The Effect of Commercialisation, Privatisation and Liberalisation on Universal Access in South Africa.

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TABLE OF CONTENTS

ABSTRACT

From the 1990s onwards, significant developments have occurred in the international telecommunications sector that have affected the South African telecommunications industry and peoples' access to the network. Rapid developments in Information and Communication Technologies and the reorganisation of telecommunications operators through commercialisation, privatisation and the effects of market liberalisation have resulted in monopoly operators moving away from their public service mandates. Globalisation and adherence to World Trade Organisation rules are causing operators to rebalance their tariffs closer to cost. Long-distance rates are decreasing while the cost of local calls is increasing. High-end users of telecommunications services are benefiting while low-end, largely residential users are being priced off the network. The end result is a negative effect on universal access to telecommunications services.

This study examines the extent to which commercialisation, privatisation and liberalization are affecting the provision of telecommunications services and the government's goal of achieving universal access in South Africa. Qualitative research methods were utilised to establish that the state owned operator, Telkom, has transformed itself from a public service operator to one that is fully commercialised and prepared for an Initial Public Offering and competition. Telkom no longer attempts to ensure that its tariffs are affordable for all people. However, positive developments presented themselves in the form of an increasingly competent regulator, a reorganised and dedicated Universal Service Agency, and the popularity of cellular telephony. The primary discovery of this study is that the liberalisation of the South African telecommunications sector cannot be assumed to have a negative effect on the provision of service. This study finds that liberalisation will most likely benefit the country through the role out of new infrastructure, the provision of new services and ultimately the reduction of those services themselves.

In order for universal access to be achieved in this country the study recommends that the resources of the Independent Communications Authority of South Africa be enhanced to enable the regulator oversee the industry effectively. Secondly, the Universal Service Agency must provide clear definitions of universal access and universal service as well as manage the Universal Service Fund with greater efficiency. Lastly, the two bodies mentioned above must ensure that services are affordable for all people of this country.

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LIST OF TABLES AND FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

ANC:	African National Congress
APEC:	Asia Pacific Economic Cooperation
BT:	British Telecom
COSATU:	Congress of South African Trade Unions
CP:	Conservative Party
CUASA:	Communication Users Association of South Africa
CWU:	Communication Workers Union
DoC:	Department of Communications
DPE:	Department of Public Enterprises
FCC:	Federal Communications Commission
FDI:	Foreign Direct Investment
GATS:	General Agreement on Trade in Services
GATT:	General Agreement on Tariffs and Trade
GNU:	Government of Nation Unity
IBA:	Independent Broadcasting Authority
ICASA:	Independent Communications Authority of South Africa
ICT:	Information and Communication Technology
IMF:	International Monetary Fund
INTUG:	International Telecommunications Users Group
IPO:	Initial Public Offering
ISP:	Internet Service Provider
ITA:	Invitation to Apply
ITC:	International Technology Consultants
ITU:	International Telecommunications Union
JSE:	Johannesburg Securities Exchange
MTN:	Mobile Telephone Network
NAFTA:	North American Free Trade Agreement
NALEDI:	National Labour & Economic Institute
NEDLAC:	National Economic Development and Labour Council
NTF:	National Telecommunications Forum
NTPP:	National Telecommunications Policy Project
NP:	National Party
NYSE:	New York Stock Exchange
POTWA:	Posts & Telecommunications Workers Association
PSTN:	Public Switched Telecommunications Network
PTN:	Private Telecommunications Networks
PTT:	Post, Telephone and Telegraph
PMG:	Post Master General
RDP:	Reconstruction and Development Programme
SACP:	South African Communist Party
SADC:	Southern African Development Community
SAPS:	Structural Adjustment Programs
SAPT:	South African Posts & Telecommunications
SATRA:	South African Telecommunications Regulatory Authority
SEP:	Strategic Equity Partner
SMME:	Small Medium and Micro Enterprises
SNO:	Second Network Operator
SOE:	State Owned Enterprises
TNO:	Third Network Operator

USF:	Universal Service Fund
USO:	Universal Service Obligations
VANS:	Value-Added Network Services
WANS:	Wide Area Networks
WTO:	World Trade Organization

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CHAPTER ONE
INTRODUCTION

This study examines the impact of commercialisation, privatisation and market liberalisation on the telecommunications industry of South Africa. The study is premised on the hypothesis that the privatisation of the state owned operator, Telkom, and the introduction of competition in the sector will have positive effects on the efficiency of the incumbent and quality of service generally. However, it is expected that residential users will be negatively affected as prices are "rebalanced" to reflect cost. This chapter provides a general background to the study from both a local and an international perspective. A statement of the question is provided as well as the objectives of the study, pertinent research issues, the significance of the study and the structure of the thesis.

1.1 Background to the Study

The rapid development of Information and Communication Technologies (ICTs) and the international globalisation of economies are having profound effects on telecommunications industries, including South Africa's. Governments are under pressure from the World Trade Organisation (WTO) to privatise state owned enterprises such as energy and telecommunications and to liberalise these formally nationalised markets (Heuva *et al* 2002). The state owned enterprises are commercialising in preparation for listings on stock exchanges and the introduction of competition. They are encouraged by government to become self-sufficient, operationally efficient and, most importantly, profitable. These processes mark a movement away from their public service ethos of the past and a courting of local and international capital (Martin 1993). Since the early 1990s South Africa's fixed-line operator, Telkom, has experienced increased competition from Value Added Network Service (VANS) providers and the three cellular telephony operators Vodacom, MTN and Cell C. Telkom is currently preparing for an Initial Public Offering on the Johannesburg Securities Exchange (JSE) and the New York Stock Exchange (NYSE) expected by the end of February 2003. The process of licensing a Second Network Operator (SNO) is underway as the government follows its plan of a "managed liberalisation" of the telecommunications industry. The SNO is expected to begin competing with Telkom in 2003 (de Wet 2003).

Telecommunications are perceived of as facilitating economic and social development in a country with great disparities between rich and poor (Castells 2001). In an effort to achieve universal access in South Africa the licenses that have been awarded to fixed-line and cellular telecommunications operators carry with them universal service obligations. Operators are obliged to

provide infrastructure and services to unprofitable areas in an effort to provide all citizens with access to a working telephone within a reasonable distance of their home or work. This study investigates whether or not universal access will be achieved in the face of increasing competition amongst operators as well as their pursuit of profit.

1.2 Statement of the Problem

The commercialisation of Telkom, its privatisation and the introduction of fixed-line competition will bring challenges to the local telecommunications industry, as it has elsewhere in the world. International experiences suggest that corporate users of telecommunications services are likely to benefit as long-distance prices are reduced. Competition in the market, combined with universal service obligations, should result in improved infrastructure rollout to under-serviced areas. However, pricing of these services may not prove affordable as globalisation forces operators to cease cross-subsidisation and to charge according to the true cost of the service. Although these developments are likely to have significant effects on South Africa's economy and its society, only recently has research been conducted into the local telecommunications sector (Horwitz 2001; ITU 2002; Teer-Tomaselli 2002). Competition by operators for each other's subscribers and lucrative corporate clients poses a threat to universal access and government's development goals. This study, therefore, investigates the influence of privatisation and liberalisation on the local telecommunications industry and its implications for universal access in South Africa.

1.3 Objectives of the Study

1.3.1 General Objective

This study has examined the likely influences privatisation and liberalisation will have on the local telecommunications industry and universal access. It has established that Telkom no longer acts as a public service operator and has become highly commercialised. This follows patterns similar to other operators in countries whose national operators have been privatised (Saunders and Harris 1994).

1.3.1 Specific Objectives

Specifically, this study has sought to:

a) Outline the significant developments in South Africa's telecommunications industry since 1997.
b) Examine the process of policy formulation that resulted in the Telecommunications Amendment Act of 2001.
c) Establish the extent to which universal access and universal service are possible in South Africa.
d) Analyse threats to the provision of universal access and universal service.
e) Hypothesise on the effects of privatisation and liberalisation on the local telecommunications sector.
f) Examine the relationship between government, industry and the regulator.
g) Evaluate the strength of the regulator.
h) Make projections for the future of telecommunications in South Africa.

1.4 Research Issues and Assumptions

This study assumes that telecommunications are an integral part of modern economies and are vital for social development. Therefore, it is essential that universal access is realised so that South Africa may participate effectively in the modern, globalised economy and her people may have a helping hand in social upliftment. However, the effects of globalisation are assumed to impact negatively on developing countries by encouraging neoliberal principles that ignore their localised economic and social requirements (Mittelman 1996b).

Liberalisation is viewed as a necessary means of introducing investment and encouraging infrastructure developments in the telecommunications industry. However, it is assumed that it creates a distraction for operators away from providing services to under-serviced, needy areas (Frempong and Aturba 2001). This is illustrated in the large number of disconnections from Telkom's network in the last three years.

1.5 Significance of the Study

It is hoped that scholars, academics and researchers find that this study has contributed to the existing literature on telecommunications in South Africa, especially with regards to the effect of

privatisation and market liberalisation on universal access. Practically, it is hoped that this study will provide a solid foundation for continuing research into universal access and universal service that will ensure that these are realised in South Africa.

1.6 Methods of the Study

This study utilises qualitative research methods including document analysis and in-depth interviews. The documents reviewed were policy documents such as legislation, speeches and reports, *Government Gazettes*, applications for licenses, and newspaper articles. Hansen *et al* (1998) note that the structure of the interviews as employed in this study allows for the discussion of a broad range of issues and the extraction of detail from respondents' comments. The combination of document analysis and in-depth interviews allowed for the placing of respondents' comments within a broad technological and socio-economic context.

The in-depth interviews yielded descriptive and explanatory data from senior government decision-makers, industry representatives, labour and the regulator. The respondents provided their professional and personal perceptions and interpretations of the developments in the local telecommunications industry. This included their views on the effect of privatisation and liberalisation on universal access in the sector, a guiding theme of the interview process. The exploration of this theme aimed to determine the degree of support for these processes as well as their influence on government policy. These methods suggest that the majority of respondents, including some elements of labour, are in favour of privatisation and liberalisation.

This study is theoretically located within a political economy framework as articulated by theorists such as Castells (2000) and McChesney (1998). It is further informed by detailed discussions of globalisation, liberalisation, commercialisation and privatisation as they relate to the telecommunications industry.

1.7 Thesis Outline

The thesis consists of six chapters. Chapter one, titled "Introduction", presents the context of the study and the researcher's concerns, objectives and methods.

Chapter two, titled "Theoretical Framework", discusses the theoretical considerations that underpin the study. This chapter presents a review of theories on globalisation, liberalisation, commercialisation and privatisation. Empirical evidence is presented in the discussion of the effects of privatisation. These theories correspond with the research issues and assumptions as outlined in the

introduction. Lastly, this chapter indicates that telecommunications plays a pivotal role in the development agenda and projects of the South African government.

Chapter three, titled “History of Telecommunications in South Africa”, analyses fundamental developments that have shaped the local industry since 1997. This chapter aims to provide an understanding of the rationale for the restructuring of Telkom as well as the government’s motivation for the introduction of a fixed-line competitor.

Chapter four, titled “Universal Service and Universal Access in South Africa”, discusses the theoretical concepts of universal access and universal service and analyses how they have been implemented locally.

In chapter five, titled “Methods of Data Collection and Analysis”, the methods, procedures and techniques employed in this study are presented. The choice and utilisation of qualitative techniques, namely document-analysis and in-depth interviews, is presented and defended. An explanation of how the data was processed and analysed is discussed.

Chapter six, titled “Findings, Interpretations and Discussion”, presents and discusses the findings of the research. This is done according to seven major themes:

- Developments in South Africa’s telecommunications sector since 1996.
- Stakeholder input into the Telecommunications Act of 1996 and the Telecommunications Amendment Act of 2001.
- Universal Service.
- Universal Access in a South African context.
- The effects of the privatisation of Telkom and the liberalisation of the telecommunications sector in South Africa.
- The relationship between government, industry and the regulator.
- The future of telecommunications in South Africa.

This chapter combines and analyses data gained from policy documents, industry reports and the in-depth interviews. The findings are discussed in relation to the research issues and assumptions outlined in the Introduction. In addition to this, the implications of privatisation and liberalisation are discussed according to the theories presented in the Theoretical Framework. Two issues, namely that of affordability and the need for a strong, independent regulator, are emphasised in this chapter.

Finally, chapter seven, titled “Conclusion and Recommendations”, summarises the study and suggests recommendations for South African telecommunications industry, made in the light of the study’s findings.

CHAPTER TWO
THEORETICAL FRAMEWORK

2.0 Introduction

This chapter provides the theoretical context that informs this analysis of telecommunications market liberalisation, privatisation and universal access in South Africa. To this end the chapter will discuss a definition of globalisation, liberalisation, commercialisation and privatisation with specific reference to the telecommunications industry. For the purposes of this study globalisation will be analysed from a political economy perspective (Heuva *et al* 2002).

2.1.1 Defining Globalisation

Globalisation is a process whereby nation states and their economies are increasingly integrated into a global economy. Nayyar (2001) defines globalisation as the cross-border expansion of trade in goods and services as well as in capital, currencies and financial instruments. It is a process of deepening economic integration, increasing economic openness and expanding economic interdependence. The process of globalisation is driven by the lure of profit and the fear of competition (Giddens and Hutton 2000a; Heuva *et al* 2002).

From a normative perspective globalisation prescribes a strategy for development through rapid integration into the world economy. It is offered as an inevitable and benign process whereby the benefits of interdependence as well as global flows of capital and trade will lead to advances in technology and economic opportunity. However, this fails to address problems associated with transnational monopolies, the disruption and dislocation of labour and other markets, and the exploitation of weak international regulations by corporations for financial gains (Bond 2001; Gill 1996; Aina 1997).

Mittelman (1996a:3) notes that globalisation is “a market induced, not a policy led process”. The centralizing tendencies of powerful corporations, located in specific cities and possessing the social and economic infrastructure to facilitate global control, allows them to connect to a spatial dispersal of economic activities. In this way globalisation reflects a web of economic concentrations and the denationalisation of economic activities (Mittelman 1996b). As Castells (2000) and Mowlana (1996) point out, such interconnection is facilitated through Information and Communication Technologies (ICTs) including telecommunications and the Internet which provide unprecedented speed and complexity in the management of the global economy. As a result international capital has

become both highly inclusive and exclusive by effortlessly selecting to trade with valued economies while bypassing economically valueless or devalued territories with as much ease.

Robertson (1992) identifies three separate but interrelated ways in which globalisation penetrates the economies of nation states. Firstly, through a state-led configuration of financial and economic sectors into alignment with international monetary agencies such as the World Trade Organization, the World Bank, and the International Monetary Fund (IMF). Secondly, through the liberalisation of local trade and monetary policies encouraging private sector investment and business alliances across national boundaries, and lastly, through the realignment of state-owned-assets as a means of bringing them into line with the demands of neoliberal imperatives. Heuva *et al* (2002) and Teer-Tomaselli (2002) are concerned that as state-owned enterprises are commercialised the pursuit of financial sustainability and profit threatens universal access to services previously provided by the state.

2.1.2 Origins and Development of Globalisation

McChesney (1998) and Aina (1997) point out that globalisation is not a new phenomenon but part of the process of capital expansion and the formation of a global economy that dates back to the fifteenth century. Nayyar (2001) refers to an historical parallel of global economic activity from around 1870 – 1914, the age of laissez faire, when no restrictions existed on the movement of goods, capital and labour across national boundaries. At this time governments tended to refrain from intervention in economic activity and the gold standard was strictly adhered to by most countries. The similarities between this period and the present are worth noting. From 1870 – 1913 the expansion in international trade flows was faster than growth in world output. The integration of the world economy through international trade at the end of the nineteenth century was about the same as the late twentieth century to the present. Significant integration of international financial markets also occurred in the late nineteenth and early twentieth centuries.

Globalisation has grown steadily as the economies of the world have deregulated. Firstly, with the liberalisation of trade came an unprecedented expansion of international trade from 1950 to 1970. This was followed by a surge in international investment in the 1960s. The deregulation of the financial sector in industrialized countries resulted in the financial liberalisation of the 1980s. The explosive globalisation of finance since then has been related to the dismantling of financial regulations and controls. Of crucial importance have been the technological developments in transport and, more recently, in communications. This has resulted in the drastic reduction of geographical, time and cost barriers for commerce. The process of globalisation has coincided with the political and

economic dominance of the United States of America as a superpower, especially following the collapse of communism (Nayyar 2001; Teer-Tomaselli 2002; Verwey 2001).

Cox (1996) and Duncan (2000) argue that the price has been high for developing countries' entrance into and participation in the global economy. The rolling over of foreign debt has come at the expense of state expenditure, the devaluation of currencies and the removal of restrictions on the movement of capital. The new economic strategies employed by developing countries have emphasised the weakening of the power of trade unions, the cutting of state budgets (especially for social policy), deregulation and privatisation. Priority has been given to international competitiveness. Social upheaval has resulted from the political determination of governments to implement new economic rules to the detriment of the welfare of their people (Bernard and Shniad 1998).

2.1.3 Dimensions and Characteristics of Globalisation

Globalisation has brought about the global reorganisation of governance, economies and culture. From a political perspective globalisation highlights the challenges that emerge from governments' inabilities to effectively regulate international economic and technological flows (Mittelman 1996b; Rønning 2002).

Significant transformations have occurred in international trade, investment and finance over the last fifty years. From 1950 – 1970 inter-industry trade in manufactures constituted an increasing proportion of international trade. A shift occurred from 1970 – 1990 with intra-industry trade in manufactures based on economies of scale and product differentiation constituting a significant proportion of international trade. Trade flows increased across national boundaries but remained within the same firm. In the early 1990s this accounted for one third of world trade (Nayyar 2001; UN).

Foreign direct investment (FDI) flows increased from US$68bn in 1960 to US$1,948bn in 1992. It is significant to note that the geographical destination and sectoral distribution of investment flows have been weighted heavily in favour of developed countries with developing nations only receiving approximately 20%. The rapidly expanding economies of Asian Pacific countries and the bargain prices offered by newly industrialised countries in Latin America spurred investment in the 1990s and inextricably linked global markets (Nayyar 2001; Castells 2000).

The massive growth of international finance through foreign exchange, bank lending, financial assets and government bonds has dwarfed international trade and investment. In 1998 global currency markets exchanged a daily average of the equivalent of US$1.5 trillion. As discussed above, financial markets have become interconnected through online transactions and computer-based information

systems that facilitate the near instantaneous movement of capital between financial products, currencies and countries. Speculation has increased as investors are able to move capital swiftly from market to market as they attempt to anticipate price movements (Castells 2000; Rønning 2002).

2.1.4 The Ideology of Globalisation

Globalisation requires an ideology of neoliberalism that believes in the inevitability of progress and the hope of market utopia. Globalisation is seen as a means of ensuring efficiency and equity as well as the growth and development of the world economy (Teer-Tomaselli 2002; Mittelman 1996b). Government intervention into markets is deemed inefficient and should be rolled back wherever possible to create a minimalist state. The market should be the preferred alternative to the state since it performs better with resource allocation and utilization based on market prices. Policy regimes should provide the basis for an economic system characterized by free trade, unrestricted mobility of capital, open markets and harmonized institutions. It is argued that globalisation could provide economic prosperity to those countries that join the system and economic deprivation to those countries that remain outside of it (Nayyar 2001; Bernard and Shniad 1998).

As the agents of globalisation, multinational corporations and banks have come to represent themselves and are perceived by governments as the primary agents of economic development. They also represent a growing force in the practice of deregulation of trade and finance. Through these institutions globalisation has come to be regarded as a finality, something logical and inevitable, produced by the powerful tendencies of the functioning of the market. The dominance displayed by economic forces is regarded as both necessary and beneficial. States and interstate systems are often perceived of as existing to facilitate the working of market logic (Cox 1996; Mosco 1990).

2.1.5 Globalisation and the State

In the past certain nation states, including South Africa, have attempted to protect their economies from external globalising forces through systems of economic nationalism. However, transnational flows of migration, communications, technology and capital are eroding the national powers of states in a modern capitalist global economy (Duncan 2000; Mowlana 1996). With the global division of labour individual states can no longer initiate action in the global economy and are instead restricted to reacting to its forces. The only way for these states to realize material gains from globalisation is to facilitate the process by acting as an agent of it. The power of nation states is,

therefore, diminished by the impersonal and unaccountable forces of globalisation (Teer-Tomaselli 2002; Mittelman 1996a).

2.1.5.1 Pressures on the State

Regional cooperation is commonly accepted by governments as a way to achieve mobility in the changing global division of labour resulting in a reformation of the state from below by subnationalism and from above by economic globalisation (Flew and McElhinney 2002; Verwey 2001). The regional economic blocs which emerged in the 1990s are having a significant effect on globalisation. The United States has joined European countries in promoting regional integration. The European Union and North American Free Trade Agreement (NAFTA) are trade-based regional blocs which have been created by governments and are maintained by government policy. The Asia Pacific Economic Cooperation (APEC) forum calls for free trade by 2020 following a framework of "open regionalism" (Mittelman 1996a).

The question arises as to whether such regional economic blocs are a stepping-stone to the strengthening of institutions such as the WTO or whether regional integration is going to be used defensively to exclude certain groups from access to global markets (Gereffi 1996).

De Kock (1997) and Heuva *et al* (2002) believe that regionalism can have both positive and negative effects for developing countries. Positive examples include the formulation of the Southern African Development Community (SADC) while negative examples include predatory moves into nearby states that threaten the viability of national institutions. Regionalism has resulted in transnational communications partnerships that are dialectically aligned to, rather than opposed to, globalisation.

2.1.5.2 The State as a Globalising Structure

Concerns are raised as to whether states will be sidelined by globalisation. Despite the increasing concentration of unaccountable economic power, regulatory frameworks still appear to be in control of global flows and states are restructuring the scope and hierarchy among economic ministries. The question is raised as to whether the state is the suboptimal unit for coping with the challenges of globalisation (Stein and Sinha 2002). Mittelman (1996b) argues that irrespective of its role as a carrier or propellant of globalisation the state is adopting policies to adjust to and manage the process in diverse ways.

An issue exists around the loss of political and economic control in certain countries, including many in Africa where international financial institutions and Nongovernmental Organizations have taken over the functions of the state in certain activities. It must be noted that this is also true for certain elements of countries in the developed world. Ordinary citizens are unable to comprehend global trends and their elected governments are powerless to provide corrections to the negative effects of globalisation (Cheru 1996; Mittelman 1996b).

2.1.6 The Negative Effects of Globalisation

Highlighted here are specific negative effects as they relate to economic and political globalisation. States may respond to globalisation by either accepting its forces and influences or attempting to resist them. Many states envisage no alternative and are exhibiting an uncontested acceptance of globalisation. Should they choose to offer resistance to such a dominant economic force they are faced with very few options that will allow them to participate fully in the global economy (Mittelman 1996b). Secondly, modern ICTs that permit instantaneous communication and commerce cannot be effectively regulated and so diminish the autonomous regulatory power of states. States perceive protection from such negative effects to lie in increased integration into the world economy (van Dijk 2000; Cox 1996).

Governments are forced to intervene in the economy to create a competitive edge for local industries. Late industrialising countries are faced with the question of not whether to intervene but rather what type of democratic political system and state intervention will make each country's economy globally attractive. Most developing countries can merely negotiate the channels of globalisation accepting that freer markets bring with them social costs that can only be popularly controlled (Mittleman 1996a).

Mittelman (1996a) and Cox (1996) argue that globalisation results in a multi-polar and politically decentred world system. Globalisation is perceived of as both an agent and a product of social conflict. It is responsible for creating conflicts among competing capitalisms by generating deeper or reconfigured intra-regional disparities and engendering interregional rivalries among the large trading blocs. Globalisation has created a hierarchy with countries at the top closely integrated into the world economy while countries at the bottom, including many African countries, are excluded.

Lastly, globalisation creates an imbalance between developing and industrialized countries. The World Trade Organization (WTO), International Monetary Fund (IMF) and World Bank have been set up to protect the interests of transnational corporations that are capital exporters, technology

leaders and service providers in the global economy. For example, the General Agreement on Trade in Services (GATS) includes little on labour mobility that would allow developing countries to exploit their comparative advantage in services. The WTO's protection of intellectual property rights protects monopoly profits but ignores the implications for developing countries. The promises of rapid development for all countries cannot be realized in effect since the economic system of globalisation is based on asymmetries and is therefore bound to reproduce an unequal global economic system (Nayyar 2001).

2.1.7 Strategies for "Moving Up" in the Global Economy

Developing countries wishing to move up require technological advancement, a dynamic enterprise base, supportive state policies and a workforce with improved skills and wages.

For developing countries to compete effectively they need to narrow the productivity gap by investing in modern production technologies and methods, organizing labour more efficiently, making rigidly vertical industrial relations more flexible and improving the quality of products. A coherent macroeconomic policy is required that emphasizes stable exchange rates, low inflation and moderate to high interest rates. Developing countries need to embrace modern technologies as a means of stimulating innovation and improving quality of products (Gereffi 1996).

The liberalisation of economies has resulted in developing countries having to negotiate their relationship with local and foreign private capital. To attract Foreign Direct Investment (FDI) a country must exhibit macroeconomic and political stability, reliable infrastructure, modern economic institutions, and effective policies to regulate businesses. FDI policy should include commitments to key national priorities such as export promotion and technological innovation. Successful local firms should represent an important element in national development strategies (Gereffi 1996; Bond 2001; Jomo 2001).

2.1.8 Resistance and Correctives to Globalisation

Globalisation has been attacked from many sides for a variety of reasons. McChesney (1998) argues that the market is incapable of creating either economic fairness and efficiency or a basis for democracy. Globalisation favours multinational corporations and undermines labour, the environment and the poor. It may possess a distinctly antidemocratic edge since it forces governments to comply with the interests of globally mobile capital or be left out in the cold. Increasingly, basic decisions are being made by the market and not through popular consideration.

McChesney (1998) and Mittelman (1996a) challenge the notion that globalisation is an inevitable process that cannot be changed by organized political activity. Groups such as organized labour that have been negatively affected by globalisation are seeking to redefine their role in the emerging world order by devising alternative strategies for social struggle. This they try to achieve through augmenting popular participation and the assertion of local control over the remote forces and influences of globalisation.

Nayyar (2001) and Teer-Tomaselli (2002) examine whether the process of integration into the world economy can be modified to include greater political equality and improved partnership for developing countries. Correctives are proposed that would make the market-driven process of globalisation conducive to a more egalitarian economic development and broad-based social development. Of primary importance would be the redefinition of the economic role of the state. Firstly, the state and the market should complement rather than substitute each other. Secondly, the relationship between the state and market cannot be rigidly prescribed since the two must operate in a manner that permits cooperative adaptation over time. A strong state is required to create the conditions necessary for more equitable development, to bargain with international capital so as to secure the distribution of gains from transnational economic activities, reduce vulnerability in the macro-management of the economy, and, ultimately, to minimize the social costs associated with globalisation.

Mohan (2001) and Nayyar (2001) call for strong state intervention in the economy coupled with regulation of key industries to ensure social objectives are met. From an international perspective the state should reduce the asymmetries and inequalities in the rules governing world economies, build strategic alliances among developing countries for this purpose, and seek out areas of convergence with the state in industrialized countries so as to advance the country's expansionist and geo-political interests. From a national perspective Nayyar (2001) argues that equitable economic development and broad-based social development is only likely to occur in countries where the state has invested in physical infrastructure and the development of human resources. Further, in exchange for the opening of a nation's markets and economy, a strong state can negotiate deals with multinational corporations to improve terms of trade, to obtain market access for exports, to facilitate the transfer of technology, or to establish manufacturing capacities in ancillaries, components, or downstream activities. These objectives can only be achieved by the state and not by individual firms.

Only the state can effectively manage the economy from a macro perspective, particularly with regards to government finances. This is necessary to prevent governments being forced into stabilization and adjustment programs that come with conditions stipulating changes to the nation's policies which may reduce their capacity to pursue development goals. Secondly, it reduces the

vulnerability of rapid integration into international financial markets. The rules of the IMF and World Bank should not impose conditions on developing countries such that these countries cannot meet national development objectives (Nayyar 2001).

The question then is how is this to be achieved? Nayyar (2001) suggests that it is essential that regional and sub-regional economic initiatives are formed. Initially, countries may have to accept less national sovereignty if it allows them greater bargaining power in the international economic arena. This should ultimately provide them with greater political power in the medium to long term. It must be noted that this argument assumes that a nation state is acting in the interests of its people and not in the interests of large corporations operating within that country nor for the financial benefit of those in power.

2.1.9 Globalisation and Telecommunications

For the purposes of this study it is necessary to consider the relationship between globalisation and telecommunications. Heuva *et al* (2002) recognize that telecommunications play a pivotal role in the process of globalisation. As Castells (2001) notes, connectivity to networks is a crucial element in the growth and development of an economy. ICTs have a significant enabling effect on a country's economy and future development. Globalisation has resulted in government's control over the provision of public services such as telecommunications being replaced by market control. As state-owned-enterprises are commercialised, the pursuit of financial sustainability and profit threatens universal access to services previously provided by the state.

The telecommunications boom in the 1990s resulted in industrialised countries' potential to supply services outstripping demand. Therefore, global telecommunications companies looked to African markets characterised by poor or unreliable communications infrastructure. Many developing countries have realised that without foreign investors they lack the capital and expertise to establish advanced communications infrastructure that will facilitate their participation in the global economy (Bond 2001; Melody 1997; Riaz 1997; Hamelink 1994).

These developing countries were ideally placed to receive the benefits of technology transfer but as they liberalised their markets so they relinquished control of state owned assets and infrastructure. They have also come to realise that achieving universal access is difficult with international investors viewing universal service obligations as inhibiting profits (Heuva *et al* 2002; Baran 1998; Østergaard 1998).

2.2 The World Trade Organization

Following World War II the General Agreement on Tariffs and Trade (GATT) was established as a means of restoring international economic order by specifying trade rules and tariff concessions. From the outset GATT was dominated by the interests of the established economies of the North. On 1 January 1995 the World Trade Organization (WTO) came into effect replacing GATT (Heuva *et al* 2002).

Comprised of approximately 130 countries, the WTO has taken charge of administering the global trade rules for its members. The WTO is regarded as one of the three pillars of international economics alongside the IMF and the World Bank. The agreements of the WTO are based on five basic principles. Firstly, WTO members' practice should be non-discriminatory such that the same treatment in regard to trade is offered to all members as a country would to any specific, preferred member. Secondly, trade liberalisation is to be achieved through multilateral trade negotiations that seek to lower trade barriers. Thirdly, foreign companies should be offered a predictable, stable, secure and transparent trade environment so that they can be confident that trade barriers will not be raised arbitrarily. Fourthly, the WTO discourages unfair practices such as export subsidies and the dumping of a product on a foreign market at below cost for the purpose of gaining market share. Lastly, the agreements of the WTO aim to assist developing countries by providing them with more time to adjust as well as greater flexibility and special treatment (Jones and Whittingham 1998).

The WTO wields considerable power over its members and can, in extreme cases, expel a member for non-compliance thereby cutting them off from international trade. (Jones and Whittingham 1998; Ratnesh 2001). It is generally accepted that although each member country has one vote the WTO is dominated by the USA and other G-7 countries through its financial reliance on them as well as through the dominance these countries exercise over world trade. African countries are under-represented in the WTO secretariat and the representation that does exist is insufficient to influence or affect change from within the WTO to the advantage of the South. (Aslam and Jomo 2001; Keet 2000).

2.2.1 The WTO and Telecommunications

The trade rules of the WTO insist that member countries commercialise and privatise certain lucrative state-owned enterprises as well as liberalize certain markets. Telecommunications has been identified by the WTO as such an area requiring privatisation and the introduction of competition through market liberalisation. By joining the WTO member countries have committed themselves to

the liberalisation of their telecommunications industries (WTO 2002a). The WTO believes that the introduction of competition will contribute to lower costs for consumers, especially for corporations which represent the largest users of telecommunications services. Former WTO Director General, Renato Ruggiero, has claimed that the liberalisation of the telecommunications sector could lead to global incomes gains of around one trillion dollars between 1997 and 2010, representing approximately 4% of the world's Gross Domestic Product. In its advocation of telecommunications liberalisation the WTO has stated that it will promote access to information as well as equip advanced and developing nations with the tools to compete in the globalised economy of the twenty-first century.

WTO member countries are committed to liberalizing the cross-border supply of telecommunications as well as services provided by foreign firms, including the commitment that such firms be permitted to own and operate independent telecommunications network infrastructure. Services include voice telephony, data transmission, telex, telegraph, facsimile, private leased circuit services, fixed and mobile satellite systems and services, cellular telephony, mobile data services, and paging (Ratnesh 2001; WTO 2002b; WTO 2002c).

2.2.2 Criticisms of the WTO

A number of criticisms have been levelled at the WTO. Bond (2001) attacks the IMF, World Bank and WTO from three perspectives. Firstly, these entities are seen as providing "sound macroeconomic policies" encouraging governments to follow market processes rather than resist them. Secondly, they are "one-size-fits-all" in character in their failure to take local economic and social conditions into consideration. Thirdly, they impose policies on Southern Africa based upon Eurocentric notions of development and modernity that may prove disastrous. Bond (2001) cites examples of the Kariba power and Lesotho water projects in this regard. The IMF and World Bank have instituted Structural Adjustment Programs (SAPS) that have brought about the devaluation, deregulation, liberalisation and privatisation of the economies of developing countries in Southern Africa. Buthelezi (2000) argues that these are core strategies of the IMF and World Bank to promote foreign investment and to facilitate profit-making opportunities for transnational corporations.

It is feared that with liberalisation Northern transnational corporations may come to dominate certain sectors. It is also notable that the rules of the WTO are legally binding on present and future governments making it impossible for a newly elected government with different economic policies to implement a program that contradicts WTO rules (Khor 2001).

The countries of the North have focused on liberalizing economic areas in the South in which they have an advantage, especially where their corporations can penetrate and capture new markets that have previously been protected by the state. The South has become increasingly concerned that domestic businesses will be unable to compete with the access to capital and expertise that foreign investors possess. It is significant that with technology transfer the North has adopted a particularly anti-liberalisation stance insisting on the standardisation of national laws protecting intellectual property and so preventing the South from gaining an advantage through the acquisition of new technologies (Khor 2001).

Khor (2001) predicts that only the developed countries and developing countries with an established export economy will benefit from the WTO agreements and that most developing countries, including many in Africa, will suffer severe losses. Keet (2000) claims that it is necessary that developing countries dedicate greater resources and energies towards scrutinising every WTO agreement so as to establish their effects or implications and whether they comply with existing national principles and policies. However, Khor (2001) argues that developing countries remain unprepared, individually or as a group, to stand up to the economic influences and pressures from the North.

The WTO is said to address issues of fair play that concern investors, but not workers or citizens. It lacks evolved rules of evidence, due process, public hearings, or the preventions against conflicts of interest that characterize courts in mature democracies (Kuttner 2000). Giddens and Hutton (2000b) argue that the WTO, conceived of as a mechanism to ensure that national markets are progressively opened to all members on the basis of free entry, should be remodelled as an institution that underwrites and polices a framework of rules of capitalist engagement as opposed to enshrining free trade as an absolutist principle.

2.3 Liberalisation

Liberalisation of economies is an integral component of globalisation as discussed above. The fundamental question of liberalisation is whether opening an industry to competition will create entry threats of sufficient power to force an incumbent firm to operate efficiently and in accordance with the interests of consumers. The danger is that an incumbent firm may be able to thwart the efforts of competition through anti-competitive practices thereby negating the purpose of market liberalisation (Yarrow and Vickers 1988). Outlined here is a definition of liberalisation and the economic rationale for its practice.

2.3.1 Definition of Liberalisation

Liberalisation is the process of opening up a previously restricted economy and/or market to competition from local or international entities (Murdock 1990). Restructuring of economies through liberalisation of the market, the privatisation of state owned enterprises and deregulation have been encouraged by the WTO, the IMF and the World Bank (Frempong and Aturba 2001).

Proponents of neoliberal economic policies see the protection of a nation's markets from international competitors as a threat to economic progress. Neoliberal doctrine prescribes that society should not control public services nor should it structure and regulate the economy. Left to itself the market and private sector should create wealth that will "trickle down" to all. Competition between producers for consumers should define the public interest and ensure that it is served (Martin 1993; Bond 2001). In this context the practice of protectionism is considered to negatively affect incentives for local firms to operate more efficiently, to hold down costs, and to develop new technologies or products and to break into new markets. Protectionism is said to lead to retaliation by trading partners, provoking a downward spiral and a weakening of the international banking system (Tarp 1993).

Jilberto and Mommen (1996) note that advocates of pure market liberalisation are of the opinion that governments should not take special measures to protect domestic companies from foreign competition arguing that only liberalisation itself can correct the failures of a free market system. The difficulties governments have experienced in balancing their budgets and stimulating economic growth have provided neoliberals with the opportunity to present their policies as practical solutions to these problems. Over the last two decades these theories have found an international audience and have proved highly influential in government policy-making as politicians and technocrats have sought to avoid economic crises.

Neoliberal ideology proposes that all nations will benefit from multilateral liberalisation as well as from trading patterns consistent with the laws of comparative advantage. Free-trade areas or common markets should offer new opportunities and free-trade arrangements should enable countries to accept common regulations to overcome differences in technical standards, laws and taxes. However, the danger here is that free-trade areas or common markets may fragment the world trading system into regional blocs. The ultimate result may be free trade within these areas but increased division between the competing trade blocs. Liberalisation transformed economies in Eastern Europe and obliged developing countries to reinvigorate their economies by adopting free market principles. The hypothesis is that open free trade will drive growth (Martin 1993).

2.3.2 Neoliberalism and the State

Although economies are increasingly interdependent, states have maintained their positions as central actors shaping the international economic order. This is due to their control over the linkages between international and domestic economies. In addition, states are unlikely to respond uniformly to economic and political pressures from outside their borders. The adoption of market-orientated reforms by large economies resulted in basic changes in development strategies for many African countries. Economic policies in a number of developing countries have increasingly emphasized the importance of export-led development inspiring economic and political changes around the world (Moore 2001).

Many African countries have struggled to implement economic reforms. Economic deterioration on the continent has resulted from the failure of domestic policies and of the institutions states have helped to develop and maintain. External factors have contributed to this but it is the poorly conceived and implemented economic strategies along with mismanagement that has brought about underdevelopment for many African countries. Such countries have invested large amounts of capital in nationalized industries as well as in inefficient public enterprises maintained by distortionary subsidies. Many government initiatives have sought to sustain the state rather than work towards the development of its people. With recent developments in globalisation, free-trade areas have become extremely popular because all nations want to compete, attract foreign capital and grow into new export markets (Jilberto and Mommen 1996).

2.3.3 Liberalisation in Telecommunications Markets

International financial institutions have placed an enormous amount of pressure on developing countries to open their telecommunications markets to competition. Their line of argument insists that restructuring in telecommunications is necessary because a single operator is incapable of meeting the large, varied and constantly evolving demands of all types of users. Two reasons are given for this. Firstly, the convergence of telecommunications and computing has created a number of services that a single operator may not be able to provide and, secondly, competition may lead to efficiency and innovation in the telecommunications industry (McCormick 2001).

Liberalisation of a telecommunications market should, according to its proponents, provide consumers with increased, more advanced, modern and affordable services. It should impact positively on the development of the sector, especially in developing countries characterized by a “non-performing public monopoly” (Frempong and Aturba 2001:198).

2.3.4 Effects of Liberalisation on the Telecommunications Industry

The liberalisation of the market leads to an influx of capital and skill culminating in greater vitality for the operator. The privatisation of state owned enterprises and introduction of fixed-line and cellular telephone competitors is likely to facilitate the development of the network and improve penetration rates in a country (Bortolotti *et al* 2002; Megginson and Netter 2001).

Frempong and Aturba (2001) and Gao and Lyytinen (2000) argue that for the benefits of liberalisation to be realized it is essential that a strong and independent regulator be created to provide constant monitoring, arbitration, legal guidelines and a level playing field for all. Regulations are required that control operators, provide them with frameworks for operation and ensure that the interests of operators and consumers are protected (Murdock 1990). The question that is raised is, should an operator that dominates up to 90% of the market fail to meet its license conditions, will the regulator be empowered with sufficient authority to suspend its license? Regulators in recently liberalized markets often require a great deal of time to acquire a full complement of staff with relevant experience which will then allow them to establish their credibility with operators and consumers.

The threat of competition in a liberalized market tends to force operators to focus on network expansion and improvements to their services. Frempong and Aturba (2001) note that this may also result in a failure by operators to concentrate on other critical areas leading to a decrease in their operation and efficiency. The effects of competition in a liberalized market are difficult to determine when comparing an incumbent to new operators in the formative stages of development. New entrants are often faced with the major challenge of capturing market share from the incumbent so as to compete effectively with it. Entrenched telecommunications operators have the advantage of a developed network and, in the absence of effective regulation, can out-price new competitors (Frempong and Aturba 2001; Gao and Lyytinen 2000).

For the benefits of liberalisation to be achieved in a telecommunications market it is essential that the incumbent operator permit new entrants to interconnect with its network. Since the new operators have little to offer the incumbent other than seizing a portion of its market it is often the case that the incumbent will make interconnection negotiations difficult to protect its own interests. This will have the effect of limiting the capacity of competitors to expand their services. Privatised operators often retain strong links with government making the application of regulations difficult. The independence of the regulator is therefore also undermined (Yan 2001; Selvarajah 2000).

Liberalisation causes operators to cease cross-subsidisation of pricing and to "rebalance" tariffs to reflect cost. However, it is essential for the social objectives of telecommunications that tariffs be set at a level that subscribers can afford but that will also allow operators to cover costs as well as accumulate sufficient funds for future expansion. Operators should be sensitive to the tariffs they charge so as not to lose market share. However, incumbent operators with little effective competition will often revise their tariffs upwards. In the case of cellular telephone operators they will often work together on deciding price structure so as to maximize their profits leading to little genuine competition between them (ITU 2002).

Wallsten (1999) provides further empirical evidence that liberalisation can have positive and beneficial effects for universal access in developing countries. Wallsten (1999) examined a dataset of 30 African and South American countries from 1984 to 1997 using data collected by the International Telecommunications Union. This study finds that in developing countries competition is directly correlated with increases in mainline penetration, the number of payphones available, connection capacity per capita and decreases in the cost of local calls. Competition or even simply a credible threat of competition will spur established telecommunications operators to focus attention on customers, improve services, accelerate network expansion, reduce costs and lower prices. Petrazzini and Clark's (1996) complementary study of telecommunications industries in Latin America and Asia supports this argument finding that cellular and mainline penetration in liberalised markets is higher than in those that are noncompetitive.

Wallsten's (1999) research indicates that countries that privatise the state owned operator without liberalising the local telecommunications market experience decreased teledensity. It is argued that competition is the most effective means of instituting change and therefore serious consideration should be given to granting operators periods of exclusivity especially when services are already poor. The results of this research are summarized below. Competitors to incumbent operators can be associated with an increase of almost 0.2 additional mainlines per hundred population while privatisation alone is significantly related to a decrease of 0.7 mainlines. Further, privatising the incumbent operator without introducing a regulator results in a decrease of 1.5 main lines per hundred population. Secondly, liberalisation increases the number of payphones available. Wallsten (1999) finds that mobile competitors can be associated with 54 additional phone lines per million. Competition is significantly correlated with increased network capacity while privatisation on its own leads to decreases in capacity. Liberalisation of the market results in increased employment per line. This is explained as increased competitors requiring an increased labour force. Lastly, each competitor in the market can be related to a $US0.01 reduction. Wallsten (1999) stresses a combination of reforms as a route to universal access, namely the privatisation of the state owned operator, the

introduction of an independent and effective operator and the liberalisation of the telecommunications market.

2.4 Commercialisation

As markets are liberalised and state owned enterprises prepare for privatisation it is common that they undergo a process of commercialisation whereby they cease to function within an ideology of public service and instead conduct themselves in the manner of a commercially orientated, profit driven entity. Commercialisation improves the operating efficiencies of state owned enterprises but may negatively affect universal service projects as operators begin to view them as unprofitable (Baran 1998; Martin 1993).

The IMF and World Bank may stipulate the commercialisation of developing countries' state owned enterprises as a condition of financial assistance and Structural Adjustment Programs. As state owned enterprises seek to maximise revenues and reduce costs so citizens' economic and social rights are determined by what they can pay for rather than by a public service mandate. Although punted as a means of improving service delivery by forcing state owned enterprises to operate more like corporations, Martin (1993) argues that commercialisation has been designed to cheapen labour through outsourcing and meet the needs of transnational corporations in a globalised international economy.

The commercialisation of nationalised telecommunications operators is most notable in the increase in tariffs directed at previously subsidised and disadvantaged groups (Horwitz 1992). As tariffs are "rebalanced" to reflect international pricing structures so the elderly, poor and rural subscribers are severely affected (Hills 1989). Governments justify the commercialisation of telecommunications operators by citing the state's inability to fund the upgrading of the network required for the development of the economy and growing population (NDF 2002). With commercialisation and privatisation user choice becomes an alternative to universal service rather than an enhancement of it. Operators are permitted to choose whom they serve rather than transfer power and options to the users. Therefore, in practice the opposite of the commercialisation rhetoric may prove true (Martin 1993).

2.5 Privatisation

Privatisation, the transfer of ownership from public to private hands, must be seen as distinct from liberalisation, the opening up of an industry to competitive forces. However, they are also intertwined since the political presentation of privatisation usually emphasizes and precedes the introduction of competition.

2.5.1 The Logic of Privatisation

First, it may be asked why particular industries such as water, electricity and telecommunications are held in the public sector and operated under the guidance of governments. Public ownership is one of the means of addressing market failures that arise in industries where competition is either impossible or undesirable. Vickers and Yarrow (1988) argue that although the concerns of market failure are valid, the danger exists that competitive forces are neglected and assumed irrelevant. Demand for goods and services as well as the technology of an industry such as telecommunications may change over time such that a monopoly may no longer prove efficient nor may its management prove effective. Vickers and Yarrow (1988) state that competitive forces may have significant advantages despite being imperfect.

Programs of privatisation are usually undertaken by governments for economic reasons initially and only later for political and sociological reasons. Saunders and Harris (1994) identify five key principles of privatisation programs, namely the concern to reduce public sector borrowing and to increase government finances; to increase efficiency; to weaken the power of public sector trade unions; to enhance the autonomy and initiative of managers while eliminating political interference in the affairs of these enterprises; and lastly to attempt to create “popular capitalism”. These principles will be dealt with in turn below.

2.5.1.1 Improving Government Finances

Privatisation offers two ways of reducing government borrowing and thereby inflation as well. Firstly, privatisation means that amounts borrowed by privatised enterprises no longer count against the government. Any deficits made by these enterprises will not have to be covered by government borrowing. Secondly, governments will receive revenue from the sale of state owned enterprises and assets which will count as negative spending in its accounting system and will therefore help to reduce the size of the government’s deficit (Flew and McElhinney 2002).

2.5.1.2 Increasing Efficiency and Fostering Competition

It remains true that a number of state owned enterprises have struggled to operate efficiently thus efficiency has been one of the primary objectives of their privatisation. Saunders and Harris (1994) note that it is ironic that a number of enterprises marked for privatisation in the 1980s in the UK radically improved their productivity and profitability (while still in the public sector) as they commercialised in preparation for sales of their shares and competition. Liberalisation of competition in markets has led to improvements in the expenses and efficiency of privatised enterprises as they have made use of private contractors to undertake costly services. Private contractors have often proved significantly cheaper than direct labour and that direct labour were themselves significantly cheaper after liberalisation without incurring a degradation in quality of service (Anderson *et al* 1997).

Theoretical and empirical grounds exist for the argument that privatisation can improve a company's performance. Theoretically, privatisation alters the incentive structures for managers. Since there is no share price in the state sector there exists no indicator of performance, thereby making poor performance more difficult to detect. In contrast to this, private firms, even monopolistic ones, are placed under pressure to perform well and to compete with other businesses to attract investment (Rouse 1990). Empirically, the argument that private firms are more efficient than state owned enterprises is both supported and criticized by various studies. Saunders and Harris (1994) note that some studies support the claim while others argue that no difference exists in public and private sector efficiency. It has proved difficult to draw conclusions from studies of the efficiency of enterprises after privatisation and it appears that liberalisation rather than privatisation is likely to improve an enterprise's level of efficiency (Chirwa 2001).

2.5.1.3 Reducing the Power of the Unions

Nationalized industries have often led to the development of powerful trade unions. With nationalized industries providing essential goods and services, a strike by the unions could result in a country facing chaos and disorder with its government having no other source of supply to turn to. In the UK, privatisation has provided the government with the opportunity to break the link between nationalized industries and the Treasury. This has been an attempt to prevent managers submitting to union pressure and relying on the Exchequer to foot the bill. In addition to this, liberalisation of the nationalized industries results in the emergence of competitors who can provide governments with alternative sources of supply thereby further weakening the strength of unions. In the UK privatisation

appealed to the government as a means of reigning in the unions but it was not a major reason for implementing the process. Liberalisation was the method chosen to reduce the powers and influence of the unions (Wood and Brewster 2002; Bernard and Shniad 1998).

2.5.1.4 Freeing the Managers

The managers of state owned enterprises are often subject to the political whim of politicians who must react to the demands of both their constituents and the market. Politicians may intervene in the management of a state owned enterprise resulting in inconsistent management decisions and changes in policy. Politicians reacting to trade unions or industry competitors offering cheaper products may use nationalized industries to achieve their short-term political objectives (Saunders and Harris 1994). Conversely, managers of nationalized industries may resist privatisation and liberalisation through the influence they may have over political decisions, through institutional inertia, and finally with the support of employees (Vickers and Yarrow 1988).

Privatising an industry has the potential to depoliticise the industry and free the managers to manage. Privatised enterprises should not be susceptible to being pressurized into adhering to policies that are not in their commercial interests. This in turn should inhibit the pressure placed on politicians by interest groups since it is no longer in the power of the politicians to accede to them (Meyer 2002).

2.5.1.5 Creating "Popular Capitalism"

In the UK the preceding four factors gave way to a sociological incentive for the government to privatise. Following the privatisation of British Telecom (BT) the government began to realize the ideological and political potential of privatisation. Saunders and Harris (1994:25-26) comment:

> "Gradually, a heroic vision was adopted in which the mass of the population would own shares and the culture of Britain would be transformed as a result."

The logic follows that as more citizens acquire shares in companies they will come to comprehend the assumed benefits of capitalism since they actively participate in it. This should create "popular capitalism" whereby people's values and behaviour is changed by enabling them to buy small stakes in the large enterprises that supply them with their basic services. This should dilute the attitudes opposed to the practice of capitalism and facilitate the capitalistic practices of government. Saunders and Harris (1994) note that this is an assertion of faith and that no evidence has been put forward to support this claim.

2.5.1.6 Elements of Popular Capitalism

Popular capitalism can be said to have four key elements. These include the empowerment of consumers, the involvement of employees, the undermining of socialism and a spirit of enterprise. These are discussed briefly below.

Popular capitalism promotes a culture of consumerism. Nationalized industries are said to exist for the benefit of the employees resulting in the neglect of the interests of consumers. Privatisation on the other hand is meant to benefit consumers by reducing prices, improving quality and enhancing the accountability of those who provide the goods and services. The interests of the consumers of the products and services produced by state owned enterprises are safeguarded by politicians who will put pressure on managers on the behalf of the consumer. This makes for a long line of accountability and does not allow the consumer to exit an unsatisfactory relationship. By contrast, an aggrieved consumer in the private sector may simply take their business elsewhere. It is this power to shift to a competitor that places pressure on companies to strive for customer satisfaction. This raises questions of whether private companies will still attempt to meet customers' expectations if there is no effective competition and whether an industry regulator can act as an effective surrogate competitor (Saunders and Harris 1994; Li and Xu 2002; Anderson *et al* 1997).

It is claimed that privatisation benefits employees at all levels by providing managers with greater autonomy and workers with improved remuneration, working conditions and opportunities. The industrial relations climate is said to improve as workers begin to accumulate shares in their companies. It is assumed that owning shares in a company will force workers to identify their interests with those of the company's management and they will realize that their prosperity will rise as the profitability of the company rises (Dong *et al* 2002; Miller 1995).

Popular capitalism aims to win votes for a capitalist government and at the same time reduce sympathies for socialist ideologies. It is hoped that through wider share ownership support will be created for the government since a greater number of people will have a self-interest in maintaining it. Saunders and Harris (1994) state that this theory is unproven but still supported by politicians in the UK. Many on the political right believe that socialism appeals to the material interest of those with very little and that it can be defeated by making sure that almost everyone owns something.

Ultimately, it is hoped that popular capitalism will create a culture that is fundamentally industrial and entrepreneurial. Privatisation is said to be the first step in creating respect for entrepreneurial talent and successful profit makers.

2.5.2 Privatisation and Telecommunications

Bortolotti *et al* 2002 provide empirical evidence that following privatisation a significant improvement in financial and operating performance is experienced by telecommunications operators in both developed and developing countries. Most significant however is that observed improvements are the result of regulatory changes, either alone or in combination with ownership changes, as opposed to privatisation exclusively. Bortolotti *et al* (2002) examined 31 national telecommunications companies in 25 countries and cite additional empirical studies by Ros (1999), Wallsten (2000a; 2000b) and Boyland and Nicoletti (2000) that complement their findings. These studies indicate that liberalisation of telecommunications is associated with significant growth in teledensity and operating efficiency as well as improvements in the quality and price of services. Bortolotti *et al* (2002) note that regulatory bodies play an extremely vital role in post privatisation telecommunications markets especially with regards to the restriction of price increases. Regulatory authorities are essential in forcing privatised operators to increase their output while also preventing them from behaving like monopolists in a liberalised market.

Megginson *et al* (1994) and Boubakri and Cosset (1998) claim that privatisation may result in a large increase of employment although this is contested by D'Souza and Megginson (1999). In preparation for or following privatisation, significant reductions in employees can be expected but those that remain are likely to benefit from increased salaries which may lead to higher productivity, efficiency and output.

Taken together the studies mentioned above suggest that a combination of privatisation, liberalisation and regulation is responsible for the general improvements in the telecommunications operators with benefits accruing to both business and general users.

2.6 Conclusion

This chapter has provided a theoretical perspective of globalisation, liberalisation, commercialisation and privatisation as they pertain to telecommunications. In addition to this the World Trade Organisation is discussed as an institution and agent of all the elements mentioned above. In the theoretical framework of this study it is clear that a great deal of antagonism exists between the political economy theorists on one hand and the pro-privatisation, pro-liberalisation theorists on the other. It has proved difficult to reconcile the two since both offer convincing and, at times, sobering perspectives on the dangers and potential of economic internationalisation in the telecommunications industry. This study accepts Botolotti *et al's* (2002) and Wallsten's (1999)

empirical research positions that a combination of privatisation and liberalisation can help to achieve the economic and social objectives of government of achieving universal access. However, it cannot be over-emphasised that a strong, experienced, independent and effective regulatory authority is crucial to the success of universal access and the telecommunications industry as a whole. The next chapter presents the history and development of the telecommunications industry in South Africa.

CHAPTER THREE
HISTORY OF TELECOMMUNICATIONS IN SOUTH AFRICA

3.0 Introduction

The history of telecommunications in South Africa is intrinsically linked to the country's political and economic history. The most significant and radical changes that have occurred have taken place in the 1990s and continue to evolve at the beginning of the 21st century. This chapter discusses and analyses a selection of fundamental developments that have shaped South Africa's telecommunications sector. This includes the restructuring of South African Post & Telecommunications (SAPT) to form Telkom as well as the developments culminating in the 1996 Telecommunications Act and the Act's repercussions. This chapter will provide the context for the findings of this research.

3.1 South African Posts & Telecommunications

Until 1990 the South African government followed an interventionist approach to industries such as electricity, transport and telecommunications that it considered to be providing public services. The government invested heavily in these industries and was directly involved with their operation and administration. These state owned enterprises, or "parastatals", were awarded monopoly rights in the South African economy.

The South African Posts & Telecommunications (SAPT), classified as a conventional post, telephone and telegraph (PTT) operator, was such a parastatal and was controlled through the office of the Minister of Transport and Communications. It was characterized by the bureaucratic political culture of the National Party and followed closely the ideal of Afrikaner nationalism (Kelly 1994). Essentially SAPT constituted a government department with the Post Master General (PMG) as the head of that department. SAPT was protected by law from competitors and legislation stipulated that it could make neither profit nor loss. SAPT operated successfully and its profits were used to offset the large operating losses of the postal service. SAPT also kept tariffs low by following a traditional PTT approach of using business and international call tariffs to cross-subsidize local residential and rural customers (Horwitz 1997; Horwitz 2001).

3.2 Policy Reform and the Path to the 1996 Telecommunications Act

From the 1970s economists began to argue that regulation was creating an environment that allowed for the sheltering of inefficiency, the suppression of innovative companies and products and unchecked corruption. Most importantly liberalisation of markets was offered as the best means of achieving the efficient management and financial sustainability of state assets. Commercialisation was proposed as the forerunner to privatisation to prepare the parastatals and especially their managers for the rigors of the competitive market. Commercialisation would force SAPT to adhere to market principle while remaining under the control of the state (Duncan 2000).

The modernization of the economy in the 1970s and 1980s forced P.W. Botha's *verligte* (enlightened) faction of the National Party to recognize that Apartheid policies were dysfunctional and incompatible with the economic needs of the country (Bond 2001). This prompted the NP to attempt a process of "Reform Apartheid" whereby formal Apartheid was ended and white dominance was to be maintained through the market and the restricted political involvement by blacks, coloureds and Indians (Price 1991). The effect on the parastatals was to stimulate their expansion and at the same time facilitate their privatisation by improving their efficiency while cutting their expenditure (DPT 1989). The top-down system of Reform Apartheid was met with political and violent opposition and contributed to the political environment that forced the NP government to unban the African National Congress (ANC) in February 1990. Significantly, it promoted a system of democratic political consultation with the government preceding South Africa's first democratic election in 1994.

In 1990 the government took the first major step towards privatisation with the separation of posts and telecommunications, a clear indication that it recognized radical political shifts were around the corner and that it aimed to "share power without losing control" (Horwitz 2001). This process came to an abrupt halt as the recently unbanned ANC saw privatisation of state assets for what it was: a thinly veiled attempt by the National Party to shift its system of control from the government to the private sector and to prevent the allocation and distribution of state services to blacks.

3.3 Post 1990 Developments – Telkom's First Years

Political opposition stalled the government's plans to privatise SAPT but it did not prevent the parastatal's commercialisation. The Conservative Party (CP), to the political right of the National Party, and powerful black Posts & Telecommunications Workers Association (POTWA) shared a common fear, namely that privatisation would result in job losses. However, the commercialisation of SAPT continued and was formalized by its separation from posts and its registration under the South

African Companies Act. This was extended by the Post Office Amendment Act in 1991 that turned the telecommunications side of SAPT into the state-owned company "Telkom" subject to South African companies law (Teer-Tomaselli 2002).

From a technical and infrastructural perspective Telkom's first years as a separate entity from posts were characterized by slow growth, looming competition and policy inaction. Its poor financial shape resulted in low capital expenditure and therefore little expansion of its network. In the eighteen months to April 1993 only 142 000 new lines were installed and only 136 000 from 1993 to 1994 representing a growth rate of less than 4% (Kelly 1994; Horwitz 2001).

3.4 Political Changes in South Africa

South Africa's first democratic national election in 1994 created a Government of National Unity (GNU) consisting of, amongst other parties, the ANC, National Party, Inkatha Freedom Party and the Democratic Party, within which the ANC held the majority of seats. The creation of a National Telecommunications Forum (NTF) to drive new policy, the establishment of the Reconstruction and Development Programme (RDP) aimed at uplifting the historically disadvantaged sectors of South African society, and the new (ANC) Minister for Posts, Telecommunications and Broadcasting,

Z. Pallo Jordan, collectively contributed to a new policy initiative in telecommunications. Most importantly this time marked the beginning of truly consultative processes in telecommunications policy formulation.

Minister Jordan contributed a great deal through his changes to Telkom management and his driving of the Green Paper / White Paper process towards a new Telecommunications Act. The NTF was established with interest groups and organizations representative of end-users, operators, equipment manufacturers and marketers, contractors, organized labour, professional institutions, the state and regulatory bodies as stakeholders in the process. The NTF was mandated to provide policy options for socio-economic redistribution and growth through universal service and economic development (Moholi 1994; Koning and Blees 1994).

Minister Jordan initiated a Green Paper / White Paper process that represented a marked shift from the policy formulation methods that characterised the Apartheid state. Traditionally the Green Paper represents government thinking on an issue and is a first draft of policy. Jordan adapted this model to include civil society, participatory democracy and public deliberation to determine the content of this document. It would therefore be a consultative process that did not represent government's exclusive thinking on any one issue. The drafts of the White Paper should answer the

questions posed by the Green Paper and, after further public discussion, would indicate government's intentions and would guide the formulation of legislation. In 1995 Minister Jordan established the National Telecommunications Policy Project (NTPP) to manage the policy reform process. It in turn created a Technical Task Team within the telecommunications sector to offer advice on more complex issues.

3.5 Tensions Affecting Privatisation and General Economic Policy

In order to understand the context of the Green Paper and White Paper process it is worth noting the pressure that the Tripartite Alliance (ANC, the Congress of South African Trade Unions (COSATU) and South African Communist Party (SACP)) was experiencing both internally from alliance members and externally from local and international businesses. Within the alliance views on economic strategy ranged from neoliberal to "old Soviet-style command economics" espousing inward industrialization of the economy based on rural and infrastructural development. (Horwitz 2001:217). In addition to this at least two ideologies were at work. On the one hand was the top-down, centralist ideology of many ANC members promoting leadership-orientated neoliberal principles and on the other hand was the grass-roots, participatory principles that characterized COSATU and the SACP.

Labour and government negotiations produced a National Framework Agreement in early 1996 committing the government to a process of consultation and negotiation with labour (NFA 1996). Government agreed that the restructuring of state assets would not take place at the expense of workers in the parastatals but it did not rule out domestic or foreign partnerships, privatisation and job losses. Although government was urged to negotiate a social plan where restructuring would have a negative effect on workers it did not formally commit the government to action (Teer-Tomaselli 2002). Externally, South Africa's admittance into the WTO naturally meant that it had to define telecommunications as a trade-related sector (Heuva *et al* 2002; Hills 1998). This is discussed in detail in Chapter 2.

3.6 The Green Paper Process

The first draft of the Green Paper produced by the NTPP focused on opening the sector up to public debate as well as on representivity and participation. Involved in the discussions were representatives from government, labour, industry and civil society. The NTPP concluded that competition was inevitable and that Telkom should be granted a period of exclusivity to meet its mid-

term goals with its primary goal being universal service. No competition would be allowed during this three to five year period. Lastly, the introduction of a Strategic Equity Partner (SEP) for Telkom was agreed upon as the best means of developing the network and providing universal service (Horwitz 1997; Horwitz 2001).

3.7 The White Paper Process

The Writing of the draft white paper highlighted the enormous difficulties that the proposed regulator would likely face within a country and industry that had no experience with an independent regulator. It was argued that the regulator should be given significant power and authority as well as flexibility if it was to have an effect. The date of resale was set at three years and Telkom's exclusivity at five years before national long distance calls were opened to competition.

The draft White Paper was sent to the NTF plenary in February 1996 where Minister Jordan pointed out that competition was to be used to stimulate universal service. To this end the government would offer shares in Telkom but would retain control. The plenary discussion itself focused on the phasing in of liberalisation. Changes to the draft White Paper were, however, minimal.

The final version of the White Paper was published in the *Government Gazette* on 13 March 1996. This publication served as a statement of government intent and preceded one last discussion in the Parliamentary Committee (Horwitz 2001; Teer-Tomaselli 2002). Notable extracts from the final version included:

- The dual requirements of universal service and high level service for businesses.
- Exclusivity to facilitate universal access then to provide universal service and prepare Telkom for competition.
- The resale of communications services in the fourth year of Telkom's exclusivity.
- A Universal Service Fund to collect contributions to cross-subsidise infrastructural development.
- The telecommunications arms of Transtel and Eskom could complement but not compete with Telkom's network and services.
- The creation of the South African Telecommunications Regulatory Authority (SATRA), a strong, independent regulator appointed to award licenses, determine the definitions of service and monitor Telkom's service amongst other duties.
- A Universal Service Agency to manage the Universal Service Fund as well as to define universal service in consultation with communities.
- A Human Resources fund to train and educate employees (RSA 1996).

Following a Cabinet reshuffle, Pallo Jordan was replacemed by Jay Naidoo as Minister of Posts, Telecommunications and Broadcasting. Minister Naidoo radically changed the twelfth draft of the White Paper most notably through:

- The dropping of the period of exclusivity.
- A substantial increase in the power of the Minister and department compared to the regulator.
- The removal of the liberalisation timeline and replacement by the Minister's prerogative.
- Management of the Human Resources Fund would not be passed to the regulator but would remain with the ministry.
- Monies collected from license fees would go to a common account to fund human resources development.
- The regulator would now be answerable to the Minister and not Parliament thereby reducing its independence.

Horwitz (2001) attributes Minister Naidoo's actions to the fact that he was not involved in the consultative process and party to its focus on consensus. Minister Naidoo was also acting in line with the ANC's move away from stakeholder consultations. However, while overseas Minister Naidoo announced a sudden policy turnaround by agreeing to limit Telkom's period of exclusivity to between four and six years. This may have been the result of foreign governments and potential SEPs expressing their annoyance at the alterations to the White Paper and the uncertainty that it caused.

In November 1996 the Telecommunications Act was passed paving the way for the announcement of the SEP in March 1997. The successful (and by now only) bidder was a consortium of SBC-Telekom Malaysia who paid $1.26 billion for the license. Telkom retained R4.4 million for infrastructural development.

3.8 The Significance of the Process

The Green Paper / White Paper process was a significant and successful political exercise achieving a balance between business and universal service needs. It managed to preserve Telkom as a national asset while opening the sector to investment. It resulted in the rapid roll-out of infrastructure and permitted sophisticated value-added services through phased and regulated liberalisation. Network expansion not only contributed to the goal of universal service, it prevented labour retrenchment and therefore placated the unions.

A major economic benefit was that it broke the stagnation in investment and injected a substantial amount of capital into the economy. The danger that it created, however, was the potential loss of control over national infrastructure, a focus away from universal service and profits leaving South Africa. Fortunately the workable compromise of an SEP with a minority share, a percentage of shares retained for black economic empowerment and control remaining in the hands of the state should guard against this. The process created compromise solutions with far reaching implications by marrying state control with market control as well as state ownership with privatisation.

It was successfully participatory and legitimate and provided a technically coherent compromise on regulation and transformation (Horwitz 1997). This in turn established investor confidence for the 2000/2001 end of exclusivity. The inclusion of labour, black empowerment groups and the black majority was revolutionary in South African history. The process highlighted the end of white dominance in policy making as well as tensions in that process, especially the ANC's commandist style of leadership. Finally, it resulted in the creation of an independent regulator in the form of SATRA.

3.9 Post 1997 Developments

Tina James (2001) recognizes significant developments from 1997 to 2002 in the South African telecommunications industry. James (2001:38-39) identifies two distinct periods, namely an "Implementation Period" and an "Evaluation and Policy Reformulation Period". The major events and issues that characterized these two periods are discussed briefly below.

3.9.1 A Period of Implementation: 1997 – 2000

From approximately mid-1997 to mid-2000 the previously mentioned polices began to take effect and institutions responsible for policy implementation and industry regulation were established. In addition to this, new policy processes were introduced so as to refine existing policy frameworks (James 2001). SATRA was set up in February 1997 to separate policy, regulation and operation as a means of modernizing the South African telecommunications regime. SATRA was made responsible for approving licenses, creating and monitoring pricing policy and general industry regulation. The regulator was also assigned the task of proactively stimulating development and social policy as well as ensuring the extension of the network to under-serviced areas. However, from its inception SATRA was confronted with a heavy workload and limited resources and battled to fulfill its mandate (Bidoli 1999b).

SATRA was faced with the mammoth task of reissuing all licenses and revising the regulations for Value Added Network Services and Private Telecommunications Networks (PTNs). It had to regulate all contributions made to the Universal Service Fund and the Human Resources Fund as well as define the term “needy persons” that should benefit from the USF. SATRA was asked to initiate the introduction of a third cellular operator by conducting a feasibility study on the industry. Lastly, the regulator had to monitor the license conditions of Telkom, the incumbent Public Switched Telecommunications Network (PSTN) (James 2001; Cohen 2000).

3.9.2 A Period of Evaluation and Policy Reformulation

The period mid-2000 to the present has been characterized by a review of policy frameworks and an evaluation of policy implementation. Following from this, new policy processes have been instituted. Most notably SATRA and the Independent Broadcasting Authority (IBA) were merged to form one regulator for both the telecommunications and broadcasting industries reflecting government’s recognition of convergence. The new regulator was formed under the name the Independent Communications Authority of South Africa (ICASA) (*Financial Mail* 2000d). From October 2000 work began on the revision of telecommunication policy as a forerunner to the liberalisation of the telecommunications market, the introduction of competitors to Telkom and the public listing of the incumbent network operator (James 2001).

3.9.3 The Universal Service Agency

The Universal Service Agency (USA) was formed by the Telecommunications Act No. 103 of 1996 and was officially launched in 1997. Since its inception the USA has been tasked with the responsibility of ensuring that all South Africans have “universal access” to telecommunications services such as voice, fax and Internet. The USA defines universal access as:

> …a telephone within a reasonable distance. The ultimate aim would be to have universal service for all in South Africa, but this will not happen soon. A more realistic goal is to provide telecommunications where everyone in the country can have access within 30 minutes’ travelling. This can only be achieved with co-operation from business, government and the broader community (James 2001:66).

The USA was directed to promote universal service, monitor and research such service and manage the Universal Service Fund. The Act stipulated that the USA advise the Minister on issues of universal service and new methods of attaining this service. Most significantly, the USA had to define the terms “universal service” and “universal access” on a regular basis. Developing and collecting statistics on universal access and its economic and social impact were also mandated as important functions. This required that the Agency monitor the universal service obligations of license holders Telkom, Vodacom and MTN, and that this information be presented to SATRA for reviews of operator licenses.

The USA announced what proved to be an overly zealous project to establish hundreds of telecentres in its first two years of operation. Funding would come from the Universal Service Fund with additional amounts gathered from donors. This project highlighted the need for different types of telecentres with different implementation plans for each province. Chairperson of the USA, Mlungisi Hlongwane, planned for the rollout of 80 to 150 telecentres by March 1998 at a cost of R50 000 to R100 000 each (McLeod 1997a). The actual establishment proved far more difficult than initially conceptualised with only 63 telecentres built between 1997 and 2001. The implementation of telecentres meant that the resources of the USA were concentrated on one project almost exclusively resulting in the neglect of its other duties of research and policy formulation. The USA simply did not have the capacity to cope with the telecentre project it had so publicly committed itself to. In addition to this the staff were skilled in policy formulation not project management and implementation (Msimang 2002; Bidoli 2002d).

The USA initiated the process of defining clearer definitions of universal service and universal access to telecommunications in South Africa so that achievable goals could be measured and met. A discussion document was completed in October 1998, a second document was prepared to include comments from public hearings and written submissions and a national colloquium was held in August 1999. However, government has still not ratified these definitions and the local telecommunications players are frustrated by this lack of clarity. Telkom has used a type of wireless telecommunications service to bring basic telephony to under-serviced areas which has proved successful in extending the network but at speeds that are suitable for voice transmission exclusively. The vague definitions of universal service have been used by Telkom to argue that they have met their universal service obligations as stipulated in the Telecommunications Act (James 2001).

Although the USA has been characterized by enthusiasm it has, arguably, failed to stimulate universal service and universal access in South Africa. The rollout of telecentres has been low with neither the USA nor SATRA having driven a coordinated universal service map that outlined where universal service rollout should occur.

The USA has also failed to monitor licensees' universal service obligations. For instance, according to the 1996 Telecommunications Act, Telkom would be awarded a monopoly license on condition that it installed 2.7 million telephone lines by March 2002. However, definitions of universal service have not included the issue of affordability resulting in two-thirds of these installed lines (approximately 1.8 million lines) being disconnected because of defaults in payment (*Financial Mail* 2001). Telkom's Chief Operating Officer, Tom Barry, argues:

"We met our obligations. We serve one third of households and our infrastructure is readily available to 85% of homes. The Problem is that people cannot afford it. The millions we pay to the Universal Service Agency could be used to subsidise poorer customers. What's happened to this money?" (Bidoli 2001:38).

Developing policy instruments for universal service has also proved an area in which the USA has performed poorly. The reasons for this inability to achieve its objectives go beyond an under-resourced staff complement. The USA was not given clear directions as to whether it reported to SATRA or to the Department of Communications (DoC) but even so it has done little to provide innovative ideas for the implementation of universal service policy to either (Msimang 2002).

Originally it was only intended that pilot telecentre projects be established but this was overshadowed by the USA's attempt to launch a full-scale, national rollout plan (without a sufficient budget or human resources). The USA struggled to negotiate with Telkom for telephone lines for its telecentres resulting in many telecentres not even having access to a telephone line. Many rural communities found that the telecentre model proved too sophisticated and expensive for their basic telephony needs. Related to this is the now massive popularity of prepaid cellular services that allow personal management of call costs and do not penalize the user for defaulting on payment. Such service is very popular in rural areas and has proved more successful than telecentres for extending basic telephony. The Telecommunications Amendment Act does not take into account the enormous potential of cellular telephony to extend universal service. Vegter (2002) believes that a broader definition of universal service and the technologies used to provide it would have lead to a faster, more accessible and cost-effective network deployment.

The USA struggled to collect funds from operators and the government treasury for the Universal Service Fund. With all these obstacles faced by the USA it seems likely that the Agency will continue to function but will refocus its attention to monitoring and advocacy with the rollout of telecentres becoming the responsibility of other mechanisms. James (2001) argues that universal service will be further harmed as Telkom effects a rebalancing of its tariffs between international and

national calls in preparation for its Initial Public Offering (IPO) in the near future. Telkom feels that rate rebalancing is imperative if it is going to compete in an open market at the end of its monopoly period in May 2002 (Bidoli 1998e). This rebalancing sees a decrease in the cost of international calls and an increase in the cost of national calls as Telkom tries to ease the subsidisation of local calls from international calls. The increase in the cost of local and national calls is having a negative impact on universal service through fixed lines. COSATU has been extremely vocal in its opposition to tariff increases on local calls and has called for private-sector participation in the top end of the telecommunications market so as to cross-subsidise the lower end of the market (Haffajee 2001a).

3.9.4 Awarding of a Third Cellular License

The awarding of a third cellular license in South Africa should have been a straight forward process of conducting a feasibility study, inviting tenders, considering applications and awarding the license to the applicant with the most sustainable business model. However, the process took far longer than expected with accusations of nepotism and interference from the highest levels of government as well as a court case brought against SATRA, the DoC and the preferred bidder Cell C by losing bidder Nextcom (de Wet 2002a).

The success of cellular operators Vodacom and MTN suggested that the market was ready for a third operator. The need for competition in the industry to drive down prices became clear with the surfacing of the “London Agreement” signed by the management of Vodacom and MTN in 1994. The document outlined agreements on tariff structures, airtime discounts and connection bonuses emphasizing that the two companies were operating in a comfortable duopolistic environment (Bidoli 1997a).

In October 1997 SATRA commissioned a R1,2 million study to examine the feasibility of introducing a third cellular operator. The study, awarded to International Technology Consultants (ITC), was ordered to consider how the third operator could aid the “empowerment of previously disadvantaged groups” (Bidoli 1997b). The findings reported that South Africa could indeed support more than two cellular operators since the market (in 1998) consisted of only 1,6 million users most of whom were in the upper-income bracket. The study also predicted that the market would expand to 10 million users by 2010. This prediction was made before the introduction of the prepaid cellular packages aimed at the lower end of the market and could not predict how popular the service would prove. The number of cellular users climbed to nine million in 2002 (Bidoli 2002d).

Bidders for the new licenses began seeking strategic partnerships from the moment the feasibility study began, believing that even with SATRA’s universal service obligations they would be

able to make money provided a regulatory environment was established that levelled the playing field against the incumbent operators and gave them something to bargain with. These bidders believed that the bargaining chip would be in the form of the 1800MHz spectrum, which is ideal for congested urban areas and which could be leased to Vodacom and MTN or swapped for roaming rights on their 900MHz spectrum networks (Bidoli 1998a). Providing roaming to the new operator and having to bargain for the 1800MHz spectrum did not sit well with Vodacom, MTN and Telkom. The cellular operators felt that they had as much right to 1800MHz as the new operator and should not be forced to allow the third operator to roam on their network initially. SATRA was put under pressure to create a regulatory environment that would enable an additional cellular operator to compete successfully without landing itself in court as the incumbents demanded access to the 1800MHz spectrum. Telkom argued that it would meet its universal service obligations and, therefore, a new operator with similar obligations might make its infrastructure rollout redundant (Bidoli 1998c).

The second important function of introducing a third cellular operator was to create a large black economic empowerment opportunity with majority black representation at both the equity and operational levels. Each bidder was required to partner with an empowerment company or organization ranging from rural organizations to educational trusts for the previously disadvantaged. Requests from the bidders also varied widely including calls for lower interconnect fees, infrastructure sharing, roaming, number portability and even the waiving of frequency spectrum fees (Bidoli 1998d).

Researchers and bidders for the license realized that the process had to move quickly as Vodacom and MTN were increasing their client base rapidly, potentially to the point where a third operator might no longer be feasible. Even SATRA argued that Telkom and the Vodacom-MTN duopoly would “lock their dominance by 2002”. Experience in other cellular markets had indicated that late entrants faced a significantly higher risk profile and a much longer payback period (Bidoli 1999d).

By August 1998 SATRA had made the recommendation to government that two new cellular licenses be issued. Bidders welcomed the two licenses but criticised this announcement for lacking details on black economic empowerment and foreign ownership (*Financial Mail* 1998). However, in early 1999 Communications Minister Jay Naidoo suddenly announced that only one new cellular license would be issued suggesting that he had agreed with international operators, empowerment bidders and financiers that the South African market could only sustain one additional cellular operator. Naidoo felt that South Africa would be better served by one strong competitor as opposed to two weaker competitors (Bidoli 1999a).

Six weeks before the closure of the license bid SATRA had still not provided regulatory clarity or definite details on universal service obligations leading bidders to claim that this was inhibiting

investment from international operators. This would have serious repercussions considering that between R6bn-R12bn in capital expenditure would be required to establish a third operator (*Financial Mail* 1999).

In mid 1999 Jay Naidoo resigned his post and was replaced by Ivy Matsepi-Casaburri. Matsepi-Casaburri promised to "fast track" and "restore the integrity" of the process (*Financial Mail* 2000a). At the hearings for the third cellular license bidders were questioned on their access to capital, relationships with international operators and black empowerment partnerships. In addition to this bidders were interrogated on whether any of their shares were held by SATRA councillors or the Ministry of Communications director-general, Andile Ngcaba, following allegations of SATRA and government officials attempting to influence the bid (Bidoli 1999c). The six SATRA councillors hearing the applications were restricted to making recommendations to Communications Minister Matsepi-Casaburri and did not award the license themselves. Ultimately the decision was up to cabinet. SATRA recommended that the consortium lead by Saudi Oger, Cell C, be considered as the preferred bidder by Parliament.

For SATRA, the year 2000 would prove to be extremely troubled. SATRA Chairman, Nape Maepa, was accused of bias when it was revealed that he had a link to a 1% shareholder in bidder AfricaSpeaks Cellular. Parliament responded by ordering the Auditor General to investigate SATRA and its Chairman. Although the Auditor General found no fault in the process and with Maepa, the SATRA Chairman recused himself under pressure from the President's Office who claimed a "possible conflict of interest" (*Financial Mail* 2000c). Maepa decided in July to ignore government's objections and returned to the adjudication process.

Faced with revelations that the regulator ignored a BDO Spencer Steward analysis that recommended that Cell C not be announced as the preferred bidder, SATRA enlisted the help of consulting firm GTKF to re-examine the decision on Cell C. Only a month later mayhem ensued as GTKF admitted that it had had previous contact with member of one of the bidders resulting in Minister Matsepi-Casaburri threatening to sue the consultants. Losing bidder, Telia-Telenor in turn threatened to sue the regulator for its poor handling of the licensing process.

In March 2000 bidder Cell C approached Vodacom and MTN with a proposal that would allow the incumbent operators access to the coveted 1800MHz spectrum in return for access to the 900Mhz spectrum. This would enable Cell C to automatically tap into the second hand cellphone market without having to supply new customers with 1800Mhz capable cellular telephones.

In July 2000 SATRA re-recommended to the Communications Ministry that Cell C be awarded the third cellular license prompting Minister Matsepi-Casaburri to announce that the winning bidder would be revealed at the end of that month. At the same time SATRA was merged with the

Independent Broadcasting Authority (IBA) to form the Independent Communications Regulatory Authority of South Africa (ICASA), a new regulatory body mandated to oversee the telecommunications and broadcasting industries. Notably, Nape Maepa was not appointed to the ICASA Council.

The recommendation of Cell C as the winning bidder was immediately followed by an urgent court interdict from losing bidder NextCom to block the Minister from confirming Cell C as the third cellular operator. Maepa added to this attack on the Communications Department by issuing an affidavit that alleged government interference in the licensing process. The judge hearing the case ordered that the Minister wait for the outcome of a judicial review before the license could be finalized. Minister Matsepi-Casaburri attacked NextCom for going against South Africa's national interest by blocking her decision with court action (Bidoli 2000b).

In February 2001 the Minister of Communications formally announced Cell C as the winner of the third cellular license. Cell C signed a roaming agreement with Vodacom which allowed the new operator to have immediate national coverage while it built its own network. However, this did not deter NextCom taking its case to the Pretoria High Court lending further evidence to the accusations of interference at executive levels. Shortly before Judge Hekkie Daniels was to deliver his verdict NextCom announced that it had arrived at an out of court settlement with Cell C. The settlement, valued at R50-R80 million, obliged NextCom to waive all rights of action and claims relating to the third cellular license. In return Cell C could begin operations. Cell C director Zwelakhe Mankazana described the agreement as "pragmatic" since it allowed Cell C to get to market faster, have immediate national coverage and gain from much lower capital expenditure (Bidoli 2000a; Cellular Online 2002).

Cell C began selling its services in December 2001 and to the market's surprise immediately entered into a price war with the incumbent operators, something it said it would not do. Cell C has claimed that it plans to capture 15% - 20% of the market in seven years when it is predicted the number of users will have reached at least 12 million. The License process, however, has cost the government dearly in terms of credibility in the eyes of international investors and has caused major financial cost to all bidders involved in the process. If the third license had been issued timeously Cell C would have entered a market of four million users. By the time it began operations this number had more than doubled to nearly nine million (Bidoli 2001e).

3.9.5 Introduction of Fixed Line Competition

With South Africa joining the WTO it has been obliged to lower its trade barriers and privatise certain state owned enterprises (SOE) with telecommunications offering the biggest opportunity for privatisation and market liberalisation.

In 1997 30% of Telkom was sold to SBC International (18%) and Telekom Malaysia (12%). The consortium, known as Thintana Communications, was tasked with turning Telkom into an efficient telecommunications operator ready for competition in 2002. Telkom's management team has been dominated by SBC members who have helped improve the operator's service while at the same time making it an aggressive force in the local telecommunications industry (McLeod 1997b).

Residential customers' inability to pay for the lines that Telkom has installed as part of its universal service obligations has only added fuel to the fire that deregulating the industry and liberalizing the sector will lower prices and improve services. Even Telkom seems to have realized that competition will expand the market as well as profit potential and has opted not to apply for an additional year of exclusivity. Telkom has instead concentrated on entrenching itself as the dominant operator in anticipation of a competitor. South African businesses have argued that liberalising the local telecommunications market will result in a significant drop in call costs and will allow the government to collect more from taxing the industry than from the sales of its assets (*Financial Mail* 2000b).

The Second Network Operator license process has not been awarded at the time of writing. In 1999 the South African government outlined a plan to:

- Amend the Telecommunications Act of 1996
- Prepare Telkom for an IPO (to raise approximately R18 billion for the 2001/2002 national budget), and
- Introduce a competitor to Telkom in 2002.

However, government has experienced a number of problems and setbacks with each of these projects leading to delays and disillusionment with the industry from local and international organizations and investors. The privatisation of Telkom is in line with government's broader economic plans to improve service and technology and stimulate foreign direct investment at the same time. Public Enterprises Minister Jeff Radebe has tried to placate the COSATU and the SACP so as to gain their support in this venture. Radebe attempted this by consulting the organizations and by avoiding inflammatory terms such as "privatisation" instead referring to "restructuring of state assets". However, COSATU and the SACP have continued to voice their opposition to privatisation with COSATU leading a national two-day strike in August 2001 and October 2002. Minister Radebe

has gone ahead formulating policy on the government's terms while requesting input and participation from the unions (Haffajee 2001b). Government has appeared wary of a "big bang" approach opting instead for "managed liberalisation" which allows government to retain a stake in certain industries so as to prevent a monopoly moving from public to private control with the dangers of market conditions inhibiting development.

The public listing of Telkom was expected to fetch between R14 billion and R25 billion with the date of the IPO set for late 2001 (Theobald 2000). Government's intention to list between 14% and 20% of its 65% share in Telkom will be determined by how foreign investors view the stability of South Africa's regulatory environment and its place in the global economy. The poor performance of international telecommunications markets has led Thintana to postpone the Telkom IPO to February 2003 (Bidoli 2001b; de Wet 2002b). The government initially hoped to raise R18 billion for the 2001/2002 budget deficit, however, with market conditions and unclear regulation it can now only hope to net R7 billion to R9 billion (Bidoli 2001b).

In early 2001 a broad-based colloquium was called to discuss the future of telecommunications policy in South Africa with government seemingly determined not to repeat the "mistake" of tying South Africa to one operator and still failing to establish significant levels of universal service. Industry players were vocal in requesting at least two competitors to Telkom to ensure competition would drive down prices. The publication of the policy directions in March 2001 caused an outcry with the announcement that the state-owned broadcasting signal distributor, Sentech, would be allowed to use an international gateway to provide consumers with services linked to an undefined technology linked to television. As was expected the new operators would be forced to partner with state-owned Esi-tel and Transtel, the telecommunications branches of the energy provider, Eskom and Transnet, the largest single transport company in Southern Africa.

At the end of July a "final" policy was announced with the Department of Communications stating that two fixed-line competitors would be licensed. The proposed policy seemed to reflect that a monopoly had not provided affordable telephone service and that the Internet industry in South Africa had been held back by a lack of competition. However, a rapid turn-around occurred when Matsepi-Casaburri, Trade and Industry Minister, Alec Erwin, and Public Enterprises Minister, Jeff Radebe, announced that only one competitor would be licensed. Although never confirmed, speculators believe that Telkom and potential SNO partner M-Cell had successfully lobbied President Thabo Mbeki to restrict the number of competitors. In addition to this it seemed that Telkom's valuation would be higher for its IPO if only one competitor was licensed. Discussions on the Bill highlighted the danger of prioritising the IPO over the long-term interests of the telecommunications industry and universal service (Bidoli 2001a; Bidoli 2001c). The Amendment Bill was criticized for providing unclear

guidelines with the potential to outlaw all websites and destroy the independence of ICASA. Analysts of the process, including Telkom's Chief Operating Officer, Tom Barry, have suggested that the Amendment Act makes government look weak, indecisive and reactionary and that operator lobbying can sway policy in their favour. Furthermore, the Act will potentially lead to litigation as operators clash with the regulator and each other over interpretations of implementation (de Wet 2002a; Bidoli 2001e). For example, Telkom has said that it will block Sentech's plan to establish a national, broadband data telecommunications network. Telkom has argued that Sentech's poorly defined license has unwittingly created a Third Network Operator (Bidoli 2002c).

The indecisiveness of the policy process created a backlash against the Minister of Communications. Certain quarters have argued that Minister Matsepi-Casaburri is not a "technocrat" and that her inability to move quickly and coherently on issues has damaged the industry and the economy (Bidoli 2002b). The government also decided to allow a foreign Strategic Equity Partner to acquire 51% of the SNO, effectively allowing it full control of the operator, something the trade unions have opposed (Bidoli 2002a).

3.10 Conclusion

The above discussion has provided an overview of significant historical developments that have affected the local telecommunications sector since the late 1980s. Most importantly, Telkom has experienced increasing commercialisation as it prepares for privatisation and the liberalisation of the market. The Universal Service Agency has had a troubled beginning and has failed to produce a definition of universal access and service or administer the Universal Service Fund effectively. The licensing of a third cellular operator and a Second Network Operator has highlighted how government has struggled to make decisions and take control of the licensing process and the local telecommunications industry as a whole. The next chapter presents a discussion on universal service and universal access.

CHAPTER FOUR
UNIVERSAL SERVICE AND UNIVERSAL ACCESS

4.1 Introduction

The concept of Universal Service has influenced telecommunications policy since its inception although it is not since the 1980s that attempts have been made to formalize a clear definition. That the concept “universal service” is problematic is indicated by the differing interpretations of the term, from country to country and from one telecommunications operator to another (Milne 1998). As the number of liberalized telecommunications markets has increased so the debate around universal service has intensified. Proponents of publicly controlled monopoly telecommunications operators argue that a monopoly is the only means of ensuring the implementation and maintenance of universal telecommunications service. Conversely, proponents of liberalized markets believe that a competitive market reduces costs, such as infrastructure, and improves quality and range of services. The introduction of competition is also hailed as an opportunity to formalize universal service obligations in legislation. For economic reasons developing countries have found universal service difficult to achieve. In contemporary policy the term “universal access” is preferred as a more realistic goal. Theories of universal service and universal access are outlined below and are located within a South African context.

4.2 The History and Development of Universal Service

Historically, governments have required state owned enterprises such as transport, energy, water and telecommunications to provide services which they would have normally avoided if they were governed by strictly commercial considerations (Bernard and Shniad 1998). Such activities have been referred to in government policy as “Community Service Obligations”, “Public Service Obligations” or “Social Objectives” and can be broadly defined in two categories. The first category involves cases where government mandates that certain services be supplied to consumers or industry at a uniform or “affordable” price irrespective of the cost of service provision. The second category involves the SOE granting price concessions in the form of welfare and redistribution to disadvantaged consumers. These services are provided at the implicit or explicit instruction of government.

The concept of “universal service” in telecommunications is often mistakenly attributed to the United States private monopoly, AT&T. The President of AT&T, Theodore Vail, presented the

concept of universal service to the US state and federal governments in a bid to convince them to maintain AT&T's monopoly status. This enabled AT&T to use cross-subsidies from its long distance network to price local access artificially low and in doing so it created extremely high barriers to entry for any competitors. Local access may have been more affordable but AT&T did not provide universal geographic availability (RSA 1998). Garnham (1997:200) describes AT&T's universal service agenda as "more rhetoric than reality". Universal service has since been used by many nationalised operators facing competition as a means of defending the monopoly system and their positions in the market.

Telecommunication operators in Europe were governed by principles of public service and it was not until the liberalizing of telecommunications markets in the 1980s and 1990s that the notion of universal service was introduced into policy. Until that time the state provided universal geographic coverage within its borders and provided a guarantee of continuity instead of universality of supply. Citizens had no right to telephony and operators were protected by law from actions against them for failing to provide service (Garnham 1997; Rapp 1996).

Pre-liberalisation Post, Telephone and Telegraph (PTT) companies' systems of cross-subsidisation, cost averaging and rate rebalancing are proving unsustainable in modern competitive telecommunications markets where prices are obliged to closely reflect cost. This has raised concerns that subscribers will be priced off the network. However, Xavier (1995) argues that this has not happened in the United States and developed European countries. In liberalized telecommunications markets penetration rates have risen significantly although this cannot be directly attributed to the benefits of competition. The rise in penetration rates can as easily be attributed to developments in technology and improved income levels. It must be noted that socially and economically sub-optimal levels still exist that regulators need to address in order to provide true universal service (Garnham 1997; Haugan 1994).

4.3 Defining Universal Service and Universal Access

4.3.1 The Need for a Specific Definition of Universal Service

Xavier (1995) states that it is essential that a specific definition of universal service is contained within the policies and legislation that govern telecommunications operators. Vague definitions of universal service contained within license agreements allow operators to assume the responsibility of defining universal service requirements and may fall short of governments' social objectives. Alternatively, weak definitions of universal service may be reinterpreted by governments to excuse poor economic or commercial performance by a state-owned operator. In addition to this the

lack of specific objectives and cost estimates may make the assessment of universal service programs problematic. Explicit definitions of universal service will facilitate the monitoring of an operator's performance in liberalised as well as nationalised telecommunications markets.

4.3.2 Approaches to Universal Service

There are essentially two different approaches to defining universal service. The first is a politico-philosophical approach and the other is an economic approach. The type of universal service policy a country adopts will depend on which of these approaches the government perceives as most applicable in their economic and social context. The politico-philosophical approach advocates that universal service is the basic right of all citizens to access telecommunication services so as to participate fully in society. In addition to this, universal service is seen as an essential element of the right to freedom of expression and communication. It should be seen as a critical service, like health, that is provided by government through the utilization of tax revenue. It is generally accepted that universal service should not be subject to the practices of pure economic efficiency and should be funded by taxation or by a telecommunication tariff structure.

The economic approach on the other hand regards telecommunications services as a tradable and consumable commodity. This approach emphasizes the need for efficiency and the distribution of economic welfare. From the internal perspective of telecommunications operators universal service has been constructed according to the nature of the telecommunications network, how positive the usage of this network has been with customers, common cost structures and economies of scale. Policy considerations tend to be more pragmatic and are based on balances between efficiency and distribution effects, how economies of scale will affect competition and regulation, how costs are allocated and cost-based tariffs are formulated and, finally, penetration rates and differences in demand. The economic approach sees universal service within the context of infrastructural provision. It is an investment decision to be made on the basis of the general economic benefits to be derived by the rest of the economy (Garnham 1991).

4.3.3 Public Service and Basic Service

Universal service must be distinguished from public service as well as from basic service. **Public service** tends to include universal service but it is a larger concept dealing with the pursuit of normative social and political priorities which may assert themselves as more important than strictly economic or technical criteria (Koning and Blees 1994). Unfortunately the success of public service

goals is not easily measured. **Basic service** is defined by technical criteria and includes service elements upon which the delivery of enhanced, value-added or telecommunication network-based services depend. Which services are defined as basic is often disputed resulting in universal service being confused with basic service (Milne 1998). Generally, “public service” is concerned with the relationship between the provision of telecommunication services to achieve socio-political policy goals while “basic service” concerns the technical and economic relationship between different types and levels of service. Finally, “universal service” concentrates on access to these services (Garnham 1991).

4.3.4 Definitions

The International Telecommunications Union (ITU) states that no fixed definitions of universal service and universal access exist. Each country should establish its own universal service criteria according to that country's social and economic requirements (ITU 1998; RSA 1998). **Universal Service** is generally defined as affordable access to basic voice telephony, or its equivalent, for all people who reasonably request it, regardless of their geographic location. The figure of 90% of households with a telephone is accepted as an indication that universal service as been achieved (Garnham 1997; ITU 1998). **Universal Access** on the other hand refers the to the ability of all people to be within a reasonable distance of a public telephone or “payphone”. The acceptable distance is defined differently from country to country and in South Africa is taken to mean access to a working public telephone within a 30 minute walk of a person’s home (Benjamin 2001; ITU 1998; Hudson 2002). Xavier (1995) characterizes **Universal Service Obligations** as those requirements imposed upon an operator to provide basic service over a geographical area at uniform prices or at prices that do not reflect differences in the cost of service. This may include implicit or explicit constraints on the prices the operator can charge for particular services.

The place of telecommunications in creating an “Information Society” has prompted some to call for an even broader definition that includes service provision beyond basic narrowband access. Universal service might then include the provision of services created around digital exchanges and the Internet (Hudson 2002; RSA 1998). Garnham (1997) argues that the massive investment required and the potential for lack of demand makes the risk too great. A wider definition of universal service is proposed which takes into account the social and economic status of a service once it passes a particular penetration threshold. When a service reaches a particular level of demand then access to the service becomes a necessary part of social membership and economic participation. Following this, regulatory intervention should require operators to provide universal access to that service.

Garnham (1997) offers a radical view and acknowledges that the telephone was never considered in this light and that such an act would be unprecedented in any telecommunications industry.

4.4 Cross-Subsidisation Debate

Cross-subsidisation of services has traditionally been a practice of monopolistic telecommunications operators. Here losses incurred by an unprofitable activity are financed by income generated by other more profitable activities. Usually, the income gained from lucrative high volume business services offsets losses incurred in other areas, typically in local voice services. Cross-subsidisation can prove viable in a monopolistic environment where the sole operator maintains high prices relative to cost and the resulting high prices earned on some services (Hudson 2002; Majumdar 2000).

However, as markets have liberalised so cross-subsidisation has come under criticism from various quarters. Xavier (1995) argues that cross-subsidisation can create a situation where the higher charges on corporate usage will be passed on to residential users by way of higher prices for goods and services resulting in an uncertain redistributional effect. The achievement of social objectives through the lowering of cost will then become indirect and problematical. For example, the funding of services through undisclosed cross-subsidy has meant that the cost of universal service has lacked transparency.

Cross-subsidisation implies a consumption tax and a consumption subsidy for subscribers. The result is that those subscribers whose consumption is taxed restrict their use of the service (even though they may value it highly) creating a welfare loss. Those subscribers who are subsidised are encouraged to expand their use of the product beyond the point where the value they get from the good is equal to the cost of its production, once again resulting in a welfare loss (Xavier 1995). Garnham (1997) argues that cross-subsidies intended to improve affordability and telephone penetration may be cancelled out so real prices and real barriers to entry remain static.

Finally, subsidies, such as those on residential telephony, may ignore consumer's preferences. By supporting socially and economically disadvantaged groups governments and operators are forcing these groups to consume a particular pattern of goods and services. Policy makers may attach greater importance to telephone services than the subscribers whom universal service is meant to assist (Xavier 1995).

4.5 Universal Affordable Access

Perhaps one of the most important elements of modern universal service policy is that of affordability. Debates on affordability have concentrated on how price changes might affect universal service and therefore the possible exclusion of disadvantaged groups from access to the telephone network (Garnham and Mansell 1991). Universal affordable access is founded on the principles that telecommunication services are not like other services and that 100% penetration is possible. In order to achieve universal service it may be necessary for the imposition of universal service obligations on operators that require them to adopt pricing policies that will achieve particular penetration rates region by region over a given time scale. The success of this goal could be monitored by penetration rates for certain socio-economic groups using their disposable income as a comparison to telecommunication usage for monitoring purposes (Heuva 2002; Catinat and Vedel 2000; Maholi 1994). Such information could then be used to make decisions on how to subsidize certain population groups. These elements are discussed briefly below:

1. **Penetration rates according to income, ethnic and demographic characteristics** – studies reveal that levels of telephone penetration differ markedly for people of different ethnic background and household size. Generally, people with low annual incomes do not have access in their houses.
2. **The provision of payphones** – certain countries require network operators to provide access to the network through public payphones as part of their universal service obligations. How effectively payphones can satisfy universal service obligations is questioned. The absence of a telephone in a household and the household's subsequent reliance on a public telephone means that the household can only make outgoing calls and the receiving of calls is made highly problematic. Even so public payphones remain an important means of accessing the network.
3. **Emergency Services** – Commonly, universal service is concerned with providing access to emergency services, such as policing and medical emergency service, through simple codes and making this free of charge over public payphones.

4.6 Universal Service Obligations

Within a liberalized and regulated telecommunications market universal service obligations need to be considered amongst a range of regulatory aims that attempt to achieve socially and economically desirable goals that would fail to materialize if operators were left unregulated (Garnham 1997).

Formalizing universal service obligations in competitive markets as well as in countries that do not intend to liberalize will facilitate the monitoring of the operator's performance in each country. Universal service obligations are not, therefore, exclusive elements of liberalised telecommunications sectors. Poorly defined obligations in a liberalized market will only make it easier for operators to ignore the provision of services to uneconomical communities. The success of universal service therefore depends on policies that have been explicitly and specifically outlined in terms of distinct, realizable and measurable targets that operators can be held liable for providing (Xavier 1995; Maholi 1994). Xavier (1995) states that an economic and equity rationale exists for determining which services should be included in universal service obligations.

4.6.1 The Economic Rationale for Universal Service Obligations

Within the economic rationale a "private good" view contrasts with a "public good" view of the telecommunications network. The private good model emphasizes the direct benefits to the subscriber of accessing the network and believes that new services and enhancements are to be paid for exclusively by those who use them and are willing to pay for such services. This model states that perceived subscriber demand for services will result, through the market process, in the supply of the necessary infrastructure where it is considered profitable (Koning and Blees 1994). The private good approach is seen to offer a number of advantages. Firstly, it offers the lowest basic service rate to those who do not wish to subscribe to advanced services. This will hopefully encourage or maintain high penetration rates. The fewer the services included in "basic" service should make the realization of universal service less expensive. Lastly, it is suggested that the private good model can produce efficient regulation consistent with that of effective competition. However, under this approach, an orderly evolution of basic services over time may be precluded since the definition of basic network service may be frozen at an arbitrary point making future changes difficult unless a regular, formal review process is instituted.

The public good model on the other hand concentrates on the total societal benefits of the telecommunications network in terms of its ability to aid economic growth and societal benefits such

as environmental, public health, safety and welfare enhancements (classic positive network externalities). The public good model calls for policy that creates a high level of universal service that will consequently yield economic benefits. Universal service will provide improved access to job markets and social services. The model favours an evolving definition of universal service to include the latest technologies and services. New services would not be limited to those who can afford or are willing to pay for them. The model is therefore a supply driven approach to network infrastructure development which could create an expansive and expensive application to universal service (Rapp 1996).

4.6.2 The Equity Rationale for Universal Service Obligations

Universal service policies are generally based on “equity” or “fairness” considerations. Equity in this context refers to the provision of access to the network for all who demand it as well as an identification of barriers that may prevent a citizen from realizing that need. The primary aim of social equity is, therefore, to guarantee access to basic telecommunications services. Following on from this, considerations of equity call for the defining of what aspects of telecommunications usage are fundamental rights. The definition can be expressed as an amount of access as well as in terms of quality and range (Hudson 2002; Milne 1998; Xavier 1995).

4.7 Competition and Universal Service

Countries under pressure to liberalize their telecommunications markets have often been reluctant to do so for fear that competition will adversely affect universal service (Dyer 1995). Competition and universal service obligations are seen as antithetical. Xavier (1995) argues that persuasive evidence does not exist to prove this case and addresses three commonly raised concerns that liberalisation will threaten universal service.

The first concern centres around the perception that competition will lead to prices that are cost based. The argument is that if there is no competition in the market then there is no need to rebalance tariffs that have traditionally relied on cross-subsidisation to keep them below cost. Xavier points out that public telecommunications operators are rebalancing tariff structures anyway as a result of pressures from competition at an international level. In addition to this some countries with a monopoly operator have opted to pursue a more cost orientated tariff structure anyway. So, will cost based structures contradict universal service obligations? Such contradiction will be effected if definitions of universal service require access at below cost for all segments of the population.

Increasingly other public service areas such as energy and water are gravitating to a cost-based tariff structure because of the argument against cross-subsidisation as outlined above (Kelly 1994).

The second major concern is that the introduction of competition may shift the focus of public telecommunications operators away from a universal service position and onto more lucrative telecommunications markets. However, public telecommunications operators will first provide infrastructure to areas of higher population density that are likely to yield high revenues before providing infrastructure and services to higher cost and lower revenue areas. It can therefore be cogently argued that a competitive market may improve universal service rollout since operators may be mandated by legislation to provide service to economically unattractive areas and consumers. In addition to this, monitoring agencies can assess the operators' performance according to specific criteria.

The third concern is that competition reduces the financial capability of public operators resulting in the operator having insufficient funds to meet its universal service obligations. However, Xavier (1995) notes that operators practicing cross-subsidization schemes in liberalised markets open themselves up to competitors who will undercut their lucrative services. Requiring an operator in an increasingly cost-based regime to provide universal service at below cost prices would therefore prevent that operator from competing on a fair and equal basis. In order to create a level playing field it may be necessary to compensate operators through a universal service fund or impose appropriate universal service obligations on competitors (Xavier 1995).

4.7.1 Infrastructure and Service Competition

Evidence in the United States and United Kingdom suggests that competition in telecommunications infrastructure provision can reduce the costs and prices of basic and new services. It is argued that government-controlled infrastructure development cannot be flexible enough or adequately responsive to the demands of a rapidly developing telecommunications technology and market. An absence of competition offers a monopoly operator less incentive to offer diverse services. Governments are also less likely to invest large amounts on installing new technologies. Proponents of competition claim that where markets have been liberalised it has lead to improved service availability, costs, range and quality of service and a marked performance increase of the operators (Wallsten 1999). They also claim that competition may have assisted universal service and increased penetration rates. The United States is said to be an example of this (Hudson 2002).

4.7.2 The Impact of Competition on Universal Service

In the United Kingdom the introduction of competition did not necessarily reduce local call charges. Martin (1993) and Vickers and Yarrow (1988) not that rate rebalancing has had a negative impact on residential subscribers suggesting that the evidence supporting competition leading to lower prices is certainly not conclusive. The impact of competition on connection and rental charges has been negative for people who make few calls and rely on their telephone as a lifeline. These people have experienced substantial increases in their total bills. Rural America provides an example of the successful provision by private operators of telephone services to rural areas. In the United States the rural telecommunications infrastructure is managed, owned and operated by over one thousand large and small co-operatives managing over 10 000 exchanges (Xavier 1995).

4.8 Universal Service and Universal Access in South Africa

Although the Universal Service Agency (USA) was established by the Telecommunications Act of 1996 and mandated to produce definitions of universal service and universal access, to date these have not materialised. The USA has, however, initiated a stakeholder consultation process that will result in the formal proposal of such definitions that can be used by the telecommunications industry, government and society to facilitate the achievement of universal access and service (USA 2003). In a South African context universal access is proposed as a goal that must be realised before universal service can be achieved. The South African government and the USA agree with the ITU that providing universal access is more economically viable and practical for South Africa than universal service (ITU 1998; RSA 1998).

Stakeholder discussions on universal access have so far resulted in three proposals. Firstly, all people should have the right to make emergency calls free of charge. Secondly, medium-term targets for universal access should be a working telephone accessible 24 hours a day within one kilometre in rural areas and 200 metres in non-rural areas, to be achieved by 2006. Thirdly, community access telephony should be underpinned by quality of service such that telephones are working 24 hours a day, seven days a week (RSA 1999).

Hudson (2002) proposes a multi-tiered approach to universal access that is applicable for developing countries. At the first level community access is provided through kiosks, post offices, community centres and telecentres. The second level provides institutional access though schools hospitals and clinics. Finally, the third level provides access to all households. At present South Africa is striving for a combination of levels one and two but government recognises that technological

developments should be factored into universal obligations as they prove themselves effective or popular with users (RSA 1999).

Under-serviced areas licenses are perceived of as an effective means of providing telecommunications services to unprofitable or remote areas. Such areas have previously been defined according to geographical location (such as a shanty town or rural village) but are now defined according to teledensity (RSA 1999). Hudson (2002) notes that small companies or cooperatives have proved highly successful in developed countries in providing telecommunications services to areas ignored by national monopoly operators. The South African government plans to license Small, Micro and Medium Enterprises (SMMEs) to provide telecommunications services to areas with a teledensity of below 5%. These SMMEs will be permitted to build or lease infrastructure to provide fixed mobile telecommunication services to 27 areas identified by the Minister of Communications as under-serviced (ICASA 2003).

Finally, the USA has the responsibility of administering a Universal Service Fund (USF) from which funds can be drawn for the rollout of infrastructure and services in "needy" areas. ICASA has proposed that contributions by operators to the USF be capped at 0,2% of operators' annual turnover. This should generate approximately R100 million (US$11 million) for the USF after April 2003. According to the Telecommunications Act of 1996, the money in the USF is to be utilised exclusively for payment of subsidies to needy persons; licence holders providing telecommunications service to under-serviced areas and communities; to public schools; for the establishment of telecenters and to assist SMMEs and cooperatives in the acquisition and construction of infrastructure to provide telecommunications services (Msimang 2002).

4.9 Conclusion

South African telecommunications policy follows a politico-philosophical approach to universal access and service. These services are seen as essential for public participation in society as well as the economy. For the country to realise universal access and service it is essential that comprehensive definitions are proposed by the Universal Service Agency and that they are accepted by both the telecommunications operators and government. The imposition of universal service obligations and their monitoring can only be effective if such definitions are clearly presented in government policy.

The issue of rate rebalancing is likely to have a negative effect on affordability of services and ultimately penetration rates. Both the Universal Service Agency and the regulator must coordinate efforts to ensure that services do not extend beyond the reach of users. Although the Universal Service

Agency is moving slowly in some areas it is hoped that its management of the Universal Service Fund will facilitate improvements in the roll out of infrastructure and the subsidising of services for needy communities. The following chapter discusses the methods of data collection and analysis of the study.

CHAPTER 5
METHODS OF DATA COLLECTION AND ANALYSIS

5.0 Introduction

This chapter presents the methodology utilised in the execution of the study. It discusses the research design, the physical location of the study, the population of the study, documents consulted, interviews conducted, research procedures as well as data analysis and processing. In addition to this some of the limitations of the study are discussed along with the efforts used to overcome them. The methodological approaches will be discussed in line with the questions raised and their relevance to the aims of the study.

5.1 Research Design

This study employed qualitative methods of data collection and analysis. Techniques included document analysis and in-depth interviews. An unstructured, open-ended interview guide was designed so as to investigate problems in a realistic setting through the extraction of data from the key role players in the telecommunications industry (Wimmer and Dominick 1991). The structure of the interview guide allowed respondents to address a broad range of issues while at the same time providing them with the opportunity to discuss their area(s) of expertise in detail (Hansen *et al* 1998). Significant themes for the interviews were universal access and universal service, the liberalisation of the telecommunications market, the privatisation of Telkom, the licensing of a Second Network Operator, and the relationship between government, Telkom, the broader industry and the regulator.

Qualitative research methods were chosen because of the versatility they provide in the examination of social and economic phenomena. Qualitative research encourages respondents to offer focused analyses of their experiences and perceptions with regards to the research topics (Lincoln and Guba 1994; Cantrell 1993). Hansen *et al* (1998) point out the importance of people's statements, especially those of government, in the placing of issues within a broader context of technological and socio-economic change. Qualitative interviews are beneficial for the researcher because they establish a rounded account of the activities and experiences of a particular group or organisation. Minimum guidance is required from the researcher and respondents are provided with the opportunity to express themselves freely and discuss issues in great depth (Bryman 1992). The in-depth interviews utilised in this study facilitated a greater understanding of the research questions from the perspectives of the respondents. The interviews therefore created the basis for the analysis of the data.

An important focus of the study is the stakeholder input into the Telecommunications Act of 1996 and the Telecommunications Amendment Act of 2001. Deacon *et al* (1999) and Hutchinson (1999) emphasise that the researcher must consider the roles of several "actors" in policy formulation. These include the politicians ultimately responsible for creating the policy, civil servants who advise politicians, regulatory authorities established by legislatures, the organizations affected by the policy and the citizens in whose interest the policy is formulated. In addition to this the relationship between the various entities involved in the policy formulation process were mapped to determine which organizations exercised the greatest degree of influence.

5.1.1 Physical Location of the Study

The study was conducted in Johannesburg, Pretoria and King Williams Town, South Africa, with interviews taking place either at the headquarters of the organizations or at convenient meeting places.

5.1.2 Population of the Study

The population of the study, as indicated in Appendix 1, was specifically chosen for their seniority and direct involvement in policy formulation, the liberalisation of the telecommunications market, Telkom's IPO, regulation and the oversight of universal access projects. They included:

- Deputy Director Generals and Directors of the government departments.
- Trade Union representatives.
- High ranking international and local industry representatives.
- Representatives from the regulator, ICASA, and the Universal Service Agency.

The interviews with the people listed above provided invaluable insight into the rationale for liberalising the local telecommunications sector and introducing an SNO as means of achieving universal access. They allowed for an examination of how senior government officials and industry leaders understood their roles and responsibilities in the reshaping and development of telecommunications in South Africa.

4.1.3 Documents

The Documents collected were arranged into related groups to facilitate management and interpretation (Denzin and Lincoln 1994). The primary documents analysed in this study included the Telecommunications Act of 1996, the Telecommunications Amendment Act of 2001, and the Invitation to Apply for the Second Network Operator. These documents mark particular points in the history and transformation of the local telecommunications industry and illustrate government's plan to spur economic and social development through Information and Communication Technology.

A variety of documents were consulted to research the processes leading up to the Telecommunications Amendment Act of 2001. These included speeches and reports from the working groups of the National Telecommunications Policy Colloquium (DoC 2002) as well as industry and interest group submissions commenting on the policy process. These were supplemented by speeches and declarations from the National Economic Development and Labour Council (NEDLAC) ICT Sector Summit (NEDLAC 2002).

Documents collected for the Second Network Operator licensing process were sourced from ICASA's website. These included *Government Gazettes*, press releases, and the applications submitted by Optis Telecommunications and Goldleaf Trading. The DoC's Invitation to Apply for the SNO license informed discussion in addition to the documents mentioned above.

Newspaper articles from the *Financial Mail*, ITWeb and *Brainstorm Magazine* provided ongoing contextual information that informed my research in both the History and Findings chapters.

4.1.4 Sample Size

The number of respondents totalled 10 for this study. Categorisation of the sample size for respondents is shown below in table 1.

Table 1: Categories of Respondents

Category of Respondents	**Number**
Government	3
Labour Representatives	3
Industry Representatives	2
Regulatory	1
Universal Service Agency	1
Total	10

5.1.5 Interviews

Although documents provided a significant amount of information for this study, they would not provide sufficient insight into the intricate relationships between the various entities or their views and opinions on relevant issues (Lindlof 1995). Interviews complement the information contained in documents and direct the researcher to areas considered important by respondents (Hansen *et al* 1998).

Face-to-face interviews were conducted to ascertain directly their opinions and personal information on the state of the country's telecommunications transformation. These interviews were semi-structured and encouraged respondents to discuss the issues raised freely and with as much depth as they believed necessary. Underlying all questions were the concepts of universal access and universal service which informed and directed related questions on market liberalisation and privatisation. Appendix 2 illustrates the range of questions directed at respondents. As each interview progressed so the questions posed were selected and if necessary adapted to suit the person being interviewed (Fontana and Frey 1994).

All interviews were conducted subsequent to extensive research into the history of telecommunications in South Africa, the issues presently facing government, labour and industry in this sector and general theoretical perspectives on the economic and social importance of telecommunications internationally. The primary aim of the interviews was to verify, validate and comment on data obtained from the sources mentioned above while simultaneously testing the hypothesis on the applicability of universal access in South Africa.

Respondents were selected according to their seniority within their organizations as well as their familiarity with the themes selected for analysis in this study. Preference was given to Deputy Director Generals in government departments, Chief Executives in industry, labour union deputies and section heads in the USA and ICASA. Although all related to the telecommunications sector the

respondents offered a variety of complementary as well as differing views. Cross-referencing the answers of these stakeholders allowed for the identification of important conflicts and contradictions thereby informing the development of the findings. As Lindlof (1995) indicates, the combination of document analysis with the data collected from the interviews facilitated "triangulation", a process whereby more than one form of evidence was utilized in the comparative assessment of the object of enquiry.

5.2 Research Procedure

Before conducting interviews it was necessary to undertake contextual research on the main issues concerning government, labour and industry at the time of this study. This was achieved partly through the History chapter as well as articles read in the media. This enabled the preparation of a draft questionnaire which was submitted to my supervisor for comments. Additional questions were added and the questionnaire was edited to ensure that it would allow for all relevant topics to be discussed without demanding excessive time from each respondent.

Relevant government departments, offices of industry and labour representatives in the communications sector, as well as the regulator were then contacted via telephone, fax and email for requests for interviews. The offices of some respondents required that I submit a basic outline of questions before granting an interview. Appointments were then made with the respondents at the time and location of their choice and convenience.

Most interviews were conducted in the respondents' offices. However, three respondents were only available outside of their offices although this did not affect the length or structure of the interviews. The duration of the interviews varied from 45 minutes to 90 minutes and was dependent on how informed the respondents were and how willing they were to discuss the intricate details of the issues raised.

Each interview was initiated with a brief description of the context of the study as well as a short list of the main issues the research would likely focus on. Mentioning the list of people to respondents whom I had interviewed or was planning to interview encouraged specific and comprehensive discussions on the issues facing the telecommunications sector as well as the problems or concerns a respondent may have with another entity. Where respondents did not provide clear or adequate answers a probing technique was employed to extract the detailed information required for the questions posed in the study. The study targeted detailed qualitative data and all interviews were therefore conducted personally. A tape recorder was used to capture each interview. A total of four weeks was required to conduct the interviews and process the data contained on the tapes.

5.3 Data Analysis and Processing

The collected data was analysed according to qualitative techniques. Firstly, the taped interviews were transcribed to allow for cross-referencing between the respondents as well as identification of the most significant themes. The themes were then arranged in a hierarchical order that corresponded to topics presented in the Theoretical Framework. Data was extracted through analysis of respondents' most relevant beliefs, statements, opinions, ideas, arguments and attitudes. Following this a categorization process was utilized to combine respondents' statements under corresponding topics or headings.

Analysis and interpretation of the data was facilitated through a comparison of respondents' most occurring responses. Data was then summarised in a narrative form with quotations used to emphasise the most significant findings of the study as presented in Chapter Six. Literature relevant to the study complements the findings of the study. The analysis and processing of data involved the researcher as a central agent of interpretation in the drawing of conclusions to this study (Jensen and Jankowski 1991).

5.4 Limitations of the Study

Three limitations were experienced in the process of conducting interviews. Firstly, securing interviews with government officials proved time consuming as they debated whom the most relevant person would be to respond to each interview. Officials whom I had identified as key players in the local telecommunications sector felt that they were not the correct people for the study. Only after extensive explanation were interviews granted. This process delayed my interviews by up to two weeks. On arrival in Pretoria for four scheduled interviews with government officials, three interviews had been cancelled with their Personal Assistants having failed to inform me. Fortunately, I was able to locate one of the respondents in Johannesburg and secure an interview.

The second limitation to the study has been the availability of Telkom spokespeople. Repeated efforts to secure interviews, even via email, have been thwarted by Telkom's refusal to discuss *any* issues related to the operator in light of their impending Initial Public Offering. Although still a state owned enterprise, essentially accountable to government and citizens, Telkom has acted with typical corporate attitudes and remained closed to external requests for information. The fact that conclusions have been drawn without the inclusion of Telkom's comments remains a concern considering the importance of Telkom in relation to the liberalisation of the local telecommunications sector and the likely effect the Telkom IPO will have on the operator as well as the roll out of service to

disadvantaged areas. Only through the comments of labour representatives and other industry commentators can assumptions be drawn on Telkom's activities both in the present and in the future.

The last limitation involved the lack of consultation with civil society interest groups. However, this did not prove possible within the time allocated for the interview process. However, the views of the USA and ICASA were felt to represent extremely similar views to those of public interest advocates as quoted in the local media. It was therefore assumed that these two organizations represented, albeit indirectly, the interests of civil society. Despite the limitations mentioned above the study was conducted with great success. The following section presents the findings of the study and discusses them in accordance with the research issues mentioned in Chapter Two.

CHAPTER SIX
FINDINGS, INTERPRETATIONS AND DISCUSSION

6.1 Introduction

This study aims to examine the extent to which the privatisation of Telkom and the liberalisation of the telecommunications market will affect universal access in South Africa. The findings of the research are presented in this chapter. The chapter examines whether, in the face of market liberalisation and the privatisation of Telkom, operators will continue to provide services to unprofitable areas. In addition to this, the question of whether universal access targets will be met is raised. The intention of the research and discussion of the findings are dictated by the objectives of the research as outlined in the Introduction to this study (Chapter One) and informed by the theoretical framework of Chapter Two.

This chapter combines the findings from in-depth interviews with additional literature on the primary topics provided by some of the sources interviewed. The findings are presented, illustrated and corroborated with quotations arising from in-depth interviews with key authorities listed in Appendix 1. Data collected from the interviews is presented and then discussed under several themes. The qualitative methodology employed in the study has resulted in the findings being presented in narrative rather than statistical form. The major themes are:

- Developments in South Africa's telecommunications sector since 1996.
- Stakeholder input into the Telecommunications Act of 1996 and the Telecommunications Amendment Act of 2001.
- Universal Service.
- Universal Access in a South African context.
- The effects of the privatisation of Telkom and the liberalisation of the telecommunications sector in South Africa.
- The relationship between government, industry and the regulator.
- The future of telecommunications in South Africa.

6.2 Developments in South Africa's Telecommunications Sector since 1996

This section presents a summary of the perceptions interviewees have of the development of the South African telecommunications sector following the passing of the Telecommunications Act of 1996. The interviews revealed that the sector has developed significantly since 1997 with

improvements in Telkom's infrastructure and service, the reorganization of the Universal Service Agency and the introduction of a third cellular operator resulting in improved competition and a lowering of prices. However, Telkom is criticized for failing to provide affordable services and for large numbers of job losses as the parastatal restructures and prepares for privatisation.

6.2.1 Views on the Telecommunications Act of 1996

The Telecommunications Act of 1996 is viewed as a step forward in the modernization of the South African telecommunications industry. ICASA believes the Act of 1996 has laid a solid foundation for the liberalisation of the telecommunications market. However, the Act is criticized for not providing information necessary for the practical implementation of its directives. CUASA maintains the view that the Telecommunications Act of 1996 should have provided for at least two fixed-line operators so as to stimulate competition, improve operator efficiencies and increase service offerings. The government's failure to introduce competition in 1996 has resulted in the entrenchment of Telkom's position and expensive services. ICASA comments that the Act also failed to provide the regulator with sufficient resources with which to enact the legislation. With the licensing of the third cellular operator, Cell C, and the impending Second Network Operator (SNO) license ICASA is realizing the full extent of the challenges it faces.

Karuna Mohan, Executive Director of Local Economic Development for the Ekurhuleni Metropolitan Municipality and South African Communist party (SACP) Member, believes that the lack of coherency provided by the Telecommunications Act of 1996 was a primary motivator for the formulation of the Telecommunications Act of 2001. She notes that the failure of the Telecommunications Act of 1996 to provide clear policy has resulted in confusion at all levels of government. It is essential that a policy is proposed and accepted which will direct the projects of government, industry and labour.

6.2.2 Significance of a Telecommunications Policy

The SACP shares the government's view of economic transformation premised upon a developmental state but believes that industrial strategy should be wholly state-led as a means of achieving a socialist state (Mohan 2001). Karuna Mohan argues that the South African government must view telecommunications as an infrastructure with the same significance as the country's road network in terms of facilitating economic development. A policy is required that recognizes telecommunications working together with basic infrastructure development to grow the country's

economy. Such a policy must drive projects to provide ordinary citizens with access to government information so that they may meet basic needs and receive services and grants. If such information is not made available then these sectors of society are likely to be further marginalized.

6.2.3 The Universal Service Agency and Universal Service Obligations

The Universal Service Agency (USA) has struggled to fulfil its mandate of providing telecommunications access to disadvantaged communities. At its inception the USA was staffed with people more skilled in policy than project management. This contributed to the USA's inability to fulfil its mandate and resulted in poorly conceived and executed projects. However, it is an issue that has been resolved recently so that the USA's staff complement is a balance of policy analysts and project managers. The USA appears to be maturing and admits that its past failings have resulted from its unrealistic expectations of providing telecommunications services to all communities in South Africa.

An additional challenge for the USA has been defining its place in a "triad" that includes the Agency, the Department of Communications and ICASA. It is vital that each entity define its policy and regulatory responsibilities so that the USA can operate effectively. The USA is confident that progress is being made with the representative committees it has formed to oversee the policies and projects related to universal access.

Karuna Mohan highlights the problems experienced by the USA. Projects have suffered from a lack of coordination in providing disadvantaged communities with access to telecommunications services and have often been disparate and managed by competing interests. Projects funded by government, NGOs and industry often replicate projects running elsewhere and duplicate infrastructure. It is argued that the Department of Science and Technology should exercise a general management of these projects to ensure they are located in communities where they are most required.

The Agency has come to realize the full magnitude of the challenge it is facing. Universal service is now a long-term goal with universal access providing a more realistic chance of success in the near future. The USA is formulating an operating framework that it predicts will improve efficiency, offer greater clarity to its projects and goals and will play a critical role in the determination of universal service obligations.

The USA is presently constructing an "access map" using a Geographical Information System to determine the extent of access to fixed-lines, cellular phones and other telecommunications services. This system will enable the identification of under-resourced areas requiring the provision of services. In addition to this the USA will be conducting qualitative research into how people are

utilizing their access to telecommunications services. An early finding is that instead of purchasing staple foods such as bread, some people are buying prepaid cellular vouchers so that they may remain connected to the network. Such studies will also enable the USA to better manage its finances and the allocation of funding for universal access projects.

Whether or not Telkom has fulfilled its universal service obligations is a debatable issue. Telkom installed approximately 1.8 million lines in disadvantaged areas, more than was required of the operator, and has claimed that it has met the stipulations of the Telecommunications Act of 1996. However, Telkom has disconnected approximately 1 million of those lines due to non-payment (*Financial Mail* 2001). CUASA states that Telkom cannot therefore claim it has addressed their USOs, met government's social objectives and redressed the imbalances of the past. The USOs imposed on Cell C indicate that the USA has learnt from the practices of Telkom, Vodacom and MTN. The third cellular operator must submit universal access project plans to the USA and ICASA who are mandated with the task of ensuring that access is provided where it is most required and not where it is most financially viable for the operators.

6.2.4 Cellular Telephony

The popularity of cellular telephony and the services it offers have expanded at a rate neither government nor industry predicted. CUASA notes that during Telkom's period of exclusivity and expansion the fixed-line operator's achievements have been bypassed by the cellular operators. In addition to the USOs imposed on the cellular operators (Vodacom with 22 000 lines, MTN with 7 500 lines and Cell C with 55 000 lines) the prepaid services pioneered by South Africa's cellular operators have allowed subscribers to better manage the cost of the service without suffering penalties for failure to pay - as is the case with post-paid or contract subscribers. Prepaid services have driven the total subscriber base to 13 million far exceeding the maximum of 500 000 predicted in the early 1990s. This figure is presently double that of fixed-line subscribers with Cell C predicting it will reach approximately 20 million users by 2010. The popularity of cellular services is forcing cellular operators to explore dynamic and inventive means of extending their market share while protecting their profitability in a competitive market.

Table 2: Cellular Telephony Versus Fixed-Line Telephony in South Africa

Indicator	1997	2002	CAGR* (97-02)	CAGR* (00-02)
Main Telephone Lines per 100 Inhabitants	10,1	11,4	2,5%	-5,6%
Cellular Subscribers per 100 Inhabitants	2,3	24,9	61%	43,5%

*Compound Annual Growth Rate

Source: 2002 Telkom Annual Report

6.2.5 The South African Government's Relationship with Thintana

The South African government has been criticized by both industry and labour for entering into a relationship with Thintana. Thintana, a consortium comprising SBC Communications and Malaysia Telekom, owns a 30% stake in Telkom and has provided the operator with extensive capital investment, operational direction and advanced expertise in telecommunications. Although government retains a 70% ownership it has allowed the foreign senior managers, especially those from the American SBC Communications, to dictate Telkom's direction and operations. The Communication Workers Union (CWU) is extremely displeased with this relationship stating that it has resulted in job losses totalling approximately 20 000 workers. The union would like to see telecommunications as a wholly state-owned and state-led industry so as to secure its members' employment and ensure the rollout of services to needy communities (Vavi 2002). The CWU is concerned that the lack of clarity between the DoC and ICASA over the responsibilities of policy formulation and implementation is resulting in a confused regulation of the telecommunications industry. The National Economic Development and Labour Council (NEDLAC) provides a forum for dialogue between industry, government, labour and the community on issues of social and economic policy. The CWU wants NEDLAC to offer clear directions on how the industry should be administered and regulated.

CUASA argues that the "one way" agreement negotiated with Thintana has proved costly since it did not anticipate technological development and did not include an exit clause. The South African government therefore had no way to change the focus of Telkom's exclusivity and introduce competition as a means of achieving universal access.

6.2.6 Pending Liberalisation and Privatisation

CUASA believes the South African government should have initiated the liberalisation of the local telecommunications market with the Telecommunications Act of 1996. They argue that although Telkom was provided with a five-year exclusivity period to meet USOs and prepare for competition it has only initiated such preparation in the last 18 months. Since 2000 Telkom has improved its operating efficiencies and service offerings "immeasurably". CUASA suggests this indicates that Telkom could have competed effectively against at least one competitor since 1996 with the operators still meeting their USO targets.

The CWU remains opposed to the liberalisation of the local telecommunications market. The union states that government has "wasted" the last six years preparing Telkom for competition. The CWU calls for the cessation of the privatisation process and the retention of the control of Telkom by the state as a means of securing workers' jobs and ensuring universal access targets are met. The CWU had hoped that the state's discussions on the restructuring of state assets would have resulted in the integration of the infrastructure of Telkom, Transtel and Esi-tel so as to improve their service offerings and coordinate the efforts of achieving universal access instead of making them competitors in a liberalized market. However, it is significant that Karuna Mohan criticizes the CWU for viewing technological and market developments as dislocating forces destroying low-skilled employment and removing workers from secure formal employment. She is of the opinion that the SACP and trade unions have failed to find creative solutions to the challenges new technologies provide.

The above discussion highlights a variety of perceptions on developments since 1996. Most notable are the transformations that Telkom and the USA have undergone. Telkom is preparing for privatisation and the liberalisation of the market and in doing so has begun to act less like a state owned enterprise and more like a commercial telecommunications operator. The USA can be commended for formalizing its operations and relationship with government and conducting extensive research which will hopefully allow it to implement viable and sustainable projects.

Cellular telephony has had an unexpected and profound impact on the telecommunications sector. The operators have unwittingly contributed to universal access through the introduction of the prepaid services model. Finally, the CWU remains committed to its politically left ideologies even though criticized for failing to adapt to changing economic conditions. In the next section input into the Telecommunications Act of 1996 and the Telecommunications Amendment Act of 2001 by government, the telecommunications industry and labour is considered.

6.3 Stakeholder Input into Telecommunications Policy

The following section examines the formulation of the Telecommunications Act of 1996 as well as the Telecommunications Act of 2001. The focus is on the various stakeholders that provided input into these Acts and the effect that the Acts had on the local telecommunications industry. The Telecommunications Act of 1996 is analysed broadly followed by an exploration of why an Amendment to the Act was necessary, which organizations lobbied most effectively, the formulation of policy, and criticisms of that formulation process. Lastly, the effects of the Telecommunications Amendment Act of 2001 on the USA are discussed with predictions offered for the future of telecommunications policy in South Africa.

6.3.1 Stakeholder input into the Telecommunications Act of 1996

Mike van den Bergh of CUASA offers a broad overview of the stakeholder input into the Telecommunications Act of 1996. It should be noted that his comments are supported by the discussion in Chapter Three. The White Paper for the Telecommunications Act of 1996 should have created a framework for the industry beyond five years. A great deal of inclusive and constructive effort went into its formulation for presentation as a Bill. However, at draft 15 it became clear that the unions, especially the Posts & Telecommunications Workers Association (POTWA), would be a major stumbling block to the restructuring of state assets. Therefore, Jay Naidoo, the ex-general secretary of COSATU, was brought in to win over the confidence and support of the unions for the process of restructuring. Jay Naidoo's mandate was to see through the first major sale of a state asset in the form of Telkom. The process was complicated when it became clear that the only bidder was Thintana, a consortium comprised of SBC Communications and Telekom Malaysia. At this point the drafts of the Bill were removed from public scrutiny with industry analysts being a notable exclusion. Willie Currie (head of the National Telecommunications Policy Project Technical Task Team) resigned in protest and the process continued (Horwitz 2001). CUASA claims the amendments made to the Bill were the result of negotiations that took place between government and Thintana to ensure that the deal was attractive enough for the only bidder. Mr van den Bergh states that at the parliamentary hearing for the Bill government disregarded a significant amount of what industry representatives had proposed. Further, Mr van den Bergh claims that the final draft of the Bill was dated before the final hearings. Government's handling of the Telecommunications Act of 1996 resulted in a flawed Act with a number of issues that had not been debated or considered in their implications.

CUASA notes two problems with how the Telecommunications Act of 1996 was formulated. Firstly, government shifted from inclusive consultation with stakeholders to private negotiation with Thintana, and secondly, the Act did not provide SATRA, ICASA's predecessor, with sufficient resources to regulate the industry effectively. Although the White Paper provided a blue print for the introduction of a competitor to Telkom this was not carried through into the Act and is seen as an example of the problems of the policy formulation process. The Act was predicated on the assumption that South Africa would have a strong, effective and competent regulator. By its own admission ICASA has experienced difficulties related to lack of resources and experience. Concepts within the Act were deliberately loose since the Act was seen as enabling, prescriptive legislation with SATRA acting as a facilitator.

6.3.2 Stakeholder Input into the Telecommunications Amendment Act of 2001

The impending liberalisation of the telecommunications market and privatisation of Telkom required an Amendment to the Act of 1996. Stakeholder lobbying during this process proved as vigorous as for the Act of 1996. The Amendment was passed but not without suffering procedural problems. The Universal Service Agency is likely to benefit greatly from the Amendment.

6.3.2.1 The Necessity of a Telecommunications Amendment Act

The Telecommunications Act of 2001 provided two functions: it made provision for a competitor to Telkom and performed a basic "house-keeping" function. Mr van den Bergh of CUASA speculates that the necessity of the Amendment Act of 2001 is an indication that government has realized that its failure to liberalize the market earlier has had a negative effect on the industry. He argues that the time between the Telecommunications Act of 1996 and the Telecommunications Amendment Act of 2001 was too great particularly if the rapid changes in ICTs are taken into consideration. However, government's reluctance to break its agreement with Thintana and liberalize sooner can be attributed to the state's belief that such an act would have been destructive for future investor confidence. The Amendment Act's primary purpose is therefore to provide for competition so as to bring telecommunications into line with government's policy directives of social development driven by economic development. Lastly, The Amendment Act of 2001 was necessitated by historical and structural issues, such as the replacement of SATRA by ICASA.

6.3.2.2 Stakeholder Lobbying in the Telecommunications Policy Process

The Second National Telecommunications Colloquium was held in February 2001 to gain advice and input from industry, government, ICASA, labour and civil society on the contents of the Telecommunications Amendment Bill. Both the DoC and ICASA emphasized that Thintana was the "loudest voice" of all groups and displayed their experience in lobbying for their interests. The DoC noted that such lobbying should be seen as a normal functioning of a modern economy.

The CWU and COSATU made presentations in conjunction with the SACP to the Colloquiums on policy directives and required amendments to the Telecommunications Act. The unions lobbied for universal and affordable access within five years, full state ownership and management of Telkom, as well as the restriction of competition in the provision of basic telephony (COSATU 2001).

The Universal Service Agency played a significant role in the formulation of the Telecommunications Amendment Act of 2001 through its submissions to the Second National Telecommunications Colloquium. Many of the suggestions made by the USA were included in the Telecommunications Amendment Bill and ultimately accepted and passed by parliament. The DoC is confident that government took into consideration the various positions and produced what it felt to be a balanced view of what will be the most productive outcome for the country.

6.3.2.3 Formulating Telecommunications Policy and Criticisms of the Process

ICASA believes that the stakeholder colloquiums offered a constructive forum for discussions on telecommunications and were, generally, a success. The division of government, industry and regulator representatives into groups to analyse topics and propose direction proved extremely productive. However, ICASA criticizes the DoC for failing to coordinate the outcomes of the colloquiums with what was ultimately presented to parliament. Minister Ivy Matsepe-Casaburri included the outcomes of the colloquium meetings in the first draft of the Bill which then "flip-flopped" three times in the hands of government over issues such as the number of competitors to Telkom, competition-enabling technologies like carrier select/preselect, number portability and the definition of "fixed-mobile" (Bidoli 2001). At some point between the changes to the Bill the Minister ceased consulting with the colloquiums' outcomes and instead suggested policy directions proposed by industry. ICASA argues that the Minister became preoccupied with Telkom's lobbying and the poor market conditions that have plagued the industry since 2000. CUASA argues that Thintana threatened to disinvest from Telkom if the model of a liberalized market, including broadband

licenses, as proposed by the colloquium was passed. The Bill was reviewed to state that only one competitor to Telkom would be licensed with no separate broadband licenses being offered. The addition of Sentech's multimedia and carrier-of-carriers license to the legislation highlighted hidden agendas. For example, government was determined to award these licenses to Sentech without subjecting Sentech to the same license application processes as all other operators.

ICASA adds that the government was more concerned with increasing the value of Telkom in light of its pending Initial Public Offering than fulfilling the more general requirements of the industry as well as the social and economic objectives of the country. The final Bill included a few suggestions made in the Colloquiums although they were not necessarily a reflection of the discussions held there.

6.3.2.4 Implications for the Universal Service Agency

The Telecommunications Amendment Act of 2001 has indicated that the Universal Service Agency has not been performing the tasks mandated to it by the Telecommunications Act of 1996. The USA has not created a formal, widely accepted definition for universal access or service nor has it provided a framework for such provision. The USA says that the Telecommunications Amendment Act of 2001 will correct these issues. It has also raised the Agency's status amongst the operators and government. ICASA will consult with the USA when dealing with issues of access or making comments on telecommunications policy. The operators are themselves beginning to work more closely with the USA on universal access projects. This has created a positive image for the USA which has come to be seen as a resource that both industry and the regulator can draw upon.

6.3.3 The Future of Telecommunications Policy

The DoC notes that we are likely to see future amendments to the Telecommunications Act. Laws are dynamic and must be responsive to the development of society and the economy as well as the developmental goals of the state. Mr Ewan Sutherland of INTUG states that creating telecommunications legislation is never perfect in its first instance. It is necessary to utilise a variety of legal instruments such as the regulator and government administration to effect required change. He believes that South Africa will see additional Amendments in the future as they are required by technological development, market pressures and government objectives.

This section highlights the fact that Thintana has been, and remains to be, an extremely powerful and persuasive lobbying force in the arena of South African telecommunications policy. Thintana has effectively negotiated with government for changes to both the Telecommunications Act

of 1996 and the Amendment Act of 2001 and can be expected to continue to do so in the future. Government may be commended for following through on its contract with Thintana and for adhering to South African telecommunications legislation. However, it may be criticized for the confusion it created in the policy formulation processes and for disregarding the proposals of the National Telecommunications Colloquium in both 1996 and 2001. A more positive aspect is that government recognizes that telecommunications is an evolving industry and the Amendment Act of 2001 makes provision for this. Both ICASA and the USA have been strengthened by this Act and will hopefully operate more efficiently and effectively in the future. The next section discusses issues of universal access that interviewees thought most important in South Africa at present.

6.4 Universal Access in a South African Context

This section focuses on five areas of universal access. Firstly, the various definitions of universal access and service. Secondly, the increasingly important issue of affordability of services. Thirdly, the universal service obligations of operators are debated as cellular networks expand and government prepares to license a Second Network operator. Fourthly, the impact of cellular telephony on universal access is both profound and controversial and deserves attention. Lastly, the threats to the provision of universal access in South Africa are considered.

6.4.1 Defining Universal Access and Service

The lack of a clear definition of universal access and service has led to confusion in the industry. It is therefore worthwhile examining how the government, the USA, trade unions and industry, and ICASA interpret these two issues.

6.4.1.1 Government

The DoC defines universal access as a landline available to all citizens within a reasonable walking distance. However, a specific definition of a “reasonable walking” distance is not provided and remains open to subjective interpretation. Universal service is defined as a teledensity of close to 100% with an equal geographical spread and the provision of easily accessible emergency services. For universal service telecommunications are available in almost every household. If people cannot afford a telephone then access should be available from a nearby pay phone on a pay per call basis.

Providing access to telecommunications is a conscious program by government to move the economy forward by putting in place specific mechanisms to achieve universal access. The DoC believes that universal access is a more realizable goal than universal service at present. For government it is not feasible that every household is provided with a fixed-line or every person with a cellular telephone and access to the Internet. Before access is provided to needy communities research needs to be conducted to determine the social and economic priorities of the country. This would include what the government wants people to access, whom they want to provide access to and what the state can afford in terms of service delivery.

Presently South Africa's statistics reflect that there are 11 fixed-lines for every 100 inhabitants. In Scandinavian countries the figure is around 80 lines per 100 inhabitants. However, the DoC questions the penetration figures for fixed-lines in South Africa since they do not include cellular telephony figures which the DoC argues have become a viable and alternative means of accessing telecommunications services. The costs for providing a fixed-line are averaged out to US$2000 per line. Therefore, the amount required to raise South Africa's teledensity to 18 lines per 100 people may be beyond the ability of government.

6.4.1.2 The Universal Service Agency

Like the DoC the USA makes a clear distinction between universal access and universal service. Universal access addresses the needs of groups by providing communities with access to public pay phones and telecentres. The disadvantage with this model is that people cannot receive telephone calls in their homes. Universal service aims to provide a telephone in every household. It is notable that unlike government the USA extends its definition of universal access to include computer and Internet access. The USA believes that universal access has to be realized before universal service can be achieved. The Agency plans to roll out universal access projects in integrated steps and is aware that some communities will progress faster then others. If basic telephony has been provided to a community and its people request more advanced services the USA will not hesitate to provide them. However, the USA admits that from its experience with telecentres most communities require only basic voice, fax and data services although examples do exist of poorer communities making use of Internet access and e-learning facilities.

South Africa's low teledensity makes the USA sceptical as to whether it is possible to achieve universal access within 10 years as claimed by researchers such as Peter Benjamin (2001). With regards to teledensity figures the USA plans to contest those supplied by Statistics SA which it says fail to factor in cellular telephone users.

6.4.1.3 Trade Unions and Industry

COSATU would like to see the definition of universal access and service taken from NEDLAC's ICT Sector Summit (NEDLAC 2002). COSATU accepts that it is necessary to achieve universal access before universal service. It accepts the definition of universal access within a reasonable walking distance but would, ultimately, like a telephone made available in every household with service underpinned by affordability.

Karuna Mohan calls for a paradigm shift in the government's approach to universal access and service so as to formulate an all-encompassing definition. The government should be exploring how universal access can improve the delivery of basic services by the state along with more advanced services such as education and telemedicine. She argues that for a person to have access they are not necessarily required to have direct access to the service. If universal access is only viewed in the context of the provision of information then it is likely to be relegated to a lower priority by government as well as by citizens.

Ewan Sutherland of INTUG states that achieving universal access is more applicable and realistic than universal service in South Africa. He reflects industry's position that installing a line in the poorest areas is difficult to justify from an economic perspective. It is preferable to ensure that people have access through community access points rather than insisting on universal service.

6.4.1.4 ICASA

ICASA agrees with the USA's hypothesis that universal access is more easily achieved than universal service. Once universal access targets are reached then the USA and ICASA will consider goals for universal service. Further ICASA supports the USA's stance that the definition of universal access being within 30 minutes walk is unacceptable considering that walking speed is relative to age and ability.

For ICASA it is an imperative that the USA define, as required by law, what constitutes a "needy" person as well as universal access and service. The fact that universal access, universal service and under serviced areas have not been defined by the USA has contributed to confusion from a regulatory perspective. For example, ICASA has been unable to formally determine whether Telkom and the cellular operators have met their USOs (Msimang 2002). ICASA estimates that the 0,2% of annual turnover that the USA proposes operators pay into the USF will bring in approximately R100 million by April 2003 to fund universal access projects. It is essential that clear definitions are proposed by the USA by then.

6.4.2 Affordability

The DoC determines affordability in terms of what the state can promise and then deliver upon. Government systems must include mechanisms to make services affordable. However, the DoC notes that Telkom has utilized its monopolistic position to set prices (see Table 3 below). A problem will emerge if there is contestation between what consumers are willing or able to pay for and the level of service suppliers are willing to provide. The government's program of managed liberalisation is seen by the DoC as a means of addressing this problem. In addition to the introduction of competition the department believes that the USA and ICASA can be used to drive universal service policy to ensure affordability through the Universal Service Fund. It is expected that as prices come down and services become more affordable so the goals of universal access will become easier to reach.

The USA and ICASA acknowledge that access and affordability are problematic areas. Telkom claims that it is not economically viable to provide lines in areas with high "churn" rates (whereby subscribers are connected and disconnected for non payment). ICASA confirms this and has noted a churn rate of 50% - 70% in some areas indicating that most lines are disconnected within a few months for economic as opposed to technical reasons (Msimang 2002). ICASA questions the practice of operators providing services at unaffordable prices. It is, therefore, the USA's responsibility to put the Universal Service Fund into action to ensure that sustainable service is provided at an affordable rate.

The CWU argues that problems of affordability are inherent in monopolized and liberalized environments. The union is the most vociferous in calling for the bundling of universal access with affordability. It has criticized the operators and ICASA for not paying sufficient attention to ensuring that services are made affordable. This lack of attention is seen as a contributing factor in the operators' "manipulation" of the regulator. However, the CWU hopes that ICASA will protect the interests of consumers by ensuring that tariff increases are not inflated. The CWU wants operators to submit their financial reports to ICASA instead of the Minister of Communications prior to applying for tariff increases. The union believes that since the regulator is not a shareholder in Telkom it is more likely than government to scrutinize whether proposed increase are suitable for consumers.

Karuna Mohan's and COSATU's position on affordability is summarized by COSATU's submission to the Second National Telecommunications Colloquium (COSATU 2001):

> Affordability is the flip side of universal service: rolling out and maintaining telephones will only be sustainable if these services are universally affordable. Taking into account the massive unemployment levels, extremely skewed income distribution and low wages earned by workers, unless telephonic services are affordable universal service will become meaningless as phones become disconnected and households do not then benefit from universal service.

COSATU is highly critical of Telkom cutting the cost of long distance and international calls and raising line rentals and local calls, the major costs incurred for low-income residential users. The benefits are seen as accruing to upper income and business users exclusively. COSATU has researched the international total expenditure of a household with regards to telecommunications and has determined this to be 0.7%. However, in South Africa the figure stands at 2.87% of peoples' income spent on telephony (COSATU 2001). From COSATU's perspective the union needs to push for the implementation of the agreements contained within the ICT Sector Summit, especially with regards to affordability. COSATU needs to engage the Universal Service Agency by forming a task team to ensure the implementation and success of universal access projects while at the same time working with Telkom to ensure that they are doing their utmost to bring the costs of services within reach of the majority of citizens. Competition is seen as worsening the situation for low-income users and COSATU would like to see ongoing state funding and cross-subsidization as a means of ensuring affordability.

Table 3: Telephone Tariffs in South Africa (in Rands)

Tariff Category	1997	2002	CAGR* 97-02	2003 Proposed	% Increase 02-03	CAGR* 97-03
Cost of Local Call (3 mins) at Peak Rate	0,31	0,99	26%	1,11	12,5%	23,7%
Residential Monthly Subscription	49,59	67,72			12,5%	7,4%
Residential Connection Charge	171,00	239,00			12,5%	7%

*Compound Annual Growth Rate

Source: ITU Telecommunications Indicators Database (2002)

6.4.3 Universal Service Obligations

Universal service policy has been characterized by the provisions of the Telecommunications Act of 1996 which includes the rollout of telecentres, subsidies paid by operators into the Universal Service Fund, and the USOs contained in the licenses of each operator. For government USOs are a necessity given South Africa's racially and economically divided history. However, INTUG believes that USOs cause two problems. Firstly, a political problem whereby people in rural areas expect the delivery of services which government must provide so as to meet political obligations. Secondly, an economic problem where many accountants are required to scrutinize operators' accounts to ensure that they are spending the required amounts on meeting their universal service targets. According to INTUG, USOs should be scrapped in favour of a universal access tax on operators that is paid into the USF and used on universal access projects such as providing lines in unprofitable areas and Internet access points in schools. It is predicted that operators will receive a large amount of the money back through the usage of these services and manufacturers will receive vast orders for equipment thereby benefiting the economy generally. INTUG proposes that USOs should be split, both geographically and functionally and a "reverse auction" should be conducted whereby potential operators are asked how much of a subsidy they would require to provide services in a needy area. Counter offers in the auction may result in the service being free. The question then is: what can the market provide towards meeting universal access goals and what is required in addition to this?

6.4.3.1 Universal Service Obligations and the Second Network Operator

The Department of Public Enterprises (DPE) agrees that USOs must be economically viable for operators but insists that Telkom, the SNO and the cellular operators must provide services to unprofitable but needy areas. The USA hopes to utilize an incentive scheme in the rolling out of services. Under this program the USA could stipulate that a line in a rural area is “equal to” three lines in an urban area. Therefore, an operator with a USO of 30 000 lines will only have to install 10 000 rural lines.

The DPE states that the introduction of the SNO with its own USOs will have positive outcomes for universal access in South Africa. The USOs for the Second Network operator will include the establishment of 2500 School Internet Laboratories in peri-urban and rural areas as well as the construction, operation and maintenance of 30 000 Community Service Telephones in rural areas. The draft license for the SNO (SNO License 2002) also stipulates that the SNO must submit plans for its universal access projects to ICASA for approval so as to avoid duplication of projects and the provision of services to profitable communities. The reality is that the SNO is likely to concentrate on corporate users and “cherry-pick” Telkom’s more lucrative services. However, the DPE believes that both fixed-line operators will be searching for economic opportunities that will result in the provision of services in areas previously deemed unfavourable by Telkom. It is expected that operators will have to be more insightful with regards to what future technological developments will result in the creation of new customers.

6.4.3.2 Universal Service Obligations and the Cellular Operators

ICASA believes that universal access at least is possible if the USOs of the cellular operators are reviewed and coordinated. The regulator is awaiting the USA’s Geographical Information System report so as to determine exactly how cellular telephony can contribute to universal access. This requires an assessment of all the areas where access is available within a 5km walk and ensuring that the cellular operators place access points within such a distance where none exist at present.

It needs to be determined whether the USOs of the cellular operators are still reasonable considering that the figures of 22 000 (Vodacom) and 7 000 (MTN) lines were predicated on the ceiling of subscribers being 500 000. The DoC raises the question of whether the USOs should be left as they were historically or whether they should be increased considering the costs and benefits involved. The DoC is concerned that if the USOs of the operators are increased then it could be construed as tantamount to nationalization.

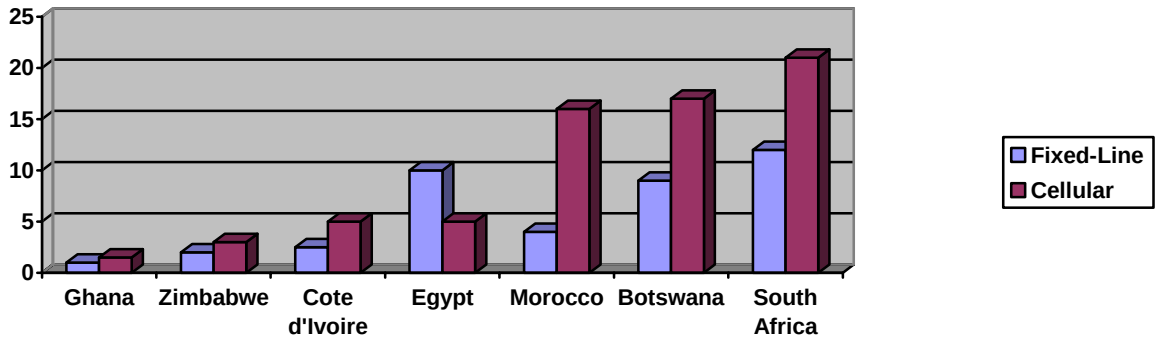
6.4.4 The Impact of Cellular Telephony on Universal Access

Cellular telephony has had a profound impact on South Africa's teledensity. The country's fixed-line teledensity is approximately 12% with cellular telephony accounting for an additional 21% (ITU 2002). Graph 1 below illustrates South Africa's teledensity figures compared with other African countries. It must be noted that existing universal access figures focus on fixed-line access and exclude cellular connections. The USA is working on definitions of both teledensity and universal access that will include cellular telephony.

INTUG notes that cellular telephones have become particularly personal devices. Both INTUG and the DoC refer to the increasing movement from fixed-lines to cellular phones with cellular technologies having proved themselves in both high and low income countries. In South Africa many cellular subscribers have abandoned their fixed-line from Telkom either because of issues of affordability or because of the flexibility that the prepaid cellular payment system allows. The USA is confident that the community service tariffs cellular operators are obliged to charge are having a positive effect on affordability and are resulting in improved access in disadvantaged areas.

In contrast to this optimism COSATU argues that the popularity of cellular telephony is an indication of peoples' lack of access to fixed-lines more than it is an indication that cellular telephony is a preferred means of accessing telecommunications services. Specifically, the prohibitive expense of accessing Internet services through cellular networks makes it unsuitable for schools and small, medium and micro enterprises (SMMEs). The South African government is promoting the utilization of advanced telecommunications services in these areas so as to improve education and the national economy. Cellular connections should not, according to COSATU, be substituted for fixed-line connections.

Graph 1: Cellular Subscribers and Fixed-Lines per 100 Inhabitants (Year-end 2001)



Source: ITU World Telecommunication Indicators Database

6.4.5 Threats to the Provision of Universal Access

The DoC says that threats always exist to the ideals that everyone should be able to access a particular service. As markets are liberalized and competitors are introduced so it is necessary to establish new mechanisms to ensure that certain people are not sidelined. A political will and commitment is vital so that a future government does not reverse the programs on universal service introduced by previous administrations. Senior officials are required who will drive, monitor and evaluate such processes.

Ordinary users of telecommunications services are generally not fully aware of how they can utilize such services most productively. The USA considers this lack of education as a major threat to universal access. In addition to this the USA sees the theft of copper wire and vandalism of infrastructure as severely hampering people's access to emergency services as well as causing the paralysis of the emergency services themselves. Lastly, the suspicion that operators such as Telkom have for the USA and their unwillingness to cooperate are major hurdles to overcome. Telkom needs to adjust its perception of the USA as a "watch dog that makes them waste money". The USA and the operators need to share a common outlook on the social and economic development of South Africa. The USA must assist both government and industry in the creation and maintenance of a sustainable industry with the operators seeing USOs as an important part of the country's development instead of as an operational liability.

ICASA considers a lack of coordination between the regulator and the operators as the most significant threat to universal access. MTN and Vodacom have been allowed to install telephones wherever they deemed it favourable (and sometimes profitable) and have met the numbers stipulated in their USOs without necessarily addressing the issue of universal access. This oversight has been corrected in the Cell C license with the operator having to submit proposals for their planned rollouts to ICASA for approval before they may receive recognition for meeting their USOs.

Secondly, ICASA is concerned that the information available with which to make informed decisions on universal access is insufficient. Only recently has the USA started researching the progress of universal access projects. This has resulted in ICASA having to commission its own studies so as to determine the needs of communities. Even today it is unclear whether the 82 500 phone lines are sufficient, where they are needed or to whom they will be delivered.

COSATU lists a number of criticisms and concerns that the organization has with regards to the provision of universal access. COSATU predicts a new threat characterized by budgetary constraints together with a "delinking" of the mechanism with which to cross-subsidise. COSATU is concerned that the state's involvement in giving direction to issues of universal access will decrease. It

is feared that the issue of universal access and service will be oversimplified as fewer stakeholders participate in ensuring universal access is achieved. COSATU stresses that political will and commitment must not wane so as to counteract the "ideological push for commercialisation and profit seeking" and to realise the goals of universal access and service.

In conclusion, this subsection indicates that government, industry and the unions make a clear distinction between universal access and universal service. It is generally accepted that it is necessary for universal access to be achieved before universal service. It is vital that the Universal Service Agency propose a clear working definition of universal access and universal service so as to coordinate the thinking and projects of government, industry and the unions.

Universal access and affordability are interlinked yet it appears that a large percentage of the population cannot afford the services they have been provided with through Telkom's USOs. Affordability appears to be an area that the USA is concerned about but it is an issue that the Agency is leaving to the market to resolve. Government is confident that the liberalisation of the market will drive down prices and make services more affordable. This hypothesis remains to be tested. COSATU offers a practical warning that if services are not made affordable then universal access projects may be a wasted effort.

As the industry matures so the operators' Universal Service Obligations are being scrutinized to ensure they are implemented most practically. The DPE is confident that the USOs of the SNO will have a positive effect on access in the country. The introduction of the prepaid system of cellular telephones has resulted in the number of cellular subscribers reaching almost double that of fixed-line subscribers. This suggests that cellular telephony has an important role to play in realization of universal access. However, COSATU's criticisms of cellular telephony are valid and must be examined by the USA and government.

Finally, government, industry and labour provide sobering reservations with regards to the state, direction and future of telecommunications in South Africa. It is essential that the threats to universal access are taken into consideration by all entities and either addressed or acknowledged in the creation and implementation of policy. The following section discusses the effects the liberalisation of the telecommunications market and the privatisation of Telkom may have on South Africa.

6.5 The Effects of the Liberalization of the Telecommunications Sector and the Privatisation of Telkom in South Africa

As South Africa prepares for the liberalisation of the telecommunications industry, the privatisation of Telkom and the licensing of a Second Network Operator so it is necessary gauge government's, industry's and labour's perceptions on these processes and their likely effects on the industry and economy. COSATU, the CWU and Karuna Mohan discuss the economic and social implications for South Africa as the country comes into line with World Trade Organization directives on telecommunications. Finally, interviewees raise their concerns and predict potential problems over the liberalisation of the telecommunications market.

6.5.1 The Liberalization of the Telecommunications Sector

The proposition that telecommunications are a natural state monopoly is outdated according to the DoC. The department holds the view that South Africa's telecommunications industry suffers from a lack of competition. In addition to this, the level of the state's efficiency in the management of a telecommunications operator is questionable given that the government often has competing political, economic and social objectives.

Historically, it has been argued that service is best provided by a single, monopolistic operator. However, government and industry believe that competition will benefit consumers by rolling out efficient networks, lowering prices and making services more affordable, expanding the range of services available and improving quality. Another conventional theory is that the telecommunications market is of a particular size and will be divided between different operators. The DoC states that in a modern economy the market will still be divided between different operators but that this market will grow providing them with increased profits. The development of the sector will determine how operators will compete for market share and margins in a multi-operator field. The DoC points to the unexpected growth of the cellular industry as an indication that liberalisation needs to be tested in the fixed-line telecommunications sector.

The DPE states that international trends have indicated that liberalisation increases employment opportunities. Major retrenchments will not necessarily be experienced since the SNO will concentrate on creating a new network requiring technical support staff that could migrate from Telkom's present work force. Should the duopoly fail to result in effective competition it is expected that government will determine the sustainability of introducing a Third Network Operator (TNO) into South Africa's telecommunications market. The fact that three cellular operators already exist and two

fixed-line operators will be competing fiercely may mitigate against a TNO. With the introduction of a TNO a balance will have to be struck between reducing the cost of services without impacting negatively on the sustainability of the existing operators. The DPE is confident that this will result in broader consumer choice in terms of service providers and will allow for the roll out of an efficient network infrastructure. This is likely to result in cheaper services. operators are likely to be on the constant search for economic opportunities which might push them to roll out services to areas that were previously not of economic interest to the monopoly. It will also force the operators to be more insightful of what the future and future developments might bring in terms of customers. The introduction of an SNO will provide the government with the opportunity to extend Universal Service Obligation and thereby move closer to achieving universal access.

From the USA's perspective Transtel and Esit-tel bring with them an established fibre optic infrastructure that is spurring technological development in the telecommunications sector. They have extensive experience in providing telecommunications services and the USA is confident they will compete effectively with Telkom. Competition will force operators to innovate and provide improved services. Telkom is already feeling pressure from parties interested in bidding for the licenses for under serviced areas. The USOs stipulating the roll out of lines and the establishment of Internet access points in schools will therefore have positive results for the country.

The CWU accepts that the introduction of market liberalisation in the telecommunications sector is likely to result in certain benefits, namely lower prices, increased infrastructure roll out and the implementation of new technologies. The ideological standpoint of the CWU is that this is possible *without* the general liberalisation of the market. From the CWU's perspective privatisation and market liberalisation will lead to problems in the delivery of services. Such a basic service as telecommunications should be "squarely located within the context of service delivery" since only the state is capable and empowered to deliver such services. The CWU argues that there is no need to build new infrastructure and instead Telkom should concentrate on servicing the infrastructure that already exists. The CWU is concerned that the market will be liberalized without sufficient research into how access will be affected and without checks and balances in place to ensure service delivery.

The CWU commends the government for awarding Sentech a long distance license to become a carrier of carriers. This allows Sentech to increase its profitability by becoming a long distance international carrier. Government is indicating that South Africa is trying to liberalize the market but at the same time has taken key profitable components away from telecommunications and has located them within broadcasting. However, the union argues that government should have rather integrated these new services directly into Telkom. The union sees it as regrettable that Thintana's control of

Telkom and the state's lack of control over the SEP has forced the government to award the carrier of carriers license to Sentech as a means of introducing greater competition.

COSATU's position on market liberalisation is stated clearly in its Submission on the Intended Telecommunications Policy Directions (COSATU 2001):

> [W]hile we are not opposed to some regulated competition for the provision of high-level services to business, we are opposed to competition in the provision of basic telephony. Given the massive needs for extension of telephonic services... we believe that the optimum market structure would be for Telkom to have sole responsibility for the roll-out of basic telephony, with this responsibility being funded both from the fiscus and dedicated levies on operators.

COSATU takes a traditionally socialist perspective on the liberalisation of the sector predicting 80% disconnection of phone lines because of the issue of affordability. For COSATU, liberalizing the sector will not achieve universal service. The introduction of competition will instead lead to companies chasing profit and ignoring those who cannot afford services. Cross-subsidization should be enforced by government to ensure affordability. Competition may be beneficial at the higher end of the market but not at the lower end where it is most needed as an instrument of economic and social development.

Karuna Mohan's views represent a marked shift from traditionally socialist thinking on state owned enterprises. Although Mohan is an SACP member she provides a surprisingly alternative view to COSATU and the CWU. Firstly, she states that it is important that competition be introduced into the South African telecommunications sector. Secondly, Telkom and the SNO should be allowed to compete for the corporate clients because it opens a gap for residents to create their own telecommunications companies to provide access in unique and interesting ways. Specifically, the model of telecommunications cooperatives used in the United States and Canada could be adopted and adapted for South Africa to improve the reach, range and accessibility of telephony. Such cooperatives can set their own tariffs and may result in a reduction in costs for services. This will facilitate the upgrading of individual and community skills in order to operate such companies and in doing so it will create employment. As it will be highlighted in this chapter's conclusion, Mohan's statements are taken as the basis for the general conclusion that liberalisation cannot be seen as an exclusively negative phenomenon. It is emphasised here that liberalisation is seen as the most effective means of bringing about universal access in South Africa.

ICASA warns that the stronghold that Telkom has over the market should not be underestimated even once the SNO has been licensed. ICASA expects liberalisation will reduce prices

if only marginally since Telkom's position in the market will allow it to meet the SNO's competitive pricing structures. The competing operators will become increasingly responsive to consumer demands but it will take a long time to realize the full impact of liberalisation. The ISPs and VANS are likely to be amongst the first groups to benefit from liberalisation with many expected to move across to the SNO owing to frustration with the incumbent. The mobile operators are also likely to attempt to utilize the SNO's facilities.

INTUG emphasizes that a strong and effective regulator is required to prevent Telkom from abusing its position in a competitive environment. Should the government decide a particular technology is appropriate for the country the regulator must ensure that the incumbent does not jeopardize its introduction. Competition grows a market as indicated by the development of the telecommunications sector in Morocco and the introduction of the second GSM operator. What works in the provision of service is infrastructure competition and the fear that a competitor will poach an operator's business. INTUG claim that the Director General of Communications, Andile Ngcaba, regrets the exclusivity period granted to Telkom. INTUG's view is that the Government was unable to predict the direction and development of the market. The Government was "stuck in a one-way agreement" negotiated with no exit clause and therefore had no way to change the focus of Telkom's exclusivity and introduce competition as a means of achieving universal access.

6.5.2 The Privatisation of Telkom

INTUG states that although a state owned telecommunications monopoly can be argued for in theory, in practice no contemporary example exists of the state effectively providing service or operating a sustainable telecommunications company. When Telkom's IPO was initiated it was hoped that it would raise R18 billion. However, the poor performance of international telecommunications markets has negatively affected telecommunications shares and has contributed to a delay in the Telkom's listing. The IPO is expected to raise much less than previously anticipated.

Although criticism has been levelled at government for the simultaneous listing of Telkom and the licensing of the SNO the DPE is hoping that they will not affect each other. Delays in both processes have led to tight time frames that make the overlap unavoidable. Government is concerned that if the licensing of the SNO is delayed further market conditions may be even more unattractive for investors. Government has to act dynamically while adhering to the timetable for Telkom's IPO and the licensing of the SNO.

The DPE remains guarded on the number of shares government is likely to retain in Telkom. The number of shares the government will offer will be determined by the Minister of Finance in

consultation with other government Ministers. The Minister of Finance's 2002 budget speech reflects that "some R12 billion from the restructuring of public enterprises is expected in 2002/03" (Manuel 2002) suggesting that a substantial portion of Telkom's shares are likely to be offered to private investors.

Government appears unclear on the issue of whether or not it will retain a controlling stake in Telkom. The DPE emphasizes that government sees Telkom as a strategic part of its developmental plans and is reluctant to lose control of the operator. The department states that, ultimately, the decision on the level of control government will retain in Telkom will be determined by market conditions and government policy. The implications are significant for the government as well as the control of the company.

It is noteworthy that the DPE contradicts itself by, on the one hand, claiming that a primary motivation for the Telkom IPO is to facilitate empowerment amongst previously disadvantaged people while on the other hand stating that the IPO is not aimed at the "man on the street". The DPE has instead been actively approaching banking institutions to encourage investment. The money that will be raised will help with the national fiscals, service the budget deficit and address other projects the government deems important.

The CWU agrees that similarities exist between South Africa and the UK and Chile in terms of the theory of "Popular Capitalism" as discussed in Chapter Two. Like workers in these countries, South African CWU members have been offered shares in the state owned telecommunications company. The union leaders in the UK and Chile "failed" to advise these workers properly who subsequently lost substantially on their investments. The CWU says that the members' right to sue the union if inappropriately advised is placing pressure on the CWU to encourage its members to oppose the IPO since it is assumed that market liberalisation and privatisation will result in significant retrenchments and unemployment.

The CWU argues that the IPO is unlikely to benefit either its members or the average South African citizen. Telkom employees already own a 2% stake in Telkom but may not exercise their rights to these shares until the Telkom IPO. The CWU claims that this stake is being used by Telkom to entice workers into agreeing to the IPO. The CWU states that its members do not want to accept these shares if they are related to the IPO. The union can fund the purchase of these shares independently should it so wish to. The CWU is suspicious of government's offer to fund the entire process seeing it as a means to entice workers into agreeing to privatisation without necessarily empowering them.

INTUG's perspective on labour's opposition to privatisation and liberalisation is that, "the communist system has not, historically, coped well with technological change". Access provision has

only worked through privatisation, liberalisation and the introduction of competition. Although INTUG expects more Telkom employees to be retrenched it is confident that as the numbers of operators increases so overall employment levels in the sector will rise. The potential exists for these workers to move to the cellular, competing fixed-line and broadband operators. Positive down stream economic consequences are created by falling prices and improved services which companies will use to employ additional workers.

6.5.3 The Introduction of a Second Network Operator

The DPE states that the introduction of an SNO is in line with government's strategy of restructuring and the introduction of competition into various sectors. This is intended to promote and enhance efficiencies since state owned enterprises will be forced to consolidate and become more economically viable. The introduction of an SNO is aimed at creating greater competition in the sector as well as improving the quality of service of the operators. The USA believes the SNO will open up the industry, provide broader access and ensure that as many people as possible benefit from the new services offered.

The marriage of Esi-tel and Transtel with the SNO will allow the SNO immediate access to the two state owned enterprises' telecommunications infrastructures and will enhance the commercial exploitation of these two entities. Esi-tel and Transtel's Public Telephone Network will make it easier for the operators to migrate companies onto their networks with whom they have established relationships. Should a suitable strategic equity partner not be found Esi-tel and Transnet are prepared to absorb the remaining 51% of the license. Conversely, should the SNO prove highly successful and the value of Esit-tel and Transtel increase the government may take a strategic decision to sell off or consolidate its stake in the SNO. The USA recognizes the problem of government owning substantial shares in the two fixed-line operators but points to China as an example of a country with two state owned telecommunications providers competing against each other for market share.

Whether or not the SNO can compete effectively with Telkom will be determined by the strength of the SEP. A strong partner brings with it the knowledge and resources to compete effectively with a monopoly operator. If the SNO is weak ICASA hopes the regulatory framework will facilitate competition as much as possible, for example, through the interconnection agreement, number portability and carrier preselect. The SNO will succeed but it may prove very difficult to do so.

INTUG is concerned that the introduction of the SNO will result in an oligopolistic telecommunications market in South Africa, a situation the ITU advises against. A limited number of

competitors may create problems for the government since the state may become “stuck” with making sure they are suitably funded and are performing optimally.

ICASA and COSATU both predict that the SNO will initially focus on securing corporate clients which will provide the largest source of income. However, where ICASA is confident the SNO’s focus will “filter down” to residential users, COSATU is more sceptical. COSATU claims that Telkom has already ceased the maintenance of certain lines in anticipation of the SNO which it believes can service these lines. COSATU views this as an early indication of the negative effects of the liberalisation of the sector.

6.5.4 Telecommunications and the World Trade Organization

COSATU, the CWU and Karuna Mohan support South Africa’s membership within the WTO but emphasise the need for the country to concentrate on its internal social and economic requirements. In COSATU’s opinion South Africa’s membership within the WTO does not make the country neoliberal. Problems such as political instability, weak economies and Africa’s debt crisis result in the continent falling prey to the interests of developed countries.

The country must engage in world trade on its own terms and establish a block of developing countries in the south in order to contest the economic strength of the north. This will allow South Africa and its neighbours to table a developmental agenda within the WTO. COSATU is opposed to the government’s request for a more open policy on competition, investment and procurement as it feels that it does not serve the interests of the workers of the country.

Karuna Mohan comments that the WTO has allowed the intellectual property owners of telecommunications manufacturing to control the industry. Developing countries, including South Africa, lack the capacity to get involved with a range of industries within this sphere. South Africa is attempting to participate through projects such as Arivia.com (a local IT company merging the IT resources of Transnet, Eskom and Denel) and the delinking of state owned enterprises but the benefits are unlikely to be felt in the near future.

The CWU points out that WTO documents stress that governments improve their management of public services as well as the services themselves. However, in the CWU’s opinion the South African government has lost control of telecommunications services. Further, the state has created confusion through its stakes in competing companies, “If the government is trying to comply with the WTO why is it introducing the SNO that will compete with Telkom?” Through government’s stake in Esi-tel and Transtel it is a shareholder in the SNO and therefore a competitor with itself. Although a valid methodology for this may exist the rationale is not clear to workers. Labour would prefer that

telecommunications services (Telkom, Esit-tel and Transtel) and government IT companies (Arivia.com and SITA) be combined to offer an holistic and integrated services company.

The CWU feels that government has provided labour with "enough tools to start a revolution" by placing the economy in the hands of another "force" instead of improving service delivery. The union claims the government is attempting to minimize the work force, minimize the power of the unions and create an artificial public impression that workers are against the economy. Labour wants to see the country yielding positive results without having to request assistance from the IMF and World Bank.

6.5.5 Concerns over Liberalisation

The proximity of the Telkom IPO, the licensing of the SNO and the related economic and social issues are the primary concerns for all those interviewed. The DoC is most concerned with privatisation and liberalisation attracting the best possible investors for the Telkom IPO and SNO Strategic Equity Partner. Since no local consortium has the financial resources required to partner with the SNO it is essential that a foreign investor is found to take up the position as the SEP. The DoC and USA are not particularly concerned that the profits made by a foreign investor may return north. The USA states that if the skills transfer and empowerment from Thintana's R5 billion investment is taken into consideration then profits leaving the country are acceptable. The South African government must introduce safeguarding mechanisms into legislation and business incentives so as to minimize such effects.

The DoC is apprehensive about the negative market conditions surrounding telecommunications at present but notes that, "The global market is about venturing out with anything that could prove to be an expensive mistake". The DoC recognizes that it must manage its assets carefully and be prudent in the face of risks created by the global economy. The DPE believes that a strong regulatory and policy framework based on the experiences of other recently liberalised markets can create a relatively efficient and competitive market. The government is determined to ensure that whatever emerges from the privatisation and liberalisation process is economically viable.

The rapid developments in technology mean that operators need to be in a particularly strong financial position to absorb workers retrenched from competitors. Such operators will only employ workers if the market is performing positively and a demand exists for a particular product.

The CWU criticizes the government for allowing Thintana, a minority shareholder, to have such a controlling influence over Telkom. A "management crisis" has arisen whereby an operations committee, dominated by Malaysians and Americans has been allowed to control Telkom's business

plans and network expansion. The CWU sees problems related to subscribers whose credit ratings have been blacklisted after failing to pay Telkom's service fees. It can be expected that the SNO will not view them as valuable subscribers and may be unwilling to offer them connections. Both the government and ICASA need to enforce affordable service so that people can at least access emergency numbers.

ICASA reiterates two concerns. Firstly, the under-serviced areas and SMME licenses must be examined so as to determine exactly how they will operate as well as how they will be funded and sustained. Secondly, although legislation refers to "needy" people and stipulates that they should receive subsidies the USA has not indicated who such groups are. Therefore, a concern is raised over whether the USA can restructure itself to become an effective entity considering that in the last five years it has failed to fulfil certain mandates.

Lastly, CUASA and INTUG fear that Telkom will exploit its entrenched position and employ "spoiling tactics" so as to make entry for new operators uncertain and awkward. The budget for Telkom's legal and regulatory department is greater than the entire ICASA operating budget. It is likely that Telkom will operate as SBC Communications does in the United States by bringing legal action against its competitors so as to cause devaluation in their competitors' share prices and scare their competitors' investors. Telkom is aware that the company does not need to defend a position, it simply needs to ensure that no one else can take it.

6.5.6 Conclusion

In concluding this subsection it is clear that both government and industry are optimistic that the liberalisation of the local telecommunications market will have positive effects for the industry and the economy as a whole. Labour accepts that liberalisation can play an important part in encouraging efficiencies and spurring economic development but believes that this should be restricted to the top end of the market. The lower end, primarily consisting of low-income residential users, should not be exposed to competition. Instead, this sector should be exclusively serviced by Telkom through a public service mandate. This is a debatable point but, as the DoC argues, the degree of the popularity and success of cellular telephony was not predicted at its introduction. Only through liberalisation can the effects on the lower end of the market be tested.

Similarly, it remains difficult to predict whether the simultaneous listing of Telkom and the licensing of the SNO will affect one another. Arguably, the investors for both processes are entirely different and both the listing and the licensing are likely to prove successful. Following on from this the control that government will retain over Telkom will have major implications for the social and

economic direction of the country. It is assumed that government will retain control of Telkom, at least marginally, to meet its social, political and economic development objectives. In terms of the workers, Telkom's offer of shares is a typical strategy by an operator to win workers over to the privatisation process.

The introduction of the SNO will introduce greater competition into the market but is unlikely to result in a radical reduction in prices. The SNO will initially be leasing Telkom's infrastructure whilst simultaneously constructing its own network. Such costs will inhibit the SNO from offering pricing structures substantially below Telkom's. The SNO is likely to bring about general efficiency in the market along with improved quality. However, as the SNO will "cherry pick" from Telkom's lucrative client base it is unlikely that these benefits will be realised by non-corporate users for the next few years. Lastly, the SNO may generate significant revenue for government through its stakes in Esi-tel and Transtel. The government's shares in Telkom and the SNO remains a questionable area. It is assumed that although government could protect its investments in both fixed-line operators the business structures of Telkom, Esi-tel and Transtel will most likely prevent this.

As the industry is liberalized and develops so ICASA will be required to play an increasingly regulatory role so as to ensure fairness within the sector as well as the sustainability and survival of the cellular operators and competitor to Telkom.

South Africa will benefit from its membership within the World Trade Organization but must ensure that it places its social and economic developmental objectives above the directives of the WTO.

Finally, the concerns raised by interviewees must be taken into consideration at all steps of the liberalisation and privatisation processes. Further retrenchment of workers is likely to occur and whether the SNO and cellular operators can absorb them is debatable. Labour's concerns with industry's optimism may prove justified. Within the context of this research the question of whether the SNO will benefit "ordinary" users is important. It is hoped that within approximately five years the SNO will be in a financial position that will enable it to offer more affordable services to residential users. This, combined with the under-serviced areas licenses should go a significant way to addressing fixed-line universal access in South Africa. The most significant threat to the success of the SNO and liberalisation generally will be the power of the incumbent operator. It is essential that ICASA inhibit Telkom from employing spoiling tactics that it can be expected to do as it protects its commercial interests and position in the market. The following section discusses the relationship that exists between government, operators and ICASA.

6.6 The Relationship between Government, Industry and the Regulator

The relationship between the DoC, DPE, USA, CWU, COSATU, Telkom and ICASA is both interconnected and complicated. Discussions with respondents reveal that although at times certain relationships may be strained, generally working together on projects such as the Telkom IPO and the licensing of the SNO is proving productive.

The DoC states that the relationship between the departments of Communications and Public Enterprises, Telkom and ICASA is governed by the Ministers and the respective Director Generals for broadcasting, posts and telecommunications. The Minister of Communications is most notably responsible for the government's shares in Telkom.

The DPE has a strong working relationship with the DoC and ICASA with the three entities collaborating on the SNO licensing process. The DPE chairs an oversight committee on the restructuring of state assets. A DoC representative sits on this committee facilitating a positive working relationship between the two government departments. The DPE has been working closely with ICASA on the Telkom IPO and reports positively on the experience. The support of the various departments is driving the SNO and Telkom IPO processes forward.

The USA has traditionally experienced a hostile relationship with Telkom although this has improved significantly since the USA initiated its own restructuring. A Telkom representative now sits on the USA's board and consults on universal access projects.

The CWU is effectively in alliance with the government through its affiliation with COSATU, a member of the Tripartite alliance. The CWU has recognition and collective agreements with Telkom and holds bimonthly meetings with the DoC and DPE. The recognition agreement with Telkom is guided by the Labour Relations Act. A Job Security / Retrenchment Framework Agreement has been signed to explore alternative avenues of retaining employees before resorting to retrenchment.

COSATU and the CWU engage the DoC and DPE as a bloc within the negotiation structure of NEDLAC. COSATU will approach Telkom directly over such issues as wage negotiations. If required COSATU will also request the DoC to influence labour issues at Telkom. COSATU emphasizes that government should not be a "hands-off" partner and should manage Telkom's direction and responsibilities more closely. The National Framework Agreement for the Restructuring of State Assets allows COSATU to access government directly. COSATU could engage government through the Tripartite Alliance but admits that this is a strained relationship at present.

ICASA states that on a one-to-one basis the regulator's relationship with Telkom is very positive. However, in terms of formal relationships it is quite strained with Telkom assuming it is better skilled in regulatory affairs than the regulator itself. Telkom is criticized for continually

threatening ICASA with court action over its rulings and attempting to ridicule the regulator's decisions. This is the primary cause of a reactionary and hostile relationship between the two entities. Although this is not a constructive relationship it is a natural one that leads to ICASA practicing greater caution with Telkom's submissions than it would with other operators'. This is problematic since Telkom could approach ICASA with good intentions only to be received with suspicion.

ICASA expects a more amicable relationship with the SNO since new licensees rely more heavily on the regulator and require more direction, support and assistance than incumbent operators. Most importantly the SNO is likely to require more protection than the other operators resulting in the relationship between the new entrant and the regulator being relatively positive and productive. ICASA's relationship with the DoC is also strained as a result of the way in which legislation is framed. Tension exists between broadcasting and telecommunications because ICASA operates as a merged regulator but regulates the sectors separately.

The relationships examined above indicate that all entities are working as productively as can be expected. The hostility between Telkom and the USA as well as ICASA and the DoC is similar to that of operators, regulators and governments in other countries. NEDLAC provides an environment for all to meet, resolve conflict and drive forward economic and social policy. It is hoped that this forum will allow for the strengthening of these relationships. In the next section the importance of ICASA within the telecommunications industry is discussed.

6.7 The Independent Communications Authority of South Africa

The creation of a regulator in 1997 to oversee the functioning of the local telecommunications industry and market signalled the maturation of the sector. As ICTs develop and telecommunications increase in prominence so the presence of ICASA is made more important for the country. Below the necessity of ICASA and its effectiveness within the industry is discussed.

6.7.1 Necessity of ICASA

Theoretically, a regulator is not required in a market where fair competitive practices are present. However, with the technological developments in telecommunications the industry has become increasingly complex and complicated with incumbent operators often so entrenched that a regulator is required to act in the public's interest.

Instead of playing an interventionist role the CWU believes that the state should have a high level of direct involvement in the regulation of the telecommunications industry. The CWU sees

government “inviting disaster” if it places control of communications in the hands of industry. The CWU claims, however, that government receives its warnings as “attempts to undermine the state”. The CWU may fail to appreciate how severely ICASA has suffered from poor human and financial resources. Arguably, a well-funded, experienced regulator possesses the potential to control the sector and prevent operators from abusing their positions of power.

For ICASA to improve itself it should establish close working relationships with other regulators. A clear need exists for the regulator to define the relationship between itself and the DoC and prove its independence from government. ICASA must be equipped with the necessary resources so that it may act as an industry guide for government. ICASA’s reliance on the state for funding is highly problematic since it may jeopardize its independence. A fund, administered by government rather than the DoC alone, is proposed as a means of extending the regulator’s independence. Government must also institute a system whereby operators appealing the regulator’s decisions are obliged to abide by its rulings while appeals are processed in court. At present operators contesting ICASA’s rulings can continue to operate as normal until the issue is resolved.

6.7.2 ICASA’s Effectiveness

COSATU believes that the conflict experienced between ICASA and Telkom in 2002 reflects a chronic weakness in the regulator. Of primary concern to both COSATU and the CWU is the significant strengthening the regulator requires. ICASA operates on limited resources and its funding is provided through the Minister of Communication’s budget. Not only must ICASA compete with other departmental subsidiaries for funding but the very fact that it is funded in this way makes the regulator tantamount to a government department. For COSATU it is problematic to discuss the privatisation of Telkom in the face of a regulator that may not be equipped to effectively regulate a liberalised fixed-line telecommunications industry. COSATU argues that no evidence exists to support the assumption that if the regulator is strengthened then successful market liberalisation will follow.

The DPE and CWU take opposing views on the independence of ICASA. Regulating a telecommunications industry in any country is difficult. ICASA requires a skills base and a depth of resources upon which it can draw so as to assert its independence, display transparency and carry out decisions effectively. The regulator must be equipped to stand up to the operators as well as to government, publicly if necessary. However, the CWU contests this position. ICASA’s role should not be restricted to communications since the industry has much broader social and economic

influences. Therefore, a strong regulator should rather be located within an appropriate governmental department with a cluster of appropriate ministers to oversee the function of the operators.

The CWU believes that the success or failure of ICASA rests on the regulator's ability to determine whether it is a policy regulator or policy implementer, propose clear guidelines on confusing policy and clarify its relationship with the Department of Communications. The regulator's failure to do so has allowed operators to manipulate this shortfall.

ICASA is confident that the regulator's experience will improve with time. This will be facilitated by the restructuring of the USA and the formulation of its new operating framework which ICASA hopes will allow for a more productive relationship. In the interim ICASA has been examining the relationships between regulators such as Oftel (UK) and the Federal Communications Commission (FCC) (United States) to determine the strategies they employ in dealing with powerful operators. Telkom has sent employees to British Telecom for training which has prompted ICASA to respond by sending some of the regulator's employees to Oftel.

ICASA remains concerned however that it is under-resourced and its staff lacks the necessary experience at present to operate at full efficiency. The policy and research department is extremely important within ICASA's telecommunications arm and suffers from continual poaching of staff by the industry. This is seen as a natural phenomenon more than a serious problem that needs to be addressed.

In conclusion it is clear that the South African telecommunications market requires a strong regulator to ensure fair competition in the market. This is especially true when the strength of Telkom is considered. It is agreed that ICASA requires as much financial assistance as the government can provide it with. Following the experience of other countries ICASA should remain an independent entity from both government and industry. This will remain a problematic area since ICASA derives its budget directly from government. The experience necessary for effective regulation can only be gained with time. ICASA has made great progress since its inception and is managing its relationship with Telkom more effectively. However, its future success will depend on its ability to define its place in the telecommunications industry. In the final section to this chapter the interviewees' predictions for the future of telecommunications in South Africa are discussed.

6.8 The Future of the Telecommunications Industry in South Africa

Considering the fast pace of technological development contrasted with the delays in Telkom's IPO and the licensing of the SNO, respondents could only make educated guesses with regards to the direction of the telecommunications industry. Respondents focused on the effect of market liberalisation, the introduction of an SNO and the continued effects of cellular telephony.

The DoC is confident that the Telecommunications Act of 1996 and its Amendment of 2001 provide a clear road map for the telecommunications sector. Managed liberalisation will continue with the market moving towards full liberalisation when the government deems it sustainable. Government will therefore remain sensitive to international market conditions as well as domestic investment requirements. The telecommunications market downturn is expected to have a continued negative effect although the DPE is anticipating an improvement in the market. It is hoped that this will generate interest in the local telecommunications market with future invitations for telecommunications licenses attracting strong investors. ICASA predicts, however, that as the local market is liberalised over the next three to five years so the conflict between government, industry and the regulator will intensify.

An opportunity exists for South Africa to expand its telecommunications infrastructure to the SADC region to promote the creation of employment within the telecommunications sector. COSATU hopes that jobs will be created as the telecommunications sector grows. It remains concerned about the "massive job losses" at Telkom and fears that these will continue. It is feared that Telkom will encourage workers to form SMMEs that Telkom will contract out to to service rural areas. COSATU will vehemently oppose this and argues that Telkom should retain control over the servicing of less lucrative areas of the market to ensure their access to the network.

CUASA believes that conflict can be expected over the simultaneous listing of Telkom and the licensing of the SNO. More serious will be the conflict of interest government has created through its substantial stakes in both Telkom and the SNO with Esi-tel and Transtel. However, government will push through with both plans so as to prove that it will honour government policies. The SNO is expected to take approximately five years to establish itself and to follow a "channel strategy" whereby it will focus on corporate clients and cherry pick lucrative services from Telkom. After approximately three years it will integrate its services and begin focusing on less profitable users.

ICASA agrees with international studies (ITU 2002) that cellular telephony will continue to have a major impact in South Africa. The cellular industry is approaching a point where little intervention will be required from the regulator. CUASA predicts that Wide Area Networks (WANS) will damage the introduction of third generation (3G) cellular technology. ICASA, the USA and

COSATU state that whatever future developments take place it remains vitally important that universal access is achieved so that the developmental goals of the country can be met. For this to happen the telecommunications service in the future must be made affordable to all South Africans.

This section highlights the predictions interviewees have for the future of the telecommunications industry in South Africa. The most significant areas of development will be the move to full market liberalisation by approximately 2007. Aggressive lobbying and competition by operators can be expected both in the interim and in the future. Cellular telephony will continue to prove popular in South Africa with delays expected for 3G services. Finally, should the government fail to address the issue of affordability then telecommunications services are likely to remain out of reach for most South Africans. The benefits will continue to be enjoyed by corporate users and a small, privileged percentage of the population. This will make development goals more difficult for government to achieve.

6.9 Conclusion

This chapter has presented and discussed the findings of this research. The focus has been on the developments of South Africa's telecommunications sector, related policies, the definitions of universal access and universal service, universal service obligations, and affordability. The liberalisation of the telecommunications sector, the privatisation of Telkom and the effect of cellular telephony in South Africa are emphasised. The primary finding discussed in this chapter is that of interviewees contradicting the anti-liberalisation theory presented in Chapter 2. The Department of Communications, Department of Public Enterprises, the Universal Service Agency, the Independent Communications Authority of South Africa and the International Telecommunications Users Group all support the liberalisation of the South African telecommunications sector. The DoC argues that the cellular telecommunications sector provides an indication of the potential benefits of competition in fixed line telecommunications. The DPE argues that liberalisation will create a new network with increased service rollout. The USA's perspective is that liberalisation will pressurise competing telecommunications operators to provide innovative services of high quality. This position is even supported to an extent by the Communication Worker's Union which views the benefits of liberalisation as including the lowering of costs for services, increased infrastructure rollout, and the implementation of new technologies. Karuna Mohan believes that a liberalised market could include telecommunications cooperatives that could set their own tariffs and further reduce the cost of services. ICASA and INTUG both predict the success of liberalisation and emphasise the need for a well resourced and effective regulator.

The chapter has indicated how various elements are reshaping the local telecommunications industry. It can be argued that liberalisation and privatisation may in fact promote and facilitate the universal access and ultimately universal service as discussed in Chapter Four. Despite the move towards an open telecommunications market most respondents feel that increased competition will enhance rather than undermine the industry and provision of service to disadvantaged areas. The next chapter provides concluding reflections on the study and proposes safeguards necessary to ensure the success of universal access in South Africa.

CHAPTER SEVEN
CONCLUSION AND RECOMMENDATIONS

7.0 Introduction

This chapter presents the concluding reflections and recommendations of the study. It presents a summary of what is considered by the researcher to be the most significant finding to emerge from theory and analysis chapters. The challenges facing the South African telecommunications industry and the country as a whole are also discussed. The chapter concludes with suggestions for reforms to ensure that universal access to telecommunications services is achieved.

7.1 Challenges Facing Telecommunications in South Africa

This study recognises the unavoidable pressures placed on South Africa by globalisation. The South African government has adopted globalisation as a means of rapidly integrating itself into the world economy rather than risk economic isolation should it attempt to operate outside of the WTO. Globalisation is a means of spurring international investment and bringing about technological innovation and development (Nayyar 2001; Bond 2001). As Castells (2000) notes Information and Communication technologies are a vital element of globalisation that will allow South Africa to conduct global trade. The study supports the South African government's view that telecommunications are enablers and facilitators of economic and social development that possess the potential to rebalance the asymmetries created by globalisation. Telecommunications are considered to be essential for developing business communications from micro to macro levels (Nayyar 2001). In addition to this, telecommunications provide underdeveloped communities with access to essential services such as health, education and safety and security.

The country has aligned itself with the World Trade Organisation, International Monetary Fund and the World Bank whose conditions of entry stipulate the liberalisation of certain markets including telecommunications (WTO 2002a). The WTO prescribes the liberalisation of telecommunications markets as the most efficient means of lowering costs, increasing income, providing access to information and equipping developing countries with the ICT facilities necessary to compete in a modern, global economy. Heuva *et al* (2002) and Teer-Tomaselli (2002) raise valid concerns that if commercialised state owned enterprises operating in liberalised markets are not monitored they may pursue profit at the expense of universal access.

McCormick (2001) notes that a single state owned telecommunications operator may not possess the resources necessary to provide new and expanding services. Competition in the

telecommunications market is likely to provide improved efficiency and greater technological innovation. The interviews with the Department of Communications, Department of Public Enterprises, the Universal Service Agency, the Independent Communications Authority of South Africa and the International Telecommunications Users Group as well as the empirical evidence provided by Wallsten (1999) and Bortolotti *et al* (2002) provide a solid and cogent argument that liberalisation in the telecommunications sector will result in investments in infrastructure, the improved efficiency of operators and an increase in the provision of services to under serviced communities. Liberalisation is presented as the most efficient means of achieving universal access with affordable service. It must be noted that this is in contrast to the critical theory of liberalisation and contradicts the premise of the study as presented in Chapter 1, namely that globalisation and market liberalisation are inherently and wholly negative influences. This is presented as the primary finding of this study.

In the next few months South Africa is expected to license a Second Network Operator that will compete directly with Telkom. Labour unions have voiced their opposition to this process and its implications and suggest that government would do better to coordinate its existing telecommunications ventures with Transtel and Esi-tel. However, it is argued that labour's opposition is ideological and that it fails to acknowledge the benefits of liberalisation. These include increased investment in telecommunications and the economy, the introduction of new and advanced technologies, and should lead to a reduction in costs for services as operators compete for each other's subscribers. The popularity and success of cellular technologies in South Africa and the research of Bortolotti *et al* (2002) are offered as examples here. Ultimately, it is likely that the liberalisation of the telecommunications market will create businesses related to the sector that will require employees. It must be noted, however, Telkom's entrenched position in the market will make it difficult for the SNO to compete successfully with Telkom. International experience suggests that Telkom is likely to employ spoiling tactics as it defends itself from competition.

Threats to universal access are, therefore, important to consider. Government must ensure that a political will is maintained in order to achieve national coverage and that operators are convinced of the long-term economic importance of adding unprofitable subscribers to their networks instead of seeing them as operational liabilities. A lack of information on the state of universal access will hinder development. The research that the Universal Service Agency has commissioned into telecommunications should allow for more accurate assessments of the state of telecommunications in South Africa. It should also provide government and the regulator, ICASA, with some of the resources necessary for making informed decisions with regards to where service is most urgently required.

7.2 Requirements for an Efficient, Enabling Telecommunications Industry

As the telecommunications industry increasingly commercialises and seeks profit in the face of looming competition, it will be necessary for certain safeguards to be established to protect ordinary citizens and to ensure universal access. Gao and Lyytinen (2000) stress that an effective regulator is essential to provide constant monitoring, arbitration, legal guidelines and a fair operating environment. Without the presence of a regulator operators can be expected to pursue profit and ignore universal service obligations. The independence, staff and financial resources of ICASA must be enhanced to facilitate the regulator's watchdog and policy-making roles. By doing so government will be equipping ICASA with the resources necessary to ensure that consumers are protected from inflated price increases and operators are offered a level playing field (Murdock 1990).

Secondly, the Telecommunications Amendment Act of 2001 is an indication that policy is maturing and providing direction in South Africa. However, the Universal Service Agency's inability to produce formal definitions of universal access and universal service in the six years of the Agency's existence is inhibiting the goals the Agency has been mandated to achieve. It is, therefore, essential that the USA provide these definitions so that government, industry and the regulator may implement universal service obligations with clear outcomes in mind. Following from this it is necessary that the USA manage the Universal Service Fund effectively to increase the rollout of services to under-serviced communities, to operators for providing such services, to schools and to cooperatives with under-serviced areas licenses (Msimang 2002).

Lastly, and most importantly, without affordable services universal access will not be achieved. Government, ICASA and the USA must combine efforts to ensure that tariffs are within the financial capabilities of all people. This may prove difficult for the government which finds itself both a shareholder in Telkom and a protector of consumers' interests through ICASA. The issues that arise from the duality of this role give further support to the call for an independent regulator. Ultimately, if services are not affordable, the very people they are meant to uplift will not make use of them thereby rendering government's plans for economic and social development through telecommunications ineffective.

7.3 Summary and Conclusion

Although the literature has been reviewed from a political economy perspective it has been balanced with empirical evidence that liberalisation *does* benefit telecommunications and universal access in developing countries. All interviewees except COSATU agree that liberalisation will be beneficial. Liberalisation of the market is expected to have positive effects for universal access in South Africa as new technologies and services are provided to corporate, residential and rural sectors. South Africa's telecommunications industry is in the process of development that with the correct guidance from government and the regulator will lead to significant economic and social development in the country.

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APPENDICES

Appendix 1: List of Respondents

1. The Deputy Director General of the Department of Communications – Telecommunications: Mr Devan Naidoo.
2. The Deputy Director General of the Department of Communications – Posts: Ms Phumelele Ntombela-Nzimande.
3. The Director for the Restructuring of State Owned Enterprises: Telecommunications and Energy of the Department of Public Enterprises – Dr Ajay Makan.
4. The Head of Telecommunications for the Communication Workers Union – Mr Mfanafuthi Sithebi
5. The Trade and Industry Policy Coordinator of the Congress of South African Trade Unions - Ms Tanya van Meelis
6. The Executive Director of Local Economic Development for the Ekurhuleni Metropolitan Municipality and SACP Member – Ms Karuna Mohan
7. The Chairman of the Communication Users Authority of South Africa (CUASA) – Mr Mike van den Bergh.
8. Executive Director of the International Telecommunications Users Group (INTUG) – Mr Ewan Sutherland
9. The Senior Manager of Research, Communications and Capacity Building for the Universal Service Agency (USA) – Mr Dennis Memela
10. The Head of Policy Analysis and Development for the Independent Communications Authority of South Africa (ICASA) – Ms Mandla Msimang

Appendix 2: Interview Questions

1. Generally, how do you observe developments in South Africa's telecommunications sector since 1997?
2. Has the process of formulating South Africa's telecommunications policy through rational planning and consultation with various parties been successful?
3. What role did Telkom's partners SBC Communications and Malaysia Telekom play in the formulation of telecommunications policy?
4. Did Telkom receive advice on telecommunications policy from SBC Communications and Malaysia Telekom during the policy formulation process?
5. Do you think that universal access (interpreted as access to a telephone within a reasonable walking distance) is an important policy benchmark for telecommunications development in South Africa?
6. How prominent a role has Telkom played in the telecommunications policy formulation process?
7. Is universal access and service possible and necessary in South Africa?
8. How is universal access and service measured and monitored?
9. What do you consider to be threats to the provision of universal access and service?
10. What effect will the privatisation of Telkom and the liberalization of the telecommunications market have in South Africa?
11. Are there any reasons for concern over the liberalization of the telecommunications market?
12. Do SBC Communications and Malaysia Telekom find that the South African policy and regulatory environment is too stringent and stifles profits?
13. Does South Africa require a Second Network Operator (SNO) or should we rather enhance ICASA to monitor universal access and tariff increases?
14. What is the relationship between Telkom, DoC, DPE and ICASA?
15. In your opinion is ICASA equipped with the necessary funds and expertise to monitor telecommunications operators effectively?
16. What projections do you make for the future of the telecommunications sector in South Africa?