident across the full sample, which occurred on a non-ABE project.

Over half (53%) of the respondents reporting on minor accidents in ABE contracts were not aware of their occurrence during the contracts. Only one non-ABE contract respondent was not aware of any minor accidents.

First aid facilities

Table 6.19 indicates that just over (53%) of the qualifying contractors in the sample provided first aid facilities on the site. One contractor is reported not to have required such facilities, due to the small size of the contract.

Provisions of the Occupational Health and Safety Act (Act 85 of 1993) requires *inter alia,* that employers, who employ more than five employees at a workplace, provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace. The standard conditions of contract of the Department require that contractors comply with the provisions of the Act. Thus, a quarter of all contractors appear to be in default.

TABLE 6.19: Structured survey bivariate analysis of questions on safety factors.

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Any major accident						
No	19	100,0	24	96,0	43	97,7
Not aware			1	4,0	1	2,3
Minor accidents						
Yes			1	4,0	1	2,3
No	9	47,4	23	92,0	32	72,7
Not aware	10	52,6	1	4,0	11	25,0
Contractor provided suitable First Aid Facilities						
Yes	7	36,8	16	64,0	23	52,3
No	8	42,1	3	12,0	11	25,0
Don't Know	3	15,8	6	24,0	9	20,5
Not applicable	1	5,3			1	2,3
Contractor maintained First Aid Facilities on site						
Yes	5	26,3	16	64,0	21	47,7
No	9	47,4	3	12,0	12	27,3
Don't Know	3	15,8	6	24,0	9	20,5
Not applicable	2	10,5			2	4,5
Contractor published Safety Procedure						
Yes	2	10,5	7	28,0	9	20,5
No	13	68,4	10	40,0	23	52,3
Don't Know	4	21,1	8	32,0	12	27,3
Contractor provided safety clothing and equipment						
Yes	5	26,3	13	52,0	18	40,9
No	10	52,6	5	20,0	15	34,1
Don't Know	2	10,5	6	24,0	8	18,2
Not applicable	2	10,5	1	4,0	3	66,8
Number of cases	19	100,0	25	100,0	44	100,0

Given these requirements, the level of respondents' lack of knowledge (recorded at 17% of applicable ABE contracts, and 24% of non-ABE contracts) indicates a high level of disregard for employee safety and low project manager and principal agent safety oversight.

Those contractors who provided facilities generally maintained them in a locked and controlled manner. The data indicates that 64% of non-ABEs provided facilities and the same proportion of the sample maintained them in an appropriate manner. The data suggest that a smaller proportion of ABEs are likely to provide facilities (37%) and 71% (N=5) are likely to maintain them appropriately.

Safety procedures and clothing

The data in Table 6.19 indicate a very low level of knowledge of publishing of safety procedures by respondents. Of those for which an answer was given (N=32) it is recorded that only 28% of contractors published procedures. ABE performance, at 13% of known cases, suggests a very poor performance in comparison to non-ABE performance, at 41% of known cases. The levels of lack of knowledge by respondents for non-ABEs is higher than for ABEs. It appears from the data that full knowledge and reporting by respondents may influence the scale of difference between ABEs and non-ABEs, but would probably not influence the relative performance of the two contractor types.

Table 6.19 indicates, with respect to the provision of safety clothing and equipment that respondents reported that 7% of projects did not require these. Once again, the respondents' lack of knowledge of the qualifying contracts (41 contracts) is high at 20%. The data indicate that over half (55%) of all contractors in qualifying contracts provided safety clothing and equipment.

Results of the X^2 test and T-test for safety factors

The data reported above indicate that there were no major accidents reported in any of the contracts in the sample. The data suggests that non-ABEs tend to do better than ABEs in the provision and maintenance of First Aid facilities, publication of safety procedures and the provision of safety clothing and equipment where required.

TABLE 6.20: X^2 test of the differences between ABE and non-ABE contractors on safety factors.

FACTORS	*STATISTICS*		
	X^2 value	Degrees of Freedom	p-values
1. Any major accident	-	-	-
2. Frequent minor accident ***	13,929	2	0,000
3. Provided suitable First Aid Facilities+	7,108	3	0,069
4. Maintained the First Aid Facilities on site+*	11,151	3	0,010
5. Published Safety Procedure	3,754	2	0,153
6. Provided safety clothing and equipment	6,865	3	0,076

+Over a quarter of all cells in these tests are empty, and therefore the statistics presented for these factors should be interpreted with caution.

$p < 0,05$; *** $p < 0,001$

The X^2 test indicates statistically significant performance differences in two factors:

- In the incidence of minor accidents ($p<0,01$) ABEs are more likely not to have minor accidents than non-ABEs.
- In the maintenance of First Aid facilities ($p<0,05$) non-ABEs are more likely than ABEs to do so.

The X^2 test result for minor accidents should, however, be disregarded as only one incident of a minor accident is reported on in Table 6.19.

TABLE 6.21: T-test results for performance scores of ABEs and non-ABEs on safety factors

Score on safety factors	Number of cases	Mean Score	T-Value	Degrees of Freedom	Significance +
ABE	19	34,73	-2,76	42	0,009*
Non –ABE	25	49,60			

** p <0,01; + two tailed

The T-test shows that the observed differences in performance with regard to safety factors are statistically significant.

The results of the research into these endogenous management factors tend to support the sub-hypothesis. There are observed differences in both the bivariate and X^2 statistics, although only two are shown to be statistically significant by the X^2 test. Overall, the T-test does not confirm the statistical significance of the X^2 results.

6.4.7 Product Quality Factors

Tables 6.22, 6.23 and 6.24 presents the comparative bivariate analysis of the questions from the structured survey relating to product quality factors, the results of the X^2 test for the product quality factors and the results of the T-test, respectively.

All contractors are reported by respondents to have understood the purpose of the contract.

Maintenance of standards

Respondents reported that 84% of contractors maintained the standards specified in the contract. Over a quarter of ABEs (26%) and 8% of non-ABEs did not maintain standards throughout the contract.

Respondents reported that 36% of non-ABEs and 5% of ABEs produced a higher standard of product than that specified in the contract. These levels of performance are reflected in the comparative levels of re-construction of sub-standard work. Respondents reported 47% of ABEs and 28% of non-ABEs had to remove some work due to poor quality.

Material and suppliers

ABEs are reported in Table 6.22 to have used sub-standard materials in 21% of ABE projects. No non-ABEs are reported to have used sub standard materials.

TABLE 6.22: Structured survey bivariate analysis of questions on product quality factors

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Contractor understood the purpose of contract						
Yes	19	100,0	25	100,0	44	100,0
Contractor maintained contract standard						
Yes	14	73,7	23	92,0	37	84,1
No	5	26,3	2	8,0	7	15,9
Rate effort to maintain standard						
Below normal	1	5,6	13	54,2	1	2,4
Normal	5	27,8	7	29,2	18	42,9
Above normal	12	66,7	4	16,7	19	45,2
Not applicable					4	9,5
Contractor Produced a higher standard						
Yes	1	5,3	9	36,0	10	22,7
No	18	94,7	16	64,0	34	77,3
Contractor removed any portion due to poor quality						
Yes	9	47,4	7	28,0	16	36,4
No	9	47,4	17	68,0	26	59,1
Don't Know	1	5,3	1	4,0	2	4,5
Contractor used substandard materials						
Yes	4	21,1			4	9,1
No	14	73,7	25	100,0	39	88,6
Don't Know	1	5,3			1	2,3
Rating of assistance re: use of sub-standard Material						
Below normal	2	10,5	4	16,0	6	13,6
Normal	5	26,3	14	56,0	19	43,2
Above normal	12	63,2	6	24,0	18	40,9
Not applicable			1	4,0	1	2,3
Contractor used the cheapest suppliers						
Yes	3	15,8	1	4,0	4	9,1
No	12	63,2	21	84,0	33	75,0
Don't Know	4	21,1	3	12,0	7	15,9
Rating of external assistance re: use of cheapest materials						
Below normal	1	5,6	16	66,7	1	2,4
Normal	8	44,4	6	25,0	24	57,1
Above normal	7	38,9	2	8,3	13	31,0
Not applicable	2	11,1	25	100,0	4	9,5
Number of cases	19	100,0			44	100,0

This trend is supported by the reporting of the source of material in Table 6.22. Respondents indicated that 16% of ABEs used the cheapest supplier of materials that they could find, whilst 4% (one contractor) of non-ABEs did so. Reporting on this factor has a higher level of neutral answers for ABEs (21%) that for non-ABEs (12%).

Results of the X^2 Test and T-test for product quantity factors

TABLE 6.23: X^2 test of the differences between ABE and non-ABE contractors on product quality factors.

FACTORS	STATISTICS		
	X^2 value	Degrees of Freedom	p-values
1. Understood the purpose of contract	-	-	-
2. Maintained contract standard+	2,707	1	0,099
3. Produced a higher standard*	5,807	1	0,015
4. Removed any portion due to poor quality	1,929	2	0,381
5. Used substandard materials+ *	7,422	2	0,024
6. Used the cheapest suppliers+	2,831	2	0,242

+Over a quarter of all cells in these tests are empty, and therefore the statistics presented for these factors should be interpreted with caution.

* p <0,.05

The X^2 test shows that three factors appear to indicate statistically significant differences between ABEs and non-ABEs.

- In maintenance of contracts standards (p<0,05) the performance of ABEs is significantly lower than non-ABEs, with up to a quarter of ABEs contractors not maintaining contract standards.
- In production of higher standard (p<0,05) one third of non-ABEs appear to produce a higher standard than contract requirements, whilst 95% of ABEs are unlikely to do so.
- In the use of substandard materials (p<0,05), non-ABEs are unlikely to do so at all, whilst more than 1 in 5 ABEs may do so.

TABLE 6.24: T-test results for performance scores of ABEs and non-ABEs on Product Quality Factors

Score on time factors	Number of cases	Mean Score	T-Value	Degrees of Freedom	Significance +
ABE	19	46,31	-3,20	42	0,,003*
Non –ABE	25	58,00			

** p < 0,01; + two tailed

The T-test shows that the differences between ABEs and non-ABEs above in respect of product quality are statically significant (P=0,003).

6.5 RESEARCH FINDINGS

6.5.1 General

The research into completed contracts was conducted through a structured questionnaire in the following areas:

- Time frames;
- Mobilization of contract securities;
- Management;
- Labour;
- Safety; and
- Product quality.

Table 6.25 summarises the areas of research and lists the selected primary questions from the structured questionnaire, which were subjected to tests for statistical significance. The results of the application of the T-test to the groups of primary questions are also recorded in the table for comparative purposes.

TABLE 6.25: Areas where statistical differences were observed between ABE and non-ABE performance

Area of research	X^2 p-value	T-test significance
Time frame		0,008
Contractor started on time	0,111	
Establish site quickly and efficiently	0,044	
Contractor kept to programme	0,013	
Completed contract within allowed time	0,135	
Contractor worked extra hours	0,783	
Contractor worked over weekends	0,104	
Contractor submitted payment on time	0,005	
Securities		0,225
Contractor provided required security	0,486	
Difficulties in providing securities	0,027	
Mobilised securities on time	0,353	
Management factors		0,047
Number of full time employees	0,015	
Managed spending and cash flow	0,293	
Supplies problems resulting from non-payment	0,054	
Difficulty obtaining credit from suppliers	0,089	
Agreement to final quantities without dispute	0,117	
Maintained drawing register	0,044	
Maintained good relations with architects staff	0,340	
Reacted positively to variations by architect	0,041	
Labour factors		0,876
Mobilised suitable personnel	0,474	
Hired majority of labour locally	0,113	
Hired labour for the contract only	0,665	
Submitted employees for external training	0,276	
Submitted employees for on-the-job training	0,174	
Formal contracts with employees	0,023	
Any labour unrest	0,201	
Safety		0,009
Any major accident	-	
Frequent minor accidents	0,000*	
Provided suitable first aid facilities	0,069	
Maintained the first aid facilities on site	0,010	
Published safety procedures	0,153	
Provided safety clothing and equipment	0,076	
Product quality		0,003
Understood the purpose of the contract	-	
Maintained contract standard	0,099	
Produced a higher quality standard	0,015	
Removed any portion due to poor quality	0,381	
Used substandard materials	0,024	
Used the cheapest suppliers	0,242	

*Value should be disregarded as only one minor accident was reported on.

It may be observed from Table 6.25 that at $p<0,05$ the observed differences in performance between ABE and non-ABE contractors are statistically significant with respect to time frames, management factors, safety and quality control. The statistical differences are not significant at this level in respect of the mobilization of securities and labour factors.

The results of a T-test on the overall performance of ABEs on all factors, derived from the full data set, is presented in Table 6.26.

TABLE 6.26: T-test results for overall performance scores of ABEs and non-ABEs on all factors

Overall performance score	Number of cases	Mean score	T-value	Degrees of Freedom	Significance +
ABE	19	238,94	-2,33	42	0,006**
Non-ABE	25	294,00			

**p < 0,01; + two tailed

The T-test indicates that there is statistical significance in the overall performance between ABEs and non-ABEs across all of the factors recorded. The degree of significance (P=0,006) serves to disprove the null hypothesis "that no performance differences exist between ABEs and non-ABEs in general contracts in the price range R100 000 to R2 000 000", and thereby confirms the sub-hypothesis.

6.5.2 Time Frames

General

The author's research into aspects of contractor performance against time frames examined aspects of relevance to the management of the contract. As such, the research focused on aspects such as commencement and completion times, site establishment and adherence to programmes. In addition, the matter of submission of payment certificates is covered, which is relevant to management of cash flow for both the Department and the contractor.

Late contract start

The research probed concerns relating to the ability of contractors to furnish securities and accept hand over of the project site from the Department. The author proposes that records of performance in this first phase of a project illustrate important management capabilities of contractors.

The bivariate analysis of sample data indicates in Table 6.7 that delays in the start of contracts occur frequently in general contracts in the research price range. Almost 30% of contracts start late, and both ABE and non-ABE contractors are liable to start late. The bivariate analysis from the sample suggests that ABEs are more likely to start late, but the X^2 test does not attach statistical significance to this observation. The author contends, therefore, that the Department can anticipate that roughly a third of general contracts having prices below R2 000 000 will start late and that no difference in performance is expected between ABE and non-ABE contractors.

The bivariate analysis suggest that 75% of projects which start late will start within 8 weeks of the planned start date, whilst almost 40% will start within 4 weeks of planned start date. The observed

trends in the data suggest that ABEs which start late tend to start later than non-ABEs. The data records that 25% of late starting ABEs start within 4 weeks of planned start date, whilst 60% of late starting non-ABEs made a start within this period. The level of response to this secondary question in this research questionnaire was not sufficient to conduct the X^2 test. As a result, no statistical significance can be attached to the observation. This aspect of contractor performance therefore remains open to further research to obtain a sample of sufficient size for the application of the more sophisticated techniques.

Recorded difficulties encountered by ABEs, which caused delays, were; mobilisation of security, late completion of previous DPW jobs, lack of adequate human resources at the contractor's disposal, lack of adequate equipment on site (e.g. plant), and financial problems encountered by the contractors.

Reasons presented for the delay in contract starts by non-ABEs were: consultation between head office and regional office leading to late hand-over of site to the contractor, contractor not delivering material to the project site in time, cancellation of contract due to failure by contractor to commence or start within reasonable time thereafter. None were recorded as being due to difficulties in mobilising security.

A common problem to both ABE and non-ABE contractors has been the inability to commence on time due to commitments on other jobs awarded by the DPW. This suggests that these contractors are at times awarded jobs which result in workloads their businesses cannot handle. This does not benefit the APP objectives and neither does it benefit the contractors in any way to be penalised for finishing late.

Variable allowances for late start were found in the research. The management style of different project managers rather than set departmental procedures appears as a determining factor. Reluctance of managers to cancel or re-direct a contract once some progress in the appointment has been made may underly these differences.

The recorded data on factors which created late starts were not adequate for non-parametric testing and no statistical significance can be attached to them. Results show tendencies to differences between ABE and non-ABE contractors, which will be better illuminated if additional research is carried out. The data suggest that ABEs tend to have endogenous business factors causing delays. The identified causes include financial delays and personnel or plant shortages. The identified causes for non-ABE delays are almost entirely exogenous to the enterprises, where the Department has been late due to contract changes or late site hand over. Further research to clarify any differences between ABEs and non-ABEs in this respect is recommended. The author asserts that better knowledge will assist the Department to focus APP adjustments on this part of the project cycle.

The research indicates that any programme of service delivery that is managed by the Department through contracts conforming to the research type and price range is most likely to experience start delays in 30% of projects in the programme. This will have impacts on management focus and effectiveness, and on cash flow planning for the Department. It will also impact on the Departments clients, whose planning for related activities or expenditure will be similarly affected. The author is not aware of research in public works programmes with similar characteristics to this research that provides a benchmark for late start frequencies. Data has not been locally researched for contracts above R2 000 000 let by the Department. The author contends that the level of late starts that has been identified is high.

Site establishment

The research investigated the efficiency of site establishment by contractors once a site has been formally handed over in terms of the contract. The bivariate analysis of research data reported in Table 6.7 suggests that non-ABEs are more effective in this phase of a project. They are indicated to establish a site quickly and efficiently in 92% of researched projects. In contrast, ABEs were evaluated to be efficient in almost 70% of projects. The X^2 test indicates a p-value of 0,044, confirming that this observed difference in performance between the two types of contractor is statistically significant within the $p<0,05$ limit.

The author concludes that once contracts are active ABEs will benefit to a greater extent than non-ABEs from any assistance with site establishment that may be given by the principal agent or project manager.

Contractor adherence to programme and timeous completion of contract

The bivariate analysis presented in Table 6.7 suggests that ABEs are more likely than non-ABEs to keep to programme by a small margin. The data indicate that 75%of ABEs and 72% of non-ABEs in the sample maintained their project programme. The data suggest further that ABEs are likely to contain slippage more effectively than non-ABEs to within 4 weeks. Application of the X^2 test to this data confirmed statistical significance in the observed differences at $p=0,013$ level.

Slow progress in certain stages of the project, faults identified in manufactured products, delays in commencing with the work, unjustifiable absence from site for lengthy periods at a time, and poor workmanship resulted in the observed ABE failures in keeping up with their programmes.

Matters reported which contributed to failure of non-ABEs to keep up with programmes and complete in time were variation to the work and subsequent waiting for the approval of the extended budget, the bankruptcy declaration of a contractor and liquidation during execution of a contractor, and increases in scheduled and non-scheduled rates.

Interpretation of the bivariate data for completion of contract on time, and working extra hours and weekends suggest that non-ABEs perform better (84% finishing on time compared with 75% of ABEs) and make up time lost in their programme more effectively than ABEs. Application of the X^2 test does not indicate statistical significance in these observations. As recorded in the Table 6.8 not all of the cells in these tests are filled, and a larger sample may increase the strength of the observations.

The author concludes that the research suggests that ABEs may manage slippage better than non-ABEs but are less likely to overcome slippage and complete contracts on time. Non-ABEs may improve their project completion performance by working extra hours and weekends more frequently than ABEs.

Whilst the research remains inconclusive, it suggests, through comparison of rates of late start and late finish, that ABEs appear able to improve from 42% late start to 25% late finish. The data for non-ABEs suggest a less dramatic improvement in performance, from 20% late start to 16% late finish. The research data reported in Table 6.7 does not clearly indicate reasons for the relative differences in performance.

The research indicates that approximately 20% of all contracts of this type and price will finish late. This will impact on programme planning and on Department and client cash flow estimates and budgets in a similar manner to that discussed above for late project starts. Because the rate of late completion is lower than that of late start (approximately 20% versus 30% of all contracts) the author reinforces here the recommendations for the introduction of flexible project start management. Any improvement in rates of late start that can be achieved through flexible management techniques will have more than proportional impact on the rate of late finishes due to the observed ability of contractors to reduce contract slippage.

The author's research has not revealed comparative research that can confirm or contradict these conclusions, or that can provide comparisons for the rates of late contract completions. The author recommends that the Department conduct further research in these aspects to confirm the observations and to determine whether there are additional management procedures that may be influenced to change overall performance of contractors in these aspects.

The author proposes that these findings extend the structural understanding of this sector by indicating that project time management problems are not confined only to ABE contractors. The Department and its clients will benefit from any reduction in the scale of late contract completions achieved in the research contact price range.

Submission of payment certificates

The research data collected is relevant for reviewing contractors' management of their cash flow, which is an essential element of sustaining and developing a viable enterprise. The bivariate data in Table 6.7 indicate that almost all non-ABEs can be expected to submit payment certificates timeously (96% of the sample did so). In contrast over one third of ABEs (37%) are likely to be late with submission of payment certificates. The X^2 test confirms the statistical strength of the observed differences in performance to a probability of occurrence of 99,5% (p=0,005). The author has not tested the relationship between poor management of payment certificates and late completion by ABEs due to the small size of data, and the fact that some of the cells in this test were empty.

Results of poor cash flow management are likely to be problems with the purchase of materials and payment of labour. Both of these may prejudice the survival or growth of an enterprise. Comments from participants in the research point to a causal relationship between use of quantity surveyors and timeous submission of payment certificates. Respondents noted that those ABE contractors who did not use quantity surveyors to assist with payment certificate submission were irregular in submissions, suggesting that specialised skills are required in this area. A considerable percentage of ABEs are reported to have relied on quantity surveyors' expertise to make timely submissions.

The author concludes from the bivariate data in Table 6.7 that a greater degree of problem performance is indicated for ABEs in this factor than for late completions (37% versus 25%), and that some ABEs are able to survive despite poor cash flow management. A major improvement in performance therefore appears possible through supporting the employment of quantity surveyors by ABEs. The results are clearly demonstrable to contractors from the data reported here. The author recommends consideration of this motivation by the Department and supports it by indicating that it will provide external input into ABE projects. As such contractors themselves do not need to acquire training or experience and measurable results will be achieved in a short time without attracting time and fee-based costs for contractors. The author anticipates that such action may improve the rate of timeous project completion by ABEs by virtue of improved cash management, and by improving enterprise viability This may have a knock on effect in improving timeous start rates, where contractors win consecutive tenders from the Department.

General data relationships

The results of the application of the T-test are presented in Table 6.10 and summarised in Table 6.25. The level of significance of 0,008 confirms that the observed differences in performance between ABEs and non-ABEs in the data are statistically significant.

What was not tested in the research was whether or not the contract period which was set is realistic. The fact that both ABEs and non-ABEs alike experienced late starts, suggests that research is required

to establish what a realistic contract period for contracts in this value range should be. Watermeyer and Band (1994) identified "contract duration" as being a SMME barrier to entry, but assigned a low value to it. The weighting assigned to this should be increased in the light of the current research.

6.5.3 Contract securities factors

In this section the author discusses the data presented in section 6.3.3.3. The issue of provision of project securities has been recognised by a number of researchers. The author designed part of the data collection to test the strength of the generally held concepts under the experience of the APP.

The provision of contract securities has always been regarded as being an SMME barrier to entry. Watermeyer and Band (1994) in their survey rate the provision of sureties as being the highest ranked barrier to entry. This barrier in their research was ranked higher than "lack of financial resources" and "inability to obtain credit."

The reporting of bivariate analysis in Table 6.10 suggests that ABEs are more likely to experience difficulties than non-ABEs in providing securities. Proportions of contractors who experienced difficulties are recorded as 32% and 4% respectively. The application of the X^2 test indicated statistical significance in the observed differences, where p=0,027[2].

This difference between ABEs and non-ABEs does not appear to influence the overall performance of the two types of contractor. The bivariate analysis reported in Table 6.10, suggests that observed occurrences of provision of securities occur almost equally by both types of contractor, in approximately 90% of cases. The application of the X^2 test does not indicate statistical significance to the observed minor differences between contractor types. The author therefore concludes that levels of provision of securities are almost the same for the two contractor types.

More importantly, the author concludes that both ABEs and non-ABEs are equally likely to provide securities on time, with about 16% of all contractors not being on time. This conclusion is derived from the observations indicated by the bivariate analysis and by the lack of statistical significance in the observed differences (p=0,353) indicated by the X^2 test. The Department can therefore anticipate delays in its scheduling of projects within a programme or projects up to this stage in the project cycle.

Research data report that some problems have been experienced with continuity between projects, where contractors' guarantee capacity has been tied up in an existing, incomplete project. Some flexibility has been shown by the Department to resolve these occurrences; in particular by creating a retention reserve from cash flow. Whilst solving the problem in the short term, the impact of this practice on contractor cash flow viability needs further investigation.

[2] Not all the cells in the test were populated, and the author recommends additional research to confirm this finding.

The author submits that the observations above advances the understanding of issues related to the provision of securities because comparative research has been done. The X^2 test suggest that ABEs are more likely to experience difficulties in providing securities. However, no differences between ABE and non-ABEs are observed in respect of actually providing the security on time. Thus ABEs appear to be able to provide securities, even through some may experience some difficulties. Ultimately, the performance between the two types of contractor does not differ. The T-test result for these factors confirms this. (A significance level of 0,225 is reported in Table 6.12 and summarised in Table 6.29.)

The research findings do not support the outcomes of the survey reported on by Watermeyer and Band (1994) which ranked the provision of sureties as being the most important barrier to new entrant SMMEs to overcome. The research was however conducted on a closed sample of contractors who had in fact been awarded contracts and any conclusions should as a result be viewed with caution. The author suggests that the strategy of reducing the levels of surety between 2,5 and 5% from 10% in this value range of contracts may be the reason for this finding. The author accordingly proposes that the Watermeyer and Band rating for this item be down graded should the levels of sureties called for be in accordance with government's 10 Point Plan (MOF and MOPW, 1995).

6.5.4 Management Factors

The author researched general aspect of management, seeking to establish relationships to overall performance. Although the sample size does not support the exploration of relationships between factors, valid observations are derived.

The observed differences between ABEs and non-ABEs are shown to be statistically significant in 3 of the 8 management factors under the X^2 test, and generally by the T-test. They are thus considered to generally support the sub-hypothesis.

The comparative nature of the research has, however, provided a clearer picture of the comparative performance of the types of contractor. The three factors, on which the X^2 test revealed statistically significant relationships, are not considered to be the most critical of all of the eight factors researched. They are the size of the firm, maintenance of a drawings register and positive reaction to variations by the architect.

No statistical differences in performance between the types of contractor are identified by the X^2 test for management of spending of cash flow, supply problems resulting non-payment, difficulties obtaining credit from suppliers, or agreeing to final quantities without despute. The bivariate analysis suggests differences in ABE and non-ABE performance. The X^2 test, however, must be interpreted with caution.

The author cautions that the T-test result strengthens the observed differences indicated for supply problems and credit difficulties. Inconclusive statistical relationships are revealed, and impacts of these factors on project time management and quality of output deserve further research. The author comments that a high proportion of ABE contractors did not submit payment certificates on time because they did not employ quantity surveyors. A causal relationship may be postulated between this and credit and materials supply problems, because the latter are attributable to poor cash flow management. The author recommends additional research to explore the nature, if any, of such causal relationships. The author further recommends that the impact of introducing quantity surveyors to ABEs who do not employ them may have measurable impacts through improved materials supply and delivery. Such improvements will improve timeous project completions, and may improve product quality.

6.5.5 Safety Factors

The author concludes that the comparative research has shown, with the limitations of the data spread due to sample size, that ABEs do not always perform below non-ABEs in these management factors.

With respect to both types sets of contractor, safety requirements were not adhered to sometimes because they were perceived to be unnecessary. This was the case in most renovation projects, where most contractors involved provided only hard-hats. Sometimes this was influenced by the fact that some sites already had these facilities, such as police stations and SANDF bases. Some contractors, however, just neglected to provide first aid facilities on site.

It should be noted here that a considerable number of the DPW project managers could not respond to questions on safety requirements and it necessitated contacting principal agents, some of which did not know either.

Watermeyer and Band (1994) identified "compliance with safety act" as a SMME barrier to entry, but assigned a low weighting to it. The research confirms their findings.

6.5.6 Labour Factors

The author sought to explore the structure of labour management and relations in this component of research.

Data on local hiring, although not indicated by X^2 to be significantly different between contractor types, may indicate that ABEs tend to be locally based and/or have a smaller permanent establishment which is brought into projects. Further research to test the correlation between contract type and price may provide stronger explanations.

Respondents reported that the ABEs experiences of labour unrest were a result of non-payment of wages. In some of the contracts the labourers subsequently refused to continue with the work.

Whilst some non-ABE contractors neglected to submit their employees to any training whatsoever, a considerable proportion of them had contracts in which training was not part of the specifications, or otherwise that their contracts duration was too short and did not accommodate for training.

The considerable difference in performance between contractor types with respect to employment contracts is the only observed difference to which statistical significance is attached by the X^2 test (p=0,023). Those non-ABE contractors who were reported not to have entered into formal employment contracts with their employees are said to have used casuals through "word-of mouth"' agreements.
The research findings are that ABEs in the sample have fewer than 10 permanent employees. This finding is consistent with the findings of the BCI survey (1996) which found that "emerging contractors" on average employed 7,3 staff members.

6.5.7 Product Quality Factors

The research found within the limited data set statistically significant differences in the quality produced between ABEs and non-ABEs in two factors, being the production of higher standards than the contract demanded, and the use of substandard materials.

In the former, the bivariate analysis reported in Table 6.22 indicates that 36% of non-ABEs did so, compared with 5% of ABEs. Soderlund and Schutte (1998) make the observation that *quality assurance, with its associated procedural system, quality control, is a culture which to be successful, must be inculcated into an organisation over time.* ABEs in the main are companies which have only recently been formed. This may be the reason for their apparent inferior performance. On the Malmesbury Prison contract where ABEs performed at the subcontract level and were supervised by an experienced large contractor, 78 % of the respondents to a survey (Soderlund and Schutte, 1996) rated quality as being good, 11% as moderate and 11% as poor. The author contends that given time there is no reason for ABEs to perform differently to non-ABEs.

The research did not, however, provide information which could be used to determine the impact of the substandard quality on either the contractor or the Department. Substandard quality can affect a contractor's profit if such quality necessitates the removal and reconstruction of portions of the works.

The acceptance by the principal agent of substandard quality on the other hand, can lead to increased maintenance or repair costs. Any increased maintenance or repair costs will cause any financial premiums associated with the APP to increase. It is, however, not possible from the data to link substandard quality to the removal of portions of the works. As a result, no inference can be made as to the impact of observed differences in quality on the APP.

With respect to the use of sub-standard materials, Table 6.22 indicates that 21% of ABEs are adjudged to have done so, while no non-ABEs are recorded as having done so. In contrast to the above the author proposes that this is a management aspect that can be changed in the short term. Further, although there is no statistically indicated relationship between performance in this factor and the use of quantity surveyors, the introduction of these professional to ABEs who do not use them may have a positive impact on relative performance in this factor. The author proposes that controlled associated research could rapidly provide strong statistical data. The relationships are measurable, and this research provides a base data set against which to evaluate any change.

6.6 CONCLUSION

The research in this chapter is shown to partially support the sub-hypothesis:

> **Performance differences exist between Affirmable Business Enterprises and Non-Affirmable Business Enterprises in building contracts in the price range R100 000 to R200 000.**

The establishment of differences in performance between ABEs and non-ABEs suggest that notwithstanding the increased procurement opportunities that were offered to ABEs via the Affirmative Procurement Policy, supply side constraints and overall management limitations impacted negatively on their ability to perform to the same level as their non-ABE counter parts. This finding partially support the conclusion that the principal hypothesis tested in the chapter is confirmed, viz:

> **Increased procurement opportunities to Affirmable Business Enterprises via governments Affirmative Procurement Policy are a necessary, not sufficient condition for the full enablement of Affirmable Business Enterprises in the construction sector.**

The author contends that the recommendations for interventions in the contract management process indicated above will provide substantive support to improving ABE performance and therefore sustainable enterprise growth. The author reinforces here the recommendations made for further research to accompany the interactions.

CHAPTER 7

IDENTIFICATION OF SUPPLY SIDE CONSTRAINTS

7.1 INTRODUCTION

In the introduction and review sections of chapter 6 the author identified the reformed procurement regime and the principles underlying the structure of reform being implemented. In this chapter the consideration of the impact of the APP is extended to cover components of supply side measures. The following sub-hypothesis is tested:

> **Affirmative Business Enterprise participation varies according to different construction sub-sectors entry level thresholds**

7.2 RECENT SOUTH AFRICAN SUPPLY SIDE INITIATIVES

Recent supply side initiatives which are aimed at addressing SMME constraints identified in the Reconstruction and Development Programme include the establishment of:

- the Small Business Council and the Ntsika Enterprise Agency in terms of the Small Business Act of 1996;
- the Centre for Small Business promotion within the Department of Trade and Industry;
- the Khula Credit Guarantee scheme ; and
- the Emerging Contractor Development Programme within the Department of Public Works.

The Centre for Small Business Promotion, located within the Department of Trade and Industry, embarked during the latter part of 1997 upon programmes such as the National Procurement Support Programme and the Business Referral and Information Network (BRAIN). The Department of Public Works' Emerging Contractor Development Programme, which seeks to provide emerging contractors with access to specific categories of work opportunities and to training and support programmes, became fully operational only during the latter part of 1998. It was initiated in each of the Department's regional offices.

Procurement reform preceded the implementation of supply side measures, and the period covered by this study in the main preceded the introduction of the supply side measures indicated above.

7.3 GENERAL APPROACH TO TESTING THE HYPOTHESIS

The introduction of various supply side initiatives aimed at addressing SMME constraints is introduced above. In Chapter 5, the author established that participation in the general sub-sector is significantly higher than in the civil, electrical and mechanical sub-sectors. The particular experience of participation across all construction sub-sectors in the Department of Public Works contracts need to be explored. The author conducted extensive structured research to identify particular factors which

may present obstacles to, or restrict entry of ABEs into all the construction sub-sectors. Levels of participation by ABEs in Prime (Minor) contracts is characterized in Chapter 5.

The research presented in this chapter sets out to identify such obstacles, which are termed entry level thresholds.

The research directed at understanding business practices and decisions was directed in two areas. The first area seeks to understand the role of sub-sector Associations in the establishment of thresholds, and specifically whether the Associations themselves impose participation criteria which act as barriers to entry to a sub-sector for ABEs. The focus of this research did not require internal knowledge of the business operations of individual enterprises. It was conducted through interviews with association representatives.

The second area of research was directed at understanding business practices and decisions made by companies to operate in a particular sector or sectors. The conduct of interviews with project managers and principal agents reported in chapter 6 clearly indicated that external knowledge of business practice of contractors is limited to the central requirements of the implementation and evaluation of contracts on site. The respondents in that research had very limited knowledge of the structure or operation of enterprises off the contract sites.

The focus of research to test this hypothesis required internal knowledge of the business operations of the enterprises. The research was therefore conducted directly with owners or senior managers in contracting enterprises, through a structured questionnaire. The author's literature research has not identified any other examples of structured questionnaires of similar complexity aimed at SMME business owners and senior managers.

7.3.1 Definition of entry level thresholds

It will be useful to define the concept of entry level thresholds in order to focus the research. The word 'threshold' is defined (Brown, 1993) as a doorway, gate or entrance. It is a point or place over (or through) which movement occurs from one place to another, generally from 'outside' to 'inside' or vice versa. It is also an obstacle or stumbling block.

The word is used metaphorically in this research and refers to the point beyond which sub-sector tenders from the Department can be successfully won and completed. The threshold is made up of a number of factors which carry different weights. For the research, the following groups, based on a study by Watermeyer and Band (1994) and the author's experience, were considered to be significant:

- personal experience in the sub-sector;

- specialised technical expertise and work processes;
- access to finance and credit;
- guarantees and warrantees;
- access to plant and equipment;
- capitalisation requirements;
- established relationships with sub-contractors and /or suppliers;
- steady availability of projects; and
- compliance with statutory requirements.

It is anticipated that different combinations of these factors will create a 'capacity' which a company or enterprise must possess before attempting to tender for work in a sub-sector.

For the purposes of this research, therefore, the entry level thresholds are defined as:

> "those business factors which, when combined, create the criteria for participation in a sub-sector which an enterprise must have the capacity to satisfy in order to successfully tender and operate".

7.3.2 Methodology outline : the role of sub-sector Association interviews in the establishment of thresholds

The author considered the role of sub-sector Associations in the matter of formal and informal participation barriers. General discussions were held with representatives of the following associations:

1. Building Industry Federation of South Africa.
2. South African Federation for Civil Engineering Contractors.
3. National Black Contractors Association and Allied Trades.
4. Electrical Contractors Association.

The interviews were conducted in August and September 1998.

The discussions with the representatives were directed at determining whether any of the Associations impose entry criteria on membership which thereby create entry thresholds into a sub-sector. The author sought to understand at an early phase of research whether Associations imposed formal restrictions on participation which would act as external barriers to sub-sector participation for an enterprise.

The external character of any barrier was considered to be the imposition of participation thresholds requirements which are not part of the short term management activities within contracting

enterprises. These activities are described as the management of the technical activities and outcomes of a contract; the management of the contractual relationship between the enterprise and the client; and the business management of the enterprise.

The author wished to understand whether Associations tend to create additional requirements of a technical, experiential, or financial or managerial nature which a participant would need to satisfy in order to enter a sub-sector.

Interviews were conducted on a face-to-face basis and were structured around five areas of enquiry. The five questions listed below were faxed to each participant prior to the interviews.

1. What are the abilities your organisation requires from a contractor to enter and remain in the industry?
2. Are the above requirements formalised, and if so, where?
3. What other abilities outside those required by your organisation/have you encountered to be a problem for contractors to enter and remain in the industry?
4. What assistance with regard to abilities can your organisation provide to contractors to enter and remain in the industry?
5. General comments.

7.3.3 Methodology outline: structured sub-sector threshold research

The research directed at understanding business practices and decisions (second area of research indicated above) conducted through a structured questionnaire in order to develop improved understanding of the business decisions that impact on participation in particular sub-sectors. The author sought to test the willingness, or propensity, of contractors to enter another sub-sector. The structure of the questionnaire seeks to explore the issues of managing and operating an enterprise from a business perspective. The author has not identified equivalent research in the literature and believes this research perspective to be unique in this field of research.

The research was conducted in the contract value range from R100 000 to R2 000 000.The selection of the sample was based on the criterion that enterprises had been awarded at least one contract in the period from May 1996 to January 1998.

7.3.3.1 The research sample

The research was conducted on a probability sample stratified by firms having ABE/non-ABE status, comprising 51 enterprises of which 13 were ABEs and 38 were non-ABEs (Cochran, 1977). The sample was drawn from a known universe of 101 qualifying contracts let by the Department of Public Works in all provinces. The universe was determined from the records of a comprehensive database, which was in the process of being complied by the Department. The database was completed subsequent to the selection of the sample and a size of the full universe of 210 qualifying contracts was established.

The questionnaires were completed between November 1998 and April 1999. Questionnaires were completed through telephonic interviews in 47 cases. Respondents in telephonic interviews were faxed questionnaires prior to the interview. In some cases more than one interview was required to obtain all data in the questionnaire. In four cases the questionnaire was faxed to respondents, was completed by respondents and returned. The quality of data obtained from questionnaires completed by respondents was comparable to that obtained from telephonic interviews.

The sample of 51 enterprises from the full universe of 101 contracts awarded to enterprises, determined by the availability of contact details for enterprises and the willingness of respondents to participate, was obtained. The length of telephone interviews ranged from 45 minutes to 90 minutes including time for explaining the research background and scope. The derivation of the sample from the universe at the time of sample selection is indicated in Table 7.1 below.

TABLE 7.1 : Derivation of the sample for research into supply side constraints

SAMPLING ACTIVITY	Number	%
Telephone number not registered	44	43,6
Contacted, refused to participate	4	4,0
Contacted, denied DPW contract	2	1,9
Contacted, participated in research	51	50,5
Total records October 1998	101	100,0

Respondents were contacted at the last telephone number held in the records of the Department of Public Works. Where this number was no longer valid, attempts were made to trace companies through the directory enquiry services of the national telephone service provider, Telkom. Where necessary, variations of company spellings were submitted in an effort to obtain current telephone numbers. The proportion of companies that could not be contacted through these means was higher than anticipated, at 44%.

Through this method 51 enterprises were contacted. Of these, 7% (N=4) refused to participate citing lack of time (N=2) or offering no explanation (N=2), and 3,5% (N=2) denied that they had ever been awarded a contract by the Department of Public Works.

A more complex questionnaire than that used for the research reported in chapter 6 was necessary to cover the range of business issues. The complexity and depth of some questions resulted in reluctance to participate by some participants, and the refusal by some potential participants. Where the reasons for the reluctance were addressed by assuring respondents of the research purpose, they participated willingly. The author contends that further research in this field will yield additional valuable data and extend the range of analysis that can be performed. The author proposes that the conduct of such research through interviews with contractors when they are active in a contract will greatly reduce the effort required to acquire data.

The composition of the sample of 51 enterprises was compared with the composition of the full universe of 210 contracts in the R1 000 000 to R2 000 000 price range let by the Department. This universe was determined when the Department's comprehensive database was complete. Table 7.2 illustrates the comparison.

TABLE 7.2: Comparative distribution of contract types between the research sample and the corresponding universe for the study period

Contract type	Sample		Universe for study period	
	Number	%	Number	%
General	18	35,3	115	54,7
General and Civil *	8	15,7	0	0,0
Civil	6	11,8	20	9,5
Electrical and Mechanical	19	37,3	75	35,7
Total	51	100,0	210	100,0

*The designation of general and Civil was presented in Department records at the time of sample identification, but not used as a classification in the comprehensive database.

The combination of general and general and civil contracts in the research sample comprise 51% of the universe.

For reasons outlined on page 7.6 the research sample is sufficiently representative of the range of contract types in the contract universe for the study period. Allowance is made for respondents to have classified work on site services as civil, whilst the tenders for such work are technically recorded as general contracts. The relative spread of contract types between General, Civil, Electrical and Mechanical contracts is comparable.

Table 7.3 presents the distribution of ABE and non-ABE enterprises across the research sample and qualifying universe for the study period.

TABLE 7.3 : Distribution of ABE and non-ABE enterprises between the sample and the corresponding universe for the study period.

Contract type	Sample				Universe for study period			
	ABE		Non-ABE		ABE		non-ABE	
	N	%	N	%	N	%	N	%
General	8	61,5	10	26,3	22	84,6	93	50,6
General and Civil	3	23,7	5	13,2	0	0,0	0	0,0
Civil	1	7.7	5	13,2	1	3,9	19	10,3
Electrical and Mechanical	1	7,7	18	47,3	3	11,5	72	39,1
Total	13	100,0	24	100,0	26	100,0	184	100,0

The Table indicates a bias towards ABE contractors in the research sample for the combined contracts. The distribution of ABE and non-ABE enterprises for Mechanical and Electrical Contracts in the research sample corresponds with the distribution in the universe.

The character of the sample in terms of the key areas of enquiry is shown in Table 7.4.

TABLE 7.4: Character of the sample for research into supply side constraints

DESCRIPTION	Number of cases	
	Number	%
Respondent position		
Owner / Director	29	78,4
Manager	4	10,8
Other	4	10,8
Year of establishment		
Less than 10 years	21	42,0
10 - 20 years	18	36,0
More than 20 years	11	22,0
Company structure		
Sole trader	7	14,0
Single member CC	6	12,0
Multiple member CC	20	40,0
Pty Ltd	17	34,0
ABE status		
ABE	13	25,5
NON-ABE	38	74,5
Area of activity		
General	18	35,3
General & Civil	8	15,7
Civil	6	11,8
Electrical / Mechanical	19	37,3
Member of an association		
Yes	33	84,6
No	6	15,4
No of permanent employees		
Less than 10 person	12	23,5
10 to 25 person	18	35,3
26 or more persons	21	41,2
Number of cases	51	100,0

Note: In each category, the missing cases are excluded.

7.3.3.2 Survey instrument

A structured survey method was selected for this research, utilizing a structured questionnaire as the survey instrument (see Appendix 7.1). The questionnaire was structured in six sections as follows :

- Enterprise information;
- Human resources;
- Finance;
- Equipment and plant;
- Business thresholds, and
- Sub-sector thresholds.

The third section, covering finance, incorporates some questions from the structured questionnaire used for the research into mobilization of sureties and contracts compliance. The author's intention was to gather this information over a wider sample.

The primary data determined in the questionnaire was descriptive, with open fields for respondents to indicate use of human resources, years of experience and qualifications for questions on human resources, business thresholds, sub-sector thresholds and equipment and plant.

Data relating to use of sub-contractors was collected on a three-point scale of 'always use', 'usually use' and 'sometimes use'.

Nominal data was collected for the section on finance, with the majority of questions requiring a yes/no answer.

The data was captured and analysed in the SPSS package.

The questionnaire was designed in anticipation of detailed information across the full range of questions, but this could not be obtained consistently, and variable levels of data were received. In some cases detail was incomplete or missing. As a result the data does not comprehensively cover all sections of the questionnaire. Data is presented and discussed for those variables with a tolerable number of missing cases.

Three levels of analysis were carried out on the data. Firstly the percentage distributions of the responses with adequate levels of analysis were calculated and are presented. The second level of analysis involved statistical test of the significant of the differences that result in the bivariate analysis. For this analysis the Pearson Chi Square (X^2) test was used. The third level of analysis involved the statistical testing for significant associations of sets of variables. For this analysis a regression model was used.

The size of the sample at 51 cases restricted the possible level of cross-tabulations for some variables across all contract types.

The author proposes that the questionnaire be applied by the Department on a continuous basis. When a sample of sufficient size is obtained, analysis of the propensities to move both horizontally and vertically will be possible. The sample size presently precludes analysis of the propensity to move vertically in a sub-sector.

7.4 PRESENTATION AND INTERPRETATION OF RESULTS ON THE ROLE OF SUB-SECTOR ASSOCIATION IN THE ESTABLISHMENT OF THRESHOLDS

7.4.1 Building Industries Federation of South Africa

Membership of the Building Industries Federation of South Africa (BIFSA) is not mandatory for participation in the general construction sub-sector. Membership of BIFSA is structured on membership of regional Master Builders Associations, which are affiliated to BIFSA. BIFSA membership does not, therefore, act as a sub-sector entry threshold unless a client requires BIFSA or MBA membership as a pre-condition for tendering.

The procedures for membership follow the four steps below :

(a) demonstration by the applicant of compliance with relevant construction industry legislation;
(b) review of references supplied by the applicant;
(c) adjudication of application by regional MBA's; and
(d) transmission of application to BIFSA.

For contractors wishing to apply for membership the author interprets four apparent levels of threshold. The first lies in developing a track record of references to appropriate levels for membership purposes. The second lies in demonstration of compliance with legislation. The final two are in the formal acceptance of a membership applications by MBA regional structures and then by BIFSA itself.

In the interview the respondent stated that "emerging contractors" do not necessarily want to become members because they will have to comply with relevant legislation. BIFSA and the MBA are positioned to 'protect the industry'[1] by providing comfort to potential clients that members have been checked by the associations.

[1] Interview with P Butt, BIFSA, 11 September 1998

7.4.2 South African Federation for Civil Engineering Contractors

Membership of the South African Federation for Civil Engineering Contractors (SAFCEC) is not mandatory for participation in the civil sub-sector. The membership procedures require applicants to be proposed and seconded by existing members. Applicants are evaluated on their track record and experience on previous contracts. The interviewees proposed that the necessary expertise can be obtained through training and participation in contracts over a 2 to 3 year period.[1] A preference was expressed for inexperienced applicants to obtain their experience on a membership basis with established members. This could be done through sub-contracting or joint venture relationships.

These comments are moderated by the interviewers' recommendations that new entrants tend to lack sectoral managerial skills which may be acquired through years of experience. A period of 12 years was suggested as a bench mark for managers to acquire skills appropriate to that of a Director.

7.4.3 National Black Contractors Association and Allied Trades

Membership of the National Black Contractors Association and Allied Trades (NABCAT) is not mandatory for so-called Black contractors entering into general construction contracts. The organisation was formed in 1993 as a negotiating agency for builders' associations, at a time when representation was fragmented. Individual contractors do not join, and the organisation is not concerned with the evaluation of members' compliance with statutory requirements.

7.4.4 Electrical Contractors Association

Membership of the Electrical Contractors Association (ECA) is not mandatory for participation in the electrical sub-sector. This sector does, however, have stringent technical safety requirements for participation and the ECA requires applicants to be members of the Bargaining Council as a pre-requisite. This provides certified compliance with relevant labour and safety legislation, which must be backed by references substantiating a company's credibility and expertise. The ECA monitors compliance with relevant legislation by members.

The ECA recognises the levels of technical skills required for participation in the sub-sector, but does not foresee these as impossible thresholds.[2]

---

[1] Interview with H Langenhoven and H Richardson, 14 August 1998
[2] Interview with Mr Killian, consultant to the ECA, 1 September 1998.

7.5 PRESENTATION AND INTERPRETATION OF RESULTS ON STRUCTURED SUB-SECTOR THRESHOLD RESEARCH

7.5.1 Overview

In this section the author reports on results for bivariate analysis of the following:

- basic enterprise characterisation;
- personal experience in the sub-sector;
- specialised technical expertise and work processes;
- access to finance and credit;
- guarantees;
- access to plant and equipment;
- capitalisation requirements;
- established relationships with sub-contractors and /or suppliers;
- steady availability of projects;
- compliance with statutory requirements; and
- own perceptions of thresholds.

7.5.2 Basic Enterprise Characterisation

A most striking feature of the character of the sample is the degree of concentration of ABEs in general, and general and civil contracts, where 84,6% of contractors operate in these sub-sectors. In contrast, 37,8% of non-ABE contracts are in these sub-sectors. For non-ABEs, activity is more balanced across the sub-sectors, with almost half operating in the electrical/mechanical sub-sectors, as indicated in Table 7.5.

TABLE 7.5 : Basic enterprise information for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Area of activity						
General	8	61,5	9	24,3	17	34,0
General & Civil	3	23,1	5	13,5	8	16,0
Civil	1	7,7	5	13,5	6	12,0
Electrical / Mechanical	1	7,7	18	48,6	19	38,2
Year of establishment						
Less than 10 yrs	5	38,5	16	42,1	21	41,2
10 – 20 yrs	6	46,4	12	31,6	18	35,3
More than 20 yrs	1	7,7	10	26,3	11	21,6
No data	1	7,7			1	2,0
Company structure						
Sole Trader	2	15,4	5	13,2	7	13,7
Close Corporation	9	69,2	17	44,7	26	51,0
Pty Ltd	1	7,7	16	42,1	17	33,3
No data	1	7,7			11	2,0
No of permanent employees						
Less than 10 persons	4	30,8	9	23,7	13	25,5
10 – 25 persons	5	38,5	13	34,2	18	35,3
26 or more persons	4	30,8	16	42,1	20	39,2
Number of cases	13	100,0	38	100,0	51	100,0

Date of establishment

The ABE and non-ABE samples have equal proportions of representation in companies of less than ten years standing. ABEs are seen to have many fewer companies in the sample of more than twenty years standing.

The decay in the proportion of ABE enterprises in the sample older than 20 years is explained by the structural restrictions to participation and business development under Apartheid legislation. Indeed, the author anticipated a higher weighting of the non-ABE sample in enterprises of less than 10 years age, because most of the restrictive legislation has only been repealed in the last ten years.

The decay in the number of non-ABE enterprises presents an anticipated pattern. The decay will be the result of enterprise closures and amalgamations, and of proprietors leaving the industry. SMMEs are known to have very high rates of business failure, and in the construction industry this characteristic will be reinforced by the impacts of periodic down-swings in the business cycle. Government spending is one factor that has influence on momentum of construction industry business cycles.

Company Structure

The majority of ABEs are operating through Close Corporations[4] with less than 10% (N=1) formed as limited liability company. The spread of company structures is more even for non-ABEs with a more balanced ratio of Close Corporations and Limited Liability companies (45% and 42% respectively).

The author concludes that non-ABEs tend to operate through more formal company structures.

Number of Employees

ABEs exhibit a generally equal spread of the sizes. The non-ABE sample exhibits a positive relationship to size.

7.5.3 Personal Experience in the Sub-sector

The sample data suggests, through the bi-variate analysis reported in Table 7.6 that most enterprises operating in the research contract price range are managed by individuals with ownership of the enterprise. Across the full sample less than a quarter of companies are managed by non-equity individuals (N=10, 21,7%). The trends for ABE and non-ABE enterprises are the same in this respect.

TABLE 7.6: Company general management

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/members	10	76,9	26	78,8	36	78,3
Manager	3	23,1	7	21,2	10	21,7
Years of experience						
0 –15 yrs	5	38,5	12	31,6	17	33,3
16 – 29 yrs	3	23,1	14	36,8	17	33,3
30 + yrs	4	30,7	11	28,9	15	29,4
No data	1	7,7	1	2,6	2	3,9
Qualifications						
Matric / Experience	6	46,2	7	18,4	13	25,5
Diploma /Degree	6	46,2	25	65,8	31	60,8
No data	1	7,7	6	15,8	7	13,7
All cases	13	100,0	38	100,0	51	100,0

ABE enterprises appear to be more frequently managed by individuals with fewer years of industry experience, with 41,7% of ABE managers having less than 15 years experience, compared with 32,4% of non-ABE managers. ABE companies have fewer managers with experience of 16 to 29

[4] A close corporation is a company formed in terms of a particular act of parliament in South Africa.

years, and more with over thirty years. The author concludes that the recent removal of restrictions to entry and participation by ABEs in construction may explain in part the relative weighting of the ABE sample by managers of fewer years experiences. The supply side measures introduced through the APP would not solely account for this, however, and more general activity is likely to have influenced manager participation.

The author notes the contrast between ABEs and non-ABEs in respect of the qualifications of managers. Half of the ABE managers do not have formal technical or professional qualifications, whilst only 22% of non-ABE managers are similarly reliant on secondary education and experience as the basis of their management expertise.

7.5.4 Specialised Technical expertise and work processes

The data obtained from the structured questionnaire provided information relating to specialised tasks and expertise. In this respect, Tables 7.7 to 7.11 present data on:

- completion of tender documents;
- evaluation of contract technical requirements;
- administration of contracts; and
- administration of tax and statutory obligations.

Table 7.7 presents data obtained on completion of tender documentation.

TABLE 7.7: Completion of tender documents

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/members	9	69,2	20	52,6	29	56,9
Other staff	2	15,4	15	39,5	17	33,3
Other			2	5,3	2	3,9
No data	2	15,4	1	2,6	3	5,9
Years of experience						
0 –15 yrs	6	46,4	14	36,8	20	29,2
16 – 29 yrs	2	15,4	11	28,9	13	25,5
30 + yrs	3	23,1	7	18,4	10	19,6
No data	2	15,4	6	15,8	8	15,7
Qualifications						
Matric / Experience	7	53,8	11	28,9	18	35,3
Diploma /Degree	3	23,1	15	39,5	18	35,3
No data	3	23,1	12	31,6	15	29,4
All cases	13	100,0	38	100,0	51	100,0

The data suggests that the majority of individuals in both ABEs and non-ABEs who complete tender documents have equity positions in the enterprises. The trend is more marked in ABEs with 70%. In

almost half of the non-ABE enterprises individuals who are not owners or directors perform this function, which must be done properly to obtain work for the enterprise.

No distinct trend is suggested by the analysis of the years of experience of the individuals performing this function. The data suggests that tender documents for most of the ABEs in the sample are completed by individuals with no tertiary education. Individuals with tertiary education perform this function for at least 40% of the non-ABE sample.

Table 7.8 presents data obtained on the evaluation of tender technical requirements by enterprises.

TABLE 7.8: Evaluation of technical requirements

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/member	4	30,8	11	18,9	15	29,4
Other	7	53,8	24	63,2	31	60,8
No data	2	15,4	3	7,9	5	9,8
Years of experience						
0 –15 yrs	3	23,1	15	39,5	18	35,3
16 – 29 yrs	3	23,1	10	26,3	13	25,5
30 + yrs	1	7,7	4	10,5	5	9,8
No data	6	46,2	9	23,7	15	29,4
Qualifications						
Matric / Experience	4	30,8	7	18,4	11	21,6
Diploma /Degree	2	15,4	22	57,9	24	47,1
No data	7	53,8	9	23,7	16	31,4
All cases	13	100,0	38	100,0	51	100,0

In contrast to the above, the data suggests that most individuals performing this function are not enterprise owners or directors and generally have less, rather than more, experience. The data on qualifications for ABEs is inconclusive due to the high rate of void answers, but the non-ABE data indicate a general reliance on individuals with tertiary education. The lack of valid data for ABEs prevents comparative analysis. The author proposes that this is an aspect of business management that is important to the success of enterprises in this market, and that further research be undertaken to evaluate the impact on ABEs.

Table 7.9 presents data on administration of awarded contracts.

TABLE 7.9: Administration of awarded contracts

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/member	8	61,5	18	47,4	26	51,0
Bookkeeper	4	30,7	19	50,0	23	45,1
No data	1	7,7	1	2,6	2	3,9
Years of experience						
0 –15 yrs	5	38,5	18	47,4	23	45,1
16 – 29 yrs	3	23,1	8	21,5	11	21,6
30 + yrs	3	23,1	6	15,8	9	17,6
No data	2	15,4	2	5,3	4	7,8
Qualifications						
Matric / Experience	8	61,5	15	39,5	23	45,1
Diploma /Degree	3	23,1	16	42,1	19	37,3
No data	2	15,4	7	18,4	9	17,6
All cases	13	100,0	38	100,0	51	100,0

The data suggests that the majority of contracts won by ABEs are administered by enterprise proprietors (62%) whilst the function is performed almost equally by proprietors and other individuals in non-ABEs. In ABEs these individuals tend not to have tertiary education. No clear trend is evident in non-ABEs due to the level of void answers.

Table 7.10 indicates from the sample that the management of tax and other statutory obligation is generally performed by individuals who are not proprietors. In ABEs the function is more often done by financial personnel than in non-ABEs, where other skills are used.

TABLE 7.10: Tax and statutory obligations

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/members	3	23,1	6	15,8	9	17,6
Book keeper/Accountant /Auditor/Fin	8	61,1	19	50,0	27	52,9
Other	0	40,0	11	28,9	11	21,6
No data	3	15,4	2	5,3	4	7,8
Years experience						
0 – 15 yrs	8	61,5	20	52,6	28	54,9
16 – 29 yrs	2	15,4	7	18,4	9	17,6
30 + yrs	1	7,7	3	7,9	4	7,8
No data	2	15,4	8	21,1	10	19,6
All cases	13	100,0	38	100,0	51	100,0

7.5.5 Access to Finance and credit

Table 7.11 suggests a general use of qualified individuals to manage company finances. ABEs record a greater level of involvement by specialised personnel (75%). The data suggest that there are similar levels of experience, with a slight tendency for financial managers of ABEs to have less experience. The difference exhibited in the range of more than thirty years experience is not considered to be important from a practical business perspective. The data suggest a similar trend in qualifications of financial managers to that exhibited for general managers. Whilst both types of enterprises appear to rely more on qualified individuals for financial management, ABEs utilize individuals without formal tertiary experience to a greater degree than non-ABEs.

TABLE 7.11: Company finances

DESCRIPTION	ABE STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/member	2	15,4	12	31,6	14	27,5
Book keeper/Accountant /Auditor/Fin	9	69,2	21	55,3	30	58,8
Other	1	7,7	5	13,2	1	11,7
No data	1	7,7				2,0
Years of experience					24	
0 – 15 yrs	7	53,8	17	44,7	16	47,1
16 – 29 yrs	4	30,7	12	31,6	5	31,4
30 – yrs	1	7,7	4	10,5	6	9,8
No data	1	7,7	5	13,2		11,8
Qualifications					9	
Matric/Experience	3	23,1	6	15,8	35	17,6
Diploma/Degree	8	61,5	27	71,1	7	68,6
No data	2	15,4	5	13,2	51	13,7
All cases	13	100,0	38	100,0		100,0

7.5.6 Contract values

The structured questionnaire obtained data on the value of contracts completed. This data gives an indication of the extent to which the enterprises in the sample have been able to manage finance and working capital credit in the past. This aspect of investigation was pursued to expand on the findings reported in 6.3, which suggest that SMMEs, both ABE and non-ABE, are able to obtain working capital for the projects in the research contract value range. Tables 7.12 to 7.17 reveal the extent to which contracts have been funded.

TABLE 7.12: Highest contract price for public sector contracts for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS		AVERAGE
	ABE	non-ABE	
Area of activity			
General	R3 193 000	R 5 757 000	R 5 091 000
General & Civil	R1 933 000	R 4 520 000	R 3 550 000
Civil	R1 300 000	R22 100 000	R14 133 000
Electrical / Mechanical	R 687 000	R 1 644 000	R 1 390 000
Years of establishment			
Less than 10 yrs	R2 108 000	R 4 549 000	R 2 953 000
10 – 20 yrs	R3 631 000	R 3 815 000	R 5 035 000
More than 20 yrs	R 300 000	R 7 411 000	R 6 671 000
Company structure			
Sole Trader	R 750 000	R 2 163 000	R 2 064 000
Single member cc	R3 500 000	R 1 200 000	R 3 717 000
Multiple member cc	R3 234 000	R 2 611 000	R 2 585 000
Pty Ltd	R 687 000	R 7 930 000	R 8 045 000
No of permanent employees			
Less than 10 persons	R2 160 000	R 5 610 000	R 3 376 000
10 – 25 persons	R4 237 000	R 2 753 000	R 3 585 000
26 or more persons	R 875 000	R 6 750 000	R 5 915 000
All cases	R2 564 000	R 5 147 000	R 4 446 000

The data in Table 7.12 highlights a clear distinction between ABEs and non-ABEs regarding highest public sector contract prices. The values indicate that non-ABEs have achieved contract values of generally twice the value of ABEs (approximately R5 150 000 and R2 560 000 respectively). This trend is evident for each factor in the bi-variate analysis. In respect of areas of activity, general contracts tend to indicate the highest values, with a decreasing value down electrical/mechanical, with one exceptional civil contract under non-ABEs (R22 100 000). No discernable trend is found in relation to the age of enterprises. No consistent trend between price and company structure, or price and size of company is evident.

Table 7.13 presents data on highest contract values for private sector contracts. A clear value differential between ABEs and non-ABEs is less evident, with exception of the non-ABE extreme prices.

TABLE 7.13: Highest contract price for private sector contracts for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS		AVERAGE
	ABE	non-ABE	
Area of activity			
General	R1 250 000	R 1 268 000	R 1 831 000
General & Civil	-	R 92 000	R 57 000
Civil	R 920 000	R38 050 000	R15 537 000
Electrical / Mechanical	R 900 000	R 2 681 000	R 2 262 000
Year of establishment			
Less than 10 yrs	R1 184 000	R 354 000	R 1 035 000
10 – 20 yrs	R 733 000	R 1 338 000	R 1 860 000
More than 20 yrs	R1 500 000	R12 559 000	R10 271 000
Company structure			
Sole Trader	R 600 000	R 1 345 000	R 1 112 000
Single member cc	-	R 1 100 000	R 2 417 000
Multiple member cc	R1 389 000	R 348 000	R 795 000
Pty Ltd	R 900 000	R 8 923 000	R 8 061 000
No of permanent employees			
Less than 10 persons	R 300 000	R 20 000	R 332 000
10 – 25 persons	R1 940 000	R 1 428 000	R 2 036 000
26 or more persons	R 230 000	R 8 617 000	R 6 326 000
Total	R 909 000	R 4 653 000	R 3 343 000

The data for ABEs does not suggest any trends related to age of company, company structure or number of permanent employees. General contracts have achieved the highest price for ABEs. It is noted that the prices achieved are consistently lower than those reported for public sector contracts.

The data for non-ABEs suggest trends of positive relationships between contract price and the age of the enterprise, the complexity of company structure and the size of the company. In each case the peak contract price is extremely high when compared with the generally prevailing prices. The extreme value contract prices for non-ABEs are much higher than the highest prices achieved for non-ABE public sector contracts, whilst the prices are generally lower than for public sector contracts.

In the structured questionnaire respondents were asked to indicate the range of contract prices that they had achieved. The resulting data are presented in tables 7.14 and 7.15.

TABLE 7.14: Average contract price range as principal contractor for public contracts for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS		AVERAGE
	ABE	non-ABE	
Area of activity			
General	R1 605 000	R 5 214 000	R3 289 000
General & Civil	R1 933 000	R 4 110 000	R3 294 000
Civil	R1 300 000	R10 750 000	R7 600 000
Electrical / Mechanical	R 687 000	R 1 543 000	R1 465 000
Year of establishment			
Less than 10 yrs	R1 628 000	R 1 503 000	R1 551 000
10 – 20 yrs	R1 948 000	R 6 111 000	R4 446 000
More than 20 yrs	R 100 000	R 3 851 000	R3 383 000
Company structure			
Sole Trader	R1 200 000	R 3 025 000	R2 417 000
Close Corporation	R1 782 000	R 2 452 000	R2 165 000
Pty Ltd	R 687 000	R 6 558 000	R5 905 000
No of permanent employees			
Less than 10 persons	R1 485 000	R 1 575 000	R1 539 000
10 – 25 persons	R1 997 000	R 4 050 000	R3 195 000
26 or more persons	R1 175 000	R 5 107 000	R4 059 000
Total	R1 587 000	R 3 916 000	R3 097 000

TABLE 7.15: Average contract price range as principal contractor for private contracts for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS		TOTAL
	ABE	non-ABE	
Area of activity			
General	R 752 000	R4 067 000	R2 560 000
General & Civil	R 350 000	R4 015 000	R3 282 000
Civil		R2 050 000	R2 050 000
Electrical / Mechanical	R 900 000	R2 023 000	R1 898 000
Year of establishment			
Less than 10 yrs	R 900 000	R 613 000	R 654 000
10 – 20 yrs	R 522 000	R3 240 000	R2 269 000
More than 20 yrs	R1 500 000	R4 792 000	R4 321 000
Company structure			
Sole Trader	R 60 000	R1 720 000	R1 305 000
Close Corporation	R 810 000	R1 648 000	R1 369 000
Pty Ltd	R 900 000	R4 994 000	R4 539 000
No of permanent employees			
Less than 10 persons	R 487 000	R 368 000	R 406 000
10 – 25 persons	R 888 000	R2 683 000	R2 030 000
26 or more persons		R5 075 000	R5 075 000
Total	R 716 000	R2 933 000	R2 379 000

The data for ABEs does not suggest trends correlating price range to any factor for either public or private sector contracts. The non-ABE data suggest similar relationships to those found for maximum price, with no clear trend indicated in public sector contracts, and a generally positive relationship for private sector contracts. Thus, older, larger limited liability companies appear generally to trade in wider contract price ranges than other companies.

There is a clear differential in the size of the range between ABEs and non-ABEs for both types of client. For both types of contractor a narrower trading range is indicated for private contracts than is indicated for public contracts in Table 7.14.

Data was obtained for contracts completed as sub-contractors, to extend the knowledge of the operations of enterprises in the sample. The data obtained are presented in Tables 6.44 and 6.45 for public and private sectors respectively.

TABLE 7.16: Average contract price range as sub –contractor for public contracts for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS		AVERAGE
	ABE	non-ABE	
Area of activity			
General	R1 340 000	R7 425 000	R4 383 000
General & Civil	-	R 850 000	R 850 000
Civil	R 920 000	R1 140 000	R1 096 000
Electrical / Mechanical	R 663 000	R2 731 000	R2 609 000
Year of establishment			
Less than 10 yrs	R2 960 000	R3 077 000	R3 060 000
26 – 20 yrs	R 241 000	R1 507 000	R1 127 000
More than 20 yrs	R 300 000	R4 557 000	R4 025 000
Company structure			
Sole Trader	R 60 000	R 803 000	R 618 000
Close Corporation	R1 555 000	R 846 000	R1 064 000
Pty Ltd	R 663 000	R4 954 000	R4 668 000
No of permanent employees			
Less than 10 persons	R 60 000	R4 940 000	R4 127 000
10 – 25 persons	R1 491 000	R1 092 000	R1 215 000
26 or more persons	R 920 000	R3 737 000	R3 520 000
Total	R1 157 000	R3 053 000	R2 697 000

TABLE 7.17: Average contract price range as sub-contractor for private contracts for ABEs and non-ABEs

DESCRIPTION	COMPANY STATUS		AVERAGE
	ABE	non-ABE	
Area of activity			
General	R369 000	R3 650 000	R1 681 000
General & Civil	-	R 600 000	R 600 000
Civil	-	R1 031 000	R1 031 000
Electrical / Mechanical	R100 000	R3 698 000	R3 473 000
Year of establishment			
Less than 10 yrs		R2 507 000	R2 507 000
10 – 20 yrs	R302 000	R1 597 000	R1 209 000
More than 20 yrs	R300 000	R5 408 000	R4 679 000
Company structure			
Sole Trader	R 6 000	R 253 000	R 170 000
Close Corporation ..	R550 000	R8 311 000	R 775 000
Pty Ltd	R100 000	R4 734 000	R4 403 000
No of permanent employees			
Less than 10 persons	-	R 845 000	R 677 000
10 – 25 persons	R 6 000	R 852 000	R 729 000
26 or more persons	R400 000	R5 318 000	R5 318 000
Total	R301 000	R2 987 000	R2 589 000

The restricted volume of data obtained has not indicated clear data trends for either type of contractor in sub-contracts for the two client types. The data suggests that sub-contracts in the public sector have achieved greater price ranges than in the private sector, although the extent of the range difference is less marked for non-ABEs. ABEs have achieved a markedly narrower range of contract prices than non-ABEs for both client types. Over half of the non-ABEs ranges are over R2 million, whilst only one factor reflects this range for ABEs.

7.5.7 Guarantees

Table 7.18 indicates that for the majority of enterprises in the sample, an owner or director is responsible for securing contract guarantees for ABEs; at least 77% of enterprises operate in this manner. The data for non-ABEs is less conclusive but indicates a majority (53%), with a void answer level of 26%.

TABLE 7.18: Who secures guarantees

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/member	10	76,9	20	52,6	30	58,8
Other	2	15,4	8	21,1	10	19,6
No data	1	7,7	10	26,3	11	21,6

7.5.8 Access to Plant and Equipment

Through the structured questionnaire the author sought to obtain information on the use of plant and equipment by contractors, seeking to identify any statistical relationships to participation in particular sub-sectors. The level of data return was sufficient for bi-variate analysis of differences between the types of contractor. Data for the type of office was also obtained in an attempt to characterize the permanence of company administration. Data obtained in sufficient quantity is presented in Table 7.19 and 7.20

TABLE 7.19: Permanent Office

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Yes	11	84,6	24	63,2	36	70,6
No	1	7,7	2	5,3	3	5,9
No data	1	7,7	12	39,5	12	23,5
All cases	13	100,0	38	100,0	51	100,0

From the data it is suggested that very few of the enterprises in the sample do not have permanent offices. The author's expectation prior to the research was that the requirements for proper tendering would result in all enterprises using permanent offices. There do not appear to be differences between ABEs and non-ABEs in this respect.

Qualifying information on the type of office was also requested. Data was not returned with sufficient consistency to enable bi-variate analysis. Of the 24 responses that described the type of office, 21% were in a part of a residential property, 38% were in rented offices, and 42% owned their office premises.

Table 7.20 indicates ownership of vehicles and plant.

TABLE 7.20: Vehicles and Plant

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Yes	12	92,3	36	94,7	48	94,1
No	0	0,0	1	2,6	1	2,0
No data	1	7,7	1	2,6	2	3,8
All cases	13	100,0	38	100,0	51	100,0

Only one enterprise in the sample stated that it did not own any vehicle or plant.

7.5.9 Capitalisation Requirements

The author sought to identify any factors relating to capitalization requirements for participation in the sub-sectors. The data obtained in respect of the value of vehicles and plant owned is presented in Table 7.21.

TABLE 7.21: Average value of vehicles and plant

DESCRIPTION	VALUE OF VEHICLES / PLANT		AVERAGE
	ABE	non-ABE	
Area of activity			
General	R105 000	R 765 000	R 452 000
General & Civil	R103 000	R2 676 000	R1 940 000
Civil	R550 000	R4 450 000	R3 150 000
Electrical / Mechanical	R 6 000	R1 413 000	R1 325 000
Year of establishment			
Less than 10 yrs	R203 000	R1 387 000	R1 091 000
10 – 20 yrs	R 94 000	R2 545 000	R1 626 000
More than 20 yrs		R 848 000	R 847 000
Company structure			
Sole Trader	R 80 000	R 888 000	R 618 000
Close Corporation ..	R166 000	R 526 000	R 395 000
Pty Ltd	R 6 000	R2 985 000	R2 772 000
No of permanent employees			
Less than 10 persons	R 63 000	R 201 000	R 151 000
10 – 25 persons	R138 000	R 605 000	R 472 000
26 or more persons	R230 000	R3 018 000	R2 526 000
Total	R136 000	R1 603 000	R1 219 000

The data for both ABE and non-ABE enterprises indicates that those active in civil contracts own the highest value of vehicles and plant. For non-ABEs, the second highest average value is indicated for the general and civil sub-sector. The low relative average capitalization for non-ABEs in general contracts supports the authors contention that participation in civil contracts requires the highest level of capitalization of enterprises.

All of the data indicate that non-ABE enterprises are capitalized to a substantially higher level than ABEs across all sub-sectors and for all variables.

The data does not suggest any relationship between the age of enterprises or their company structure and the level of capitalization. The data for both ABEs and non-ABEs does suggest a positive relationship between the size of the company and the level of capitalization.

A relationship between increasing investment and the number of employees is indicated for both ABEs and non-ABEs. The level of investment is much lower for ABEs, and their reported range of investment is smaller. It is seen above that contract prices achieved by ABEs are lower that for non-ABEs. This suggests that a relationship between size of contract and use of labour may exist, and that ABEs may hire plant rather that own plant.

7.5.10 Established relationships with sub-contractors and suppliers.

The data obtained from the structured questionnaire indicated that 86% (N=44) of enterprises regularly use particular sub-contractors, and that 92% (N=47) have suppliers that they generally use.

Table 7.22 indicates patterns of negotiations of supply prices.

TABLE 7.22: Negotiation of supply prices

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/director/member	7	53,8	20	52,6	27	52,9
Other	5	38,5	18	47,4	23	45,1
No data	1	7,7			1	2,0
Year of experience						
0 – 15 yrs	5	38,5	16	42,1	21	41,2
16 – 29 yrs	4	30,8	12	39,5	16	31,4
30 – yrs	2	15,4	6	15,8	8	15,7
No data	2	15,4	4	10,5	6	11,7
Qualifications						
Matric/Experience	6	46,2	12	39,5	18	35,3
Diploma/Degree	5	38,5	18	47,4	23	45,1
No data	2	15,4	8	21,1	10	19,6
All cases	13	100,0	38	100,0	51	100,0

The data suggest that for the majority of both ABE and non-ABE enterprises equity owners are directly involved in negotiation of contract supply prices. A negative relationship to the individual's years of experience is suggested by the data, for both types of contractor.

Table 7.23 presents data on contract costing and pricing.

TABLE 7.23: Contract costing and pricing

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Self/owner/MD	8	61,5	25	65,8	33	64,7
Other	3	23,1	13	34,2	16	31,4
No data	2	15,4			2	3,8
Year of experience						
0 – 15 yrs	5	38,5	11	28,9	16	31,4
16 – 29 yrs	3	23,1	11	28,9	14	27,5
30 – yrs	3	23,1	10	26,3	13	25,5
No data	2	15,4	6	15,8	8	15,7
Qualifications						
Matric/Experience	7	53,8	13	34,2	20	39,2
Diploma/Degree	4	30,8	17	44,7	21	41,2
No data	2	15,4	8	21,1	10	19,6
All cases	13	100,0	38	100,0	51	100,0

The trend of equity individuals dominating this activity is indicated, at a higher level than for negotiation as indicated in Table 7.22. No relationships are suggested for years of experience. ABE data indicates that most participants in these activities do not have tertiary education (54%).

7.5.11 Steady availability of projects

The general trend which is apparent from the data reported in Table 7.24 is that non-ABEs consistently reflect higher average volumes of work than ABEs. The average number of contracts completed by non-ABEs is generally in the range of 5 times that of ABEs, across most of the variables measured.

TABLE 7.24: Average number of completed contracts in 1998 for ABEs and non-ABEs

DESCRIPTION	ABE STATUS		TOTAL
	ABE	non-ABE	
Area of activity			
General	9,6	48,8	29,2
General & Civil	5,7	33,8	23,3
Civil	6,0	37,2	32,0
Electrical / Mechanical	19,0	59,9	57,3
Year of establishment			
Less than 10 yrs	6,6	57,1	44,5
10 – 20 yrs	10,0	28,3	21,8
More than 20 yrs	16,0	59,8	54,9
Company structure			
Sole Trader	5,5	20,2	16,0
Close Corporation	9,7	51,7	35,9
Pty Ltd	19,0	55,0	52,6
No of permanent employees			
Less than 10 persons	6,5	31,9	23,4
10 – 25 persons	13,4	33,9	27,5
26 or more persons	6,5	67,9	54,9
Total	9,2	48,4	37,6

The level of activity for ABEs is markedly lower than for non-ABEs across all contract types. Greater level of participation by ABEs in general, and general and civil contracts is not based on higher numbers of contracts being completed. The first three types of contract see ABEs at less than 20% of the volume of non-ABEs, whilst electrical/mechanical are at about 32%.

The ABEs company age correlation to the number of completed contracts appears to be positive, suggesting that older enterprises tend to manage higher volumes of work. For non-ABEs no direct relationship is observed, with higher numbers of contracts completed by companies of less than 10 years standing and greater than 20 years standing.

The ABE company structure appears to correlate positively with the number of contracts completed, suggesting a relationship between the complexity of the enterprise structure and volumes of work completed.

Non-ABE companies also appear to exhibit a positive relationship away from Sole Trader type of structure, although the difference between Close Corporations and limited liability companies (Pty Ltd) is not as strong as appears to be the case for ABE companies.

ABE data indicates that company size of 10 – 25 permanent employees reflects the highest number of completed of contracts.

The data for non-ABE companies suggest a positive correlation with size with the most noticeable jump above 25 persons. This trend suggests that there may be practical relationships between the size of a company and the number of contracts that it can expect to successfully complete.

Table 7.25 presents data for public sector contracts.

TABLE 7.25: Average number of completed public contracts as principals for ABEs and non-ABEs

DESCRIPTION	ABE STATUS		TOTAL
	ABE	non-ABE	
Area of activity			
General	6,0	13,9	9,9
General & Civil	5,0	15,4	11,5
Civil	3,0	13,8	11,6
Electrical / Mechanical	10,0	14,9	14,5
Year of establishment			
Less than 10 yrs	5,0	14,4	11,9
10 – 20 yrs	6,2	12,5	10,1
More than 20 yrs	4,0	16,0	14,3
Company structure			
Sole Trader	4,5	12,2	10,0
Close Corporation	6,3	12,3	10,1
Pty Ltd	10,0	17,6	16,9
No of permanent employees			
Less than 10 persons	4,5	8,3	6,9
10 – 25 persons	7,4	11,8	10,4
26 or more persons	5,3	19,5	15,9
Total	5,8	14,1	11,6

It appears in general that ABE levels of participation are moving closer to those of non-ABE companies, although they are generally still well below 50% of the levels of activity of non-ABEs.

The exception for ABE contracts is the electrical/mechanical subsector, where significantly better performance (N=1) is suggested. It is, however, still below the average for the type of contract relative to non-ABE companies.

Non-ABE levels of activity vary across a narrow range of average number of contracts from 13,8 to 15,4. This range of 1,6 contrasts with the range of 7 (3 to 10) for ABEs.

No positive relationship to company age is exhibited for either ABEs or non-ABEs. The age range 10 to 20 years has generated the highest number of average contracts for ABEs, whilst 20+ reflects the

highest number of contracts for non-ABEs. ABEs exhibit a positive relationship between the number of contracts and the complexity of company structure.

Non-ABEs have equivalent volumes exhibited by Sole Traders and Close Corporations, and a much higher volume of work completed by limited liability companies.

ABEs exhibit again a higher volume of work achieved by companies of ten to twenty-five employees in size.

Non-ABEs exhibit a more positive relationship between number of contracts completed and the size of the company.

Table 7.26 presents data for private sector contracts

TABLE 7.26: Average number of completed private contracts for ABEs and non-ABEs

DESCRIPTION	ABE STATUS		TOTAL
	ABE	non-ABE	
Area of activity			
General	5,8	26,2	16,9
General & Civil	1,0	23,0	15,7
Civil	3,0	13,5	11,4
Electrical / Mechanical	9,0	45,3	42,3
Year of establishment			
Less than 10 yrs	2,7	47,3	37,7
10 – 20 yrs	4,6	18,7	14,0
More than 20 yrs	12,0	19,4	18,2
Company structure			
Sole Trader	2,0	9,8	8,5
Close Corporation	5,0	48,2	32,9
Pty Ltd	9,0	22,5	21,3
No of permanent employees			
Less than 10 persons	2,7	17,1	12,8
10 – 25 persons	7,5	24,0	18,5
26 or more persons	2,5	44,7	38,2
Total	4,8	30,9	24,2

ABE levels of activity are almost the same as for public sector contracts, and the author therefore concludes that approximately 50% of ABE contracts are generated from public sources and 50% from private sources across all contract types.

Non-ABEs exhibit higher levels of activity in all of the sub-sectors except civil. In general and civil contracts activity is higher than in the public sector with public activity accounting for approximately 30% of their activity. For civil contracts the non-ABE companies appear to have about half their work

in the public and half their work in the private sector. For electrical mechanical contracts, the private sector appears to generate 75% of contract activity.

ABE data suggest positive correlation to age of company, with the companies of 20 years + having significantly higher average number of contracts.

Non-ABE data appears to exhibit a negative relationship in the private sector, with the companies established for less than 10 recording greater contract completion rates than the older companies.

ABEs reflect a positive relationship between the number of completed contracts and complexity of company structure.

Non-ABE data indicate that highest level of activity are achieved by Close Corporations, with no apparent general relationships to complexity of structure.

Non-ABE data again suggest a positive relationship to levels of activity with companies with less than 10 employees having 38% of the volume of companies with 26 + persons.

7.5.12 Compliance with Statutory Requirements

Tables 7.27 to 7.29 present data obtained from the structured questionnaire on the administration of compliance with statutory requirements. Insufficient data was obtained to perform an analysis on the variables across the sub-sectors.

TABLE 7.27: Who administers health and safety regulations.

DESCRIPTION	ABE STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Owner/directors	1	7,7	13	34,2	14	27,5
Foreman	8	661,5	8	21,1	16	31,4
Other	3	23,1	14	36,8	17	33,3
No data	1	7,7	3	7,9	4	7,8
Year of experience						
0 – 15 yrs	6	46,1	20	52,6	26	51,0
16 – 29 yrs	3	23,1	8	21,1	11	21,6
30 – yrs	1	7,7	3	7,9	4	7,8
No data	3	23,1	7	18,4	10	19,6
Qualifications						
Matric/Experience	7	53,8	22	57,9	29	56,9
Diploma/Degree	3	23,1	7	18,4	10	19,6
No data	3	23,1	9	23,7	12	23,5
All cases	13	100,0	38	100,0	51	100,0

TABLE 7.28: Who administers labour relations

DESCRIPTION	ABE STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Owner/director	2	15,4	11	28,9	13	25,5
Foreman	7	53,8	10	26,3	17	33,3
Other	3	23,1	14	36,8	17	33,3
No data	1	7,7	3	7,9	4	7,8
Year of experience						
0 – 15 yrs	5	38,5	18	48,6	23	45,1
16 – 29 yrs	4	30,8	9	24,3	13	25,5
30 – yrs	1	7,7	3	7,9	4	7,8
No data	3	23,1	8	21,5	11	21,6
Qualifications						
Matric/Experience	8	61,5	19	50,0	27	52,3
Diploma/Degree	2	15,4	10	26,3	12	23,5
No data	3	23,1	9	23,7	12	23,5
All cases	13	100,0	38	100,0	51	100,0

TABLE 7.29: Who administers other statutory requirements

DESCRIPTION	ABE STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Owner/director	2	15,4	11	28,9	13	25,5
Foreman	7	53,8	10	26,3	17	33,3
Other	3	23,1	11	28,9	14	27,5
No data	1	7,7	6	15,8	7	13,7
Year of experience						
0 – 15 yrs	5	38,5	12	31,6	17	33,3
16 – 29 yrs	5	38,5	10	26,3	15	29,4
30 – yrs	1	7,7	3	7,9	4	7,8
No data	2	15,4	13	34,2	15	229,4
Qualifications						
Matric/Experience	8	61,5	11	28,9	19	37,3
Diploma/Degree	3	23,1	13	34,2	16	31,4
No data	2	15,4	14	36,8	16	31,4
All cases	13	100,0	38	100,0	51	100,0

Some general trends are suggested by the data in the tables. ABEs tend to rely predominately on foremen to perform or administer these functions. The majority of people doing this for ABEs have a matriculation certificate or have training-by-experience.

Non-ABEs rely less on foreman, and more on enterprise owners/directors to perform these functions. The high level of void answers for the qualifications of the individuals precludes analysis of the data. The author deduces from the educational trends indicated earlier that most individuals will have a tertiary qualification

7.5.13 Own Perceptions of Thresholds

Each participant in the research was asked whether they intended to work on larger projects and whether they had plans to expand (grow) their business. In the interview these questions were related to a growth threshold of 2,5 times the highest contracts value achieved by the contractor. Table 7.30 reflects the sub-sector average threshold values calculated on this basis.

TABLE 7.30: Threshold value for ABEs and Non-ABEs

DESCRIPTION	ABE STATUS		TOTAL
	ABE	non-ABE	
Area of activity			
General	R6 642 000	R10 958 000	R 9 989 000
General & Civil	R4 833 000	R10 725 000	R 8 516 000
Civil	R3 250 000	R45 250 000	R34 688 000
Electrical / Mechanical	R2 250 000	R10 247 000	R 8 644 000

The responses are presented in Table 7.31.

TABLE 7.31: Future business plans for ABEs and Non-ABEs

COMPANY STATUS	ABE STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Want to work on larger projects?						
Yes	11	84,6	37	97,4	48	94,1
No	1	7,7	1	2,6	2	3,9
No data	1	7,7			1	2,0
Have a plan to grow own business?						
Yes	8	61,5	29	76,3	37	72,6
No	2	15,4	7	18,4	9	17,6
No data	3	23,1	2	15,4	5	9,8

Only one ABE and one non-ABE respondent indicated that they did not wish to work on larger projects. Across the full sample approximately 95% of enterprises wish to secure contracts in the price ranges indicated in Table 7.30. A lower level of planning for growth is indicated for all enterprises in the sample in Table 7.31, at 73%. Of all the enterprises 18% have indicated that they have not planned for growth. Most respondents indicated in the structured questionnaire that they would secure

guarantees for the higher contract values through provision of surety-ship and extension of present arrangements with a financial institution.

Table 7.32 records the experience of contractors in tendering in other sectors.

TABLE 7.32: Inter-sector tendering

COMPANY STATUS	ABE STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Other contracts tendered- General						
Yes	1	100,0	1	6,7	2	12,5
No			14	93,3	14	87,5
Other contracts tendered- Building						
Yes	2	100,0	4	28,6	6	6
No			10	71,4	10	10
Other contracts tendered- Civil						
Yes	6	100,0	9	50,0	15	15
No			9	50,0	9	9
Other contracts tendered-Electrical/ mechanical						
Yes	4	100,0	12	75,0	16	16
No			4	25,0	4	4

The data obtained from the research suggests the lowest propensity of contractors active in general contracts to tender in other sectors and the very limited number of contractors in the electrical/mechanical sector who have tendered in other sectors. This relationship is suggested by the data for both ABEs and non-ABEs, where the author makes the reasonable assumption that void answers to a question of this nature indicate a negative answer.

Table 7.33 presents the reasons given by respondents for not tendering in other sub-sectors. Respondents ranked the responses from first to fifth. The reasons are presented in terms of rank order for the full sample within each grouping.

TABLE 7.33: Perceived barriers for ABEs and Non-ABEs

DESCRIPTION	COMPANY STATUS				TOTAL	
	ABE		non-ABE			
	Number	%	Number	%	Number	%
Reason 1 for not tendering						
Contract falls outside core business			14	58,3	14	42,4
Lack of skills	7	77,8		16,7	10	33,3
Not much work available in area	1	11,1	4	4,2	2	6,1
Cashflow problems	1	11,1			1	3,0
Can't hire people unable to supervise			1	4,2	1	3,0
Non-ABE status			1	4,2	1	3,0
Limited overdraft facility			1	4,2	1	3,0
Specialists in our field			1	4,2	1	3,0
Always had enough jobs to do			1	4,2	1	3,0
Reason 2 for not tendering						
Risky to cost unknown projects			5	38,5	5	26,3
Rather stick to what I know	3	50,0	2	15,4	5	26,3
Company not interested			3	23,1	3	15,8
Tried did not cope	1	16,1	1	7,7	2	10,5
Has not considered it	1	16,7	1	7,7	2	10,5
Lack of equipment	1	16,7	1	7,7	2	10,5
Reason 3 for not tendering						
Hands-on approach			4	50,0	4	44,4
Lack of skills	1	100,0	2	25,0	3	33,3
Risk of work with unknown people			1	12,5	1	11,1
Lack of equipment			1	12,5	1	11,1
Reason 4 for not tendering						
Lack of skills			3	50,0	3	50,0
Lose money			1	16,7	1	16,7
Lack of interest			1	16,7	1	16,7
Falls outside company activities			1	16,7	1	16,7
Reason 5 for not tendering						
Lack of skills			3	75,0	3	75,0
Lack of interest			1	25,0	1	25,0
Number of cases	13	100,0	38	100,0	51	100,0

A greater range of responses is presented by non-ABEs. The general trend of highest ranked reasons is for companies to remain within core knowledge and skills and to avoid the risks of entering unfamiliar sectors.

7.6 RESEARCH FINDINGS

7.6.1 Introduction

The different construction sub-sectors are characterised by different statutory requirements pertaining to safety and different mixes of plant and equipment, labour and materials. The Department of Public Works (1999) in a recent publication suggests that the labour : plant and equipment : material ratios for selected construction activities are as follows :

- Surfaced roads - 11 : 64 : 25
- Gravel road - 15 : 66 : 19
- Bridges - 20 : 10 : 70
- Sewer and water reticulations - 18 : 19 : 63
- Electrical reticulations - 15 : 7 : 78
- Buildings - 35 : 5 : 60

For the purposes of the research entry level thresholds are defined in 7.3.1 as:

"those business factors which, when combined, create the criteria for participation in a sub-sector, which an enterprise must have the capacity to satisfy in order to successfully tender and operate".

Research on supply side constraints was conducted into the role of sub-sector Associations in creating entry thresholds to a sub-sector, and into business practices and decisions in companies that determine the sector in which they operate.

7.6.2 Sector participation

Table 7.3 indicates a tendency amongst ABEs to be concentrated in general contracts, at a level of 61,7% of the ABE sample. The next highest level of participation is in the general and civil sector, where 23,7% participation is indicated. When these two sectors are combined, a participation of 85,2% is indicated. A more even spread of participation is indicated for non-ABEs, where a concentration of 47% of contractors is recorded in the electrical/mechanical sub-sector.

The application of the X^2 test to the data indicates a statistical significance (P = 0,022) in the observed tendency of ABEs to remain in the general sub-sector. The results for the analysis of ABE status by sub-sector of activity are:

X^2 value : 5,262
Degrees of Freedom: 1
Significance: 0, 0218

Where the level of significance is selected at p<0,05, as for the statistical analysis in chapter 6, the apparent concentration is found to be statistically significant

7.6.3 Reasons for ABE concentration in General Contracts

The data was examined to identify any reasons that suggest why ABEs tend to be concentrated in general contracts. The author examined the association between various responsibilities in the enterprise and whether or not the enterprise is general or not. The results of the X^2 test for ABEs is presented in Table 7.34.

TABLE 7.34: Results of X^2 test on the relationship between responsibilities and sub-sector of activity for ABEs.

Responsibility & Experience & Qualification	X^2 value	DF	P- values
Management			
General management	1,311	1	0,252
Financial responsibility	2,357	1	0,793
Tax and statutory obligations	0,020	1	0,124
Tender documents	0,020	1	0,886
Evaluation of technical requirements	0,010	1	0,921
Costing of prices	0,016	1	0,898
Administration of awarded contracts	2,743	1	0,097
Health and safety	1,527	1	0,216
Experience			
Years of management experience	0,143	1	0,735
Years of financial experience	0,343	1	0,558
Qualification			
Management qualification	0,343	1	0,558
Financial qualification	2,357	1	0,124

The results of application of the X^2 test are shown for these factors for which sufficient data was available to populate all cells.

The data indicates no statistical significant associations with the sub-sector in which ABEs operate.

The application of the X^2 test to data for non-ABEs in the same manner as above did not indicate any statistically significant associations.

These results support the observations regarding specialised tasks and perceptions of thresholds. For the former, the bi-variate analysis suggests that ABE enterprise owners/ directors appears to perform

more tasks in estimating, tendering and contract administration and that fewer ABE owners have tertiary qualifications than non-ABE owners. The analysis of activity in other sub-sectors suggests that general contractors are least likely, on past record, to seek contracts in other sub-sector.

7.6.4 Volumes of work

Tables 7.24 to 7.26 indicate that ABEs experience less consistent rates of work with lower volumes than non-ABEs. ABEs generally achieved higher numbers of contracts in the general sub-sector.

The author tested for significance in the differences in the number of contracts completed during 1998 by ABEs and non-ABEs and sought to identify any factors that can account for any differences found.

None of the factors for either ABEs or non-ABEs that were entered into the regression model show a statistically significant association with the number of contracts completed in 1998.

For ABEs none of the factors in the model shows a statistically significant association with the number of contracts completed as the principal contractor for public sector contracts.

For non-ABEs a significant relationship between the number of public sector contracts completed as principal contractor and both year of establishment and experience in financial management is found. The results are presented in Table 7.35.

TABLE 7.35: Results of regression model to test the associations for number of public contracts completed as principal contractor.

	Sum of Squares	DF	F	Significance of F
Year of establishment	1 049,796	1	11,321	0,008
Financial management experience	977,467	1	10,541	0,010

The data indicate a correlation for non-ABEs between increasing age of a company and the number of public contracts completed as principal contractor. A positive relationship is also observed between experience of financial managers and the number completed contracts.

No significant association was indicated for the number of completed private contracts completed as principal contractors by ABEs or non-ABE.

7.6.5 The role of sub-sector Associations on the establishment of thresholds

The author does not interpret the membership requirements of BIFSA, SAFCEC, NABCAT and ECA to be barriers to participation in any of these sub-sectors. Where employing agencies may require membership as a tender requirement, then such membership will become an entry threshold or barrier in the short term. The Department, however, does not require that tenderers are members of these organisations for purposes of qualification for public tenders.

A distinction must be made between membership of a general sector or sub-sector organisation and compliance with statutory requirements. Different standards are applied in practice between the different sub-sectors. The author concludes from the research that general and civil sub-sectors appear to have looser compliance management than the electrical sub-sector, and that compliance does not represent a firm entry threshold.

The research into business practices clearly indicated that labour and safety requirements are not uniformly met by contractors in that research sample. The research indicated also that compliance is not uniformly reviewed by project managers and principal agents. Generally low levels of knowledge of these aspects were found. The author found that neither BIFSA, SAFCEC nor NABCAT are active in ensuring compliance with statutory requirements by members. ECA does monitor the enforcement of certain statutory requirements by members. The author concludes that heightened monitoring and enforcement of labour and safety regulations in the electrical sub-sector differentiates it from the general and civil sub-sectors and imposes a more onerous threshold. The capacity of an enterprise to comply or not comply will determine its ability to satisfy those participation criteria.

In the interviews with each organisation a distinction was made between the technical requirements for participation and managerial and business requirements. Both BIFSA and SAFCEC have business management components in their certified training programmes. At the time of the interviews ECA was preparing similar training programmes for submission for accreditation. NABCAT is not directly involved in training but strongly motivated the need for entrepreneurial contractors.
The author concludes that membership of these sub-sector organisations does not constitute a barrier to entry and does not appear to constitute a barrier to horizontal movement between sub-sectors. None of the associations themselves operate actively or passively to create restrictive entry thresholds. The author acknowledges the weighting given in the interviews to the non-technical business management factors. The interviewers did not identify these as barriers to entry, but did recognise that failure by contractors in these aspects would lead to failure of an enterprise itself.

The author also notes that most of the representatives also identified managerial and business components as being important participation thresholds. They are broadly identified as determinants of the viability of an enterprise, which impact on the capacity of companies to enter a sub-sector competitively and survive and grow in it.

7.6.6 Structured sub-sector threshold research

Through this research the author sought to test the propensity of contractors to enter another sub-sector through an understanding of business decisions taken. The sample size achieved in the research was not of sufficient size to provide adequate data across all variables. The author recommends that the Department conduct real time research on all awarded tenders through the structured questionnaire.

On the basis of the data analysed, the author found that the following areas do not constitute obstacles to participation in a subsector:

- basic enterprise characterisation;
- personal experience in the sub-sector;
- specialised technical expertise and work processes;
- access to finance and credit;
- guarantees;
- access to plant and equipment;
- capitalisation requirements;
- established relationships with sub-contractors and /or suppliers;
- steady availability of projects;
- compliance with statutory requirements; and
- own perceptions of thresholds.

The research suggests that the most important variables in the concentration of ABEs in general contracts are managerial. ABE owners tend to delegate tasks in a different manner to non-ABE owners. They tend to perform most technical aspects of contract acquisition and management themselves, which is in contrast to owners of non-ABEs. It is observed that ABE owners are more likely to rely on matriculation education and work experience as the foundation of their management.

The author concludes that by concentrating key tasks under owners, and not delegating them to professionally and technically qualified individuals ABEs establish operational limitations that have more influence on their activities than sub-sector thresholds.

Masiyiwa (1994) makes the observation that there was no black construction industry in Zimbabwe to speak of when independence was attained in 1980; the activities of black contractors accounted for less than 1% in terms of monetary value of the construction work available. This situation remained unchanged for nearly 10 years and then in 1994 rose to 10% of the available work by volume. Masiyiwa attributed this to :

1. The change of government economic thinking which led to a restructuring of the national economy.
2. The emergence of experienced black construction professionals through the programme known as "Presidential Civil Service", the objective of which was to correct the imbalances in the civil service and parastatals in terms of employment. (The spinoff to this programme was that by 1988 there was a steady stream of experienced black professionals into the industry who had been exposed to meaningful management activities).
3. The conversion of the Emergent Building Contractors Association of Zimbabwe into the Zimbabwe Building Contractor's Association, an organisation which began to address factors such as the capacity enhancement of black contractors.
4. The World Bank Study on the Zimbabwe Construction Industry which exposed the characteristics of the industry regarding racism, cartels and unfair trade practice and provided the impetus to develop an effective Affirmative Action Programme which incorporated fixed subcontracting quotas and direct preferences in favour of black contractors and capacity building programmes.

The catalyst to growth of the black construction industry in Zimbabwe was the emergence of experienced black professionals who had been exposed to meaningful management activities. They were needed to take advantage of the opportunities presented through governments procurement policies. The author asserts that the research supports the Zimbabwe experience.

The author concludes that the growth in the number of professionally qualified persons with suitable management exposure in the electrical, mechanical and civil sub-sectors is necessary to increase ABE participation in these sub-sectors. Supply side measures should accordingly focus on the development of such professionals and their exposure to management and business practices.

7.7 CONCLUSIONS

The research into construction sub-sector thresholds supports the hypothesis namely :

"Affirmable Business Enterprises participation varies according to different construction sub-sector entry level thresholds."

The full enablement of Affirmable Business Enterprises does not rest on being provided with participation opportunities; it requires focussed supply side interventions that are structured to address:

- The identified disparities in performance which the research identified.
- The development of black electrical, mechanical and civil engineers technologists and technicians and exposure of such persons to appropriate management and business practices.

CHAPTER 8

THE IMPACT OF THE AFFIRMATIVE PROCUREMENT POLICY ON CONTRACTING RELATIONSHIPS IN THE CONSTRUCTION MARKET

8.1 INTRODUCTION

This chapter examines the impact which the Affirmative Procurement Policy has had on subcontracting and joint venture relationships at prime contract level in the construction market. Two hypotheses are tested, viz.;

1) **The application of the policy has resulted in better regulated relationships between prime contractors and subcontractors.**

2) **The policy promotes joint venture relationships between established contractors and Affirmable Business Enterprises.**

The TP1(APP1) specification for the Targeting of Affirmable Business Enterprises and the TP2(APP2) specification for Structured Joint Ventures (Affirmable Partners) are the two resource specifications which are used to implement the Affirmative Procurement Policy in engineering and construction works contract (DPW, 1998).

In Chapter 2, construction industry was defined as being a broad conglomeration of industries and sectors which add value in the creation and maintenance of fixed assets within the built environment. The Implementation Manual for the use of Targeted Procurement to Implement an Affirmative Procurement Policy (Strategic Procurement Systems, 1999) in harmony with this definition defines engineering and construction works contracts as being :

> *"the provision of a combination of Goods and Services arranged for the development, extension, installation, repair, maintenance, renewal, removal, renovation, alteration, dismantling or demolition of a fixed asset including building and engineering infrastructure."* [1]

The aforementioned specifications target Affirmable Business Enterprises in the full delivery chain. Credits towards the attainment of resource goals may be passed for obtaining services, goods or works from such enterprises who participate in the delivery chain including suppliers, manufacturers, transporters, service providers and the like.

The definitions for both the construction industry and engineering and construction works contracts implies that there are relationships between participants in the provision and refurbishment of assets. There are a number of reasons for the existence of such relationships and a number of factors which form and shape the nature of such relationships.

---

[1] This Implementation Manual further defines:

- *Goods as being "the supply of raw materials or commodities made available for general sale.*
- *Services as the provision of labour and/or work carried out by hand , or with the assistance of equipment and plant and including the input, as necessary, of knowledge based expertise."*

The author in this chapter deals only with relationships between the prime contractor and subcontractors who are providing services or works which are directly related to physical construction and joint venture relationships between established contractors and Affirmable Business Enterprises at prime contract level only.

8.2 SUBCONTRACTING RELATIONSHIPS

8.2.1 Background

General building contractors have historically employed supervisors, artisans and labourers directly. However, recessions and trade union action caused contractors, increasingly, to shed their labour forces and resort to subcontracting to firms who specialised in certain construction activities or provided labour to undertake specific trades. This practice has enabled contractors to respond flexibly to abrupt changes in demand (Debrah and Ofori, 1997).

Debrah and Ofori (1997) when reviewing the literature found that the management rationales for subcontracting included access to specialist technology; downloading financial risk; off-loading direct employment responsibilities; labour flexibility; reduced indirect control cost; use of cheaper labour; dispersion of risk; as a buffer to core production and as a managerial strategy to divide the working class.

By contracting to pay subcontractors monthly in arrears and introducing "pay when paid" clauses, contractors did not have to finance the subcontractor's labour, plant or materials. Subcontractors, however, had to pay their labour fortnightly and pay promptly for materials and hired plant. In some cases "pay when paid" came to mean "pay-when-paid, or later" and sometimes "much later", or even "not at all".

Today, subcontractors have very little negotiating power with prime contractors, since there is always a "next job syndrome", a threat of non-payment by the prime contractor and the possibility of victimisation.

Some of the problems of which subcontractors commonly complain include the "hawking" of their prices by prime contractors in order to obtain lower prices from others, the risk of non-payment, the use by prime contractors of hard earned subcontractors' monies as an interest free overdraft facility and having their interests represented by prime contracting bodies at forums.

Subcontractors undertake a significant proportion of the total value of work on building sites. Subcontractors are specialists in their own right and form the backbone of the building industry (Latham, 1994). Most subcontractors are small, medium and micro enterprises, a group which the Reconstruction and Development Programme (ANC, 1994) seeks to develop and affirm.

The author is of the view that the failure, in the past in South Africa, by government as an employer to address subcontracting issues has led to the situation that many targeted businesses in the public sector development programmes spurn subcontracting opportunities and exert pressure on the public bodies to fragment works to enable them to participate as prime contractors. The attitude of the previous government to subcontractors is most evident in its failure to provide for interlocking subcontract agreements in its inhouse conditions of contract such as the COLTO Conditions of Contract and The Department of Public Works' OW 677 Conditions of Contract. In contrast, all standard industry conditions of contracts in South Africa have interlocking conditions of subcontract. Furthermore, the government forms of contract did not require main contractors to enter into written subcontracts with subcontractors.

8.2.2 Review of policy provisions for subcontracting arrangements

8.2.2.1 Green Paper proposals on subcontracting

The Green Paper on Public Sector Procurement Reform in South African (MOF and MPW, 1997) made reference to subcontracting issues as follows :

> *"Invariably, as employers only have a relationship with the prime contractor, they regard subcontracting issues to be the prime contractor's problem and of no concern to them. Subcontracting is an effective means of involving small, medium and micro enterprises in public sector procurement activities. As such, the plight of subcontractors cannot be ignored. Accordingly, measures need to be taken to address the shortcomings in the current subcontracting arrangements, particularly in respect of engineering and construction works contracts. Such measures could include some or all of the following :*
>
> 1) *The establishment of Trust Funds or other such secured payment routes.*
> 2) *Mechanisms to deal with late payments.*
> 3) *Protection against prime contractor insolvency.*
> 4) *Outlawing of pay-when-paid practices; the use of unfair set-off; provisions which seek to prevent access to adjudication or frustrate its conclusions.*
> 5) *Introduction of fair conditions of subcontract.*
> 6) *Introduction of Alternative Dispute Resolution procedures in standard forms of subcontract.*
>
> *The Green Paper proposed that*
>
> - *The conditions of subcontract should be regulated in public sector Procurement in order to ensure that subcontractors are engaged in terms of fair conditions of contract.*
> - *Contractors who contravene the proposed provisions contained in the code of*

conduct relating to sub-contractors should be deregistered.

- *Secured payment routes should only be considered should the other measures Which have been proposed not address the root causes of late, or non-payment."*

The Green Paper attracted written responses from a total of 106 individuals, organisations and bodies, of which 27 addressed this section of the paper. Respondents ranged from industry based contracting organisations to small subcontractors and from individuals to parastatals and, with the exception of the South African Federation of Civil Engineering Contractors (SAFCEC), all welcomed the proposals and endorsed them. SAFCEC's opposing view was that the state should not interfere in commercial agreements between principals and their subcontractors.[2]

8.2.2.2 The provisions made in the Affirmative Procurement Policy for subcontracting

The Affirmative Procurement Policy makes use of resource specifications to create subcontracting opportunities for targeted enterprises as outlined in Chapters 4 and 5 and the introduction to this chapter. Cognisance was taken of the reason for targeted enterprises spurning subcontracting opportunities that arose during the development of the policy, viz., the harsh and unfavourable conditions of subcontracts.

It was, furthermore, recognised that targeted enterprises participating in Government programmes as subcontractors could not reasonably be expected to depend on the integrity and sympathy of the main contractor in order to achieve a fair outcome to their subcontracts. A well established and experienced subcontractor is in a far better position both to assess the risks imposed on him by a conventional subcontract agreement and to manage those risks. The drafters of the resource specifications, accordingly, identified a group of unfair conditions of subcontract in the resource specifications in order to regulate the subcontracting relationship between the targeted enterprises and the prime contractor. In terms of the resource specifications, it is mandatory for prime contractors to enter into written subcontracts with targeted enterprises. Credit towards the attainment of a contract goal obligation is denied should the contract contain any of the following provisions (DPW, 1998):

- *"A right of set-off in favour of the employing contractor.*
- *Authoritarian rights given to the employing contractor, or his agent, with no recourse to independent adjudication in the event of a dispute arising.*
- *Payment procedures based on a pay-when-paid system.*
- *A dispute resolution procedure which does not include inexpensive Alternative*

[2] Industry has now accepted the principle of fair conditions of subcontract. The Construction Industry Development Task Team's focus group 6 has released a best practice guide in this regard. (August 1999).

Dispute Resolution (ADR) procedures such as mediation or adjudication, but only makes use of formal proceedings such as arbitration or litigation.

- *Unreasonable retention percentages and periods of retention after completion.*
- *A requirement for a surety to be provided in contracts of value less than R100 000.*
- *Conditions which are more onerous than those which exist in the main contract."*

8.2.3 Methodology outline

8.2.3.1 General

The TP1(APP1) specification (Targeting of Affirmable Business Enterprises) (DPW, 1998) requires that contractors engage ABE subcontractors in terms of written contracts which do not include unfair conditions of contract as set out in 8.2.2.2. Accordingly, the resource specification TP1(APP1) captures the essentials of the policy and regulates the relationship between the prime contractor and subcontractors in accordance with the policy. In order to test the hypothesis, however, it is necessary to :

i) Examine the forms of subcontract used on a sample of contracts, in order to establish whether, or not, the provisions of the TP1(APP1) specification are, in fact, reflected.

ii) Interview a random sample of ABE subcontractors in order to establish :
   a) Their understanding of the nature and form of the subcontract agreement used.
   b) What training, if any, they had to enable them to understand the subcontract agreement used.
   c) What the nature of their subcontracting relationships was on previous contracts where the policy was not applied.
   d) What their perceptions (positive, or negative) were of the subcontracting arrangements promoted by the policy.
   e) What improvements should be made to the policy.
   f) Whether, or not, a written subcontract resulted in improved relationships with the Prime Contractors.

iii) Ascertain the views regarding the policy of the prime (main) contractors, and principal agents involved in the sample of contracts

iv) Ascertain the views of the largest established employer association in the building industry, Building Industries Federation of South Africa (BIFSA), on the policy.

A desk study was performed on the forms of subcontract agreements used in the sample in order to confirm compliance with the policy. Interviewing techniques as set out in 8.3.2.3 were utilised to establish the aspects surrounding the implementation of the policy described in (ii) above, and

questionnaires were set up as described in 8.3.2.3, to test the views of principal agents, prime contractors and BIFSA regarding the policy.

The author recognised that different aspects would be important to the different parties and the questionnaires referred to above were structured accordingly. The prime contractor questionnaire probes the sub-contracting process, the methodology for obtaining targeted sub-contractors during or before a contract, the qualities or attributes that were important in the selection of subcontractors and the prime contractors' response to the conditions of the resource specifications. The principal agent questionnaire probes the interface between the prime contractor and client's agent and the implications, or consequences, of the specifications on the execution of the project.

8.2.3.2 *Sample Selection*

A list of all current National DPW projects at construction stage for Johannesburg and Pretoria was obtained and analysed in order to identify suitable projects for auditing purposes. The original projected expenditure for the two areas as contained in the NDPW budget for the current 98/99 financial year was found to be R234 million. Of this expenditure, R141 million could be classified "general", as distinct from "civil, mechanical or electrical". Projects were further broken down into capital expenditure, which comes from the budgets of client departments, and repairs and renovations which is funded from the Department's own budget. An analysis of the expenditure split between capital projects and repairs and renovations is shown in Table 8.1 :

TABLE 8.1 : BREAKDOWN OF PROJECTED EXPENDITURE FOR JOHANNESBURG AND PRETORIA (1998/99 FINANCIAL YEAR)

PROJECT LOCATION	CAPITAL (R MILLION)	REPAIRS (R MILLION)
All projects		
Johannesburg	81,5	13,6
Pretoria	39,5	99,4
Total	121	113
General projects		
Johannesburg	65,3	4,9
Pretoria	28,2	42,8
Total	93,5	47,7
% of All Projects	**66**	**34**

Two capital projects and two repair projects in Johannesburg and one capital project in Pretoria were examined. The projects selected were for client departments for whom Departmental project

managers administer the projects. Of the five projects audited, two fell under the auspices of the South African National Defence Force (SANDF), two were for police station construction or upgrading, and one was a restoration project for the Department of Justice. Two of the prime contractors were Affirmable Business Enterprises.

The projects selected complied with the criterion that 20-40% of the planned project expenditure for the 1998/99 financial year had been spent, implying substantial project progress in the current financial year. Projects on which there had been little or no expenditure were disregarded.

A list of the projects to be audited was forwarded to the Department and relevant information and data, including contract documents, was obtained from project managers and consultants, in order to focus the interviews conducted with the prime contractors and subcontractors. A sample of subcontracts for labour, plant, materials or combinations thereof and the natures of the ABEs involved (sole proprietor, close corporation) were examined. The numbers of subcontractors employed on the five audited projects are shown in Table 8.2.

TABLE 8.2 : KEY SUBCONTRACTOR STATISTICS OF SAMPLE

TYPE OF SUBCONTRACT	TOTAL FOR AUDIT	DOCUMENTS RECEIVED /INTERVIEWED	% OF SELECTED ABEs EVALUATED
Labour and materials	37	7	19
Labour only	19	6	31
Materials only	5	0	0

A further two projects (one capital project and one repairs project within the Johannesburg/Pretoria area) which satisfied the abovementioned criteria were identified to increase the number of likely respondents to the questionnaires prepared for prime contractors and principal agents in order to obtain at least 5 responses in each category. The number of questionnaires sent out and those completed is set out in Table 8.3.

TABLE 8.3 : QUESTIONNAIRES FOR PRIME CONTRACTORS AND PRINCIPAL AGENTS

TYPE OF QUESTIONNAIRE	QUESTIONNAIRES SENT OUT	QUESTIONNAIRES RECEIVED	%
Prime Contractor	7	7	100
Principal Agent	6	5	84

8.2.3.3 Survey instruments

Subcontractor Interviews

A series of structured interviews were conducted (see Appendix 8.1). The names of those interviewed, their projects and the results were kept confidential to ensure a positive, honest response by participants. The interviews were based on a descriptive interview technique.

The questionnaire presented in Appendix 8.1 contained the following sections :

1. Company profile
2. Subcontract profile
3. Nature of subcontract
4. Sureties and retention monies
5. Payment procedures
6. Dispute resolution mechanisms

Section one captures the particulars set out in Appendix 8.2 and enables conclusions to be drawn regarding the impact of the policy on the formalisation of the subcontracting industry, e.g., company registration with South African Revenue Services. Section two establishes the basic footprint of the subcontract in question, whilst section three establishes the nature and form of the subcontract and probes issues such as previous subcontract agreements, understanding of the document, training received and suggestions for policy improvement as set out in the TP1(APP1) specification. The remaining section deals with various aspects of the policy.

The ABE declaration affidavit (Annex C of the TP1(APP1) specification) was completed by the subcontractors to provide background information on each contract. (See Appendix 8.2).

During the interviews, questions were structured to determine previous relationships between the subcontractor and the prime contractors. This provided the basis for an analysis of the problem and positive elements of the current subcontract.

Principal Agent Questionnaire (Appendix 8.3)

The questionnaire is divided into six sections. Section one takes the criteria for fair conditions of subcontract, as set out in 8.2.1.3, and applies a five point scale to each criterion to determine the principal agents' views thereon. The answers were able to be expanded by the use of descriptive comments on each criteria.

Section two looks at the status quo relationship for subcontracts. It compares the principal agents'

perceptions of subcontracts during the previous dispensation with the current relationships. It asks questions on the benefits and problems of using formal subcontracts.

Section three reviews the need for regulating and formalising subcontracting arrangements and evaluates the available documentation. It looks at mechanisms to ensure that any new documentation would be acceptable to the industry and be utilised.

Sections four and five look at compliance monitoring, dispute resolution and the interface between current documentation and the APP requirements.

Section six examines training aspects associated with subcontracting agreements.

Prime Contractor Questionnaire (Appendix 8.4)

Section one is an introductory section which examines the structure, human resources and capacity of the contractor. Section two is similar to the principal agent questionnaire and looks at the status quo of subcontract documentation. It requests responses on the benefits and problems experienced during the subcontract relationship. It investigates the sourcing of ABEs within projects and, using the five point scale, evaluates the attributes that are important when sourcing ABEs.

Section three looks at subcontract administration and dispute resolution and evaluates the prime contractor's viewpoint on the principles emanating from the APP specifications.

The acceptance of the criteria for fair conditions of contract is, as in the principal agent questionnaire, determined using the five point scale.

Sections four and five look at the adequacy of the subcontract documentation currently used in the industry and contractors' individual short to medium term strategies with respect to subcontracting.

BIFSA Interview (Appendix 8.5)

The first section establishes the historical development of the BIFSA document, the latest reviews of it and how the documentation is reviewed and amended.

The second section uses the five point scale to determine reaction to the criteria contained in the APP specifications.

Sections three and four evaluate the need for general format subcontract documentation and BIFSA subcontract documentation's degree of compliance with the APP specifications.

8.2.4 Presentation and interpretation of results

8.2.4.1 *Subcontractor interviews*

Nature and form of the subcontract

The interviews with subcontractors and an examination of the documentation obtained revealed the following :

1. The preferred industry standard form of subcontract for general use on building subcontracts is the BIFSA subcontract. The BIFSA subcontract document is used both on contracts where the subcontractors are required to provide materials and labour and where subcontractors are contracted to perform large labour only subcontracts. (subcontract value ≥ R50 000).
2. For small labour only contracts, the contract is frequently a verbal one. It was, however, found that, in some instances, subcontractors would insist on receiving written orders before commencing work, such orders then constituting the contract.

The BIFSA document contains two separate subcontract documents, one being a specialised engineering services subcontract document (for mechanical, electrical and other services, piling and ground engineering, etc.) and the second a building subcontract document. The subcontract documents differentiate between nominated and non-nominated, or domestic, subcontractors. The latest edition of the contract which could be obtained was dated 1988. (The new JBCC subcontract agreement was not yet in print). The document contains annexures which must be used when a subcontract falls under the Joint Building Contracts Committee (JBCC) Principal Building Agreement.

The "Agreement and Schedule of Building Sub-Contract" which is used for labour only subcontracts and the "Agreement and Schedule of Conditions" which was used for material and labour contracts is 25 pages in length and contains a 3 page schedule which is to be completed by the subcontractor as a summary of essential information.

The schedule, for both subcontract documents, gives the following information :

- Contractor and subcontractor particulars;
- Location of site and description of the subcontract works;
- Subcontract documentation;
- Subcontract sum;
- Employer's, Quantity surveyors and Agent's particulars;
- Insurance and programme requirements;
- Payment conditions;
- Arbitration details;
- Cessions.

The subcontract is very detailed and contains 42 clauses. Not all the clauses were evaluated. Only those requirements mentioned in the TP1(APP1) specification as being criteria for an acceptable form of subcontract were examined.

None of the subcontractors had received any formal training on the nature and form of the subcontract agreement. However, most of them had an idea of the nature of the schedule and of the practical details regarding programme and completion dates, invoicing, retention payable and the nature of the contract works. When asked if they had ever read the contract document they replied in the negative, or were vague and evasive, which tends to suggest, that they may have read it, but had not fully understood it. The written subcontract had not been used on most previous subcontracts and the subcontractors considered that they had all been subjected to exploitation by the main contractor at one time, or another, in the absence of a written agreement. On one project where no written subcontracts had been used, there was major dissatisfaction from the labour-only subcontractors, who felt that they had been underpaid and exploited. No written orders to sub-contractors could be produced by the main contractor on this contract.

Dispute Resolution Procedure

The TP1(APP1) document (Clause 3.3.4) states that :

> *"Cognisance will be taken of the proposed conditions of contract and subcontract between ABE and non-ABE. Credits claimed towards participation goals will not be allowed if such contracts contain :*
>
> - *A dispute resolution procedure which does not include inexpensive Alternative Dispute Resolution (ADR) procedures such as mediation or adjudication, but only makes use of formal proceedings such as arbitration or litigation.*
> - *Authoritarian rights given to the employing contractor, or his agent, with no recourse to independent adjudication in the event of a dispute arising."*

The BIFSA subcontract document (Clause 37) stipulates arbitration as the standard manner of dispute resolution. Some of the documentation obtained from contractors named the arbitrator and some stated "to be appointed". Clause 37 is very detailed and defines the arbitrator's functions (Cl 37.4). All communication for arbitration is to be written and the arbitrator's powers are binding and irrevocable (Cl 37.6).

In all cases where the BIFSA subcontract document was used, no ADR procedures were specified. Therefore none of the subcontract agreements was in compliance with the TP1(APP1) specification. Accordingly, no resource goal credits should have been granted on any of these contracts.

For labour only, or small subcontracts, including those for specialised work such as fencing, pest control, gutters, ceilings, waterproofing, etc. the normal procedure was for an order to be given to the subcontractor. This order normally contained standard terms and conditions, which varied considerably in regard to dispute resolution, but usually favoured the main contractor.

Payment Procedures

The relevant portion of the TP1(APP1) specification, Clause 3.3.4, states:

> *"Credits claimed will not be allowed if such contracts contain:*
>
> - *A right of set-off in favour of the employing contractor*
> - *Payment procedures based on a pay-when-paid system."*

The salient points from the BIFSA subcontract document are :

- Monthly certificates are to be submitted by the subcontractor for work completed and materials on site.
- Payments due to the subcontractor must be made not later than 10 days after the due date for payment to the contractor by the Employer.
- Should the contractor not make payment as stipulated above, the settlement discount will be forfeited and interest at prime plus 2% will be payable.
- No payments are due unless certified by the Principal Agent.
- The subcontractor has the right to suspend work on giving 7 days written notice if not paid.

Contractually the BIFSA subcontract document has payment procedures based on a pay-after-certification basis. Once the certificate is certified by the Employer's Agent, a due date for payment is determined and the contractor is bound to pay the subcontractor timeously or the subcontractor is automatically entitled to the payment of interest and has the right to suspend the work.

In practice, the following arrangements were found to be operational on all BIFSA subcontracts. Projects extended over periods of several months and certificates were submitted and payments made monthly or fortnightly. This enabled the ABEs to pay their staffs and suppliers. The prime contractors were large companies and, if they were not paid timeously by the Employer, had no option but to fund the work in order to allow it to proceed. The ABEs, generally, did not have reserves to

enable them to operate without monthly payments. The implications of possible go-slows, labour unrest etc., was found to be the motivating factor in ensuring that the prime contractors paid their subcontractors timeously.

Orders for small work, on a supply and install basis, were generally paid 30 days after presentation of invoice, normally on completion of the work.

The BIFSA subcontract document (Clause 31) does give the prime contractor the right of set-off against any money due to the subcontractor provided that the subcontractor has been given reasonable prior written notice to remedy the cause of the set off. This is in breach of the TP1(APP1) specification.

Retention and Sureties

The relevant section of Clause 3.3.4 of the TP1(APP1) document states:

> *"Credits claimed will not be allowed if such contracts contain:*
>
> - *Unreasonable retention percentages and periods of retention after completion*
> - *A requirement for a surety to be provided in contracts of value less than R100 000."*

All contracts were found to be in compliance with the specifications. The retention amount used by all prime contractors and subcontractors was 10% subject to a maximum of 5%. On labour only contracts a 5% retention amount was used in 20% of the cases. The BIFSA schedule sets a maximum value of 5% of the subcontract sum for retention. The retention is to be paid out 6 months after the date of practical completion of the Contract Works, unless an earlier date is agreed in writing. The retention amounts are essentially the same as those provided for in the Department of Public Works OW 677 General Conditions of Contract, viz., 10% subject to a maximum value of 5%. The retention period was found to be 3 months in 60% of interviewed cases, which is half the BIFSA requirement. The OW 677 conditions of contract provides for 2/5 of the retention monies to be released upon issue of First Delivery Certificate, a further 2/5 upon issue of Final Delivery Certificate, which is issued 3 months after the First Delivery Certificate, and the final 1/5 on acceptance of the final certificate.

No sureties were requested by the prime contractors from any of the sub-contractors interviewed for contracts of value less than R100 000. In one instance, on a labour only contract with a value greater than R100 000, no surety was required.

Previous Experience in Subcontracting

All subcontractors interviewed had previously experienced exploitation when there was no written subcontract. The attitude of the prime contractors was described as being authoritarian. Additionally, there were no formal dispute resolution procedures, which produced a feeling of helplessness.

There was little or no stipulation of payment procedures, project scope, time, or penalties and this sometimes led to reduced payments. There was very little transparency regarding payments that the main contractor received from the client. The only statements made on payments received from the client were verbal and this led to abuse, whereby the main contractor was paid in full, but gave the subcontractors reduced amounts. However, there was no method of checking these allegations. The formal written subcontract has resulted in a transparent relationship with the prime contractor in most cases.

Positive Elements

The positive elements of the written subcontract were discussed with the various subcontractors. The statements below are drawn from the more significant comments made at the interviews.

The most important aspect is that the written subcontract is a legal document and is binding on the prime contractor. It provides a basis for payment, defines the contractual situation, describes the work and expectations of both parties and assists in ensuring that payment will be forthcoming. This was borne out in the audit where, when no written subcontract was in place, the subcontractors (mostly labour only) felt exploited and prejudiced by the fact that their expectations were not defined at the beginning of the subcontract. Prices for the work to be performed were, almost always, stipulated, but, because there was no written subcontract, the subcontractors formed unrealistic expectations of payments due to them and had no basis for complaint about underpayments, or late payments.

The formalising of the subcontract relationship through the Affirmative Procurement Policy has resulted in an increased formalisation of subcontractors' businesses. Eighty percent of the subcontractors interviewed had formed close corporations during the period after 1994 and had registered with the South African Revenue Services.

Formal subcontracts have added to their understanding of the projects and the contractual process and has lessened the exploitation that was previously evident. Better returns are being experienced by the subcontractors, due to the defined scope of works with variations and extras being documented and paid for.

Problems

In the interviews and discussions regarding the problems with current subcontract documentation it was observed that many of the problem areas are common to emerging contractors in general. The problems related to the administrative, financial, programming, cash flow and legal aspects of a contract. However, the absence of a written subcontract document, agreement, or order, was highlighted as the most important problem.

As the BIFSA Agreement of Building Sub-contract was chosen as the form of subcontract agreement by the prime contractor in most instances the other problems experienced are, effectively, a critique of this document. The following problems were highlighted:

- The document was felt to be too long, too complicated and difficult to understand.
- The conflict resolution procedure was too remote and costly to be of any benefit.
- The length of the payment procedures were highlighted and the time for payment was felt to be too long, particularly as most subcontractors did not have adequate capital reserves.

Other problems experienced were how to programme and administer contracts. It was felt there were so many laws and regulations to follow and comply with, that it often left very little time to complete the work.

Schedules and bills of quantities were sometimes described as complicated and a request was made for some sort of plant/labour/ material overheads division within documents.

Improvements

A simple labour only subcontract document and a subcontract document that covers materials, plant etc., were requested.

The subcontractors requested management training and help in other areas of contract management (cashflow, programming, capital management, administration). A shorter payment cycle and a simple conflict resolution procedure were requested, to be defined for all contracts.[3]

8.2.4.2 *Questionnaires*[4]

General

The completed BIFSA interview form is reproduced in Appendix 8.5. Mr. P. Griessel, General

[3] The DPW developed and published in September 1998 a subcontract for labour only and labour and materials which complies with the principles contained the TPI(APPI) specification. This document took account of some of the concerns raised during these interviews.

[4] The documents in use at present have been used as the basis for the discussion although this may not be the latest documentation as issued by BIFSA. BIFSA are presently issuing the JBCC 2000 documentation series. The domestic sub-contract was being printed during the December 1998/January period when the research was conducted and was unavailable for evaluation

Secretary (Gauteng), completed the form on behalf of BIFSA[5]. The responses to prime contractor and principal agent questionnaires are collated and presented in Appendix 8.6.

8.2.4.3 *Responses on fair conditions of subcontract*

The corresponding sections of the questionnaires for prime contractors, principal agents and BIFSA were tabulated and combined (see Table 8.4) in order to compare responses to the TP1(APP1) specifications for the fair conditions of contract. These responses were rated on the scale (1-5) where score 5 represents the most supportive response and score 1 represents the least supportive response.

TABLE 8.4 : COMPARISON OF ATTITUDES TOWARDS APP "FAIR" CONDITIONS OF CONTRACT

PRINCIPLE TO BE INCLUDED IN SUBCONTRACT	SCORE ON FIVE POINT SCALE (1-5)		
	PRIME CONTRACTORS	PRINCIPAL AGENTS	BIFSA
Right of set off by employing contractor	3,6	4,0	1
Authoritarian rights given to employing contractor or agent	3,7	4,1	1
Pay when paid, payment procedures	4,1	4,2	3
Alternative dispute resolution procedures : mediation or adjudication	3,9	3,4	4,5
Retention percentages same as main contract	4,0	4,0	0
Surety requirements must be provided for values< R100 000	2,6	3,2	1
Conditions of subcontract same as main contract	4,4	4,4	3

NOTE : *1 = least supportive; 5 = most supportive*

In general, BIFSA is supportive of the principles of fair conditions of subcontract being included in subcontracts with ABEs as laid down in the TP1(APP1) specification. On the other hand, prime contractors and principal agents generally disagree with the TP1(APP1) provisions.

Right of set-off by employing contractor

The majority of main contractors and principal agents supported the right of set off by the employing contractor. The main reason given is the external requirement imposed on the main contractor by suppliers of materials and other goods. Many ABE subcontractors do not have credit facilities and are

[5] The views are not necessarily representative of the organisation as a whole. The questionnaire was sent in December 1998 to BIFSA. IIt was not possible at this time of the year to obtain wider inputs. At a meeting held at the Public Works Department on 9 February 1999, Mr. I.Robinson, President of BIFSA confirmed with the Director General and the leader of the CIDB Task Team that BIFSA accepted all the provisions of the TP1 (APP1) specifications relating to subcontracts without reservation.

unable to purchase materials at competitive prices. The suppliers require set-offs by the main contractor for direct payment to them and these conditions then need to be incorporated in the subcontract agreement. This may help the ABE subcontractor to obtain contracts of greater value, but the primary motive is the right of the supplier, who demands payment. The right also gives the main contractor greater leverage with the sub-contractor.

Authoritarian rights given to employing contractor or agent

No comments were received from the principal agents for their support for this principle. The contractors' reasons for authoritarian rights were to ensure acceptable finish and quality of work.

Pay-when-paid system

Most of the prime contractors and principal agents supported this clause. Although there was strong support for the concept of pay-when-paid, the comments received indicated that the practical reality is completely different. Small contractors and ABEs do not have the cashflow to permit this and most contractors were, therefore, paying the subcontractors on a fortnightly, or monthly, basis irrespective of the contractual background. This enabled the subcontractors to pay for materials and to pay their labour. Most contractors commented on the long lead times being experienced before payments were received from government clients. BIFSA commented on the subcontractors' dislike of this clause, but indicated that it was widely accepted in the industry. BIFSA stated that the clause was not applicable to domestic subcontractors, who are entitled to payment whether, or not, the main contractor is paid. The clause is only applicable between the main contractor and nominated subcontractors. The evaluation of the documents received from subcontractors showed that although BIFSA has issued new domestic subcontract documentation (1995) the old documentation (1988), which includes a pay-when-paid clause, is still being widely used.

Alternative dispute resolution procedures

There was a majority support for alternative dispute resolution procedures which appears to be a result of the introduction of the New Engineering and Construction Contract (NEC) forms of contract. BIFSA pointed out that, although arbitration was supposed to be an informal and cheap method of dispute resolution, the reality is that it is not. Arbitrators' fees are high and arbitrators have tended to come not from within the building industry, but rather from the legal profession. This has caused the process to become lengthy and costly.

Retention same as main contracts

There was majority support from main contractors and principal agents for retentions being the same as on main contracts. BIFSA stated that retention had been removed from the JBCC documents

since 1992 and replaced by construction and performance guarantees. However, architects were still using the old documentation.

Surety requirements for contracts valued at less than R100 000

The main contractors disagreed with this requirement, BIFSA stated it was not necessary and the principal agents were divided. Some said that it was a matter between the prime contractors and their subcontractors. The prime contractors and BIFSA stated that smaller contractors are normally not able to provide sureties, the administrative procedures to obtain them were often difficult and that they were seldom used, or called upon. One main contractor recommended that the main contractors should provide reduced sureties which excluded the ABEs portion of the work and that retention, as agreed, be used as the surety for that portion.

Contractual Conditions

Comments here depended on the principal agreement. The OW677 document was felt to place onerous conditions on the main contractor. In the standard JBCC contract the main contract and subcontract documentation is compatible and refer to each other. BIFSA stated that many labour only sub-contractors did not have the administrative capacity to analyse and respond to conditions of contract. They felt that for small contracts the documents need not necessarily be the same. Specialist sub-contractors tended to impose their own conditions on the main contractors if guarantees were to be honoured.

8.2.4.4 *Status Quo responses*

The status quo questions in the prime contractor questionnaire indicated that there has been an increase in the percentage of formal contracts signed. All the prime contractors with the exception of one indicated that formal subcontracts had been signed previously. The principal agents also indicated that formal subcontracts were always signed in the past. This is in direct contrast to the subcontractors who indicated that they had not had formal subcontracts. This anomaly may be due to the breakage of previous subcontracting linkages and the establishment of new ones. Previously, ABE subcontractors did not have formal businesses and were employed as labour teams by the main contractors and would have been regarded as part of their own labour forces. They have now become part of the formal subcontracting environment by registering businesses and require to be treated as such.

The BIFSA subcontract document is the preferred subcontract document, this being the old standard document (1988), as opposed to the domestic sub-contract document issued on 1 September 1995. The 1995 document is 23 pages long and has the following clauses which need to be examined in the light of the TP1(APP1) specification :

1. Clause 38 Settlement of Disputes uses the alternative dispute resolution procedure of mediation.
2. Clause 31.6 Retention shall be the same as the main contract (10% of the value of work and materials to a maximum of 5% of the sub-contract sum).
3. Clause 31 Deals with payment from the main contractor. Should the employer default on payments to the main contractor and the main contractor fail to pay the subcontractor, then payment guarantees may be called up by the sub-contractor. Clause 31 is principally a pay-when-paid clause, except that Clause 31.4 states that where there is no agent appointed in terms of the principal agreement the contractor shall make monthly payments to the sub-contractor.
4. Sureties are not required and performance guarantees and payment guarantees have been substituted. However, the right to set off is still given to the main contractor.
5. Clause 34 Gives the main contractor the right to make deductions from the subcontracting money owed to him.

It also has an appendix for relevant information.
It should be noted that some companies have developed their own subcontract documentation.

8.2.4.5 *Responses on subcontract documentation*

A variety of reasons for the use of formal documentation were put forward. These included; accountability, responsibility, quality of work, proper management and good contractual practice which defines the relationships and covers both parties. It was felt that the subcontract documentation formalises the agreement and is a form of record. It limits the risk incurred by the main contractor and defines cash flow, defects, rates, treatment, etc. However, it was felt that it is difficult to define procedures.

Prime contractors considered that the current subcontract documents for labour only, material supply, and labour and material were adequate, but supported the notion that there is a need for standardised subcontracts which satisfies the TP1(APP1) specifications.

The Principal Agents did not, in the main, consider that there is a need for separate documents for labour only, plant, materials and labour, or materials only. In contrast, BIFSA felt that there is a need for separate documentation, but saw no need to develop a standard document for the supply of materials.

Some problem areas with the use of formal subcontracts, identified by certain prime contractors, were that subcontractors did not necessarily understand the conditions of contract and failed to follow administrative procedures.

8.2.4.6 *Responses on sourcing of ABEs*

Most ABEs were sourced from long term relationships, through previous contracts and, to a lesser extent, from visits by ABEs to site. It depended to a large extent on the community structures involved in the project. The same rules tended to apply for ABE and non-ABE prime contractors. ABEs were sometimes sourced through lists, local builders associations, or local civic associations.

The perceived importance of the selection criteria used for the sourcing of ABE subcontractors for a project is set out in Table 8.5.

The attributes that were most important to the prime contractors were past experience, rates, reliability and competence. Most ABEs were sourced at post-tender stage with pre-tender sourcing of ABEs only occurring infrequently. Formal subcontracts were entered into during the post-award phase of the main contract, either before commencement, or during the contract. All respondents stated that contracts were explained to ABEs prior to signing.

Although respondents stressed the importance of rates, only two of the respondents called for quotations every time, one most of the time, three some of the time and one never. All respondents, however, plan to develop medium term relationships with ABEs.

TABLE 8.5 : IMPORTANCE OF SELECTION CRITERIA FOR THE SOURCING OF ABE SUBCONTRACTORS FOR A PROJECT

SELECTION CRITERIA	IMPORTANCE IN TERMS OF FIVE POINT SCALE
Competence	4,4
Reliability	4,3
Rates	4,0
Past experience	3,9
Resources	3,6
Close proximity to site	3,4
Business experience	3,2
Empowerment / development	3,1
Union linked	2,3

NOTE : 1 - Not a factor 5 = Most important

8.2.4.7 *Responses on compliance monitoring*

Compliance monitoring of contracts was mostly carried out by the Quantity Surveyor appointed by the Department or main contractor. There were formal meetings either weekly or as required. The meetings were minuted, but not attended by the Principal Agent / Project Manager.

In most cases the current subcontract documentation was found not to have been tested for

compliance with the APP specifications.

8.2.5 Research findings

The period since the 1994 elections and the publishing of the Affirmative Procurement Policy specifications has acted as a catalyst for the formalising of the ABE subcontracting industry. Over 80% of the ABE subcontractors interviewed had registered companies during the study period and registered for VAT, Workmen's Compensation and other statutory regulations. This has, however, resulted in many of the ABE subcontractors experiencing problems with the legal, financial and business management areas within their companies. This finding is consistent with observations made in the Soderlund and Schutte (1998) review of the R234 million Malmesburg Prison project where contractors, when commenting on problems encountered, stated that they had to employ a tax consultant to assist ABEs with South African Revenue Services registration.

The Department of Public Works has used its OW 677 Conditions of Contract for many years. This document is a department specific document, having been purpose written for the department. This form of contract recognises only nominated subcontractors. The Department of Public Works, in line with previous government policy, did not produce a companion subcontract agreement to OW 677. The recently launched JBCC 2000 series documents contains, *inter alia*, a mandatory nominated/selected subcontract agreement for use in conjunction with its principal building agreement. This subcontract agreement complies with the TP1(APP1) subcontract principles. No provision in the suite of documents is, however, made for domestic subcontractors.

The preferred form of subcontract for engaging domestic subcontractor on NDPW building projects appears to be the 1988 BIFSA form of subcontract. Both the 1995 and 1988 BIFSA subcontract agreements fail to satisfy the criteria for the "fair" conditions of contract as set out in the TP1(APP1) specification, the 1988 agreement satisfying less of the TP1(APP1) principles than the 1995 agreement. The questionnaires indicated very clearly that whilst BIFSA is introducing reform in subcontracting conditions as evidenced by the differences between the 1988 and 1995 agreements and the recent JBCC 2000 series, its constituents do not share its enlightened stance.

It was apparent during the research that in the majority of contracts there is compliance with the TP1 (APP1) specification at tender stage and initially during the contract. The value of the subcontract allocated to ABE subcontractors was easy to quantify and information was readily available. However in areas of the subcontract agreement there was found to be non-compliance due to the current forms of subcontract used by the prime contractors.

The Prime Contractors and Principal Agents interviews supported the following four set of APP fair conditions of subcontract:

- Retention percentages to be the same as the main contract.
- No surety requirements for sub-contractors.
- Alternative dispute resolution procedures.
- Conditions of contract to be the same as the main contract.

The Prime Contractors and Principal Agents disagreed with the following three APP fair conditions of subcontract

- Right of set off by employing contractor
- Authoritarian rights given to employing contractor or agent
- Pay-when-paid procedures

Although prime contractors and principal agents supported the inclusion of alternative dispute resolution procedures such as mediation and adjudication, the subcontract agreement which was predominantly used on projects provided for arbitration. The reason put forward by Prime Contractors and Principal Agents for supporting the inclusion of a right of set off by the employing contractor was the external requirements imposed on main contractors by suppliers of materials and other goods.

It was very evident from the questionnaires that both the Principal Agents and the Prime Contractors had not studied the TP1(APP1) specification. Two thirds of the Prime Contractors interviewed admitted that they had not tested the subcontract agreement against the TP1(APP1) requirements. Only three of the Principal Agents responded to this question; all of them indicated that they had not. Similar findings were found in the Malmesburg Prison Project where none of the subcontracting agreements were found to comply with the TP1(APP1) specifications. (Soderlund and Schutte, 1998) Most of the ABE subcontractors had a basic understanding of the nature and form of the subcontract document but none had received any formal training. All subcontractors felt that the formal subcontract agreement had provided security of relationship and had reduced exploitation. It had also formalised areas of payment procedures, work description, quality and provided transparency in the subcontract relationship.

Most of the ABE subcontractors had a basic understanding of the nature and form of the subcontract document. However, none had received any formal training in this regard. All subcontractors felt that the formal subcontract agreement had provided security of relationship and had reduced exploitation. It had also formalised areas of payment procedures, work description, quality and provided transparency in the subcontract relationship.

Improvements that the ABE sub-contractors requested are a simple form of labour only and general subcontract and training in the understanding of business management. The written subcontract has improved relationships with the prime contractor.

The research also revealed that contractors were planning to develop medium term relationships with ABEs.

8.3 JOINT VENTURES

8.3.1 Background

A venture is by definition an *"undertaking of a risk"* (Sykes, 1976) and implies *"a speculation to make money"* (Barnhart and Barnhart, 1992). A joint venture is simply a venture in which the risk is shared by two or more parties. In the context of the construction industry, joint ventures are formed to realise commercial opportunities presented by the construction and maintenance of assets which may occur at any point in the project cycle. Sridharan (1997) describes joint venture formation as an *"economic marriage"* which like a marriage itself, offers great opportunities to exploit and share resources, skills and financial strength. There is an indispensible need for mutual trust, sharing of resources and information, and confidentiality in joint venture relationships.

There are several possible reasons for forming a joint venture for a construction contract. Historically the most common reason in South Africa has been that a contract which is being tendered on is too large, or too complex, for one company, or requires specialist experience or skills which that company cannot provide. If the contract could be handled satisfactorily by breaking it down into smaller, more manageable, or distinct portions, two or more companies could form a joint venture and tender for the contract.

Another historical reason for forming a joint venture is that the resources of a company, which could normally handle the contract being tendered on, are committed to other contracts. A desire to be involved in the contract would encourage the company to form a joint venture with another company, or companies, in order to enable it to participate in a tender for the contract. Alternatively, joint ventures are entered into to provide employment for unoccupied personnel who are too few in number to undertake a contract on their own. In some instances joint ventures have been entered into to share the exposure to the risks involved in undertaking high risk contracts.

The abovementioned reasons for joint venture formation will probably be found in most developed countries. In developing countries, however, joint ventures are formed for different reasons. Sridharan (1997) reports that international construction firms have extensively used joint ventures as a vehicle to enter new construction markets in South East Asia since the early seventies. Countries such as Indonesia, Malaysia, Thailand and Philippines do not allow fully owned foreign subsidiaries to operate within their countries. They require minimum percentages of local participation in most business ventures operating within their countries. Joint ventures are seen as a popular form of entry to markets because of the perceived benefits they bring to the host country, namely, technology transfer, job creation and capital inflow (Sridharan, 1997). Ofori (1991) comments that joint ventures, from a developing country's perspective, are seen as a means of effecting the transfer of technology and ensuring managerial and technical improvements in indigenous contracting companies.

International firms as such are seen to nurture local contractors through large and sophisticated projects. Ofori (1991), however, reports that despite there being a number of success stories, joint ventures seldom result in the effective transfer of expertise. Sridharan (1997) in reviewing the literature on joint ventures between international and domestic firms in developing countries concluded that there is a one in three chance of failure of a newly formed joint venture.

In South Africa, Watermeyer and Band (1994) proposed a model for contractor development based on the successive introduction to developing contractors of labour, transport, materials, plant and finance in a progressive manner. They proposed that once developing contractors had established themselves as small scale prime contracting firms, joint venture formation with well established and larger firms would be one of the ways in which such firms could develop into medium and large firms. The BCI working committee recognised that joint venturing with existing firms was one of five ways in which new entrants to the market could be made where economies of scale present barriers to entry (BCI, 1996).

Joint ventures can be formed on virtually any basis that the partners agree upon. Irrespective of how they are formed, two aspects need to be addressed in any joint venture formation viz., the "Management" and the "Workforce". **"Management"** focuses on who is responsible for the control and execution of the works; the **"Workforce"** focuses on who performs the physical work or provides the necessary resources used to perform the physical work.

The manner in which these two aspects are addressed can be used to categorise a joint venture. There are three basic approaches to the establishment of a joint venture (Strategic Procurement Systems, 1998):

- **Work breakdown method :**
  In the work breakdown method the parties divide the work into discrete elements or sections usually on the basis of the locality or nature of the work. Each joint venture partner is then assigned a portion of the works and assumes full responsibility and accountability for its execution, usually with their own workforces.
- **Establishment of a new entity :**
  Where a new entity is formed each partner seconds staff and resources to the new entity which then in effect operates as an independent company. The entity assumes responsibility and accountability for all aspects of the works.
- **Construction management method :**
  In the construction management method, the parties divide the work into discrete elements or sections usually on the basis of the resources required to execute aspects of such portions. Each joint venture partner is then assigned a portion of the work and assumes full responsibility for managing and acquiring the resources (internal and external) required to execute such portion of the work.

In practice, joint ventures are a combination of the above and fall somewhere between the three methods. If the three methods form the boundaries of a triangle, any joint venture will fall somewhere within the confines of the triangle.

The overall management of the joint venture is, normally, independent of the separated responsibilities of the partners and is, generally, handled in one of two ways, viz.:

- one partner is chosen to represent the joint venture in all dealings with the Employer; and

- overall joint venture management body is formed of personnel from the joint venture partners, or persons employed for the purpose.

8.3.2 Review of policy provisions for joint venture formation

8.3.2.1 *General policy provisions*

The 10 Point Plan (MOF and MPW, 1995) recognised that construction is the synthesis of four functional activities viz construction management, materials management, materials and labour.

Three types of building and construction contracts were identified in this plan viz.:

- **prime contracts** in terms of which the contracting entity is responsible for all four functional activities.
- **structured joint ventures** in terms of which the four functional activities are shared between the parties which constitute the contracting entity in response to the Employer's requirement to do so.
- **development contracts** in terms of which the contracting entity is responsible for some of the functional activities and the Employer provides third party management support for the remainder.

Provision is made in the Affirmative Procurement Policy for joint venture formation to secure the participation of a variety of targeted enterprises in a number of ways. Voluntary Joint Venture formation is encouraged between ABEs and non-ABEs in the TP1(APP1) Specification for the Targeting of Affirmable Business Enterprises (DPW, 1998a) at both prime and subcontract level. In the TP2(APP2) Specification for Structured Joint Ventures (Affirmable Partners) (DPW, 1998b) and the TP3(APP3) Specification for Structured Joint Ventures (Targeted Partners) (DPW, 1998c) joint venture formation at the prime contract level with the target group is obligatory.

These specifications define a Joint Venture as being (DPW, 1998a, b and c) :

> *"An association of non-target group enterprises and target group enterprises for which purpose they combine their expertise, property, capital, efforts, skill and knowledge in order to execute a contract or a portion thereof, and in so doing secure resource goal credits".*

In terms of these specifications, Joint Venture formation for the purpose of goal credits is recognised when the following three conditions are satisfied:

a) The targeted partner shares in the following aspects of the Joint Venture in an appropriate and meaningful manner, consistent with normal business practices.
   - *"ownership;*
   - *control;*
   - *management responsibilities;*
   - *risks; and*
   - *profits"*
b) The targeted partner is responsible for a clearly defined portion of work to be performed or service to be provided.
c) The targeted partner actually executes a portion of the contract using its own resources or resources hired by it independent of the non-targeted partner.

The abovementioned joint venture "recognition characteristics" test whether or not the targeted partner :

a) exercises ownership and control in the joint venture and hence shares in the risks and rewards;
b) assumes responsibility for a distinct portion of the management and control of the works; and
c) assumes responsibility for the provision of a portion of the resources required to execute the contract.

The specification measures the "Commercially Useful Function" performed by targeted joint venture partners, and establishes a Participation Parameter to do so. The Participation Parameter is defined as being (DPW, 1998a, b and c)

> *"the fraction of the Award Value of the work performed by a Joint venture which may be used to represent the value of the contribution and Commercially Useful Function performed by targeted partners"*

Commercially Useful Function is defined as :

> *"the performance of real and actual work, or the provision of services, in the discharge of any*

contractual obligation which shall include, but not be limited to the performance of a distinct element of work which the business has the skill and expertise to undertake and the responsibility for management and supervision".

The Award Value is defined as :

"the value of the Contract at the time of the award, exclusive of VAT, provisional sums and all allowances for escalation and contingencies provided for by the Employer".

The specifications do, however, stipulate that the targeted partner must perform, using its own resources or resources hired by it independent of the non-targeted partners, work of value equal to at least a percentage of the product of the Participation Parameter and the Award Value of the work for which the Joint Venture is responsible. (50% in respect of the TP1(APP1) and TP2(APP2) specifications and 75% in respect of the TP3(APP3) specification). The Participation Parameter accordingly measures the management responsibilities of the targeted partner. The requirement that this percentage of the work be carried out with resources independent of the non-targeted partners effectively limits the amount of work which can be managed by a targeted partner to either 1,33 or 2,0 times the value of work performed by its own workforce or subcontractors which it hires independently from its partners, depending upon which specification is employed. This requirement ensures that the targeted partner does contribute to the resources required for the performance of the contract and does not merely perform some management function.

In the "work breakdown method" in its purest form, where the contract is split into discrete areas of responsibility, each partner manages the portion of work for which he is responsible for executing and resourcing, and usually does not get involved in the management of portions of work outside of his responsibility. Although the partners are jointly and severally bound and assume risk at prime contract level, the split contract approach limits interaction between the partners. This is undesirable in a development context as targeted partners will have limited exposure to the overall management and control of the project. In the "new entity" and "construction management approaches" to joint venture formation, there is considerably more scope for interaction between the targeted partner and his other partners. There is furthermore more scope for the targeted partner to manage the workforces of his partners.

The Structured Joint Venture formation promoted by the resource specifications is one in which the targeted partner manages and controls workforces in addition to his own or those sourced independently from his partners. (Established contractors who engage ABEs in accordance with the work breakdown method will in terms of the TP1 (APP1) specification be credited with the same amount of credits had they engaged such ABEs as subcontractors. If, however, these ABEs are engaged as joint venture partners and the structure of the joint venture formation is such that they are permitted to manage resources provided by their non-ABE partner, the credits can be upto twice that

which would have been passed had they been engaged as subcontractors).

8.3.2.2 *Initial resource specification provisions*

The initial resource specifications (i.e. those published in the early half of 1996) did not measure the Commercially Useful Function performed by a targeted partner in terms of a Participation Parameter, but rather on the basis of percentage ownership. Goal credits were granted where Joint Venture formation satisfied the "recognition characteristics" referred to in 8.3.2.2 with the exception that item b) read as follows :

'b) The targeted partner is responsible for a clearly defined portion of the work to be performed, equivalent to the target partner's ownership percentage."

The measurement of the Commercially Useful Function performed by a targeted partner on the basis of ownership is open to abuse and manipulation. Costs of the various partners can be readily manipulated in order to minimise any declared "profit" which would ultimately be divided between the partners in proportion to their ownership percentage. The revised versions of the specifications addressed this shortcoming by effectively measuring Commercially Useful Function in terms of how the Joint Venture is structured.

8.3.2.3 Joint Venture Formation in order to secure bonus credits for the attainment of Affirmative Action Milestones

The TP1(APP1) specification makes provision for the awarding of bonus credits to firms who within their companies have implemented Affirmative Action Programmes along the lines suggested by the Black Management Forum and the National African Federated Chamber of Commerce and Industry or firms who do not fully meet the requirements for classification as an ABE. The amount of bonus credits is dependent upon the percentage of full time Executive Directors and Senior Managers who are Previously Disadvantaged Individuals and in the case of privately owned companies, the ownership percentage by Previously Disadvantaged Individuals.

The TP1(APP1) specification had to address the situation in which the prime contractor might be a joint venture and some or all of the joint venture partners were eligible for bonus credits. The initial versions of the specification awarded bonus credits in proportion to a partner's shareholding. This practice was discontinued as certain contractors manipulated profits and shareholdings in a joint venture in order to maximise their bonus credits. In some instances, "partners" who qualified for full bonus credits made little or no contribution to the joint venture. At best, joint venture partners made limited contributions. In the later specifications, bonus credits were confined to partners who were engaged primarily in the majority of activities that would be required of a main contractor for the execution of the contract and were awarded such credits in proportion to their Participation Parameter.

8.3.2.4 Provisions for establishing the bona fides of targeted joint venture partners

The TP1(APP1) specification contains a number of control documents to enable the bona fides of joint venture partners and compliance with the provisions of the specification to be determined. These documents comprise:

- Joint Venture Disclosure Forms

- Affirmable Enterprise Declaration Affidavits

8.3.3 Methodology outline

8.3.3.1 General

The TP1(APP1) specification (Targeting of Affirmable Business Enterprises) (DPW,1998) permits contractors to achieve contract participation goals in the performance of their contracts through the engagement of ABEs as joint venture partners at prime contract level, ABEs as subcontractors, suppliers, service providers and manufacturers, and joint venture subcontractors which involve ABEs. Voluntary joint ventures can also be formed with companies which may not qualify as ABEs in order to source ABE subcontractors.[6]

Accordingly in order to test the hypothesis it is necessary to:

i) Examine the Departmental 1993 head office record and the record for the study period in order to identify which contracts were awarded to joint ventures. (The author did not attempt to identify joint ventures established at subcontract level as data on such arrangements was not logged within the department.)

ii) Establish the status of the partners, viz. ABE or non-ABE.

iii) Obtain copies of joint venture contracts entered into with ABEs and Joint Venture Disclosure Forms in order to confirm that a bona fide joint venture had been entered into.

iv) Establish by means of questionnaires the reason for joint venture formation and certain statistics pertaining to the partners.

---

[6] The author in conducting the research came across several instances in which joint venture partners who did not qualify as ABEs were engaged as joint venture partners to act as "ABE brokers". A good example of this may be found in the Malmesbury Prison Contract where the Atlantis and District United Builders association become a joint venture partner at prime contract level in order to facilitate and secure the participation of its ABE members on the contract.

Accordingly, the approach was in the first instance to interrogate the departmental record for the study period in order to identify which contracts were awarded to joint ventures and thereafter by means of questionnaires to establish the reason for joint venture formation, the nature of the relationship and the outcome of such relationships.

8.3.3.2 Survey instrument

The survey instrument used to gather data is a questionnaire. This questionnaire (see Appendix 8.7) is divided into 5 sections and is designed to be completed by each partner in the joint venture.

Section one establishes the profile of the joint venture partner i.e. the principal business activities, annual average turnover and the largest contract handled by a partner on his own prior to the contract in question. The remaining questions in this section establish particulars pertaining to joint venture formation before and after the contract executed for the Department during the study period. The value of the next largest job executed by a partner is also identified.

Section two establishes the identity of the partners viz. ABE or non-ABE.

Section three establishes the reason for joint venture formation and identifies in the ABE partner the perceived benefits which were derived from executing a contract with an established contractor.

Section four probes the control of resources and the management structure within the joint venture.

Section five probes aspects of the nature of the relationship i.e. when and how the joint venture was established. It also establishes patterns for repeating joint venture arrangements.

8.3.3.3 The research sample

The Departmental record for head office contracts which were awarded during 1993 and the entire record for contracts awarded during the study period (1 August 1996 to 1 July 1998) were examined in order to establish the universe of contracts awarded to joint ventures. No record of any contract award to a joint venture was found in the Department's 1993 head office record. The 15 contracts tabulated in Table 8.6 were awarded to joint ventures over the study period (August 1996 to July 1998)[7].

[7] The Malmesbury Prison contracts (prison complex and housing complex) were awarded to joint ventures. These contracts were, however, awarded during July 1996, prior to the State Tender Board granting permission for the Department to pilot the implementation of the policy on all its contracts and have therefore been excluded from the study.

TABLE 8.6 : CONTRACTS AWARDED TO JOINT VENTURES

CONTRACT NUMBER	NAME OF JOINT VENTURE PARTNER	DESCRIPTION OF CONTRACT	PROCUREMENT ARRANGEMENTS	TENDER VALUE
960114	• Grinaker Construction Ltd • VRP (SA) (Pty) Ltd	Wingfield Prison: Erection of single quarters	"RDP points"	R24 915 000
960134	• Group Five Building (Pty) Ltd • Mnomzana Contractors cc	Diepkloof Prison: Erection of single quarters	"RDP points"	R20 407 010
960344	• Group Five Building (Pty) Ltd • Makhosi Projects (Pty) Ltd	Christiana Prison: Upgrading	Prime(Major) TP1(APP1)	R7 260 300
970152	• Alfdav Construction cc • SBT Construction (Pty) Ltd	JC Steyn Prison: Single Quarters	Prime(Major) TP1(APP1)	R9 741 587
970167	• Alfdav Construction cc • SBT Construction (Pty) Ltd	Southdene SAP: Regional Garage	Prime(Major) TP1(APP1)	R12 867 407
970178	• Group Five Building (Pty) Ltd • Makhosi Projects (Pty) Ltd	Knysna: New Magistrate's Office & Police Station	Prime(Major) TP1(APP1)	R21 991 919
970260	• Elmo Projects • Stocks & Stocks	Ivory Park Police Station: Erection	Prime(Major) TP1(APP1)	R3 043 930
970265	• Concor Engineering • Marine & Mineral Resources (Pty) Ltd	Simonstown Naval Base: Dry Dock: Repairs and Renovations	Prime(Major) TP1(APP1)	R13 011 440
970266	• Brevus Joint Venture	Empangeni: New Prison	Prime(Major) TP1(APP1)	R191 226 658
970337	• Edilcon Construction (Pty) Ltd • Kronen Construction & Paving cc	Eldorado Park Police Station: Erection	Prime(Major) TP1(APP1)	R5 777 520
970345	• S Raciti Construction cc • Enogh & Sons	Maitland Special Guard Unit: Repairs/ Renovations	Prime(Minor)	R1 580 000
970398	• Concor Holdings • Lethlabile Construction cc	Langebaan Road: Rehabilitation of Runways	Prime (Major) TP1(APP1)	R16 794 813
970412	• Stocks & Stocks (Gauteng) (Pty) Ltd • Biyana Developments cc	Pretoria: Agricultural Buildings: Repairs & Renovations	Prime(Major) TP1(APP1)	R21 173 250
970420	• P Gerolemou Construction (Pty) Ltd • Nurich Construction	Modderbee Prison: Upgrading	Prime(Major) TP1(APP1)	R49 498 000
980003	• Edilcon Construction (Pty) Ltd • Kronen Construction & Paving cc	Linden: New Police Station	Prime(Major) TP1(APP1)	R 5 133 420

Table 8.6 which presents the universe of contracts awarded to joint ventures during the study period reveals that :

- two of the contracts which were awarded during the study period were awarded in the transition period prior to the introduction of the APP;
- one Prime (Minor) contract was awarded to a "voluntary" joint venture; and
- twelve contracts were awarded to joint venture contractors in Prime (Major) contracts where use was made of the TP1(APP1) specification for the Targeting of Affirmable Business Enterprises.

An attempt was made to secure information on all 15 contracts awarded to joint ventures from the archives of the Department of Public Works. Contractors were approached to obtain their joint venture agreements. The detailed information which was obtained is set out in Table 8.7

Telephonic interviews were conducted with joint ventures which did not complete questionnaires. Accordingly, the universe of contracts awarded to joint ventures was interrogated.

TABLE 8.7 : INFORMATION OBTAINED FROM CONTRACTORS

INFORMATION REQUIRED	NO CONTRACTS FOR WHICH INFORMATION WAS AVAILABLE
JV Disclosure Forms (Annex D)	2
JV Agreements between partners	10
ABE Declaration Affidavits (Annex C)	8
Questionnaires	12* (see Appendix 8.8)

* The questionnaires in respect of contract 970412 was completed by only the non-ABE partner. Accordingly, only 11 completed questionnaires were obtained.

8.3.4 Results and the interpretation thereof

8.3.4.1 Contracts awarded to joint ventures with ABE Partners

An examination of the head office record for contracts awarded in 1993 revealed that no contracts were awarded to joint ventures. An examination of the records during the study period revealed that 15 contracts had been awarded to joint ventures.

Statistics pertaining to contracts awarded to joint ventures in the study period are set out in Table 8.6. The reasons cited by contractors for joint venture formation and certain key parameters associated with the contracts are set out in Table 8.8.

TABLE 8.8 : REASONS CITED BY CONTRACTORS FOR JOINT VENTURE FORMATION

CONTRACT NUMBER	TYPE OF CONTRACT	NUMBER OF ABE PARTNERS	REASON FOR JV FORMATION	
			Non-ABE	ABE
960114	General	1	"RDP" Points*	Lack of resources
960134	General	1	"RDP" Points*	Picked by Non-ABE
960344	General	1	TP1(APP1) credits	Lack of resources
970152	General	1	TP1(APP1) credits	Lack of resources
970167	General	1	TP1(APP1) credits	Lack of resources
970178	General	1	TP1(APP1) credits; "to aid development"	Lack of resources
970260	General	1	TP1(APP1) credits	No resources
970265	Mechanical	0	Technical	-
970266	General	0	Affirmative action milestone credits#	-
970337	General	1	TP1(APP1) credits	Desire to enhance capabilities
970345	General	0	Joint Venture in name only (contract awarded on basis of lowest financial offer)	-
970398	Civil	0	TP1(APP1) Affirmative action milestone credits	-
970412	General	1	Initiated by ABE	Lack of capital
970420	General	1	Initiated by ABE	Lack of expertise (capital not a problem)
980003	General	1	TP1(APP1) points	Desire to enhance capabilities

Numerous organisations, some of which were not operating as construction companies, were engaged as joint venture partners in order to secure bonus credits.

* Contracts awarded during an experimental phase in the run up to the introduction of the policy

An interrogation of the partners involved in the contracts listed in Table 8.6 revealed that :

- contract 970265 was formed for technical reasons and did not involve any ABE partners;
- contract 970345 was awarded to a company which purported to be a joint venture, but was clearly not a joint venture;
- contract 970398 was formed to access affirmative action milestone credits and did not involve any ABE partners; and
- contract 970266 was awarded to a joint venture comprising a number of companies, some of which were not operating as construction companies, in order to access affirmative action milestone credits.[8]

[8] This contract caused the Department to review the provisions pertaining to the granting of credits for affirmative action milestones, a decision which led to the substantial revision of the provision of the TP1(APP1) specification in this regard.

- contracts 960114 and 960134 were awarded immediately prior to the introduction of the Affirmative Procurement Policy.

Table 5.7 of Chapter 5 presented the full universe of contracts during the study period where ABEs were targeted. This table revealed that the total expenditure amounted to R1 652 944 775 and the expenditure on the 131 Prime (Major) contracts where use was made of the TP1(APP1) specifications amounted to R1 511 272 845. The contract value of the 9 contracts involving ABEs amounted to R136 487 333. These contracts accordingly represent :

- 8,3% of the total value of contracts where ABE participation was sought in terms of the policy.

- 9,0% of the total value of contracts where use was made of the TP1(APP1) specification.

- 6,9% of the total number of contracts where use was made of the TP1(APP1) specification.

All nine contracts awarded to joint ventures involving ABEs were classified as being "general". The average value of general contract awarded to such joint ventures amounted to R15,1 million. This figure is higher than the average value of contract of R11,5 million derived from Table 5.7.

Questionnaires were completed by the ABE partners who entered into joint venture contracts immediately prior to the introduction of the policy. The author has not included these two contracts in the results as they were awarded in the run up to the introduction of the Affirmative Procurement Policy. Accordingly the universe of joint ventures contracts entered into with ABEs at prime contract level during the study period is 9; the universe of ABE firms involved in such joint ventures being 6 as 3 of the ABEs were involved in more than one joint venture.

8.3.4.2 Analysis of questionnaires

General

Completed questionnaires were obtained from both the ABE and non-ABE partners involved in seven of the nine joint venture contracts involving ABE partners. (see Appendix 8.8) (Two of the three repeat joint ventures are included in this sample). This sample of five ABEs is considered to be representative of the universe.

An analysis of the questionnaires filled in by the five ABEs involved as joint venture partners in these contracts revealed the following :

- four of the ABEs described their principal business activities as being building and civils and only one as building only. In contrast, their non-ABE partners listed themselves as being building

contractors;

- the current estimated average annual turnover of three of the ABEs was in the range R1-R2 million; one in the range R20-25 million and the other greater than 25 million;

- two of the ABE partners indicated that they no longer enjoy ABE status at the time they completed the questionnaire as their turnovers exceeded the limits laid down in the definition for an ABE;

- two of the ABE partners indicated that they had entered into a couple of joint ventures prior to being awarded contracts by the Department;

- three of the ABE partners indicated that the largest contract which they had handled as a prime contractor was less than R1,0 million; one in the range R3-R5 million; one in the range R5-10m; and

- all ABE partners classified themselves as being prime contractors.

Capacity consideration

Four of the five ABEs cited "lack of capacity" as being a reason for joint venture formation. An analysis of reasons cited by ABEs for lack of capacity is tabulated in Table 8.9. Only statistics pertaining to the first of the joint ventures entered into are recorded in Table 8.9 in the case of ABEs who entered into more than one joint venture during the study period. Data gathered from the two contracts awarded during the study period but not in terms of the policy are included in Table 8.9 in order to increase the number of responses. The reasons cited by the six ABEs are also ranked and presented in order of importance in Table 8.9.

The ranking of ABEs in order of importance in Table 8.9 indicates the following trends:

- The primary reason cited by most ABEs entering into joint venture formation with non-ABEs was to secure access to start-up capital, capital to first certificate, capital between certificates, sureties and expertise in contract administration.

- The second most important reason cited for joint venture formation was to secure access to management expertise, plant (major and minor), suitable staff and management and organisational administrative knowledge.

- Access to finance for retention, legal expertise, guarantees and staff with skills and premises was seen by some to be a factor.

- Lack of staff with available skills and lack of client liaison expertise were not considered to be a factor.

TABLE 8.9 : ANALYSIS OF REASONS CITED BY ABEs FOR LACK OF CAPACITY #

DESCRIPTION	PERCENTAGE OF RESPONDENTS INDICATING A LACK OF CAPACITY*	RANKING IN TERMS OF FREQUENCY OF REPORTING DURING STUDY PERIOD WHERE POLICY WAS APPLIED AND IN RUN UP TO IMPLEMENTATION OF THE POLICY
Expertise		
- Management	75 (50)	2
- legal expertise	50 (50)	3
- contract administration	75 (100)	1
- client liaison	0 (0)	-
Property		
- plant (major and minor)	50 (100)	2
- equipment	50 (50)	3
- premises	50 (0)	4
Capital		
- start-up capital	75 (100)	1
- capital to first certificate	75 (100)	1
- capital between certificates	75 (100)	1
- sureties	75 (100)	1
- guarantees	50 (50)	3
- finance for retention	0 (50)	5
Efforts		
- No suitable staff in employ	50 (100)	2
- No suitable staff available	25 (0)	5
Skills		
- Staff did not have skills	50 (50)	3
- Staff with skills not available		-
Knowledge		
Staff could not perform contract due to:		
- Technical knowledge	25 (0)	5
- Management knowledge	75 (50)	2
- Organisation / administrative knowledge	75 (50)	2

Table only reflects data for ABEs who cited lack of capacity as a reason for forming a joint venture.

* Values in brackets reflects data gathered from the two contracts awarded during the study period but not in terms of the policy.

All ABEs who entered into joint ventures for capacity reasons confirmed that their joint venture partner performed the functions which were lacking and performed them adequately. They all also confirmed that they had benefited more as an ABE partner through the contract than as a subcontractor. The two ABEs having turnovers of less than R2 million per annum stated that as joint venture partners they had received more responsibilities and more work. The two ABEs who have now outgrown their ABE status stated that they had acquired technical, management and administrative skills through the

execution of the contract as a joint venture partner.

One of the ABEs with a comparatively low turnover considered that the relationship provided his company with an opportunity to develop technical and administrative skills. The other three recorded that they had benefited through "exposure" in these contracts.

The ABE who stated that "lack of capacity" was not a reason for joint venture formation stated with respect to both of the contracts which were executed in joint venture with the same partner, that his company had not benefited from the relationship as his "partner ignored the agreement".

The author, during the study, learnt that the joint venture involving this ABE (contract 980003) was acrimoniously terminated during the performance of the contract. The author notes, however, that the ABE in question claimed to have executed contracts having a value of less than R1,0m prior to entering into joint venture and currently had a turnover of between R1 and R2 million. The contract executed in joint venture had a value of R5,1 million and was clearly outside the capacity and capabilities of this ABE, should the ABE have attempted to execute the contract on its own. The author has accordingly not included data from this joint venture in the subsequent results for this specific aspect being analysed.

The author notes, however, that the non-ABE partner in contract 980003 did indicate that the contract was completed successfully and on time.

Performance of the Joint Venture

Both the ABE and non-ABE partners in all 7 contracts indicated that the contract was completed successfully and on time.

Potential for future joint venture arrangements

The responses of the five joint venture partners (both ABE and non-ABE) to the questions posed in the questionnaires on future joint venture arrangements is summarised in Table 8.10.

TABLE 8.10 : RESPONSES FOR FUTURE JOINT VENTURE ARRANGEMENTS

ASPECT	RESPONSES (PERCENTAGE)			
	ABE		NON-ABE	
	YES	NO	YES	NO
Form a joint venture with the same partner	50%	50%	80%	20%
Form a joint venture with another partner	75%	25%	40%	60%
Partner took advantage of you through the contract	50%	50%	-	100%
Worthwhile forming a joint venture	100%		80%	20%

The following trends emerge from an analysis of this portion of the questionnaire :

- Most non-ABE partners were prepared to form a joint venture with the same partner; the

exception being the non-ABE who terminated one of his joint venture relationships with a particular ABE.

- The perception of all non-ABE partners was that their ABE partners did not take advantage of them during the contract. On the other hand, the perception of ABEs to the non-ABE partner taking advantage of them was evenly divided.

- All partners (ABEs and non-ABEs), with the exception of the non-ABE who terminated one of his joint venture relationships with one the ABEs in the sample considered that joint venture formation, is worthwhile.

Perceptions of roles played by partners in the joint venture

The partner's perceptions of the roles played by partners in all seven joint ventures for which questionnaires were completed is presented in Table 8.11.

TABLE 8.11 : PERCEPTIONS OF ROLES PLAYED BY PARTNERS IN THE JOINT VENTURES

ASPECT OF CONTROL	CONTRACT NO						
	970152	960344§	970178§	970260	970420	98003#	970337#
Perceived theoretical participation (own/partners)							
- Non-ABE	50/50	50/50	50/50	50/50	45/55	70/30	70/30
- ABE	80/20	50/50	50/50	50/50	35/65	80/70	50/50
Lead partner				Equal			
- non-ABE	YES	YES	YES	Split	YES	YES	YES
- ABE	JOINT	NO	NO	YES	NO	NO	NO
Management or control of resources which come from other partner							
- non-ABE	NO	NO	NO	YES	-	NO	NO
- ABE	NO	YES	YES	YES	YES	NO	NO
Management or control of own resources by other partner							
- non-ABE	NO	NO	NO	YES	-	NO	NO
- ABE	NO	YES	YES	YES	YES	NO	NO
Perceived control exercised by partner in joint venture							
- non-ABE	60	50	50	50	-	100	85
- ABE	50	58	55	50	35	0	30

* Joint Venture relationships terminated.
\# Edilcon / Kronen joint venture
§ Group Five / Makhosi joint venture

It is apparent from Table 8.11 that non-ABE and ABE partners in several of the joint ventures did not fully understand their roles and participation in the joint venture as the responses for perceived theoretical participation and perception of who the lead partner was, was not always the same. Just

over half the ABEs claim to have managed or controlled resources of their non-ABE partner whereas only one non-ABE claimed to have managed and controlled the resources of his ABE partner. In contrast, just over half of the ABEs claimed that their non-ABE partners managed or controlled their resources.

This lack of clarity in the roles and responsibilities of the partners may be attributed to a lack of understanding of the policy and failure to complete the relevant control form. Only two Joint Venture Disclosure Forms could be located.

The ABE partner in contract 970152 who differed greatly in his perceived theoretical participation from his ABE partner indicated that he was not prepared to enter into a repeat relationship with his non-ABE partner.

8.3.4.3 Legal relationships

The TP1(APP1) specification requires that written joint venture agreements be entered into. Joint Venture agreements were obtained in respect 8 of the 9 of the joint ventures formed with ABEs in terms of the TP1(APP1) specification. Table 8.12 sets out the areas covered in the various joint venture agreements.

All 7 of the joint ventures involving ABE partners which completed the questionnaires indicated that they had entered into joint venture agreements prior to submitting the tender.

Any analysis of the broad content of the joint venture agreements revealed that aspects such as the powers and duties of the management committee, the functions and duties of the partners, banking, books of account, auditors, workman's compensation, safety and security and secrecy were not addressed in any of the documents. Agreements ranged from single page documents to comprehensive agreements. In two of the three repeat joint ventures, the content of the joint venture changed from the one contract to the next.

One ABE partner in the first of the two contracts executed with the same partner indicated that the first joint venture agreement was not comprehensive. An analysis of the contents of both agreements indicated that in the second agreement provision was made for definitions, project management and administration, and plant and equipment. The ABE who entered into a joint venture using a one page joint venture indicated that the agreement was not comprehensive enough. Interestingly, although the ABE indicated a willingness to enter into future joint venture arrangements, this ABE indicated an unwillingness to do so with the same partner.

None of the partners in the seven joint ventures indicated that a lack of clarity in the joint venture agreement resulted in a dispute.

TABLE 8.12 : CONTENTS OF JOINT VENTURE AGREEMENTS

Contents description	960344#	970152*	970167*	970178#	970337§	970412	970420	980003§
Preamble					X		X	X
Definitions				X			X	X
JV Constitution	X			X	X	X	X	X
Function and Duties								
Powers and duties of management committee								
Project Management and administration				X	X	X		
Management charges and remuneration of employees	X			X	X	X	X	X
Seconded staff	X			X		X	X	
Joint venture profits	X			X	X	X		
Other profits	X			X	X	X	X	X
Finance and financial reporting					X	X		
Banking								
Books of account								
Auditors								
Working Capital / Guarantees/ Insurance	X			X		X	X	X
Workman compensation								
Plant and equipment				X	X	X	X	X
Safety and Security								
Sub contractors	X			X	X	X	X	X
Assignment / cession						X	X	X
Disposal of interest in JV						X		
Disputes							X	
Arbitration	X			X	X	X	X	X
Termination of JV							X	
Variations to Agreement							X	
Advertisement	X			X	X	X	X	X
Notices								
Legal	X					X	X	X
JV Duration	X			X	X	X	X	X
JV Dissolution	X			X	X	X	X	X
Breach	X			X	X		X	X
Secrecy								
One page JV		X	X					

Group Five / Makhosi Projects

* Alfadav / SBT Construction.

§ Edilon Construction / Kronen Construction and paving.

8.3.5 Research findings

No record of any joint venture formation could be found in the head office record for contracts awarded during 1993. Evidence of forced joint venture formation could be found in the study period immediately prior to the awarding of tenders in accordance with the Affirmative Procurement Policy. It was found that during the study period, the Affirmative Procurement Policy resulted in 7% of the prime (major) contracts, accounting for 9% of the value of such contracts, being executed by joint

ventures formed at the prime contract level between one non-ABE partner and one ABE partner; such joint ventures being formed on a voluntary basis and not on the insistance of the Department.

The research indicated that :

- The ABE partners in most of these joint ventures entered into joint venture formation with non-ABEs due to a lack of capacity to execute such contracts on their own.

- The primary capacity constraints are access to start-up capital, working capital, sureties and expertise in contract administration.

- Secondary capacity constraints included access to management expertise, plant (major and minor), suitable staff and management and organisational administrative knowledge.

- A small number of ABEs cited access to finance for retention, legal expertise, and staff with skills and premises as a motivation for forming a joint venture.

- Lack of available staff and lack of client liaison expertise were not considered to be a reason for entering into joint venture formation.

- All ABEs who entered into joint ventures for capacity reasons confirmed that their joint venture partners performed the functions which they were lacking and performed them adequately. They also confirmed that they had benefited more as joint venture partners than had they acted as subcontractors.

- Only one of the joint venture agreements was terminated by the partners.

- Most non-ABE partners were prepared to form a subsequent joint venture with the same partner.

- Non-ABE partners considered that their ABE partners did not take advantage of them in the performance of the contract. ABE partners were divided on this issue in so far as their non-ABE partners were concerned.

- Only the ABE partner whose agreement was terminated considered that joint venture formation is not worthwhile.

- All joint ventures were constituted in terms of a written agreement.

The author did observe a lack of clarity in the perception of the partners' roles of responsibilities and attributes these to a lack of familiarity with the policy and a failure to complete some of the relevant

control forms. Nevertheless, the author considers that the policy's recognition characteristics for a Structured Joint Venture were in the main complied with.

The author concludes that Structured Joint Ventures are an effective means of transferring expertise as all the ABEs interviewed confirmed that they had benefited more as joint venture partners than had they acted as subcontractors. This finding differs from those of Ofori (1991) who made the observation that despite there being a number of success stories, joint ventures seldom resulted in the effective transfer of expertise. The author contends that the structuring of the joint ventures to conform with the stringent requirements provided for in the Affirmative Procurement Policy may account for discrepancies between observed results in the application of the policy and those from other countries.

8.4 CONCLUSIONS

The research reported on in 8.2.5 and 8.3.5 supports both the sub-hypothesis which were tested viz. :

1) The application of the policy has resulted in better regulated relationships between prime contractors and subcontractors.

2) The policy promotes joint venture relationships between established contractors and Affirmable Business Enterprises.

CHAPTER 9

CONCLUSIONS, RECOMMENDATIONS AND AREAS IDENTIFIED FOR FUTURE RESEARCH

9.1 OVERVIEW OF RESEARCH FINDINGS, CONCLUSIONS AND SIGNIFICANCE OF RESEARCH

9.1.1 Phase 1 : Focus of research and conclusions

Phase 1 of the research provides the background and conceptual and theoretical framework within which the evaluation of the Affirmative Procurement Policy was conducted during Phase 2 of the research. This Phase of the research focused on the nature of the construction industry in South Africa, its role in reconstruction and development and the role which the state can play in promoting the improved functioning of the South African construction market through selective interventions. The author, via a review of the most recent international and local literature, concludes that the South African construction industry, as with other construction industries in other developing countries, is central to the process of economic and social development. It may as such be regarded as a barometer for the level of economic activity taking place in the country.

An evaluation of economic trends and policy pronouncements indicated potential growth for the South African construction industry, in the medium to long term. An analysis of the strengths and weaknesses of the South African construction industry was then conducted, with the author concluding that this industry has several comparative advantages in the Southern African region. There is, however, a need for the development of an integrated industrial development plan for the construction industry, to ensure that the construction industry in South Africa is appropriately geared and located to meet the challenges of the envisaged growth trajectory in the medium to long term. The author proposes that the Construction Industry Development Programme, currently co-ordinated by the national Department of Public Works, could serve as an appropriate mechanism to engage the various industry stakeholders in the process of formulating a development strategy for the construction industry in South Africa, and also proposes a process for the development of such a strategy.

In analysing the weaknesses of the South African construction industry, the issues of skewed ownership patterns arising from the system of apartheid within the South African construction industry and the barriers to entry for emerging construction enterprises were identified as barriers that needed to be resolved in order for the construction industry in South Africa to flourish. The role of the state in the construction industry was then explored. The multi-faceted roles of the state as an investor, as a regulator, and as a policy formulator, were identified as areas where the state could contribute in the development of a coherent industrial development strategy for the construction industry.

Public sector procurement as an instrument of policy was then investigated by reviewing international experience on the subject. This analysis indicated that most countries, in both the developed and the developing world, utilised public sector procurement as an instrument to give effect to certain policy priorities. An analysis of public sector procurement policy in South Africa in the pre 1994 and post 1994 era was then conducted. The author concludes that the South African government, in the post 1994 era, made an explicit commitment via Clause 217 of the Constitution to utilise public sector procurement as a vehicle to promote socio-economic policy priorities and as a mechanism to address historical inequities.

The role of Affirmable Business Enterprises (small businesses which are owned, managed and controlled by previously disadvantaged persons) in the South African construction industry was then analysed, together with the constraints confronting ABEs in the South African construction industry.

The rationale for the focus on ABEs in the South African construction industry, was also presented. The author concludes that the need to promote Affirmable Business Enterprises in the South African construction industry should not only be argued on the basis of addressing historical inequities, but more importantly, on the basis of enhancing competitiveness and efficiencies within the overall South African construction industry. The author contends that the adoption of the Affirmative Procurement Policy and its implementation by the National Department of Public Works in South Africa, is an attempt by the South African government to utilise public sector procurement as a mechanism to promote ABEs in the construction industry, thereby contributing to greater efficiencies within the overall construction industry in South Africa.

Having defined the theoretical framework within which the Affirmative Procurement Policy is located, Phase 2 of the research focuses on the evaluation of the Affirmative Procurement Policy.

9.1.2 Phase 2 : Research Findings and Conclusions

This phase of the research evaluated the primary policy outcomes of the APP, whis was adopted and operationalised by the National Department of Public Works, in order to test the effectiveness of the utilisation of public sector procurement to promote ABEs in the construction industry. The assessment of the primary policy outcomes of the APP was conducted through:

- the development of appropriate indices;
- the development of a diagnostic quadrant comparator, which measures ABE participation across different construction sub-sectors and categories; and

- the financial premiums incurred by the state in giving effect to this policy.

An analysis of the contracts awarded by the Department of Public Works for the period 1 August 1996 until the period 31 June 1998, indicated an order of magnitude increase in ABE participation, following the application of the Affirmative Procurement Policy, whilst incurring a nominal financial premium. The extent of ABE participation varied across construction categories, with the most significant benefits observed in contracts above a R2 million threshold, where ABE participation as sub-contractors increased significantly. For contracts in the less than R2 million category, where direct preferences for ABEs were provided, noticeable increases in participation were observed, but these were not as significant as in the above R2 million category. This analysis indicates that subcontracting provides a useful and important mechanism for increasing ABE participation in the construction industry, but that a greater effort should be placed on the promotion of ABEs as prime contractors in the different construction categories. The participation of ABEs across the different contracting subsectors, indicated significantly higher participation in the general construction subsector with limited increases in the civil, electrical and mechanical sub-sectors. The author concludes that the limited increases in the latter three, could be ascribed to minimal ABE absorptive capacity in these specific subsectors, i.e. there are insufficient numbers of ABEs able to access this market segment despite there being direct preferences in place to favour the award of tenders to them.

This research supports the Cluster 1 sub-hypotheses, namely:

- **The National Department of Public Works can promote increased participation by ABEs in the construction economy via its Affirmative Procurement Policy.**
- **The adoption of the Affirmatiave Procurement Policy has resulted in the state bearing limited financial premium, when compared to the initial projected outcomes and overall benefits.**

The author made an assessment of performance of ABEs and non-ABEs, who were awarded contracts by the National Department of Public Works, during the research period. This research found that non-ABEs performed better than ABEs as prime contractors in the general contracts subsector for the price range between R100 000 and R2 million. More specifically, ABEs tended to start their contracts later than non-ABEs, once the contracts have been awarded. This was ascribed to various factors, including problems associated with the mobilisation of sureties, and their inability to mobilise adequate human resources and plant within the defined time frames. It was also noted that a significant percentage of ABEs tended to submit their payment certificates late, impacting negatively on their operating cash flows. Many of the ABE contractors did not

utilise appropriate expertise in formulating their payment certificate submissions. In analysing general aspects of management and its impact on overall contractor performance, it was found that in certain areas, ABEs had limitations. The areas of document management and lack of flexibility to handle variations during the construction phase were particularly noticed. It was also found that non-ABEs produced higher quality work. The occurrence of the utilisation of sub-standard materials was identified with greater frequency, on ABE contracts. The research concluded that notwithstanding the increased procurement opportunities that were offered to ABEs via the Affirmative Procurement Policy, supply side constraints and overall management limitations impacted negatively on their ability to perform to the same level as their non-ABE counterparts.

This research supported the hypothesis that performance differences exist between ABEs and non-ABEs in building contracts in the price range R100 000 to R2 million. This in turn supports the first of the Cluster 2 subhypotheses, namely:

- **Increased procurement opportunities to ABEs via government's APP in a necessary but not sufficient condition for full enablement of ABEs in the construction sector.**

Following from the analysis of the primary policy outcomes of the APP, where limited participation of ABEs was noted in the civil, mechanical and electrical subsectors, the research then tested if differing entry level thresholds restricted ABE participation in these subsectors. The research concludes that the concentration of ABEs in the general contract subsector, could be largely ascribed to the differences of approach in the management of construction projects by ABEs and non-ABEs. ABE owners tend to perform most technical aspects of contract acquisition and management themselves, whereas non-ABE owners tend to delegate this function to technically qualified individuals. The author concludes that by concentrating key managerial tasks under owners, and not delegating them to professionally and technically qualified individuals, ABEs established operational limitations which have had a significant impact on their ability to penetrate other construction subsectors. The author proposes that these management practices have a greater influence on subsector participation by ABEs than external entry thresholds.

This research supported the second of the Cluster 2 subhypotheses namely:

- **ABE participation varies according to subsector entry thresholds.**

The author noted the significance of ABE participation at a subcontracting level in the application of the APP and tested the impact of the APP on ABE subcontractors under requirements for 'fair' subcontracting practices. The research concluded that the APP acted as a catalyst for

formalising the ABE subcontracting sector, and that many ABE subcontractors registered as formal business during the period under review. Whilst APP requirements of 'fair' subcontracting practices assisted in formalising relationships between prime contractors and ABE subcontractors, many of the written subcontracts did not comply with the 'fair' subcontract principles required by the APP. It was also found that the majority of prime contractors and principal agents were not familiar with the APP specifications in this regard, and that compliance monitoring of subcontracting requirements was not evident. Prime contractors and principal agents who participated in the research, supported the 'unfair' subcontract provisions pertaining to the right of set-off by the employing contractor and 'pay when paid' procedures. This in the author's view contributed to their inability to implement and monitor compliance of the APP requirements in this area.

The research also concluded that there was a significant increase in the number of joint ventures formed between ABEs and non-ABEs with the application of the APP. Whilst there was a lack of clarity of each parties' roles and responsibilities in these joint ventures, ABE partners were observed to have benefited from these joint ventures via skills transfer and augmentation of their own capacity. ABEs, who participated in these joint ventures, indicated that these relationships were more beneficial to them, than had they acted as subcontractors on these contracts.

This abovementioned research supports the Cluster 3 subhypotheses, namely:

- **The APP promotes joint venture relationships between established contractors and ABEs.**
- **The application of the APP has resulted in better regulated relationships between prime contractors and subcontractors.**

9.1.3 Research conclusions

The Phase 2 research demonstrated through the testing of the abovementioned sub-hypotheses that:

1) The Department of Public Works can utilise procurement to promote increased participation by small businesses which are owned, managed and controlled by previously disadvantaged individuals with nominal increases in construction costs.

2) There are several constraints which differ between construction subsectors which need to be addressed to enable ABEs to access markets and to grow to their full potential. As a consequence, both enabling and intervening strategies are necessary.

3) Procurement policies can improve access to markets and may lead to the establishment of enabling and better regulated relationships with larger companies.

The Phase 2 research accordingly confirms the hypothesis that was tested, namely that:

The public sector in South Africa can contribute to the increased participation of Affirmable Business Enterprises in the construction industry via the implementation of the Affirmative Procurement Policy.

9.1.4 The significance of the research

The process of effecting fundamental change in the structure of enterprise participation in the construction sector, is complex. Change at scale, which will have an impact, may result from:

1) A market empowerment process operating in the South African economy in terms of the changes in the structure of equity ownership of large firms.
2) The establishment and nurturing of significant numbers of construction related SMEs owned by previously disadvantaged individuals.

The APP applied by the Department of Public Works used procurement as an instrument of policy to support the growth in the participation of ABEs (SMEs owned, managed and controlled by PDIs) in order to redress skewed business ownership patterns in South Africa arising from the system of apartheid. The research reported on in Chapter 5, demonstrates an order of magnitude increase in ABE participation levels. The author concludes that this demonstrates that the APP is an effective policy instrument that should be utilised within the public sector, to enhance ABE participation and growth of this sector.

Through the research into the outcomes of the policy reported in Chapter 5, the author has developed various indices, culminating in a simple management tool to interpret, monitor and evaluate the APP outcomes. The quadrant comparator, which was developed, can be used to reassess policies and to modify or fundamentally change such policies, where it is necessary.

The research into varying entry thresholds for different construction subsectors found that ABEs impose limitations on their operations by concentrating key areas of operational responsibility on the owners and not delegating them to professionally and technically qualified individuals. This practice is considered to have more influence on their activities than external subsector thresholds. These significance of this, is that the growth in the number of professionally qualified

persons with suitable management exposure in the electrical, mechanical and civil subsectors is necessary to increase ABE participation in these subsectors, rather than the commonly accepted supply side measures such as business development and access to finance.

Research into ABE performance in Chapter 6, demonstrated that there could be performance differences between ABEs and non-ABEs with respect to time frames, management factors, safety and quality control. The research suggests that the structuring of training and mentoring interventions after contract awards, need to be revisited. Supply side interventions need to be focused on improving ABE performance, rather than generic business skills. The research also presents a methodology to assess disparities and performance between ABEs and non-ABEs. The research, as such, can be used to benchmark the success or otherwise, of supply side interventions. Where there is no disparity in performance between ABEs and non- ABEs, there is no justification for supply side interventions.

The research presented in Chapter 8 on the impact of the APP on contracting relations in the construction market, demonstrated that the policy can be used to regulate the relationships between ABEs and non-ABEs, and can serve as a catalyst to formalise businesses and widen the tax base. The research also demonstrates that contrary to some international studies, joint ventures which were structured in accordance with the provisions of the APP, are effective in the transference of expertise, without exposing the client body to significant risk.

The research has demonstrated that the State can, via appropriate interventions and policy choices, including the utilisation of public sector procurement as a mechanism, achieve social and economic objectives. This research as such provides a starting point for further research in South Africa that focuses on the utilisation of public sector procurement as an instrument to realise social objectives. Whilst this research was located within the construction sector, the theoretical framework and research methodology adopted, provides the basis for similar studies in other industry sectors. This research can provide useful pointers to policy formulators, and those entrusted with the implementation of preferential procurement policies, provided for in Section 217 (3) of the Republic of South Africa's Constitution, and the recently enacted Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000). (Refer to 9.5).

9.2 Recommendations for refinement in the Affirmative Procurement Policy.

Flowing out of the research, the following policy refinements are recommended :

1. **For contracts in the Prime (Minor) and Prime (Micro) category, the APP should be amended from the assignment of upto 10 points to equity owned by previously disadvantaged persons, to the assignment of adjudication points for ABE status.**

Arising from this research, the Department of Public Works is currently allocating adjudication points on the basis of ABE status. However, this needs to be formally endorsed by the State Tender Board, as it departs from the current State Tender Board Regulations. This will not only ensure that there is an alignment of the APP for the contracts less than R2 million and contracts greater than R2 million, but will also ensure that adjudication points are not only assigned for ownership, but also for operational responsibility which is included in the ABE definition, thereby minimising opportunities for 'fronting' to access state contracts.

2. **The maximum value of the contract participation goal in Prime (Major) contracts above which no further adjudication points are awarded, should be increased for contracts having a value of not more than R15,0 million and the financial value used to demarcate Prime (Minor) contracts should be lowered to R1,0 million.**

The author bases this recommendation on the observation that there is limited participation of ABEs as prime contractors in Prime (Major) contracts having a value not exceeding R15 million and the ABE participation in Prime (Minor) contracts is significantly lower than in Prime (Major) contracts. This recommendation will extend the range of subcontracting opportunities down to contracts having a value of R1,0 million and will create a preference for ABE prime contractors in contracts in the range R1,0 million to R15,0 million. ABE participation will be increased as contracts not executed by ABE prime contractors will still secure ABE participation at a subcontract level or through joint venture relationships.

The author proposes that the contract participation goal above which no further adjudication points be awarded, is increased from 40% to 100% in respect of Prime (Major) contracts having an estimated contract value of less than R15 million. A threshold of R15 million has been selected to encourage ABEs currently operating as prime contractors in contracts in the below R2 million category, to work on larger contracts as prime contractors, whilst affording non-ABEs the opportunity to participate competitively in this category via the attainment of appropriate contract participating goals. The R15 million upper threshold should be reconsidered and assessed after an appropriate period of implementation of this change. It is not recommended that this change be applied to contracts in excess of R15 million at this stage, as it is more than likely that the contractors participating in construction contracts in excess of R15 million as prime contractors, are no longer ABEs as they will in all probability have exceeded their turnover thresholds.

This recommendation will also allow statistics linked to ABE participation to be more accurately determined, where ABEs execute contracts at a prime contractor level.

3. The points awarded for development objectives associated with the APP should be reduced to a value less than 10.

The author makes this recommendation based on the observation that the low financial premium that has been paid, via the application of the APP, in both Prime (Minor) and Prime (Micro) contracts, where direct preferencing has been applied, and on Prime (Major) contracts where the contract participation goal has been used as the primary means to ensure ABE participation, has been nominal.

This recommendation if implemented will cause the maximum potential financial premium to be reduced from the current 11,1% to a significantly lower financial premium. As a starting point, the points can be reduced to 5. (This would reduce the maximum potential financial premium to 5,5%). This arrangement should be reassessed after an appropriate period of monitoring contract awards. The benefit of this approach would be two fold viz:

1) There would be a reduction of risk exposure to the state and to the fiscus, without compromising increased ABE participation in construction projects.
2) The points which are not utilised can be granted for other socio-economic objectives, e.g. the addressing of gender imbalances and job creation.

4. Structured joint ventures using the APP 2 (Affirmable Partners) and APP3 (Targeted Partners) needs to be introduced to supplement the current targeting strategy in the civil, electrical and mechanical subsectors.

The targeting strategy for ABE participation in the civil, electrical and mechanical subsections needs to be modified noting the low level of ABE participation in these subsectors.

5. The minimum contract participation goal applicable to general, electrical, civil and mechanical contracts in the Prime (Major) category of contracts be reduced to zero.

The specification for relatively high minimum contract participation goals in tender documents, can lead to distortions in the market and potentially significant indirect (or non-calculable)

premiums being incurred. Whilst there might have been a need to specify minimum contract participation goals in the early implementation stages of the programme of this nature to ensure minimum compliance, the author considers such measures to be no longer necessary.

6. **The Department of Public Works, in conjunction with construction industry stake holders, via the Construction Industry Development Programme, should develop pro-forma subcontracting contract agreements for the different categories of sub-contracting that take place on construction projects, and which include the 'fair' subcontracting principles included in the current APP specifications.**

The inclusion of 'fair' subcontracting principles in the APP specification, and the flexibility afforded to prime contractors to develop their own subcontracts which embody these 'fair' principles have not resulted in the desired outcomes. If for this reason that these agreements should be developed.

7. **A similar process to that outlined for subcontractors, recommendation 6 should be adopted to develop a pro-forma joint venture agreement.**

The research has indicated that requirements of the APP with regard to structured joint ventures, have not been captured in the various joint venture agreements, which were analysed. Such documentation would facilitate joint venture formation in accordance with the APP.

Over and above the above recommendations for refinements to the APP, the author also recommends the following :

1) The methodology of data capture and contract categorisation outlined in the research, should be adopted by the Department to ensure a more effective data capturing process and a better downstream analysis of data.

2) The indices developed in Chapter 5, culminating in the development of the quadrant comparator should be utilised by the Department to evaluate the outcomes of the APP.

3) The Department should introduce a system to accredit departmental project managers and external consultants, who represent the Department, and administer such contracts. The accreditation should be based on demonstrable competence and an undertaking to adhere to a code of conduct and to follow departmental procedures. Both will ensure that the provisions of the resource specifications are applied, and that compliance is enforced,

particularly in respect of joint venture relationships and the conditions of subcontract. The author records that on the basis of these research findings, the Department has already commenced with a process of accreditation. It is also proposed that the Department only utilises the services of persons who are accredited, to oversee the implementation of the policy at a project level.

4) Public sector programs such as the Emerging Contractor Development Programme of the Department, should be revisited and re-aligned to include the enhancement of ABE performance during contract execution by addressing items where performance problems were encountered by ABEs, which are referred to in Chapter 6 of this research. The Department's project management cycle for construction projects should also be modified to allow a greater flexibility on times for commencement and completion on Prime (Minor) contracts to cater for the needs of small contractors.

9.3 Research Limitations

9.3.1 Department of Public Works Data Set

The research was confined to an analysis of the Department of Public Works' data set. The data for the general contracting category was well populated, whilst data in the electrical, mechanical and civil categories is limited. Whilst this is primarily ascribed to the nature to the work that was undertaken by the Department, it does place some limitations on the conclusions arrived at, regarding ABE involvement, particularly in the mechanical, electrical and civil construction subsectors. In the envisaged roll-out of the APP programme to various provincial works departments and local authorities, it would be important to incorporate data from those entities at the appropriate time to further populate under represented areas and test the validity of the findings of this research in these subsectors.

9.3.2 Real Time Analysis

The research focused on the application of the Affirmative Procurement Policy for the period 1 August 1996 until 1 July 1998. This period of analysis allowed for ABEs that were currently operational or were operational prior to the policy application, to access procurement opportunities. The author is of the view that the period of analysis was of sufficient length to provide for the representative analysis that is reported on. The author, however, proposes that a longer research time frame will further enhance the current research findings, as it will allow the development and formation of new ABEs to be probed and to track the growth of existing ABEs,

as a result of the policy application. A real time analysis of data, taking due cognisance of relatively long incubation periods, for small construction enterprises to develop, would contribute significantly to the value of research, for both policy monitoring and evaluation.

9.4 FURTHER AREAS OF RESEARCH

9.4.1 Real Time Analysis

The author recommends that the Department continue to gather and analyse data on the outcomes of the policy in order to assess and evaluate the outcomes of the policy. Research which is directed at establishing the absorbtive capacity of small businesses having the same turnover thresholds as provided for in the ABE definition needs to be conducted in each of the construction subsectors. This information is required to enable the Department to assess where measured participation levels are appropriately located in relation to the probable maximum participation level. The research is also necessary to enable the Department to manage the continuance of the Affirmative Procurement Policy in specific subsectors and for politicians to make informed decisions regarding sunset criteria pertaining to the programme.

9.4.2 The performance of Affirmative Business Enterprise as prime contractors

9.4.2.1 General

The author recommends that the Department continues and extends the research reported on chapter 6 to all contracts in the price range R100 000 to R2 000 000. The research reported in 6.3 was directed at general contracts, and was conducted through interviews with project managers and principal agents. The author recommends that the scope be extended to all contract types. The survey method should be adjusted to provide for data recording by project managers. Review of the consistency of data recording should be done periodically by research personnel to correct any regional variance in interpretation of data requirements. The extension of research across all subsectors will provide for analysis of the full universe of qualifying tenders, and will provide comparative inter-sector data.

The author sought to gather data on external factors that may assist to characterise research results, as reported in 6.4. Reliable data could not be obtained for the location of the contract, the age of the company and the number of permanent employees. The author recommends that these be added to the questionnaire to be completed by the project manager.

The author notes that research into company age was conducted through the Registrar of Companies. Inadequate information was indicated for a significant proportion of the sample. The author recommends that a separate study be undertaken to confirm company status for all awarded tenders in the research price range. This research is recommended to test a core compliance requirement for APP participation, being formal company status and compliance with tax obligations.

9.4.2.2 Management factors

With respect to improving the understanding of management factors in contracts in the research price range, the author recommends further research. In 6.5.2 the author postulates that a causal relationship may exist between timeous submission of payment certificates and credit and materials supply problems. The author recommends that a pilot study be instituted to test the relationship between employment of quantity surveyors by ABEs and statistical improvement in submission of payment certificates. The recommended research should also test for relationships between employment of quantity surveyors and improvement in availability of supplier credit and materials supply.

Such a pilot study should also be designed to produce data on the relationship between employment of quantity surveyors and (i) improvements in product quality by ABEs, and (ii) reduced use of sub-standard materials. Both of these factors are shown to increase the risks of ABE participation for the department. Such additional research will indicate the extent to which these components of the risk can be managed.

9.4.3 Wider Sampling

The research conducted into supply side constraints was representative, at approximately 25% of the universe of qualifying contracts. The author's intention to cover complex subject matter across all of the contract types provided generally indicative data. The author proposes that the questionnaire be applied to each qualifying project during the course of the project by the project manager.

The author proposes that data collection in this manner will provide a more complete coverage of the questionnaire than was possible in this research. Through this method the coverage of research areas with sufficient data for non-parametric analysis will improve. Such analysis may be done at the time when sufficient data for an aspect of research is achieved. Comprehensive knowledge of the components will expand over time until the full scope of research is covered.

Through this method the author proposes that focused analysis and response can take place as data quality improves, without the Department having to wait for full data coverage of all components of the research.

9.4.4 Extended research period to test impact of supply side interventions

The research into the primary outcomes of the Affirmative Procurement Policy reported on in Chapter 5 was conducted during a period when supply side measures were in the main not in place. The author therefore recommends that future research should focus on the impact of supply side interventions on policy outcomes. Such research will give insight into which interventions yield value for investment and which do not.

9.5 WIDER APPLICATION OF THE AFFIRMATIVE PROCUREMENT POLICY

The time of drafting this concluding Chapter, The Preferential Procurement Policy Framework, Act 2000 (Act No 5 of 2000) was enacted by the South African Parliament. A review of the contents of this Act indicates that the APP specifications fully comply with the requirements of legislation, and it is therefore likely the APP specifications will form the basis of preferential procurement policy specifications, not only for other state entities that procure construction goods and services, but also for the procurement of goods and services in other industrial sectors. The significance of this research therefore, has a wider application beyond the national Department of Public Works, to other state institutions that are likely to be developing preferential procurement policy specifications.

In rolling out the APP to other institutions of government, it is strongly recommended that emphasis should be placed on the effective training of personnel entrusted to operationalise and monitor, policy outcomes, and this should be backed up by suitable data capturing systems. These requirements should be factored into such a roll-out programme, as any attempt to implement the APP in the absence of a sound institutional framework to do so, is likely to result in negative policy outcomes. Further, should the policy be used in other industrial sectors, it is recommended that the turnover thresholds for ABEs operating in different industrial sectors, should be amended. The turnover thresholds provided for in the South African National Small Business Act, (South African National Small Business Act, Act No 102 of 1996) is very broad and needs to be refined. The classification system used in the United States Congress's Small Business Administration, based on appropriate size standards applicable to Standard Industrial Classifications, could form the point of departure. (Office of Civil Rights and Office of Highways Operations, 1990).

The APP, although targeting ABEs in a South African context, provides access to markets for businesses, however they are defined. An Affirmable Business Enterprise in the generic sense is any business which is "affirmed" or "asserted" strongly. Accordingly an Affirmable Business Enterprise can be defined on the basis of locality, status e.g. small and medium enterprise status, and ownership and control by disadvantaged groups e.g. women (Watermeyer, 1998). The Affirmative Procurement Policy, with appropriate modifications, could be applied beyond the borders of South Africa, to promote the creation of jobs through the promotion of small and medium enterprises and the development of local industries or sectors of industries.

The International Labour Organisation (ILO) and the Namibian government have already commenced with the utilization of elements of the Affirmative Procurement Policy in their activities. The Namibian White Paper on Labour Based Works (Ministry of Works, Transport and Communications, 1999) has adopted a procurement policy which utilises the mechanisms and procedures associated with the APP to implement their labour based policy for works contracts. The ILO has recognised its potential for capacity building for contracting in the construction sector (Bentall *et al,* 1999) and has recently suggested its use to the Indonesian and Thai governments to address job creation in those countries. (Watermeyer and Cornish, 1999; Watermeyer *et al,* 1999). It is hoped that these research findings will also assist these countries who are utilizing the APP, or derivatives of it.

REFERENCES

Abeysekera, WVKM and De Zylva, E. (1997). Development of Domestic Construction Contractors in Sri Lanka *Proceedings First International Conference on Construction Industry Development*, School of Building and Real Estate, National University of Singapore.

Adam H, van Zyl, Slabbert F, and Moodley K. (1997). Comrades in Business *Tafelberg* , Cape Town.

African National Congress. (1994). Reconstruction and Development Programme. *Umanyano Publications* Johannesburg.

Ang, JLC. (1992). Modernising Small Scale Industries and Businesses in Asian Productivity Organisations, *Modernising Small-Scale Industries and Businesses.* Aston Productivity Organisation, pp 1 – 20, Tokyo.

Arrowsmith, S. (1995), Public procurement as an instrument of policy and the impact of market liberalisation. *The Law Quarterly Review* April, pp 235 – 285.

Atkinson, HA and Milne, C. (1996). Emerging contractor development programme of provincial level. *Construction and Development* Number 13, Development Bank of Southern Africa, October.

Aziz, A and Ofori, G. (1996). Developing World Beating Contractors through Procurement Policies: The Case of Malaysia. *CIB W92 proceedings.*

Barnhart, CL and Barnhart, RK (ed.). (1992). The World Book Dictionary. *World Book Inc.*

Black Construction Industry. (1995). Proposals for increasing the effectiveness of the Emerging Contractor Sector, RSA.

Bentall P, Beusch A and de Veen J. Employment-intensive Infrastructure Programmes: Capacity building for Contracting in the Construction Sector. *International Labour Office,* Geneva, 1999.

Black Construction Industry. (1996). Emerging Contractor Support Program: Working Opportunities and Market Forces. *Unpublished report on Working Committee 1*, February.

Brimmer, AF and Marshall R. (1990). Public Policy and Promotion of Minority Economic Development. Part 1: Minority and Female Business Development Programmes: Assessment and Options. City of Atlanta, Georgia.

Brown, L (ed). (1993). The New Shorter Oxford English Dictionary. *Oxford University Press.*

Bruce, B. (1999). Personal communication. Pretoria.

Cattell, KS. (1994) Small Black Builders in South Africa: Problems and Prospects. *Research Paper Series,* University of Cape Town.

Cawthra, DEW. (1991). The European construction industry in the 1990s. ECI, *Construction in Europe Report* No C/0011/0.

City of Atlanta. (1994). Equal Business Opportunity Program.

Cochran, WG. (1977). Sampling Techniques. *John Wiley and Sons.* New York.

Coetzee, JK. (1989). Development is for People. *Southern Book Publishers*, Johannesburg.

Cox, A and Townsend, M. (1998). Strategic Procurement in Construction. *Thomas Telford*, London.

Deborah Y, and Ofori G. (1997). Flexibility, labour subcontracting and HRM in the construction industry in Singapore: can the system be refined? *The International Journal of Human Resource Management*, October, pp 690 - 709

Department of Finance, RSA. (1996). Growth Employment and Redistribution – A Macro Economic Strategy.

Department of Public Works. (1997). Creating an Enabling Environment for Reconstruction, Growth and Development, A Government Policy Initiative.

Department of Public Works. (1998a). Resource specification for the Targeting of Affirmable Business Enterprises: TP1(APP1). September .

Department of Public Works. (1998b). Resource specification for Structured Joint Venture (Affirmable Partners): TP3(APP3). September.

Department of Public Works. (1998c). Resource specification for Structured Joint Venture Partners (Targeted Partners): TP2(APP2). September.

Department of Public Works. (1999). Best Practice Guidelines for enhancing employment opportunities in the provision of infrastructure projects. NPWP Branch, May.

Department of Trade and Industry, RSA. (1995). White Paper on National Strategy for the Development and Promotions of Small Business in South Africa. *Government Gazette, No 16317, Vol. 357, March,*

Department of Trade and Industry, (1998). A National SMME Procurement support programme: towards an integrated approach. Duscussion paper, Centre for Small Business Promotion.

Drewer, S. (1997). Construction and Development: Further reflections on the work of Duccio Turin. *Proceedings, First International Conference On Construction Industry Development*, School of Building and Real Estate, National University of Singapore.

Eberhard, A and van Horen. (1996). Poverty and Power – Energy and the South African State. *University of Cape Town.*

Edum-Fotwe, FT, Price, AD, Thorpe, A and McCaffer, R. (1997). Re-thinking Prospects within Evolving Globalised Markets *Proceedings, First International Conference on Construction Industry Development*, School of Building and Real Estate, National University of Singapore, pp 28 – 34.

Fine, B and Rustomjee Z. (1996). South Africa's Political Economy: From Minerals Energy Complex to Industrialisation?, Johannesburg, *Wits University Press.*

Gounden, SM. (1997). Transforming public sector construction in South Africa: A focus on promoting small and medium construction enterprises. *Proceedings, First International Conference on Construction Industry Development*, School of Building and Real Estate, National University of Singapore.

Gounden, SM and Merrifield, A. (1994) Empowerment Through Delivery Systems *Transformation 25 Economic History Department,* University of Natal pp 93 – 102.

Hillebrand, P. (1984). *Economic Theory and the Construction Industry,* London.

Hillebrand, P. (1997). Problems of, and some remedies for, Underdeveloped Construction Industries. *Proceedings, First International Conference on Construction Industry Development*, School of Building and Real Estate, National University of Singapore.

Hindle, RD. (1997a) What are we referring to when we speak of a construction industry? Defining Construction. *Proceedings, First International Conference on Construction Industry Development,* School of Building and Real Estae, National University of Singapore.

Ofori, G. (1990). The Construction Industry: Aspects of its management and economics. *Singapore University Press,* Singapore.

Ofori, G. (1991). Programmes for improving the performance of contracting firms in developing countries: A review of approaches and appropriate options. *Construction Management and Economics,* 9. pp 19 – 38

Ofori, G. (1994a). Formulating a long term strategy for developing the construction industry in Singapore. *Construction Management Economics*, Vol. 12.

Ofori,G. (1994b). Practice of Construction Industry Development at Crossroads. *Habitat International*, Vol. 18, No 2, pp 41 - 56.

Ofori, G. (1995). Policies and Measures for Small Contractor Development.*Report* prepared for UNCHS, Nairobi, Kenya.

Ofori, G, Hindle R, and Hugo F. (1996). Improving the Construction Industry in South Africa A Strategy. *Habitat International*, Vol 20, No 2, pp 03 – 220.

Procurement Task Team. RSA (1996). Affirmative Procurement Specifications numbers:

- APP 1 - Targeting Affirmable Business Enterprises
- APP 2 - Joint Ventures
- APP 3 - Joint Ventures (Targeted)
- APP 4 - Targeting local resources
- APP 5 - Engagement of Targeted labour
- APP6 - Targeting of Affirmable Professional Service Providers

Republic of South Africa (1968). Act no 86 of (1968), State Tender Board Act. *Government Gazette.*

Republic of South Africa (1996). Act No 120 of 1996 (1996), South African National Small Business Act, *Government Gazette.*

Republic of South Africa (2000). Act No 5 of 2000 (2000), Preferential Procurement Policy Framework Act, 2000, *Government Gazette.*

Reserve Bank of South Africa (1997). Annual Bulletin. Reserve Bank of South Africa.

Rowlinson, S and McDermott, P (Editors) (1999). Procurement Systems – a guide to best practice. E & *FN Spon*, London.

Rwelamila, PD. (1996). Quality Management in the Public Building Construction Process. Ph.D Thesis, Department of Construction Economies and Management, University of Cape Town.

Rwelamila, PD, Hindle, RD and Ofori, G. (1997). The role of the Public Sector and the South African Construction Industries. *Proceedings First International Conference on Construction Industry* Development, School of Building and Real Estate, National University of Singapore, pp 171 – 176.

Social Surveys (1996). Survey report on Emerging Contractor's Support Programme. Black Construction Industry.

Soderlund and Schutte. (1998). Malmesburg Prison Project Review: A review of the Malmesburg Prison Complex and Associated Housing Estate prepared for the National Department of Public Works. September.

SPSS Inc. (1977). SPSS User Guide. SPSS Inc. Chicago. USA.

Sridharan, G. (1997). Factors affecting the performance of international joint ventures. *Proceedings First International Conference on Construction Industry Development*, School of Building and Real Estate, National University of Singapore, pp 84 – 91.

Hindle RD, (1997b) The Structure of Construction Markets and their effect on the size and distribution of Construction Firms. *First International Conference on Construction Industry Development, School of Building and Real Estate, National University of* Singapore.

HMSO. (1995). Setting new Standards : A strategy for government procurement, London.

Hodgson, S. (1997). Government's response to the challenges facing the South African Construction Industry in the process of National Transformation. *Proceedings First International Conference on Construction Industry Development,* School of Building and Real Estate, National University of Singapore, pp 165-173.

Hodgson S and Gwagwa N. (1997), Meeting the Challenges of Emerging Contractor Development in South Africa. *Proceedings First International Conference on Construction Industry Development*, Singapore, pp 174 – 181.

Industrial Development Corporation. (1998). Sectoral Prospects – Growth Guidelines for South Africa's 80 Industries 1997 to 2001, Vol. 1, IDC in conjunction with the Department of Trade and Industry, South Africa.

Johnson, RA. (1990). Affirmative Action Policy in the United States: Its impact on women. *Policy and Politics*, Vol. 18, No 2, pp 77 – 90.

Latham, M. (1994). Final report of the government industry review of procurement and contractual arrangements in the UK Construction Industry. HMSO, July, ISBN 011 752994X, pp 23 – 31.

Lechmiah, DR. (1997). Achieving socio-economic objection through public procurement within the South African context. *Proceedings Eight International Conference on Public Procurement,* Kuala Lampur, Malaysia, 20-22 May.

Leonard, JS. (1990). The Impact of Affirmative Action Regulation and Equal Employment Law and Black Employment *Journal of Economic Perspectives*, Vol. 4, No 4, pp 47 – 63.

Masterman, JWE, (1992). An introduction to Building Procurement Systems. E & FN Span, London.

Masiyiwa, ST. (1994). The African Experience, Zimbabwe. *Proceedings BEAM Conference,* Durban. Implementing the RDP and Affirmative Action in the Construction Industry.

McCrudden, C. (1995). Public Procurement and Equal Opportunities in the European Community A study of contract compliance in member states of the European Community: and under European Law. *Contract File No.* SOC 9310257105 B04, August Oxford University.

Merrifield, A. (1997). Creating an Enably Environment for the South African Construction Industry: The policies behind the policy. *Proceeding's First International Conference on Construction Industry Development*, School of Building and Real Estate, National University of Singapore, pp 190-198.

Ministry of Finance and Ministry of Public Works. (1995). Public Sector Procurement Reform in South Africa: Interim Strategies: A 10 Part Plan. 29 November.

Ministry of Finance and Ministry of Public Works, RSA (1997). Green Paper on Public Sector Procurement Reform in South Africa. *Government Gazette* No 17928, April, Pretoria

Ministry of Finance, Malaysia (1997), Malaysian government procurement. *Eight International Conference on Public Procurement,* Kuala Lumpur, Malaysia.

Ministry of Works, Transport and Communication Namibia (1999). White Paper on Labour-Based Works Policy. Republic of Namibia, Windhoek.

Office of Civil Rights and Office of Highways Operations (1990). Business Enterprise Program Administration: Participant's Manual. Publication no. FHWA-CR-90-003. *US Department of Transportation, Federal Highway Administration.*

State Tender Board, RSA. (1991). General Conditions and Procedures (ST36). *State Tender Bulletin* No 1421, Pretoria.

Steel WF and Webster, LM. (1991). Small Enterprises under adjustment in Ghana. *Technical Paper no 138,* Industry and Finance Series, World Bank Washington DC.

Strategic Procurement Systems (1998). Joint Ventures: What they are, how and why they are formed, and how they are used to secure the participation of Targeted Enterprises. Information Note Number 6. Department of Public Works.

Strategic Procurement Systems. (1999). Implementation manual: The use of Targeted Procurement to implement an Affirmative Procurement Policy. Department of Public Works, March.

Sykes JB (ed.) (1976). The concise Oxford Dictionary. *Oxford University Press.*

Turin, DA. (1973). The Construction Industry, its Economic significance and its role in development. University College Environmental Research Group, London.

Watermeyer, RB (ed.). (1992). Contractor Development in Labour Based Construction. *The Contractor Development Team,* Johannesburg.

Watermeyer, RB. (1997). Job creation in public sector engineering and construction works projects: why, what and how? *Commonwealth Engineers' Council 50th Anniversary Conference: Engineering to survive human shelter and the relief of poverty: sustainable solutions,* Fourways, August 1997.

Watermeyer, RB. (1998). Procurement strategies to achieve socio-economic objectives. *Workshop on Affirmative Procurement in the Construction Industry* 20 September, Durban, 13 October Midrand; 22 October, Cape Town.

Watermeyer, RB, Nevin, G, Amod, S and Hallett, RA. (1995). An evaluation of projects within Soweto's Contractor Development Programme. *JSA Inst Civ Eng*, Vol 36, No 2, second quarter.

Watermeyer, RB and Band, NG. (1994). The development of small scale enterprises, skills, entrepreneurship and employment opportunities through the provision of housing. Working Group 3. *National Housing Forum*, November.

Watermeyer, RB, Gounden, SM, Letchmiah, DR and Shezi, S. (1998). Targeted Procurement: A means by which socio-economic objectives can be realised through engineering and construction works contracts. *JSA Inst Civ Eng*, Fourth quarter October, pp 16 – 25.

Watermeyer, RB and Cornish J (1999). Policy and Legal Issues for Applying Labour-Based Technology in Indonesia Phase II: Working Paper 3. Advisory Support and Training for Wider and Improved Use of Labour-Based Technology in Infrastructures. Programmes in Indonesia (INS / 98 / Moz / AusAid). Multi-bilateral Programme of Technical Co-operation, Department of Public Works / Bappenas and the International Labour Organisation, Regional Office of Asia and the Pacific, Bangkok.

Watermeyer RB, Jacquet A, and Hauptfleisch A (1999). The Promotion of Labour-Based Technologies in Infrastructure Projects in Thailand through Targeted Procurement. Working Paper. *International Labour Organisation* (ASIST – Asia Pacific).

World Bank. (1984). The Construction Industry: Issues and Strategies in Developing Countries, Report No 13531, *World Bank,* Washington.

World Bank. (1998). The East Asian Miracle: Economic Growth and Public Policy, *Oxford University Press.*