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Dissertation topic:

Nationalization as an Economic Tool

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## Dedication

This dissertation is dedicated to my only niece, my favourite niece. Born in the year I graduated from my undergraduate degree, you have been a big part of the reason I have chosen to reach for more and do better at everything. I hope that the steps I take in my life will one day be a guiding light you can follow as you discover your true passions and calling in life. Whatever sacrifices I might have to make along the way for you, know that I will make them with a heart filled with gladness, hoping that they will someday ensure a better life for you.

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### **Abstract**

Within a context of political posturing and intimidation it can become difficult for fruitful discussion to emerge and real debate can be stifled. The nationalisation of mines in South Africa is a discussion that has been debated in such an environment. The aim of this dissertation is to cut through the political posturing and get to the fundamental question surrounding nationalisation of mines in South Africa. Would nationalising the South African mining industry enhance its contribution to the achievement of poverty and inequality reducing economic growth? This is the central question to the debate because the twin objectives of the South African government are to eradicate poverty and substantially reduce inequality.

Given that nationalisation is simply an economic tool that can be used to achieve these objectives, it is important to determine whether it would do a better job than the model currently in use. What this paper will do is answer that question from a theoretical basis using economic theory and statistics of the South African mining industry.

What this paper will not do is devise a strategy of how the government should move forward – nationalisation or mere regulation. Though at the end the central question as posited above will be answered, and some recommendations on how to make it happen are given, no detailed strategy is developed on the way forward. That has been left to other authors, and possibly the government to deal with at this stage.

**Acronyms**

ANC	African National Party
ANCYL	African National Party Youth League
BEE	Black Economic Empowerment
COSATU	Congress of South African Trade Unions
CPI	Consumer Price Index
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
JSE	Johannesburg Securities Exchange
MDM	Mass Democratic Movement
MPRDA	Mining and Petroleum Resources Development Act
RDP	Reconstruction and Development Programme
SA	South Africa
SACP	South African Communist Party
SARS	South African Revenue Services
UDF	United Democratic Front
USSR	Union of Soviet Socialist Republics
YCL	Young Communist League

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# What's Mine(d), is Yours: Nationalization in South Africa

(1834 words)

# Nationalisation As An Economic Tool:

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*Would nationalising the South African mining industry enhance its contribution to the achievement of poverty and inequality reducing economic growth?*

## 1 Introduction

### 1.1 Research Question

Would nationalising the South African mining industry enhance its contribution to the achievement of poverty and inequality reducing economic growth?

### 1.2 Methodology

This research primarily uses a qualitative method of literature study. The aim is to understand why nationalisation has been used as a tool by governments and whether the conditions in South Africa would be conducive for a successful nationalisation programme. The dissertation will be mainly discursive, presenting both the arguments for and against nationalisation. Some quantitative analysis involving production, revenue and employment data is done in order to support the qualitative assertions made in the paper. A thorough survey of the literature is conducted, in order to understand fully the pertinent issues relating to the nationalization debate in South Africa and beyond, and by so doing, address the objectives set out for this research.

The study uses publications, including academic journals, books and reports that are relevant to the subject matter. In addition, some policy documents including government acts and political party documents are also used. To ensure the credibility of the information used, articles are sourced from peer reviewed journals of a more than satisfactory academic standard. The government documents are sourced directly from government websites and/or the government publications section of the university library. The quantitative data that is used has been sourced from government publications by the relevant government departments.

### 1.3 Research Objective

This dissertation has two primary objectives. The first objective is to investigate the feasibility of nationalisation (the process of transferring ownership of a firm or industry from private ownership or shareholding to government ownership) as a general strategy for governments by analysing different models of nationalisation and how they impact growth and distribution, taking a few case studies into consideration to determine the conditions that led to both success and failure of nationalisation programmes – here measured by the nationalisation programme's ability to improve the economic conditions and reduce poverty if the country in which the programme was implemented: if the economy collapsed or slumped for an extended period of time after nationalisation then it is considered to have failed. The second objective is to assess whether the economic benefits of nationalising the South African mining industry would outweigh the economic benefits derived from the mining industry under the current market structure. The African National Congress Youth League (ANCYL) position paper on the nationalization of mines will be used as the base document from which to evaluate the likelihood of nationalisation to contribute to poverty and inequality reduction. To measure this, the mining industry's current contribution to the economy will

be evaluated in comparison to the potential contribution it could make were it to be nationalised. This contribution to the economy will be measured by looking at employment figures, employee wages, the industry's contribution to the national fiscus, value added and capital formation. The ANCYL position paper was chosen as the base document because it sparked the current round of debates on Nationalisation, and has the potential to greatly influence the manner in which the process would unfold if a nationalisation programme were to be implemented in South Africa.

## **1.4 Background**

The four decades between 1950 and 1990 witnessed many failed nationalisation programmes by developing nations, followed by a scramble for privatisation and competition for Foreign Direct Investment (FDI). While the failure of these projects did not necessarily point to theoretical shortfalls in nationalisation as an economic tool (here defined as a way to influence the economy to move in a particular direction or to achieve specific goals), they did indicate governments' inability to properly put the theory into practice. A closer examination of these failed nationalisation efforts – those that led to economic collapse or extended slumps in economic development – offer many lessons that require consideration by government economic planners before any new round of nationalisation ensues.

The South African government committed itself to the principles of the free market post democracy and has continued to honour that commitment even at times when it seemed that those who disagreed with them were in the majority. Nationalisation, though a consistent feature of the South African economy, has, by and large, been limited to the provision of services that the market could not cater for. The argument against nationalisation has generally been based on the idea that it would lead to adverse effects for the economy resulting from capital flight and a major skills shortage. Now there are those who believe the time to nationalise has come and the debate is ongoing.

A debate on nationalisation is raging in South Africa. The debate was sparked by the African National Congress Youth League (ANCYL) in 2008. The ANCYL has produced a position paper documenting its desire to see the South African mining industry nationalised and the reasons behind it. The document (which has solicited much interest within government and the mining industry) is comprehensive in parts, but at best imprecise in others, but it warrants consideration because of the political weight the ANCYL carries and the implications it would have for the South African economy if it were to be adopted by the ANC.

The ANCYL document gives no reasons for targeting the mining sector specifically for nationalisation. The reference by the Freedom Charter ("the statement of core principles of the South African Congress Alliance" (ANCYL, 2010)) to the idea that "the mineral wealth . . . shall be transferred to the ownership of the people as a whole" (Freedom Charter, 1955) has been the foundational reason upon which the ANCYL has based its call for nationalising the mining industry. However, the Freedom charter calls for the transferral of the ownership of the Banks and all monopoly industries to the people as well (Freedom Charter, 1955), and yet the ANCYL has not called for the nationalisation of the Banks or any of the other monopoly industries in the country. Over and above

the Freedom Charter reference five other reasons given for nationalising the mining industry, but none of them specify which industry should be nationalised in order to achieve those goals. No convincing grounds, theoretical or otherwise, are given to prove that nationalising any sector in South Africa at the moment would produce better results than those achieved by the structures and systems of ownership and the economic strategies currently in place. There is nothing showing how the state would increase its fiscal capacity, create more jobs or transform the nation's accumulation path (ANCYL, 2009) by nationalising the mining industry; all of which are very important if the case for nationalisation is to be considered as an alternative or complimentary model to the status quo. What makes these three criteria important is that the combined success in each of these areas would lead to poverty reducing, redistributive economic growth. An increased fiscal capacity would make it possible for the government to initiate and strengthen poverty reducing initiatives in the country. Employment creation would reduce unemployment in South Africa and increase the disposable income and/or savings rate of the average South African. Transforming the accumulation path would ensure that the majority of the benefits of economic growth in South Africa accrues to the poor and reduce inequality.

Furthermore the ANCYL document is noncommittal on the form of nationalisation that the mining industry would be expected to follow: reference is made to a 100 percent public ownership model, another model would have government take a 51 percent ownership stake, and a third would take the form of partnership arrangements with the private sector (ANCYL, 2009). The failure to describe the precise nature of nationalisation – even saying “nationalisation may involve expropriation with or without compensation” (ANCYL, 2009) – only increases the likelihood of investment flight as there is no certainty about what is to happen in the country. The form of nationalisation (along with the value determination method used), payment method and structure, process of nationalisation are very important factors that greatly influence the eventual success or failure of nationalisation programmes. A definitive description of these factors is a precondition if the policy is to minimize uncertainty and create an impression of fairness amongst all stakeholders (Bolton, 1985).

One insight contained in the ANCYL document addresses the challenges of ensuring an adequate supply of minerals within a developmental state. In this regard, the document highlights the failure of government legislation to ensure that local demand for minerals, especially that which is for developmental purposes, is met before the sale of South Africa's minerals on the international markets. Paragraph 24 of the ANCYL position paper (2009) states in it the following, “there is nothing that stops them from selling our mineral wealth to the highest bidder in global markets, even if national imperatives require that such resources be used to support national development”. Though a critical insight, the question still remains: is nationalisation the way to remedy the failure of mineral producers to prioritise local consumer needs? A further point embedded in this question is that of the equitable distribution of the benefits derived from the exploitation of mineral resources in the country. The issue is not one of whether local industry should be entitled to subsidized input prices rather that they get to purchase the quantities they need for developmental purposes at competitive prices before any minerals are exported.

This paper will look at the broad question of nationalisation, but it will take a closer look at the details contained in the ANCYL document, with the view of arriving at a position on its merits and

flaws. The real contribution of the dissertation will be to investigate whether nationalisation of the mining industry is likely to spark a fresh round of growth and development in South Africa or not, and make recommendations about what direction the nationalisation debate should take.

## **1.5 A Brief History of South African Nationalization**

The recent debate on the nationalisation of the mining sector in South Africa revisits an historic concern of the African National Congress (ANC). It's a debate that has taken on a new life given the now different context within which the ANC government finds itself. The debate is one that formed a big part of national political and economic discourse in the lead up to the 1994 general elections, having been sparked by Nelson Mandela just after his release from prison in February 1990 (Coleman, 1991: 1). On that day, Mandela expressed his support for nationalisation. During those early days after his release, the market value of the Johannesburg Stock Exchange fell by R38 billion, after having gained R28 billion after De Klerk's speech two weeks earlier announcing Mandela's imminent release (Coleman, 1991: 2). Nonetheless, the debate subsequently died down due to a variety of factors, some of which will be discussed below.

In South Africa, nationalisation has been a part of the economy since the 1920's (Coleman, 1991: 2). As an economic tool, nationalisation cannot be ascribed to any particular political group nor has it been completely rejected by any political group. For example, at some point in the 1990's both the ANC and the government under F. W. De Klerk were advocating a mixed economy in South Africa (Coleman, 1991: 6). The ANC wanted a socialist-oriented mixed economy (characterised by safety nets for the poor and disenfranchised and a descent level of government involvement in the economy) and the De Klerk administration wanted a capitalist-oriented mixed economy (Harris, 1991: 32) (with emphasis on the protection of individual ownership). In the early days of democracy in South Africa, opposing camps advocated the use of the same tool (nationalisation) to achieve seemingly contrasting objectives – redistribution through common ownership on the one hand and development of infant industries characterised by barriers to entry to hand over to the market at a later stage on the other hand . Today, an internal debate within the ANC has people in the same camp arguing for the use of different tools (nationalisation and regulation) to achieve the same objectives.

## **1.6 The Current Debate**

This round of debate on whether the South African government should implement a strategy of nationalisation, specifically the nationalisation of the mining industry, was sparked by the leadership of the ANCYL, as mentioned above.

The nationalisation of mines, described by the ANCYL as “the democratic government’s ownership and control of mining activities, including exploration, extraction, production, processing, trading and beneficiation of mineral resource” (ANCYL, 2009: 2), is supposed to “help build strategic capacity of the state to unlock resources for development and [a] growth path that is more inclusive and equitable and does not heavily rely on [the] exportation of primary commodities and [the] importation of almost all consumer goods and services” (ANCYL, 2009: 3). Nationalisation of the mining industry in South Africa is also being supported by the ANCYL because they are of the view that the “democratic state should own and control the production and use of raw minerals in order to guarantee the flow of resources to critical sectors in our economy, not in order to maximise profits as the current holders of licences do” (ANCYL, 2009: 6-7). In other words, the ANCYL wants

the government to hold shares in mining companies, be able to determine how they operate and determine who South African minerals are sold to. Though some could argue that holding voting rights is effectively the same as operational intervention, not being able to control what happens at an operational level could lead to a disjuncture between the strategic direction of an entity and what managers do at an operational level.

The ANCYL has based their argument that the ANC ought to begin the process of nationalisation on the grounds that the Freedom Charter states that “The national wealth of our country, the heritage of South Africans, shall be restored to the people; The mineral wealth beneath the soil, the Banks and monopoly industry shall be transferred to the ownership of the people as a whole; All other industry and trade shall be controlled to assist the wellbeing of the people” (ANCYL, 2009: 1). This is a statement that they say guides ANC policy and is what the party is aiming for in all its actions. However, the Charter also says that people will “have equal rights to trade where they choose, manufacture and enter all trades, crafts and professions” (Freedom Charter, 1955) which seems to support the idea of a free market. Joel Netshitenzhe (2010) in his paper on the question of nationalisation points to the idea that some members of the ANC had always known that once SA achieved its political freedom, there would be an intense struggle around this very issue of private enterprise versus nationalised entities, and that it would ultimately be resolved by the balance of forces between the capitalist-oriented and the socialist-oriented cadres of the ANC, precisely because the Charter can be interpreted in a number of different ways as indicated.

The trouble with forwarding an argument on the basis of historic policy positions, without consulting current policy documents or surveying the current landscape and its future trajectory, is that the ANCYL puts itself at risk of developing irrelevant and inapplicable solutions to current challenges, and therefore being unable to achieve the very goals for which they believe themselves to be striving – poverty eradication and redistribution of wealth. The idea that the ANC’s strategy and tactics should be guided solely by the Freedom Charter, a 1955 document, is impractical in an ever changing world. Most great organisations have the ability to adapt to their prevailing conditions and adjusting their strategy and tactics to suit the hour. There is certainly some advantage to this approach. The ANC could better serve the nation if it looked to the Charter for the principles for which it stands (poverty eradication and equality for all), but when it comes to devising strategies for achieving the goals, account for all the prevailing factors of the day (including the size of the skills base, the tax base, investor confidence etc.), look at the balance of evidence so to speak. Economic and social analyses must continue to be the guiding tools for government policy and strategy. Once poverty is eradicated and equity attained, the very text within the Freedom Charter might become out-dated, leaving the ANC as a relic of a struggle gone by unless its policies remain relevant to the social and political needs of South Africans.

The ANCYL argument is reminiscent of Murray’s vision of socialism, – “a simple equation: nationalisation plus the party” (1987: 88). According to this view, all that is needed in order to achieve socialisation is a party composed of workers and representatives of working-class interests. This would administer the means of production on behalf of the producers, and nationalise industry.

The strength of this argument is its simplicity. However, its simplicity is also its biggest weakness because it fails to grapple with the two major assumptions on which its entire force is based. First,

does the party adequately represent the interests of the producers or people? Second, even if it does, or if some alternative system of popular administration exists, does the formal ownership of the means of production give the state and the direct producers' power over the economy (Murray, 1987: 2)? This view of socialism is too simplistic and impractical. There are more factors to consider which materially impact the implementation of a socialist agenda.

The ANC as an organisation has always altered its strategy and tactics to adapt to its conditions without straying from its principles. A scan through ANC policy on the mining industry over the years shows that the principle has been the same since 1955, starting with the Freedom Charter. What has changed is the strategy used to achieve the goals embedded within the principle. The Freedom Charter of 1955 states, "The national wealth of our country, the heritage of all South Africans, shall be restored to the people; the mineral wealth beneath the soil, the banks and monopoly industry shall be transferred to the ownership of the people as a whole" (Jordaan, 2010: 1). The ANC's 'Ready to Govern' Conference in 1992 concluded:

"The mineral wealth beneath the soil is the national heritage of all South Africans, including future generations. As a diminishing resource it should be used with due regard to socio-economic needs and environmental conservation. The ANC will, in consultation with unions and employers, introduce a mining strategy which will involve the introduction of a new system of taxation, financing, mineral rights and leasing" (Jordaan, 2010: 1)

The Reconstruction and Development Programme (RDP) of 1994, when it deals with the mining industry, specifically states the following:

"The minerals in the ground belong to all South Africans, including future generations . . . Our principal objective is to transform mining and mineral-processing industries to serve all of our people. We can achieve this goal through a variety of government interventions, incentives and disincentives" (Jordaan, 2010: 2)

The Mining and Petroleum Resources Development Act (MPRDA), 2002 asserts that "South Africa's mineral and petroleum resources belong to the nation and that the State is the custodian thereof" (Ngungunyane, 2010: 2). The 52<sup>nd</sup> National Conference of the ANC (which took place after the adoption of the MPRDA) resolved that:

"...the use of natural resources of which the State is the custodian on behalf of the people, including our minerals, water, marine resources in a manner that promotes the sustainability and development of local communities and also realizes the economic and social needs of the whole nation" (Ngungunyane, 2010: 3)

In each of these policy positions put forward by the ANC in the various documents, at various points in time since 1955, it has maintained that the mineral wealth of South Africa belongs to all South Africans, and even going as far as to say that all South Africans includes future generations. Another consistent point made is that any policy to be developed for mining in South Africa must ensure that the benefits of mining in South Africa must flow to all South Africans, not just a select few.

The ANCYL discussion document goes on to state that the

“...reasons why the nationalization of mines in South Africa ought to happen include: a) A need to increase the state’s fiscal capacity and better the working conditions b) it would be a basis for industrialization c) it would be a means to safeguard sovereignty d) it would be a means to transform the accumulation path in the SA economy and, d) a tool to transform SA’s unequal spatial development patterns” (2010: 12).

They then argue that the reason that this cannot happen under the current market and ownership structure is the fact that the government revenue collected from taxes is simply not enough to allow them to achieve these goals (ANCYL, 2009: 13). The government therefore needs the surpluses from the mining industry to be able to make inroads on some of these challenges.

The other side of the debate could arguably be said to have Joel Netshitenzhe as its lead protagonist. Having led and been involved in the policy units of both the ANC and government for so many years, he basis his argument on the idea that the interpretation of the “wealth clause” in the Charter has changed quite a bit over the last 25 years, citing the ANC’s *1992 Ready to Govern* and the *2007 Strategy and Tactics* documents to make his case (Netshitenzhe, 2010). Netshitenzhe argues that contained in these documents are critical nuanced changes in policy. He says:

“Firstly, unlike in earlier interpretations of the Freedom Charter, state ownership is not posited as the in-principle alternative to all private monopolies: rather, this would be informed by the impact such ownership would have on the ability of the economy to address poverty and inequality and to encourage growth and competitiveness. Secondly, the developmental state should be responsible for enterprises that provide public goods such as infrastructure and basic services. Thirdly, the private sector, including monopoly capital, is treated not as an enemy, but as a potential partner - and yet one that needs to be regulated. Lastly, balance of evidence would inform decisions to either increase or reduce the public sector while protecting consumers and workers.” (Netshitenzhe, 2010: 3)

Netshitenzhe does not suggest that the ANC would never nationalise, but that there has been a shift in the conceptualisation of the strategic objectives of the ANC in relation to the issues of property relations (Netshitenzhe, 2010). To him the goals (freedom from poverty, equality for all, common ownership of the nation’s wealth and the creation of a better life for all) of the ANC have not changed, what has changed, from a policy point of view, are the tools (economic or otherwise) to be used to achieve those goals, though he does not rule nationalisation out as a possible tool. Simply stated, he argues that the context within which the ANC has to make the choice of tool has changed.

In response to this assertion by Netshitenzhe, Floyd Shivambu (the ANCYL spokesperson) contends that Netshitenzhe’s views “represent a conservative ideological wave in the ANC . . . a wave [that] believes that some of the tactical retreats taken upon transition by the ANC-led liberation movement constituted total capitulation” (Shivambu, 2010: 1). He goes on to contend that the interpretation of the Freedom Charter cannot be said to have changed in 2010 when the conditions

that characterised the economic reality of the country in 1955 remain the same today. When the Freedom Charter was adopted in 1955 there were “massive inequalities and economic subjugation of the black majority and Africans in particular” (Shivambu, 2010: 2), conditions which are still prevalent today.

State ownership is but a means to an end; the end being the achievement of poverty and inequality reducing economic growth (Netshitenzhe, 2010). This seems to be the view of most commentators who also hold the view that nationalising the mining industry might in fact be a step backwards. Paul Jordaan (2010) best captures the sentiment when he states that “the critical issue would appear to be the refinement of a minerals policy and strategy that best assists the ANC in its historic task of releasing the productive forces for growth and development in order to create jobs, combat poverty and give the poor and dispossessed a better life” (Jordaan, 2010: 1). Therefore, when one looks at the question of nationalising any industry, it is important to determine whether state ownership would enhance that industry’s ability to contribute to the achievement of poverty and inequality reducing economic growth.

When it comes down to nationalising the mining industry in particular, Netshitenzhe (2010) asks the same question about its ability to contribute to economic growth. In addition to that question, he also asks if there are cheaper, less risky ways of getting the mining industry to assist the government in achieving its economic objectives. Netshitenzhe (2010) asks whether it is possible to assess if nationalising the mines would necessarily be the best way of achieving the government’s economic objectives in the absence of a clear plan of action for each of the goals stated by the ANCYL – increasing the state’s fiscal capacity, transformation of the accumulation path, job creation and improved working conditions, and safeguarding SA’s sovereignty (ANCYL, 2009: 12). “In a nutshell, the call for *holus bolus* ‘nationalisation of the mines’ is not supported by strong enough evidence” (Netshitenzhe, 2010: 11). Another important matter to address is whether one economic tool (nationalisation) can be used to achieve all of these stated objectives. If so, how can this be done and are there any conflicts that could arise. A more thorough assessment needs to be done in order to better make the case for nationalisation in South Africa.

Over and above the absence of ‘strong enough evidence’ (the objective measure of which is not clearly defined), Netshitenzhe also argues that natural resource companies ‘have high “lootability”’ (Netshitenzhe, 2010: 11), that is, they tend to lend themselves to corruption (Netshitenzhe, 2010). This would make the state’s economic plans for the industry vulnerable and subject to the integrity of individuals, in the absence of proper systems, and checks and balances. On this point there is some agreement. The ANCYL says that the mismanagement, patronage and criminality that characterises State owned enterprises is due to the fact that they have “very weak accountability systems” (Shivambu, 2010: 3). The disconnection exists around the question of how to resolve that particular problem. Where Netshitenzhe (2010) favours the option of leaving the industry to the market, the ANCYL (2010) is of the view that a good legislative framework and proper definitions (no criteria is put forward as to what constitutes a proper definition) of the extent of the interventions the state can make will improve the state’s ability to root out mismanagement, patronage and criminality within state enterprises (Shivambu, 2010). The absence of definitions, on both sides of

the debate, makes a clear analysis of which of the positions is stronger than the other difficult to make. More clarity on what is meant by Netshitenzhe and by the ANCYL is necessary to make judgement possible.

Where the ANCYL, and those who support its position, seem to focus all the attention on is the principle that the ANC has always been in support of nationalisation of the mines, and other sectors, and that the government would be well within its right to follow through with the strategy. Netshitenzhe and those who see things his way are of the view that though the ANCYL may be right on the issue of principle, it is impractical to call for the nationalisation of the mines at this stage – given the balance of evidence.

Those who support nationalisation say they do so because the strategies that have been implemented thus far have failed to benefit the nation as a whole, only enriching a select few that make up the Black middle class. The “ANC’s efforts to transfer wealth to the ownership of the people as a whole have not been adequate to decisively break the racial, class and gender dialectic of colonial-cum-apartheid repression” (Shivambu, 2010: 1). They argue that Black Economic Empowerment (BEE) has not increased the well-being of the people (COSATU, 2010), that “the broader thrust of the Freedom Charter’s objective for the people to share the country’s wealth has not been attained” (Shivambu, 2010: 1), and that nationalisation is the only way that the benefits can accrue to all the people of South Africa. Essentially, what is being argued is that all tools that have been used to transfer wealth to the ownership of the people as a whole have thus far failed to achieve this goal. A goal which is itself not clearly defined. What would the South African economy look like once ownership has been transferred? What will the defining features of an economy in which all wealth is shared? The absence of answers to these questions makes the goal somewhat intangible and almost unachievable.

Coupled with the concern that current policy has not achieved the goals of the Charter is the concern that private monopolies in South Africa behave in a manner which does not aid the government in achieving these goals. The behaviour of companies like Tiger-Brands and those involved in the bread cartel (COSATU, 2010), though punishable and punished by the Competition Commission and Tribunal, have resulted in almost irreversible damage to the economy and the people. The bread cartel in South Africa colluded to keep bread prices artificially high in order that they could take in super profits at the expense of proper competition in the bread market, and therefore a loss of efficiency within the economy (*ceteris paribus*). As a result, if the government is to be able to direct the trajectory of the economy, it must own and control the commanding heights of the economy so as to use its monopoly power to improve the social conditions of all South Africans instead of profit taking by a few members of the society.

What seems to be of priority to those members of the ANC who oppose the nationalisation of mines at this stage, is whether or not it will achieve poverty and inequality eradicating economic growth. Ngungunyane in his article concludes by saying “it doesn’t matter whether a cat is white or black, as long as it catches mice” (Ngungunyane, 2010: 5), thereby stressing the point that regardless of whether nationalisation (which seeks to ensure that government runs and owns the entire mining process in South Africa) or the MPRDA (which gives the government some power to determine the people who benefit from the mining activity conducted in South Africa by private companies) is

chosen as the instrument for achieving the Freedom Charter's objective of restoring the wealth of the nation to the people, what is important is to ensure that the chosen instrument will actually achieve the goal. Matters of revolutionary theory and posturing may only result in the side-tracking of government and the ANC. Ngungunyane argues against nationalisation on the grounds that the MPRDA has achieved three goals of the charter without destabilising the mining industry and derailing the economy (Ngungunyane, 2010).

The gist of the argument against nationalising the mines seems to be that the objectives of the Freedom Charter can be achieved by a "variety of policies, strategies and instruments without necessarily nationalising the mining operations . . . [that] there are far more effective ways of achieving substantial development impacts from a country's mineral assets than by the state simply taking ownership of mining companies" (Jordaan, 2010: 4); options that are yet to be explored.

Those against nationalisation are in substance asking the question of efficiency. There seems to exist some doubt on whether a nationalised mining industry would be able to run as well as, or better than a privately owned one, and in that way make the mining industry a better contributor to the attainment of preset goals of the government. Some point to the fact that so many of the state owned entities have failed to be efficient and are in fact a drain on the government budget. This is countered by the ANCYL in the following manner:

"...all the state owned enterprises that are said to have failed were purely run on private sector principles, wherein progress and success is measured as per the profit margins, instead of concrete developmental outcomes such as employment creation and infrastructure investments . . . contribution to socio-economic development and assistance of communities" (Shivambu, 2010: 3)

They go on to argue that "efficiency of enterprises is not a function of shareholding, but a consequence of a variety of both subjective and objective conditions under which businesses operate" (Shivambu, 2010: 4). This assertion can be countered by the argument that in most listed companies there is a separation of powers because the managers are not the owners of the company, thereby ensuring scrutiny and accountability. State owned entities will only become as efficient as privately owned companies if this separation of powers can effectively be achieved, when managers of State owned entities cannot be unduly influenced and are held accountable by those in power. The fundamental flaw of the ANCYL argument in this regard is the implicit assumption that private enterprises and their profit motive by design conflict with developmental goals. An entity run on the basis of profit generation can create as many, if not more jobs (a desired outcome) than one whose focus is on some or other developmental goal. Profit focused state enterprises can themselves contribute to development as much as other state owned enterprises. That which makes private enterprises different from state enterprises is the people to whom the fruits of labour (in this case profit) accrue. What the ANCYL fails to address is the core question surrounding the failure of most state owned enterprises, and it does so by blaming the profit motive instead of looking at the structural and systemic issues that cause the failure.

## 1.7 South African Nationalization Debate: Past and Present

The key difference between the nationalisation debate today and that of the early nineties is the focus of the two debates. Whereas in the early nineties leaders within the ANC were not really sure what they wanted to nationalise, having wanted simply to follow the strategy as a general approach to governance, the ANCYL today has picked a specific industry to be targeted for nationalisation. After Mandela's release from prison it was not uncommon for leaders of the ANC and COSATU to issue statements like 'nationalisation would be an essential part of the reconstruction programme of (a democratic) state' (Coleman, 1991: 6), but there did not seem to exist a predetermined set of industries that were believed to be crucial to the survival of the state. The ANCYL on the other hand has chosen the mining industry as a clear target of nationalisation and have listed a couple of reasons that are more specific than just the survival of the state.

A second difference between the debate on nationalisation today and that of the early nineties is the camps on the opposite sides of the debate. In 1990, the structures that formed part of the Mass Democratic Movement (MDM) – ANC, COSATU, the United Democratic Front (UDF) and the South African Communist Party (SACP) – formed a block on one side with the National Party government of De Klerk on the other side. Today, among the major political organisations, the ANCYL and COSATU favour nationalisation, while the ANC, the Young Communist League (YCL) and SACP firmly oppose it. The debate seems to be dominated by sister organisations within the MDM on either side, each seemingly unmovable from their positions. Those who argue for nationalisation and those arguing against it back their arguments up using quotations from the same documents, and in some cases even quoting the same words. The differences are simply a matter of interpretation. The current nationalisation debate can be said to have people who believe in achieving the same goals on either side of its fence, people who only seem to disagree on the question of how those goals should be achieved.

If all parties can agree that nationalisation is simply one tool in a box of many that can be employed to achieve equitable economic growth that leads to poverty eradication, then what is important is to determine is how effective a tool it is and whether it is the best tool available to the nation given the current conditions.

## 2 Nationalisation Literature Review

### 2.1 Capitalism, Socialism and Nationalisation

"For many years capitalism was defined in terms of two key elements: private ownership of the means of production, and the existence of wage labour. These conditions gave rise to the existence of surplus value, which, in the hands of capitalists, became capital. From this sprang a definition of socialism, as the expropriation of the capitalists and the transfer of the means of production into common ownership. No longer would surplus labour be appropriated by capital as profit. It would now exist as a social fund to meet common needs" (Murray, 1987: 87)

Socialism from its roots has been defined and viewed as the antithesis of capitalism, and been projected as an alternative to it. Marx and Engels (1967: 79) view capitalism as a system built upon class struggle, and only existing so long as that struggle persists between the oppressors and the oppressed – the bourgeoisie and the proletariat – with the oppressors being a minority working only to secure and fortify their own interests at a cost to the majority (Marx and Engels, 1967: 92). The bourgeoisie “has agglomerated population, centralised means of production, and has concentrated property in a few hands” (Marx and Engels, 1967: 85). Socialism on the other hand is a system seeking to equalise everyone in society, giving to labour a wage that is only what it requires for the “maintenance and reproduction of human life, and that leaves no surplus wherewith to command the labour of others” (Marx and Engels, 1967: 97). Socialism therefore seeks to provide all members of society, both labourers and former bourgeoisie, with equal stakes in the means of production and the surpluses thereof.

There are various ways in which past governments have attempted to achieve socialism to varying degrees of success. The economic tool most commonly associated with the process of socialism is nationalisation. In *The Communist Manifesto* Karl Marx refers to the “use of political supremacy (by the proletariat) to wrest, by degrees, all capital from the bourgeoisie, to centralise all instruments of production in the hands of the State” (1967: 104) as the second step in the revolution by the working class towards the attainment of socialism. In their quest for the attainment of socialism, most self-proclaimed socialist governments have found themselves with a limited number of tools available to them that they could use to wrest all capital from the business elite – the one tool that most of these governments turn to is nationalisation, hence its close association to socialism. The use of nationalisation for the implementation of doctrine by the ruling class is the reason it is so closely associated with particular schools of thought (Rood, 1977: 490). This has led to nationalisation being associated with social change. Lenin for instance assumed that nationalisation would replace conflict and competition – conditions associated with private enterprise – with co-operation (Coleman, 1991: 7). What this attempts to achieve is the use of an economic tool to implement ideology, and as history has shown, this strategy has had limited success.

Nationalisation cannot be said to belong to communists (or socialists), or to have been invented by them. It predates communism by several thousand years, having been used in ancient Babylon, Rome and Greece (Coleman, 1991: 1). As a legal concept, nationalisation first appeared in the constitution of Mexico and in the first decrees of the USSR after 1917 (Bolton, 1985: 2). Given the above, it is thus useful to ask the question, “What is nationalisation?”

Narrowly defined, nationalisation is simply the process of transferring ownership of industries and business to government. Nationalisation is just another economic tool that can be used to achieve certain goals and objectives like other known economic tools – private ownership, floating exchange rates, inflation targeting, government set interest rates and so forth. It is an accepted economic concept and tool that can be used to prevent or correct market failure. State ownership, as Lipsey and Chrystal (2007: 282) point out, is the obvious remedy for situations where goods and services cannot be provided by private firms – as is the case with public goods.

Though nationalisation is simply state ownership, there are those who argue that there should be more to it than just ownership. Bolton (1985: 3-4) argues that nationalisation must concern itself

with more than just ownership, that it must aim to achieve communal prosperity in the material, cultural and moral dimensions. The trouble with this view is that it attempts to make nationalisation a synonym for socialism, something it is not. This is not to say that nationalisation cannot be used to achieve goals with a socialist spin, e.g. redistribution of income, only that it should not be taken to mean socialism.

## 2.2 Neo-Nationalisation

What was new about nationalisation as it appeared in the 20<sup>th</sup> century was its attitude towards property. The new view was that all of or part of the means of production would be used in the interest of society as a whole, and not that of individuals. Nationalisation would therefore be used as a means of removing the means of production from private ownership and make them communal property (Bolton, 1985: 2). It is only in the 20<sup>th</sup> century that nationalisation was first used to achieve Marx's second step of the revolution (transferring the ownership of capital to government to serve as the custodian for the people) – we have, for the purposes of this paper, termed this Neo-nationalisation. It is this view of nationalisation that has turned it into a synonym for socialism, one that has led to its abuse in some parts and underuse in others. It is this same view of nationalisation that has led to the widespread and commonly held belief that it is an alternative to the market system instead of being seen as a complement to it. It is made to appear as though a company that is owned by the government (i.e. nationalised) does not have to respond to market signals. “Nationalisation . . . and state intervention may be necessary means for socialist ends, but it [is] clear, such means may also be employed for capitalist ends” (Coleman, 1991: 8). Nationalisation can work hand-in-hand with the market system to achieve results that could otherwise not be possible within either of the systems in isolation of one another. The use of nationalisation to develop infant industries with increasing economies of scale considered crucial for the state, but facing financial barriers of entry due to large upfront investments is an example of the potential power of using the market system and nationalisation as complements.

Nationalisation as a policy tool has been used frequently and widely by many governments to achieve both political and economic objectives (Bolton, 1985: 1).

“It is perhaps theoretically possible to recognise the dichotomy between states using nationalisation policy as an integral part of a socialist strategy – legitimised by organic laws instituted towards this end; and states which have used ‘ad hoc’ nationalisation strategies for different reasons. These latter states have, on the whole, both retained their respect for, and their commitment to private enterprise. Nationalisation within this context usually represents a strategy aimed at repairing or consolidating a capitalist economy” (Bolton, 1985: 2).

Indeed nationalised industries are commonplace. Nationalisation can and has been used by ‘pro-capitalist’ governments (Coleman, 1991:8) and ‘pro-socialist’ governments. Like most economic tools, it is only a means to an end, not an end in itself. For any economic tool to be effective it is important that it be used in the correct manner, within the correct setting and at the correct time. Nationalisation is a correction mechanism and should be used as such.

## 2.3 Nationalisation as a Tool

As an economic tool, nationalisation is often employed in industries that provide public goods or in industries that are characterised by significant externalities – positive or negative. The reason is the fact that some needs are not market based and do not respond to market signals and incentives (Coleman, 1991: 4). As a result, nationalisation has been used to address a number of economic anomalies that are not catered for by the market and its forces. These anomalies include uneven wealth distribution, uneven spatial development, the abuse of monopoly power, cushioning the undesirable impacts of economic collapse and the development of strategic industries not prioritised by private capital – thus making it a useful tool for addressing both social and inefficiency challenges. It could be said that nationalisation is a useful tool in parts of the economy where the market mechanism is dysfunctional (Coleman, 1991: 9). Areas like education, health, public transport, welfare, street lighting; industries with high social value, but little profitability from a balance sheet point of view (Coleman, 1991: 10).

Its main appeal to governments is the strength it possesses as a policy tool. Governments can more readily use nationalised industries to achieve their economic and political goals. Nationalisation can be used to counter short-term business cycle problems and address more long-term development challenges (Coleman, 1991: 10-11). For the latter, governments have tended to nationalise essential goods and services industries whose products tend to be used as inputs in a lot of other industries within the economy. This is done in order to ensure that the supply of these goods and services is readily available for the development of the industries that rely on them, and control the development pattern that the government wishes to see (Coleman, 1991: 28). The economic argument for nationalising major companies is premised on the idea that in order to reshape the economy the state needs to gain control of certain sectors because they influence everything else, and in order to control them it is necessary to own them (Harris, 1991: 33). This alone should make it clear that nationalisation can be a high risk strategy for government (Coleman, 1991: 34). Taking over the essential goods and services industries within the economy implies that government takes charge of the very foundation of the economy and is placed in a position to determine its future direction. If anything is to go wrong, the entire economy can potentially collapse. As a result it is advisable that before nationalising any of the commanding heights of the economy, the government determines whether it or the private sector is better positioned to ensure the success and continued development of those parts of the economy in accordance with its desired goals.

In the 1960s and 1970s a lot of governments of developing countries nationalised mining firms (Auty, 1997: 4) in the belief that it would give them greater control of the development path of their economies. This desire for greater control plus the fact that there was an unacceptable level of revenue leakage (the result of capital service charges, expatriate salaries, expenditure of local wages and salaries on imported goods etc.) to the industrialised nations where the headquarters of the multi-national mining companies were (Auty, 1997: 32) led to the conviction that nationalisation was the only way to correct the problem. Though South Africa is not really characterised by such leakages, the mining industry in South Africa is very much still at the primary level. Minerals are mined in the country and shipped to overseas destinations with little to no beneficiation or value-add. There is potential to develop secondary and tertiary industries around the mining of minerals in South Africa. Many factors ensured the failure of nationalised mining companies in most of the developing countries, leading to a wave of reprivatization and vigorous competition for foreign

direct investment in the 1980s and 1990s. Auty (1997) is of the view that the overarching reason for the failure of the government owned mining companies was the rigidity of their responses to changing market conditions, which lead to inefficiencies. Be that as it may, the failure of these nationalised entities and the subsequent collapse of the economies in which they were based points to the possible perils of nationalisation. When any industry is chosen to be the lead industry for a country's development it is bound to become quite intrinsically linked to the rest of the industries in the economy. This makes it difficult to diversify the economy, increasing the risk of collapse. Where mineral resources are concerned, there are too many external factors involved with the pricing and demand for minerals that governments (especially those of developing countries) have no control over which makes their economies even more vulnerable to shocks.

## 2.4 The Commanding Heights

The concept of the commanding heights was introduced to the nationalisation vocabulary by the British Labour Party in 1945. The commanding heights were companies that fit a list of criteria used to assist the party to determine which companies occupied the most strategic positions in the economy; the companies that, if nationalised, would ensure that the government's attempts to steer the economy in a particular direction would be successful (Coleman, 1991: 27). The commanding heights concept helps ensure that governments don't just nationalise any big company or monopoly even if it will have no strategic advantage in the determination of the economy's developmental pattern. "The commanding heights approach reveals the difference between nationalising what is strategic and what is big" (Coleman, 1991: 35)

The important characteristics of a commanding height are the functions, operations, and linkages of the company. In addition to these, another characteristic that could warrant the possible nationalisation of a business would be the proportion of the finance available for investment throughout the economy that it commands (Harris, 1991: 34). The higher it is, the more likely it is to be nationalised. A final consideration for the classification of a company as a commanding height would be the level of its involvement in the employment of labour in the economy (Harris, 1991: 34). A company or industry that employs a large portion of the economy's labour is more likely to be considered for nationalisation.

Opting to nationalise the commanding heights of an economy tends to lead to the nationalisation of fewer, but better chosen targets (Coleman, 1991: 36). By pinpointing the commanding heights of the economy, the hope is to gain control of the key points in the economic chain. The point is that every company is part of a much wider circuit of capital. Every circuit tends to have a dominant point which could allow those who control that point to siphon off excess profits from the entire circuit – these points (companies) are the commanding heights (Murray, 1987: 89). Limitations to the scope of publicly owned industry arise from the fact that key elements of control reside elsewhere (Murray, 1987: 92-3) – outside the local economy – which may lead to public firms effectively being controlled by private monopolies or forces outside the nationalising government. That is the reason identifying the right companies as the commanding heights is important. A nationalising government using the commanding heights approach must be forward looking in order to ensure that the parts of the economy that are nationalised will remain the key linkages in the economy, and keep the government as the motor of growth, otherwise the "government may well end up entrenching dead weight as the centre of the economy, and the most backward parts of the economy as the centre of the state's enterprise" (Coleman, 1991: 36). If the government can exercise control over the key or

dominant points of the circuit, then it will be able to exercise control over the rest of the circuit (Murray, 1987: 90). To gain control of the key points the government can explore a number of options, one of which is nationalisation. What is important to note is the fact that, by this argument, the rest of the economy must be left to private enterprise where individual entrepreneurs respond to market signals (Coleman, 1991: 8), thereby using nationalisation as a complement to the market economy, and not an alternative or antithesis.

The true weakness of the commanding heights approach is that at its core is a motive that can never be fully defined, and therefore tends to be difficult to achieve. At its core, nationalising the commanding heights is an attempt to obtain control of the national economy, as has been stated, and nationalising industries for this reason has tended to lead to the destruction of economies (Rood, 1977:489) as a result of the wrong industries being nationalised or the failure of those industries after they become state owned industries.

## 2.5 The Efficiency Question

Those who have criticised nationalisation as an economic tool have done so on the basis that nationalised industries are inevitably inefficient or prone to corruption. The theoretical basis of the inefficiency criticism is the rationale that only the profit motive can stimulate businesses to produce at minimum costs. This theory is significantly weakened by two important facts: first, theories on modern firms suggest that they do not operate in either a profit maximising or cost minimizing manner; second, nationalised industries can be structured in a way that induces cost minimisation which would be an efficient manner of operating (Harris, 1991). However, the argument against nationalised industries can be strengthened by the argument that they have not generally been profitable – if we assume that profitability is the correct measure of efficiency. Unfortunately there are a number of factors that can impact on profitability that are not necessarily efficiency enhancing. Artificially high prices resulting from monopoly power and/or abusively low wages resulting from an imbalance of power in the economy are two examples, neither of which makes one firm more efficient or more productive than the next (Harris, 1991: 35). Efficiency should surely be measured by the rate at which a good or service is safely produced and delivered to its intended consumers with minimum leakages and at the lowest possible cost to the producer.

An interesting idea to consider at this stage is that of “X-efficiency” (Leibenstein, 1966: 392). The idea that the welfare gains from increasing only allocative efficiency brought about by changes in the market structure tend to be negligible, what is important is the X-efficiency whose major element is motivation (Leibenstein, 1966: 394). What this suggests is that the welfare gains from changing the South African mining industry from one that is dominated by a few big firms to a competitive industry would most likely be exceedingly small. The reason the welfare effects of reallocation are so small is that allocational inefficiency involves only the net marginal effects so what is left is merely the consequences of price and quantity distortions (Leibenstein, 1966: 397). The one distortion that market structures could correct that could lead to major welfare gains is the allocation of managers. Certain market structures force (or incentivise) managers to work in such a way that they reduce costs by significant amounts by re-organising the production processes of their firms (Leibenstein, 1966: 397). The basic story there is “that changes in incentives will change productivity per man (and cost per unit of output)” (Leibenstein, 1966: 401). The relation of this idea to nationalisation is the manner in which nationalising the mining industry would alter the incentive scheme of managers within the industry. There would be a shift from managers who know that cost minimization and

profit maximization is the only way they can guarantee the success of their business and their continued employment, to those who can reliably depend on the government to subsidise any losses that the companies could incur, certainly leading to a decline in welfare for South Africa.

Nationalised industries (industries owned by government for whatever reason) will themselves be subject to market pressures – even if it is the most basic ones like demand and supply – that can force them to behave in a manner resembling private enterprises. This is most likely to happen if the objectives of the nationalised industries are not altered to achieve social goals – which can be left to various government departments. If the overriding objective remains profit maximisation, then the response of the nationalised industries to market forces will be to take on the form of state capitalism (Murray, 1987: 93). This implies that nationalised companies with a profit motive can be as profitable as privately owned companies, even though the ownership structure would be different. If they are indeed as profitable as private firms, the result would simply be a claiming by the government of profits that would otherwise be appropriated by capitalists. However, in order for this to hold true, the conditions have to be exactly right with the separation of powers between managers and owners and clear lines of accountability for both groups. Unfortunately experience up to this point suggests that public companies are never able to be as profitable as privately owned entities. As much as most socialists would choose to believe that capitalists “[act] to control labour, speed up production, and press down on wages because they [are] innately oppressive” (Murray, 1987: 93) or just plain evil, the truth of the matter is that they do what they do as a response to the pressures within the markets in which they operate. Failure to do so would see them disciplined by the market and any nationalised company with a profit and capital accumulation motive would itself be subject to the same forces. The question is whether firms under state ownership do as well as those that are not.

Nationalised companies and industries will find themselves operating in and against the market (Murray, 1987: 96) which will result in pressures on those entities to adopt market criteria for their operations. This pressure tends to be more pronounced in cases where nationalisation is used to achieve goals that conflict with capital accumulation – increased wages, improved working conditions, increased flexibility of working time, industrial democracy, enterprise planning (Murray, 1987: 94) – basically social goals. This is not to say that nationalised entities whose goals conflict with the laws of capital accumulation will necessarily fail to achieve their objectives. Rather the success of nationalised entities must be measured using criteria related to whatever the objectives of those entities are. What ought to be judged is the efficiency of the nationalised companies in achieving its stated goal(s), whatever it (they) may be. The challenge that they are likely to face, and must be addressed is that of sustainability. If these entities do not respond to market pressures accordingly (by becoming more efficient in every way) then they are likely to collapse.

The attraction of the nationalised entity, as mentioned earlier, is its ability to bestow economic power on the government. This economic power, once transferred to governments, has tended to be used to pursue conflicting goals. Governments have a tendency to use nationalised entities to achieve political and social goals, as well as purely economic goals, which typically clash (Aron, 1992: 3). This can lead to the failure of the nationalised company because it lacks direction, a result of the lack of clear objectives, or at the very least, an order of importance for the different objectives. A decision has to be reached about which objective is to be prioritised over the other objectives. Just as the overriding objective of inflation targeting is to keep the CPI at a range of 3-6% in South Africa,

nationalisation must have its primary objective defined if it is to succeed in any country. That said, even an overriding objective might not be enough to ensure success. A big element of the market that ensures discipline is the realistic possibility of failure when a firm is not competitive. Government owned companies have fall back positions in the form of subsidies, cheap credit and protective state employment regulation which reduce the pressure on the managers of these entities to ensure success.

## **2.6 Other Challenges of Nationalisation**

A bigger challenge faced by governments and the their nationalised companies is that of ensuring that the managers of those companies understand the goals of the nationalised industry and set up their operations to suit the new policy objectives. The absence of technical managers who are willing to implement the policies of a nationalising government (or any other new owner) is one of the most serious constraints to the attainment of the government's objectives (Murray, 1987: 99). Managers have the power to determine the everyday operations and strategy of the business, and therefore have the ability to chart the path the company follows. These managers have the power to either champion or frustrate the achievement of government goals. Questions arise around how the government can ensure that managers put its policies into practice, and what checks and balances ought to be implemented to keep managers sailing the now government owned ship in the direction the government wishes to see it go (Murray, 1987: 97) without exercising undue political influence. Should the government employ new managers from their own ranks who understand and believe in the ideology? Can the companies cope with the loss of the experienced managers? Should company level strategies be set by government with only their implementation left to the managers? The answers to these questions surely depend on the particular case. In South Africa there has been much talk about the ANC's policy of cadre deployment, suggesting that in this country, the preferred solution to this problem is the appointment of managers from within the ranks of the ruling party, making the idea of a separation of powers within the business sector very difficult to achieve.

Aron's study of problems encountered by the Zambian copper industry after nationalization is informative in this regard; she argues that the design of an appropriate government-enterprise control relationship is especially important (Aron, 1992: 2). These controls tend to be a key determinant of whether the enterprise management will act in a manner that has the best interest of the enterprise or not. This is a way for government and management to define how the shareholder-manager relationship will function going forward to ensure the efficient and reliable functioning of the nationalised company. Cooperation amongst the various stakeholders better positions the company for success (Aron, 1992: 42). The cooperation must be coupled with a clear monitoring mandate that amounts to comprehensive oversight of the nationalised entities and is not influenced by political leaders. The reason comprehensive oversight is important is that "weak oversight facilitates corruption, diminished transparency and allows increased political manipulation of the company" (Aron, 1992: 43).

## **2.7 Nationalisation: An Economic Tool**

Having established nationalisation as a genuine economic tool, it is important to discuss what goals it can be used to achieve. If inflation targeting is used to ensure low inflation and price stability, what is nationalisation used for? Better yet, what can nationalisation be used for? There are a number of things that nationalisation can be used to achieve, one of which has been touched upon – the provision of public goods that the market would otherwise fail to provide. This in fact could be

considered to be the overall objective of any form of government intervention. The various reasons given for nationalisation tend to be variations on this central theme. What things does the market consistently get wrong that lead to the use of nationalisation as an economic tool?

Nationalisation can be used to ensure a more equal wealth distribution (Coleman, 1991: 9). There are two main ways in which wealth can be equally distributed through nationalised entities; the first is by simply taking the profits of the nationalised business and distributing them equally across the population, or giving the poorer people in the population a greater share until there is equal distribution. The second is through prices. A nationalised entity can choose to reduce the prices of goods and services mainly bought by lower income earners (Coleman, 1990: 9) and in that way free up some of their income for other things.

A second reason to nationalise is the prevention of unequal spatial development. The proceeds from nationalised entities can be ring fenced and specifically directed at the development of areas that would otherwise remain underdeveloped as a result of historical patterns of development. This can also ensure that the population distribution also remains even, instead of seeing the concentration of people around specific places. Nationalisation can also prevent the uneven distribution of populations by ensuring that goods and services are provided at affordable prices in areas the market might deem too expensive to venture into (Coleman, 1991: 9).

A third reason for nationalisation is to ensure the continuing functioning of industries which are regarded as essential or strategically important which might not meet the profit criteria of the market (Coleman, 1991: 10). Essential industries could be industries that produce goods that are inputs to many other industries in the economy, inputs without which those industries could not function. Electricity in South Africa today can be seen as an essential industry. Strategic industries tend to be those that have to do with the nation's security, e.g. nuclear power.

## **2.8 Determinants of Success**

Some of the factors that contribute to the eventual success of nationalisations across the world include the process of acquisition (how the nationalised entities are acquired by the nationalising government – grabbed, bought or negotiation), how the value of the acquired companies is established, how the companies are paid for, the source of the finance and the timing of the nationalisation (Coleman, 1991: 41).

Nationalisations that have succeeded have been those that were negotiated (Coleman, 1991: 57) in a process that included all the stakeholders with an interest in the process, and the end result has been general agreement on the terms of the nationalisation. Stakeholders that are likely to have an interest in a process of nationalisation include the nationalising government, workers in the target enterprise, the management of the target enterprise, consumers of the products or services produced by target enterprise, input suppliers of the target enterprise and the soon to be former owners of the target enterprise (Coleman, 1991: 97). The management of these stakeholders tends to become a central determinant of success. Nationalisation can also be one of another three types; confiscation, classic and partial nationalisation (Coleman, 1991: 82).

The value of the target enterprise can be established using one of three methods; market value, book value or book value less depreciation and other deductions (Coleman, 1991: 69) which can be agreed upon by the government and the owners of the entities. The actual payment for agreed upon

value of the target entities can be made in a number of forms. It can be done in foreign currency or local currency, it can be made immediately (every cent paid) or over an agreed upon timeframe at an agreed upon rate of interest. Each one of these decision will impact on the possible success of nationalisation as using any one of these methods increases or decreases the cost of nationalisation.

A major factor that will contribute to the success of nationalisation, especially in today's context, is the response of the business community to the call for nationalisation. The response of the business community is by and large shaped by the perception of fairness and effectiveness of the nationalisation. It is also affected by the method of nationalisation and the response of the international community to the nationalisation (Coleman, 1991: 82). Ensuring that the business community buys into the nationalisation process is important because they are generally the customers and input suppliers of the target enterprises so their response directly impacts the operations of the target entities.

All of the above mentioned determinants of success will contribute to the perception of the nationalisation programme by the business community and therefore their response to it. Conducting the process in a manner that is seen to be fair and legal increases the probability of success for a nationalisation programme of any kind.

### **3 Economics of Depletion**

#### **3.1 Introduction**

The nationalisation question in South Africa is currently focused on the mining industry. For that reason, it is important to contextualise any question about the feasibility of nationalisation in South Africa within the study of un-renewable resources, and the economics of depletion. The 1931 article by Harold Hotelling, "The Economics of Exhaustible Resources" is the authoritative piece of scholarship on this particular subject. It is the foundation upon which most, if not all, economic theory surrounding this subject has been built. For those reasons, a large portion of the following chapter has been formulated using information either directly from the article or sources focussed on the article itself. The aim of this chapter is to define the insight offered by the theory around the economics of depletion. Would any of what the theory offers significantly impact the direction a government could take on the question of nationalisation, as per its narrow definition stated in chapter 2.

#### **3.2 The Theory**

Theory suggests that exploitation industries with non-renewable resources, like all other industries, are most efficient when they function under conditions of pure competition. Hotelling states, and shows using a number of simplified mathematical tools, that under free competition (*laissez faire*) there is a tendency towards maximizing what can be referred to as the "social value of the resource" (1931: 143). Essentially, a competitive equilibrium maximises the sum of the discounted consumer-plus-producer surpluses from the natural resources (Solow, 1974: 7). That said, it is important to point out that all equations hereunder referred to "measure the social value of the mine in the sense concerned with the total production of goods, but not properly its utility or the happiness to which it leads, since this depends upon the distribution of wealth, and is greater if the products of the mine

benefit chiefly the poor than if they become articles of luxury” (Hotelling, 1931: 145). This important caveat is necessary to note because it has implication for government policy around the use of mineral resources after they have been expropriated from beneath the earth, regardless of the market structure under which they are exploited. It suggests that there is a possibility of increasing the actual utility derived from mineral resources once they are mined by restructuring the distribution of their beneficiaries, even if the mining industries are characterised by competitive conditions.

There are a number of assumptions that Hotelling makes that are necessary to make laissez faire the most efficient market structure for mining industries. Chief amongst those assumptions for the natural resources industry is the availability of full information at the beginning of the exploitation process. Some of the other key assumptions made include the following: that the time path of the price of the resource is known, that the total amount of the resource that is available for exploitation is known, that the time of final exhaustion can be determined (Hotelling, 1931: 141) and that society wishes to discount future consumer surplus at the same rate that mine owners choose to discount their own future profits (Solow, 1974: 7). It is with this information that a quantity that maximises the social value of the resource can be calculated for every unit of time using the equation:

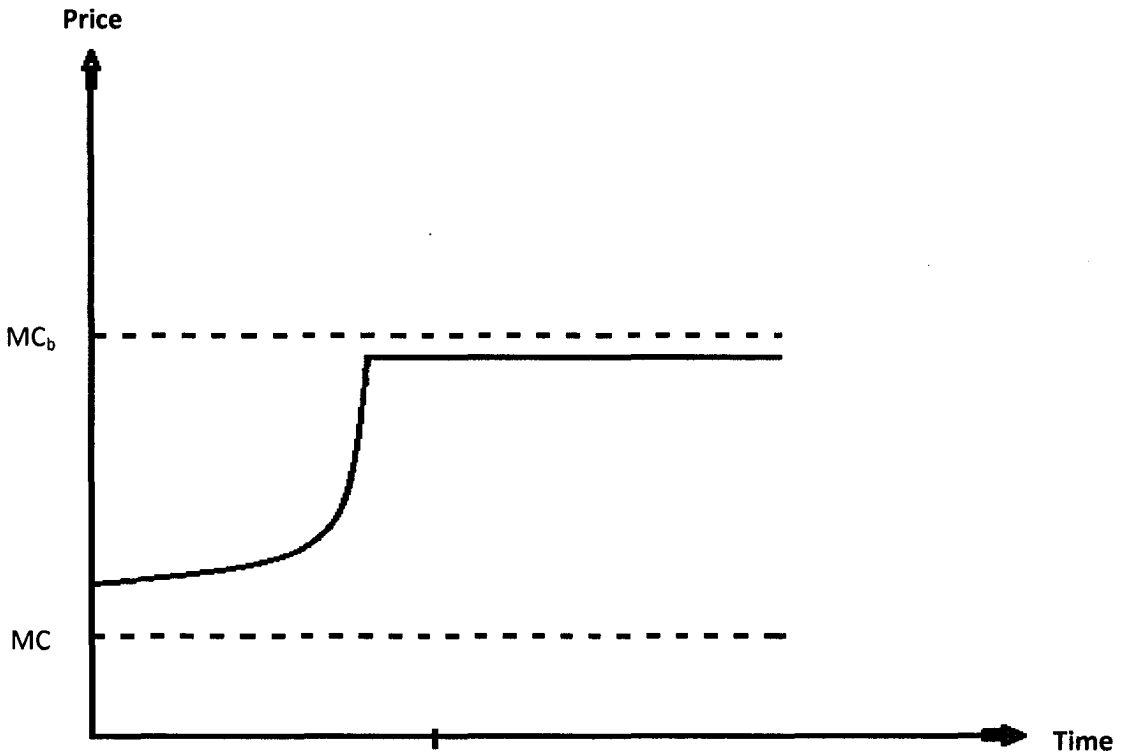
**Equation 1:**

$$u(q) = \int_0^q p(q) dq$$

Source: Hotelling, 1931: 143

Fisher (1981: 18) uses a simpler two period lagrangean approach to derive the time path of exhaustible resource prices. The equation,  $p_t = MC + [p_0 - MC][1 + r]^t$  (Fisher, 1981: 19) – where  $p$  is the net price received for the resource after paying the cost of extraction and placing it upon the market (this parallels Hotelling, 1931:141),  $MC$  is the marginal cost of extraction,  $r$  is the interest rate and  $t$  the time – shows that the price of a resource tends to become dominated by the royalty component as it draws away from the marginal cost of extraction at a rate that approaches the interest rate (Fisher, 1981: 18). Essentially, the price will keep rising indefinitely unless there is what some economists refer to as the backstop – “the backstop is just a resources or a technology that can provide the same services as (the resource being exploited), but at a higher cost, and without risking exhaustion in any meaningful time frame” (Fisher, 1981: 18). If there is a backstop the price will only rise as far as the level at which the marginal cost of providing the backstop ( $MC_b$ ) sits and the equation becomes  $p_t = MC + (MC_b - MC)/(1 + r)^{T-t}$  (Fisher, 1981: 19), and the graph of the time path is shown in Figure 1:

Figure 1:



Implicit in the equation and demonstrated in the graph is the assumption of a constant marginal cost of exploitation for both the resource in question and its backstop. This assumption can only hold if it is surrounded by more assumptions itself. For example there must be technological improvement every time period that makes it possible to exploit minerals deeper underground at the same cost, and there must be no switching costs for the technologies used. An accurate theory of market behaviour and optimal social policy must account for technological uncertainty (Solow, 1974: 6).

The assumption of constant marginal costs for both the resource and the backstop also seems to contradict the idea that "various units of the mineral . . . will be removed and used in order of accessibility, the most cheaply available first" (Hotelling, 1931: 140-1). That which is not obviously demonstrated by the equation, but is stated by Hotelling (1931) is the capital gains function which the net price path serves. The absence of dividends that can be drawn from minerals below the ground implies that the only way in which they can have capital gains and provide value for the owners is through the net price increase of the actual resource. This increase in net price must happen at the rate of interest otherwise it causes a distortion in the production schedule of the mineral resources. If the net price rises at a slower rate than the interest rate then mine owners will frontload the extraction and exploit the mines at a faster rate than is desirable (thereby causing exhaustion sooner than desired). If the net price rises at a faster rate than the interest mining will be delayed for longer than it should because resources would be a brilliant way to hold wealth due to the supernormal capital gains that result (Solow, 1974: 3).

Using some interest rate ( $\bar{r}$ ) we can use  $u(q)$  to find the present value (PV) of future enjoyment of resources, sum them and arrive at a value that gives the maximum social value that can be derived

from a natural resource over its lifespan, given the (known) amount available in total. What Hotelling shows is that in the absence of externalities, and with all the conditions of perfect competition in place, competition can give a welfare optimum, not just in a static model, but also in a dynamic one. Competition in the mining sector does not necessarily lead to the pillaging of resources. On the contrary, it tends to lead to the most responsible usage of resources. This socially optimal value can be calculated using the equation:

**Equation 2:**

$$V = \int_0^T u(q(t))e^{-\gamma t} dt$$

(Hotelling, 1931: 143)

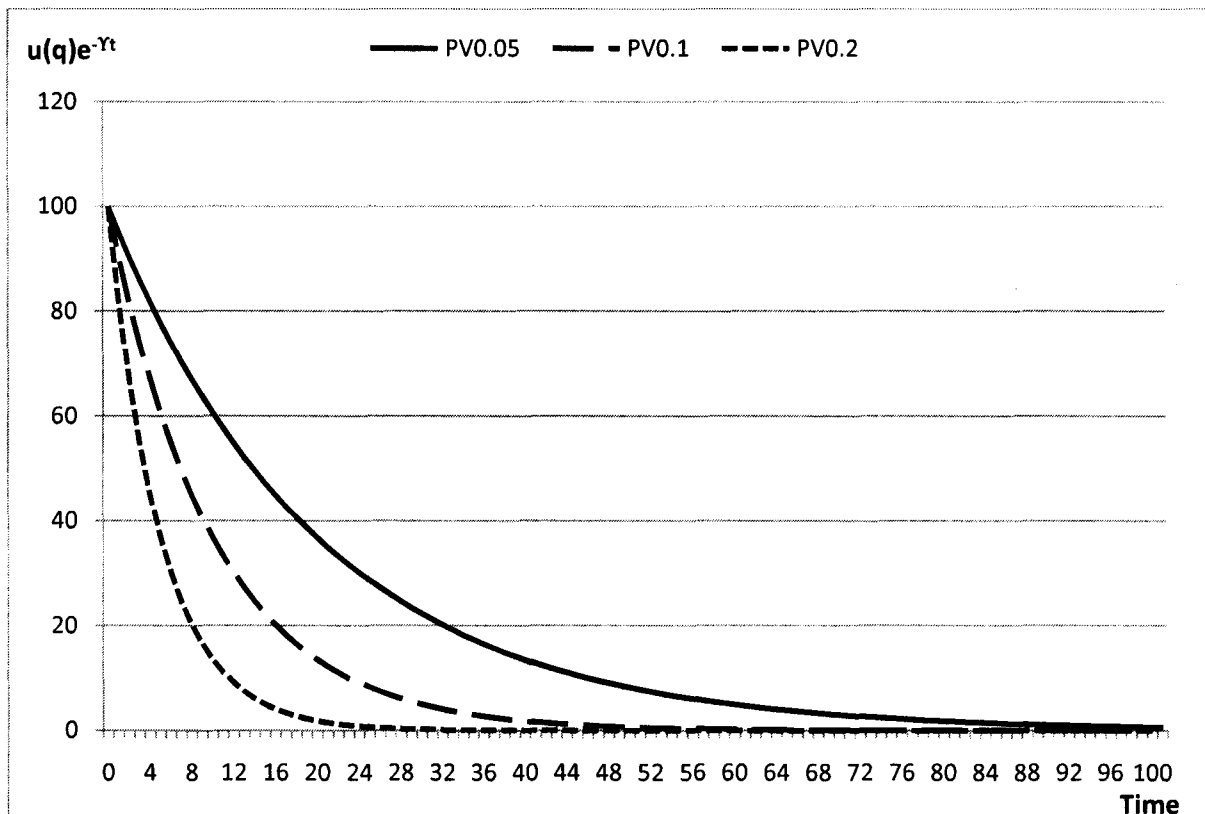
Equation 1 and 2 above simply show that free competition can be efficient even with non-renewable resources. The maximization problem of the resource industry can be solved under conditions of pure competition. The challenge of course is one of creating a situation in which free competition, in the true sense of the term, can thrive – so far not achieved anywhere in the world. How then can the resources industry be guided towards a production path that closely resembles one that would be achieved under conditions of free competition given the prevailing market imperfections. Some of these imperfections include negative externalities such as environmental degradation, pollution, monopolistic market structures, super profits that lead to distortions in investment patterns in the economy and information gaps (Lipsey and Chrystal, 2007).

Another important assumption made by Hotelling (1931: 145), so far taken for granted, that requires consideration is the idea that the market interest rate used by entrepreneurs can also be used to discount the future utility of resources not used today. There are a number of objections to this approach. Solow (1974: 8-9) points out a few of those objections.

The first objection points to the fact that a lot of the risks that individuals would add into the discount rate which make the future riskier for them are not societal risks (Solow, 1974). For example security of tenure – the loss of a resource by one person (ownership) does not mean that the resource is lost to society. If the stated objections are indeed valid, as they appear to be, making the market interest rate an unacceptable discount rate for social value, then there has to be some other way of arriving at an acceptable discount rate for social benefit. Though some may disagree, the real argument is not so much around the question of whether society should be discounting future values of  $u(q)$  or not, because as Hotelling points out, future pleasures are uncertain and that  $V$  and  $u(q)$  are concrete quantities, not mere symbols of pleasure (1931: 145). The question is at what interest rate those values should be discounted.

The discount rate is important because its value can tilt the entire production schedule. Figure 2 below shows three graphs derived using different rates to discount future utilities and graphing their present values assuming  $u(q)=100$  for every time period and  $T=100$  (table 1 in Appendix 1 contains some of the figures used to derive the graphs):

Figure 2:



What we see from figure 2 above is that using  $\delta=0.2$ ,  $u(q)e^{-\delta t}$  falls below a value of one for the first time after twenty-four years, with  $\delta=0.1$  it happens after forty-seven years and when  $\delta=0.05$  it only dips below 1 after ninety-three years. This demonstrates the fact that a lower discount rate results in a production schedule that will lead to a longer lifespan for the mineral resource. Those who argue against the use of the market rate to discount future utility usually argue that the “market rate of interest exceeds the social rate of time preference” (Solow, 1974: 8). Some go as far as to say that the social rate should be zero because every generation should be treated equally. If their view be the most accurate then resources are being exploited too fast, and therefore exhausted too soon (Solow, 1974: 8). The implications of this difference in opinion are profound.

If the market interest rate is too high, how then do we choose an appropriate discount rate for future utility? Since the intergenerational distribution of income or welfare depends on the provision that each successive generation makes for its successors, it must be that the choice of social discount rate is, in effect, a policy decision about the desired intergenerational distribution (Solow, 1974: 10). Who then or how should the choice be made? That question is a difficult one to answer, but what we now know is that the choice is an important one and must be treated with the weight it deserves, and every possible and necessary consideration must be accounted for where possible to arrive at the social discount rate. The idea of intergenerational distribution of resources brings to the fore a need for long term thinking about the production schedule and the value of adequate information about reserves, technology and demand trends (Solow, 1974: 13).

The important issue is the maximisation of the social value of the resources within an economy. The reason this is important to point out is the fact that there are those who could mistake a longer lifespan of resources as being the equivalent of increased social value, but that is not necessarily true. What we find for example, is that a resource mined under a monopolistic market structure is likely to last longer than it would if mined under conditions of pure competition. There are no welfare gains from the extension of the life of a mine. For example, if we were to assume isoelastic demand we would find that competitive firms and monopolies would essentially have the same extraction rate because the demand elasticity would be the same along the entire curve. Given the maximisation conditions in the two market structures,  $V$  (as in equation 2) for laissez faire and  $J$  (as in equation 3) for monopolies, we find that the duration of exploitation depends on whether  $p$  is finite or infinite in competitive markets and  $y'$  for monopolies (Hotelling, 1931: 151-2).

**Equation 3:**

$$J_t^h = \int_t^h p q e^{-\gamma t} dt \quad \text{Or} \quad J_t^h = \frac{\lambda}{\gamma} \left( q - \frac{y}{y'} \right) \Big|_t^h$$

(Hotelling, 1931: 150)

To make the point clear, an equation showing the relationship between  $p$  and  $y'$  was derived. After some manipulation we find that  $y' = p + (dp/dq) \cdot q$  (Hotelling, 1931: 151), which makes  $y'$  a function of  $p$ . The results: if  $p$  is infinite then  $y'$  is infinite; if  $y'$  is finite then  $p$  is finite. The implications: if exploitation is infinite in a competitive market then it will be infinite where there is a monopoly; if exploitation is finite with a monopoly then it must be finite under competitive markets – therefore exploitation under monopolistic conditions lasts at least as long as exploitation under competitive conditions. Solow goes as far as to say that “a monopolist will exhaust a mine more slowly than a competitive industry facing the same demand curve would do” (1974: 8).

This does not mean that monopolies bring about more utility to society. In fact, even with the above, pure competition still maximises the social value of a resource, whereas the monopoly simply maximises the profits of the monopolist. Under competitive markets the net price of the resource is expected to grow at the rate of the interest, under a monopoly structure it is the marginal profit (marginal revenue less marginal cost) that is expected to grow at the rate of the interest (Solow, 1974: 3). This is an important conclusion: in Hotelling’s world simply extending the life of a mine does not increase the utility it provides to society. What makes this conclusion important in this context is the fact that the South African mining tax is structured in a way that attempts to extend the life of mines in order to keep people in jobs.

### 3.3 Implications of the Theory

It would appear from the theory that more than all other things, the most important role that any government (or regulatory body) can play if it aims to maximise the social value of resources is foster conditions that increase the state of competition in the industry. If, however, the government aims to maximise social utility, it must first ensure that there is equality in the economy so that the use of one unit of a resource in any part of the economy holds the same value. After having ridden the economy of its inequalities, a competitive market becomes the most important goal.

If government cannot reduce inequality to negligible levels, it should aim to identify and legislate against externalities that are assumed away by economic theory, and ensure that the distribution of resources after they have been mined leans towards the poor, and are not used primarily for articles of luxury in economies with inequality. These interventions can range from super-taxes, royalty payments, community improvement projects by mining houses and in extreme cases nationalisation.

## **4 General Overview of the South African Mining Industry**

### **4.1 Industry structure:**

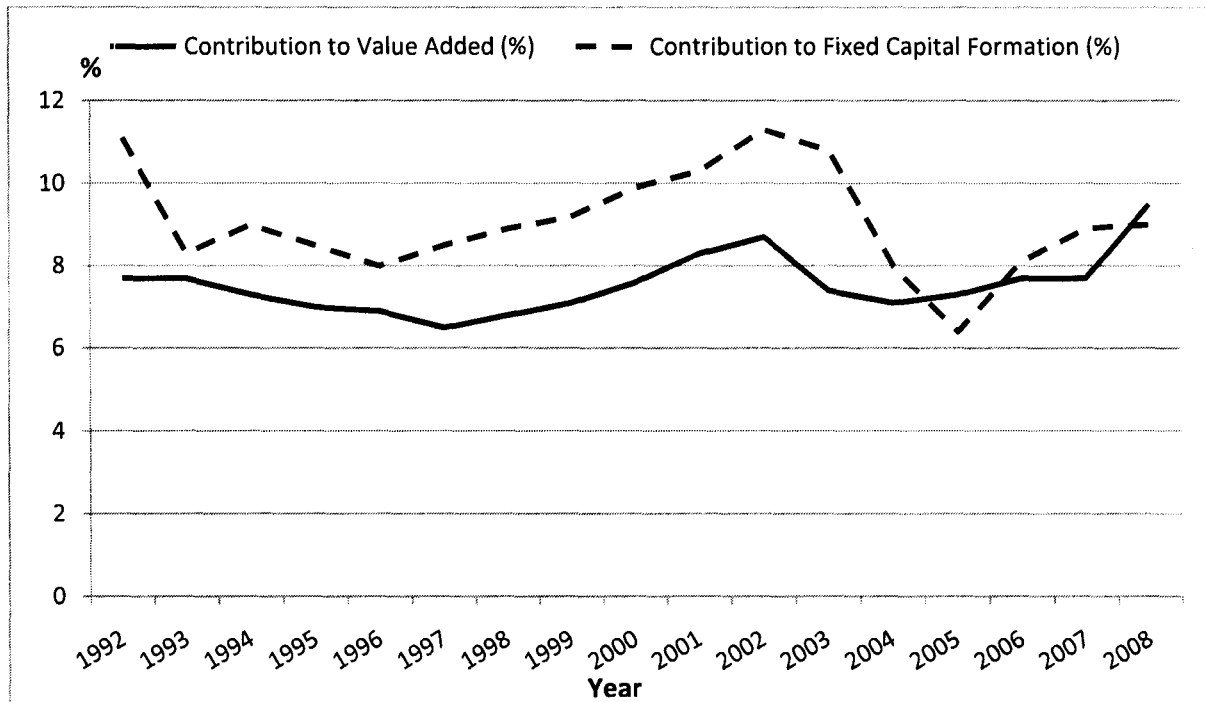
The mining industry in South Africa is run under principles of private enterprise, and the State's influence is limited to mere regulation and promotion of stated goals like equal opportunity for all. For a long period of time the mining industry was dominated by five mining houses, each with a number of autonomous mining and other companies, which controlled most of the mining and mineral processing activities in the country (Department of Mineral and Energy Affairs, 1996). The implementation of the MPRDA and the Mining Charter has led to increased participation by historically disadvantaged individuals and groups in the mining industry, though not enough have benefitted from the industry to undo past injustices.

Mining is South Africa's largest primary sector industry (Department of Mineral Resources, 2009). About fifty-three different metals were produced in South Africa from over one thousand five hundred mines in 2008 (Department of Mineral Resources, 2009). In the past underground rights could be privately held, and indeed could be held separately from surface rights. Currently, however, all mineral rights are vested in the State, a correction which was only made after the MPRDA was enacted in 2004 (Department of Minerals and Energy, 2003)

South Africa holds some of the world's largest reserves; eighty-eight percent of the world's platinum group metals reserves, eighty percent of the world's manganese reserves and seventy-two percent of the world's chrome reserves (Department of Mineral Resources, 2009). These are reserves that the country is known to have without having made use of more modern exploration technologies so the potential for more discoveries is substantial. This means that the earning potential of the South African mining industry is yet to be fully identified.

## 4.2 Economic significance of Mining Industry

Figure 3: Mining industry's contribution to the economy

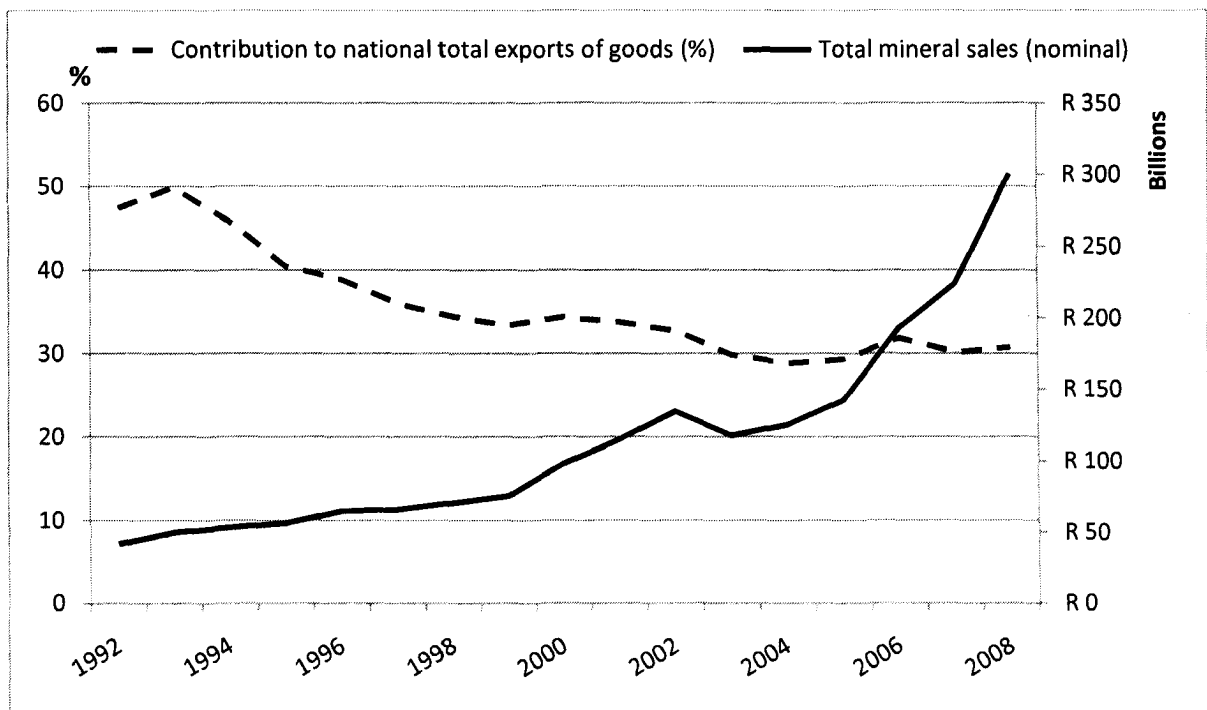


Source: South Africa. Department of Mineral Resources (1989-2009)

The mining industry's contribution to Gross Domestic Product (GDP) has fluctuated around the eight percent of GDP figure for most of the period between 1992 and 2008 as illustrated in figure 3 above. The average annual contribution to GDP by the mining industry during this period was 7.5 percent. In Rand value terms, mining has contributed an average of R1 456 636 million to GDP per annum between 2002 and 2008. Its contribution to Fixed Capital Formation however, has been a little more erratic, going as high as 11.3 percent of GDP and dipping as low as 6.4 percent of GDP at various points over the same sixteen year period. The average annual contribution to fixed capital formation has been higher than that of GDP, at 9.1 percent per annum. In Rand terms this translates to an average figure of R179 701 million per annum between 1992 and 2008 (Department of Mineral Resources, 2009).

The proportion of total national exports contributed by mineral resources dropped by almost 20% between 1992 and 2008 (Department of Mineral Resources, 2009). This figure peaked at almost fifty percent in 1993, dipping as low as twenty-nine percent in 2004 (Department of Minerals and Energy, 2004). This remarkable drop is in no way due to a drop in the amount of resources exported by the industry, total export sales were on the increase throughout this period, it is more a result of the diversification away from the mining industry of the goods exported by the country.

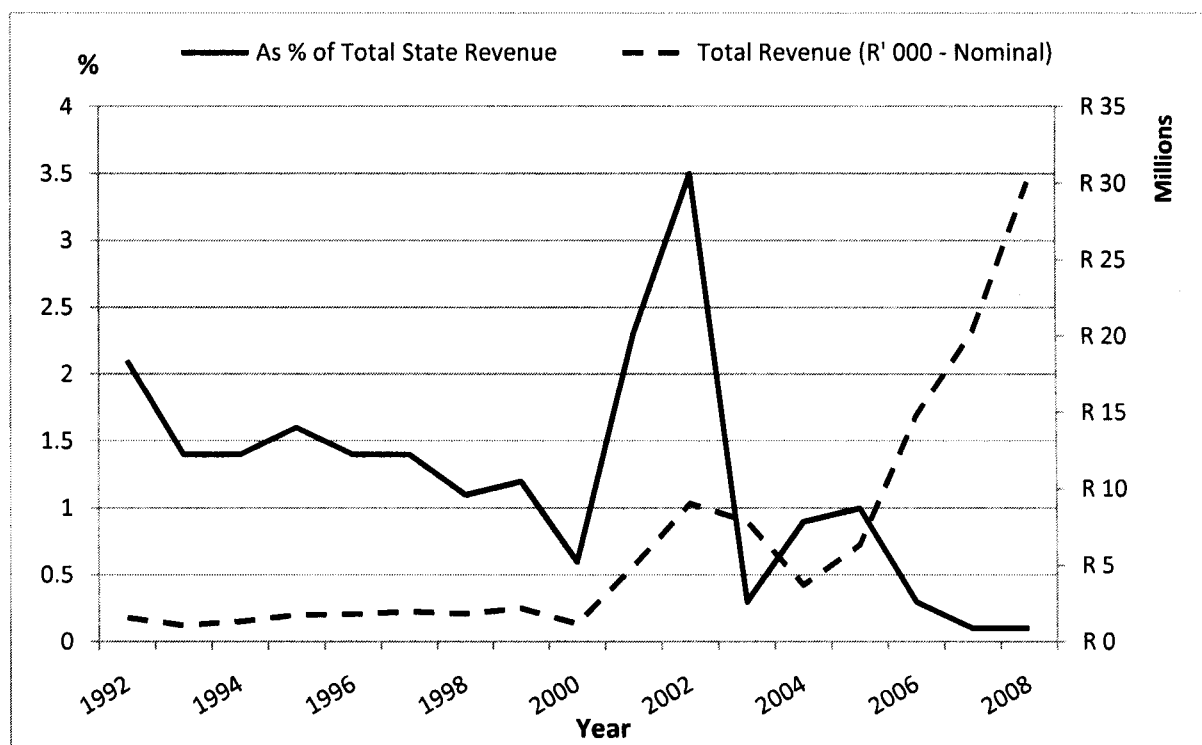
Figure 4:



Source: South Africa. Department of Mineral Resources (1989-2009)

An important aspect of the mining industry is its contribution to the government's budget in the form of tax revenue and other income. Total government revenue contributed by the mining industry increased by over R28.5 billion from 1992 to 2008, from a mere R1.5 billion to R30.08 billion in nominal terms (Department of Mineral Resources, 2009). This nineteen fold increase in actual revenue accruing to government from the mining industry has been accompanied by a decrease in the importance of mining industry revenue to the government as a percentage of total government revenue. When expressed in percentage terms, 2008 mining industry revenue only comprises 0.1 percent of total government revenue, down from 13.1 percent in 1987 (Department of Mineral Resources, 2009). Given that the actual amount contributed by the mining industry has only increased over time, the decline in its significance to the government coffers must be a result of improved revenue collection by the South African Revenue Services (SARS), a more diversified and growing economy and a bigger taxpayer base.

Figure 5:



Source: South Africa. Department of Mineral Resources (1989-2009)

High unemployment is the big problem that most government strategies are trying to solve in South Africa. In 2008 the mining industry employed 2.9% of the total economically active population in the country (Department of Mineral Resources, 2009). The over 500 000 people employed in the mining industry receive total remuneration of R60.876 billion, at an average salary of just over R117 000 per annum per employee (Department of Mineral Resources, 2009). The mining industry has managed to keep their rising remuneration bill between twenty and thirty percent of the total revenue of the industry for the roughly three decades long period between 1983 and 2008 (Department of Mineral Resources, 2009). One of the ways in which the industry has managed to do this is by reducing the average number of people employed in the industry over time. The number of people employed in the industry has decreased by almost 200 000 since the early 1990's (Department of Mineral Resources, 2009).

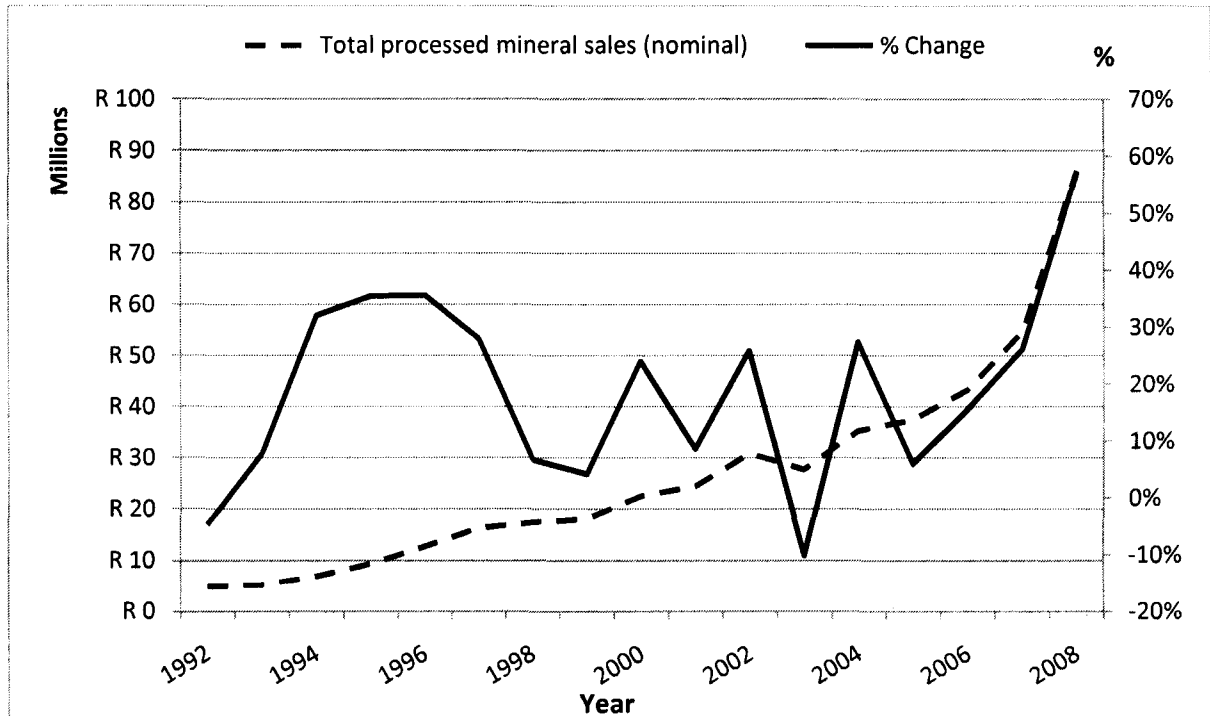
### 4.3 Beneficiation:

"Beneficiation . . . involves the transformation of a new material (through the production process) using local resources, to a more finished product, which has a higher value than the sale of the raw material for export," (South Africa. Department of Minerals and Energy, *South Africa's Mineral Industry report 2002/03*, 2003: 16).

Local beneficiation, which many believe could be the key to solving the unemployment problem in South Africa, has taken on a new energy since the new democratic dispensation came to power. The average growth in local and export sales of processed mineral products between 1994 and 2008 was twenty-two percent per annum. Even with this phenomenal growth in beneficiation in South Africa, there remains a lot of room for increased and improved beneficiation in South Africa. For one, as a percentage of total primary mineral sales, processed mineral sales only make up twenty-nine

percent for the year 2008. Secondly, “South Africa is only at the first stage of beneficiation, characterised by capital intensive plants with low employment levels engaged in the production of mass intermediate products” (South Africa. Department of Minerals and Energy, *South Africa’s Mineral Industry*, 2003: 16). Of even more importance is the fact that much of the beneficiation that occurs in South Africa is energy intensive, for example smelting and rolling, which requires a lot of electricity. Beneficiation in South Africa is therefore characterised high capital costs, high energy usage and low labour intensity.

**Figure 6:**



Source: South Africa. Department of Mineral Resources (1989-2009)

As can be seen from figure 6 above, there has been a steady increase in the actual sales volume (in R' 000 – nominal values) of processed minerals since about 1994. The annual percentage growth, however, was a little unstable in the first few years of the twenty-first century, but appears to have stabilized since around 2005. There is a lot to be done to ensure that more beneficiation occurs in South Africa, both qualitative and quantitative. The government is committed to the promotion of beneficiation, as is made clear in the MPRDA, where it is economically justifiable.

## 5 African National Congress Youth League proposal: Strengths and Weaknesses

### 5.1 Introduction

No matter the position held on the question of the nationalisation of the mining sector, the ANCYL must be commended for having identified a wide perception that there is a problem with the distribution of the benefits accruing from the mining of resources in South Africa amongst the citizens of the country. Whether the problem is real or perceived, it is politically relevant. Accepting

this as a starting point the primary objective becomes finding a workable solution to that particular problem; a solution that will not retard the growth prospects of the South African economy.

## **5.2 Strengths of the Proposal**

### **5.2.1**

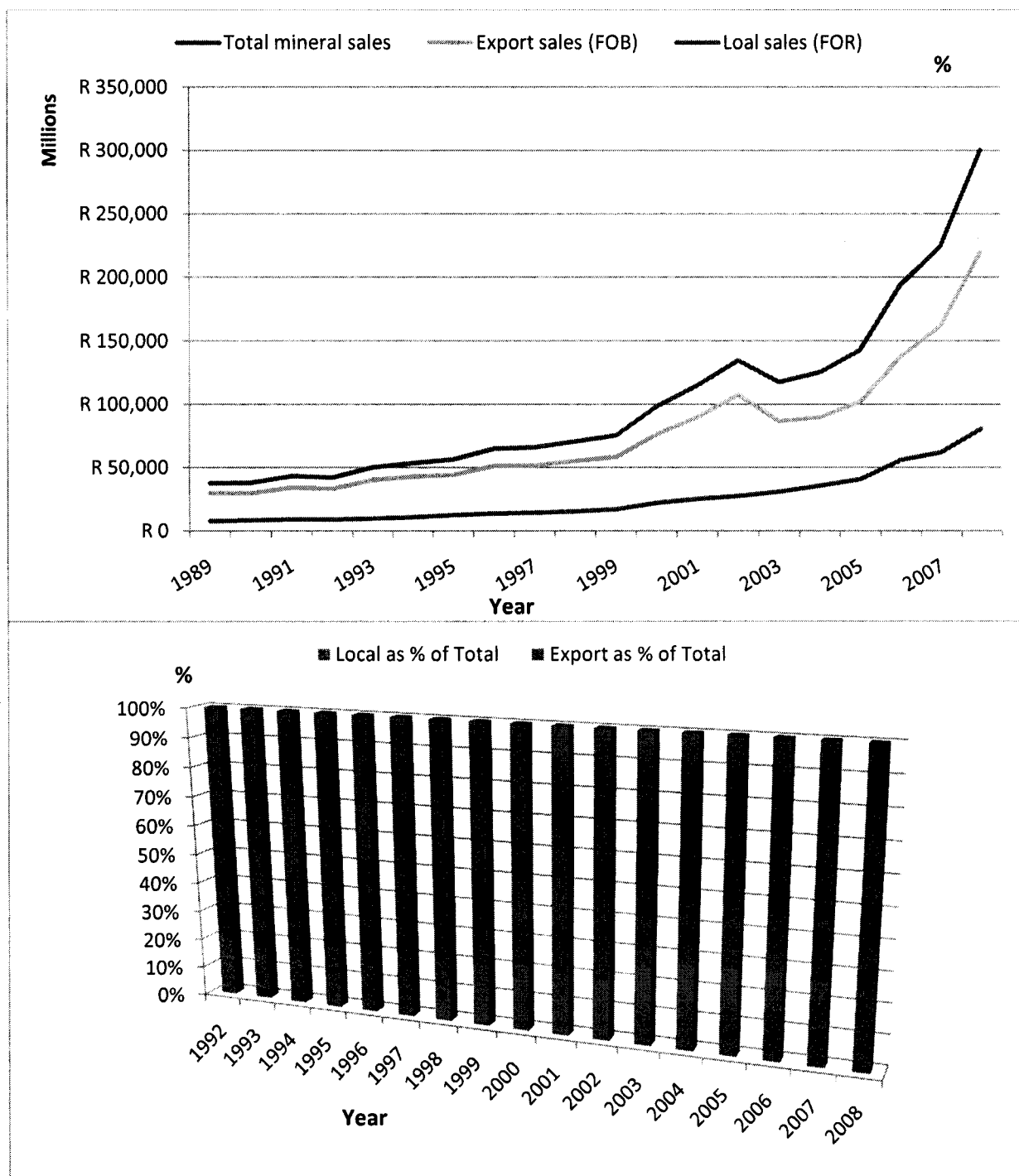
The ANCYL document gives a clear definition of what they consider to be the nationalisation of mines; “the democratic government’s ownership and control of mining activities, including exploration, extraction, production, processing, trading and beneficiation of mineral resources in South Africa” (ANCYL, 2010: 2).

Although far reaching, it is a comprehensive definition of what a nationalised mining industry would be according to the ANCYL. The matter to address is the desirability of such a state of affairs and what impact this would have on the economic fortunes of South Africans. Even more important to discuss is whether there exist alternative (and economically superior) solutions.

### **5.2.2**

The ANCYL discussion paper contends that the South African economy is inadequately diversified. The primary reason cited for this is that it “has been based on the production and export of minerals” (ANCYL, 2010: 4). A majority of South Africa’s industries are historically interlinked with the mining industry. The lack of diversification is partly due to two reasons. Firstly, little to no beneficiation of minerals takes place in South Africa and secondly local consumption of minerals for the development of the country is not prioritised by the mining industry, such that much of the minerals extracted from South African soil are sold to consumers outside the country (ANCYL, 2009). There therefore exists a need for the government to in some way direct the use of minerals extracted in South Africa (ANCYL, 2009). The MPRDA puts all the power in the hands of the holder of the right in question, to do what they want with the minerals they find in the land that they hold the right for; “Subject to this Act, any holder of a prospecting right, a mining right, exploration right or production right may . . . remove and dispose of any such mineral found during the course or prospecting, mining, exploring or production, as the case may be” (MPRDA, 2002: 11). It is worth noting, however that the percentage of total sales that is made up of local sales has steadily, albeit slowly, increased from fourteen percent in 1986 to twenty-eight percent in 2007 (Department of Minerals and Energy, 2008). This is insignificant as a share of GDP due to the much depressed share that mining now holds in South Africa.

Figure 7: Mineral Sales (Nominal)



Source: South Africa. Department of Mineral Resources (1989-2009)

### 5.2.3

The Youth League argue that the manner in which the mining industry has developed in South Africa has entrenched an unequal wealth distribution and led to uneven spatial development across the country. The dominance of a few monopolies in the South African mining industry ensures that the benefits of mining in South Africa only accrue to a small sub-section of the population. In their view the ownership of the mining industry by the states is one way to ensure that the benefits of mining in South Africa accrue to more South Africans, but that process will need to be complimented by a

huge effort to substantially decrease inequality in the country. This, they argue, can only happen if the monopoly stranglehold of the South African mining houses is released and new, formerly disadvantaged, entrants are able to penetrate the industry (ANCYL, 2009).

On the other hand, the MPRDA gives the Minister of Minerals and Energy the power to “facilitate assistance to any historically disadvantaged person to conduct prospecting or mining operations” (MPRDA, 2002: 13), taking into account their financial position before extending the assistance. The Act also tasks the minister to develop a broad-based socio-economic empowerment charter (the Mining Charter) so as to achieve the government’s goals of redressing, social and economic inequalities. The Mining Charter is meant to “set the framework, targets and time-table for effecting the entry of historically disadvantaged South Africans into the mining industry, and allow [them] to benefit from the exploitation of mining and mineral resources” (MPRDA, 2002: 43). The limitation is that the structure and manner in which historically disadvantaged persons are supposed to access this assistance is not made very clear in the Act.

The Mining Charter has been developed. In its vision it states that it is “in the pursuit of a shared vision of a globally competitive mining industry ... [and] to create an industry that will proudly reflect the promise of a non-racial South Africa” (The Mining Charter, 2002: 1) that the actions and commitments within it are set out. The Charter contains quite specific targets for the transformation of the mining industry, but ANCYL suggest that the targets are not far-reaching enough to ensure that the benefits of the mining industry accrue to a broad group within South Africa. If anything, they say, these seem to be set out in a manner that will reinforce the dominance of a small elite, albeit of a different racial group.

#### 5.2.4

Uneven spatial development is another matter raised by the ANCYL. The extent of the unevenness of spatial development in South Africa is best captured in the following assertion:

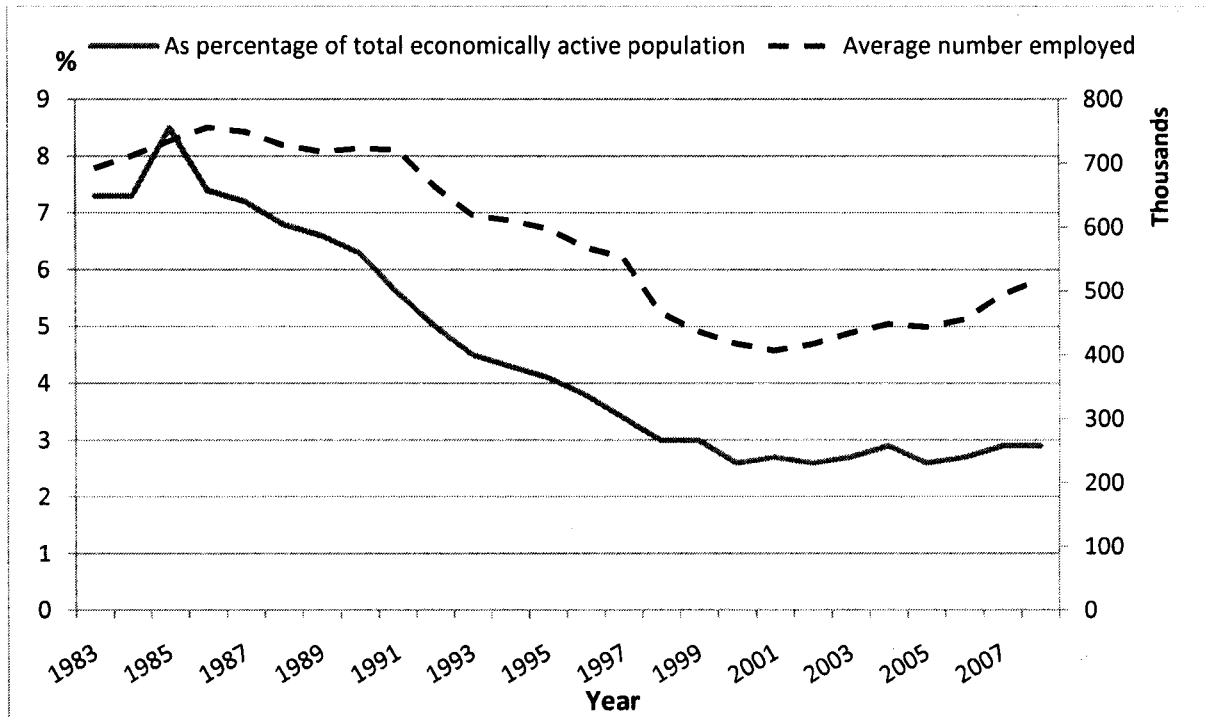
“26 locations represent the engine of the South African economy, home to 77% of all people living under minimum living level in the country, 84% of the total population and generating 95% of the national Gross Value Added” (ANCYL discussion document, 2009: 17).

This is the kind of impact that the inequality that is reinforced by income patterns established by the skewed distribution of the benefits of the mining industry, and the wider South African economy, has had on the spatial development in South Africa. They suggest that the only mining town that has been able to develop beyond its mining activities is Johannesburg, while all the others are subject only to primary mining activities with little to no development of other industries taking place within their boundaries (ANCYL, 2009). Though it could be argued that Ekurhuleni and Durban have their roots in mining activity as well, the point is that only a few mining towns have developed beyond their mines. On the strength of this assertion, the ANCYL suggests that mineral-centred Industrial Development Zones should be created in the locales where mining is taking place, but high levels of poverty and unemployment persist (ANCYL, 2009) is not a bad one, though a lot more detail on how they would work is necessary. The strength of the ANCYL document is its identification of the uneven spatial development in South Africa, however, the solutions suggested are not as well articulated.

### 5.2.5

The ANCYL discussion document correctly points out the fact that mining in South Africa has become increasingly capital intensive, and that this may be contributing to the ever growing unemployment problem in the country. As the graph in figure 8 below shows, the total number of people employed in the primary mining industry steadily dropped between 1986 and 2001 before rising again a little bit between 2002 and 2008.

**Figure 8: Employment in Mining (1983-2009)**



Source: South Africa. Department of Mineral Resources (1989-2009)

The absence of any significant beneficiation of minerals in the country means that the loss of jobs in the primary mining sector is not in any way compensated for by the creation of jobs at secondary or tertiary levels of the industry. What the discussion document fails to account for is the efficiency gains that have led to the loss of jobs in the primary sector. The reduced number of workers in the industry has been able to increase production throughout the period between 1986 and 2007, which means the industry has managed to increase the per worker production figures. In addition to these efficiency gains, it is widely accepted that South African mines are running far deeper now and are almost mined out, which also increases the job shedding rate.

### 5.2.6

The document proposes that it is important to find a way that beneficiation of minerals mined in South Africa and elsewhere in the world can be done in South Africa, such that what is exported from here already has close to maximum value added to it, and it is not just the primary commodities being exported. Two obvious reasons for this; first is the job creation aspect it would bring and second would be the economic growth it would lead to. However, the MPRDA already empowers the Minister of Minerals and Energy to promote the economic beneficiation of minerals in South Africa and anyone wanting to beneficiate any mineral mined in South Africa may only do so

after written notice and consultation with the Minister (MPRDA, 2002). The Minister of Minerals and Energy also has the power:

“to make regulations regarding . . . the exploitation, processing, utilization or use of or the disposal of any mineral; . . . [to prohibit] the disposal of any mineral and the use thereof for any specified purpose or in any specified manner or for any other purpose or in any other manner than a specified purpose or manner; [and authorise] the restriction or regulation in respect of the disposal or use of any mineral in general” (MPRDA, 2002: 45-46).

This gives some scope for the possibility of minerals being beneficiated in South Africa and creating the jobs needed to improve the employment problem in the country, on the grounds that the enforcement of local beneficiation must be done at a point when it is economically efficient to do so. This makes sense for a ‘normal’ State. Once the idea of a development State is brought into the picture it becomes a lot less clear. If South Africa is indeed a developmental state then an argument could be made for the promotion of beneficiation projects that are not necessarily economically efficient right now, with the hope that the industry will develop its own momentum and with eventual economies of scale and scope, become globally competitive. Before that can happen, the debate on the developmental state must be settled.

### **5.3 Weaknesses of the proposal:**

#### 5.3.1

Although a comprehensive definition of nationalisation is given in the discussion document, the form which it would take is left undefined. Various options of what the form could be are put forward: “. . . nationalisation, like its opposite, privatisation, can assume various forms: it can be 100% public ownership, or 51% or more owned by the state, or established through partnership arrangements with the private sector in which the state assumes greater control” (ANCYL, 2009: 3). The discussion document also fails to establish a position on whether the expropriation of privately owned mines would be with or without compensation, stating that it could be either one or the other, depending on the merits of each case (ANCYL, 2009). The deeper challenge is the absence of clear guidelines showing which mines ought to be expropriated with compensation and which ones should not, leaving the system wide open for abuse. The problem with this is that it leaves room for uncertainty and can create panic within the community of mine owners and investors in the industry. Clarity about the process is crucial for the success of nationalisation programmes (Coleman, 1991: 41).

The absence of a clear position on compensation within the ANCYL document is made to appear even worse by the fact that the MPRDA gives the Minister of Minerals and Energy the power to, “in accordance with section 25(2) of the Constitution, expropriate any land or any right therein and pay compensation in respect thereof” (MPRDA, 2002: 30). It being expropriated in accordance with section 25(2) of the Constitution means that it must be expropriated “for a public purpose or in the public interest” (The Constitution of South Africa, 1996). According to section 25(4) of the South African constitution the public interest includes: “the nation’s commitment to land reform, and to reforms to bring about equitable access to all South Africa’s natural resources natural resources” (The Constitution of South Africa, 1996). Basically, the current laws and regulations already grant concession for the expropriation of mining rights, but the holders must be compensated. An additional safeguard built into the regulation is the requirement that when land is expropriated, it be

done in cases where it is for a public purpose or interest. This achieves the same objective without causing panic in the economy.

### 5.3.2

As part of the nationalisation strategy, the ANCYL proposed the formation of a state mining company that would take over the operations of Alexkor, the State Diamond producer and trader, and take control of all state shares in mining activities in the country. The weakness about the formation of this entity as envisioned by the ANCYL is that it lacks a clear overarching objective that it would be mandated to achieve. The absence of one clear objective will probably lead to a tug of war, with one group pulling in one direction and another group pulling in another. Its objectives are given as job creation, maximisation of the country's gain from mineral resources, contribution to socio-economic development and assistance of communities where mining happens (ANCYL discussion document, 2009: 19). Not only are the goals numerous, they are unclear and almost immeasurable.

### 5.3.3

The biggest weakness with the ANCYL discussion paper is its inability to make a connection between the problems it does so well to identify and the manner in which the suggested solution, nationalisation of the mining industry, will solve them. Though nationalisation is the ANCYL's chosen tool to address the problems identified, it has never detailed how it will address them. No other possible alternative is explored in the ANCYL discussion document, what makes nationalisation better than any other tool is not detailed in the discussion document.

## 6 Conclusion

### 6.1 Increasing the State's Fiscal Capacity

The main driver of poverty and inequality reduction in South Africa since the dawn of democracy in the country has been the government. The government has, through various laws and budgetary means, driven the process of income redistribution and increasing equal access to opportunities, spending R89 billion on social grants alone and R165 billion on education in the 2010/11 financial year (Gordhan, 2010). Though the success of government has been limited, there has been a bigger push by government to champion poverty reduction and equality, even with limited resources, than by the private sector. The argument therefore would be that if more resources were to be handed to government, the poverty reduction process could be a lot faster. The counter to it is that if government is failing to use the resources it currently has effectively and efficiently then there is no reason that having more would lead to improvements. The fact that government employs almost 25% of South Africa's workforce suggests that it is already too big and at risk of crowding out the private sector if it were expanded any further. The focus should be on creating an environment within which the private sector can create more decent jobs.

Between 1994 and 2008 government received a total R109.267 billion in revenue from the mining industry in the form of taxes and export duties (Department of Mineral Resources, 2009). Taking the remuneration figures given by the Department of Mineral Resources for mining industry employees and how big a percentage of revenue they make up, figures for total mining revenue were calculated for the period 1983 to 2008. Assuming distributable profits of the mining industry to be ten, twenty,

thirty and forty percent of total revenue, figures for mining profits were calculated. Assuming government ownership of 51% of the mining industry at large, the amount of income that could have accrued to government between 1994 and 2008, at those various profit levels, was calculated. What was found, as can be seen in Table 1, is that even at a mere ten percent of mining industry revenue, the profits that could have accrued to government if the State owned 51% of the mining industry over that period came to R91.924 billion, only R17.343 billion short of what government amassed in taxes and export duties from the industry over the same period. When the profit level of the mining industry is assumed to be twenty percent of total mining industry revenues, the income accruing to government jumps to a staggering R187.525 billion, outstripping government tax and export duty revenue by R78.258 billion. If the profit levels of the mining industry are at forty percent of total revenue, then government would have garnered R375.050 billion, a sum that is more than forty percent of the consolidated budget of government for the year 2010/11 (Gordhan, 2010).

From the table below it can be seen that the flow of revenue to government from mining profits (had they held a 51% stake in the industry) would have been more than R20 billion per annum from the year 2001 – at a 20% of revenue profit level. The significance of these numbers becomes more pronounced when the size of certain important government expenditure figures are highlighted. For example, R52 billion was set aside for various public works projects over a three year period (Gordhan, 2010). With this figure in mind, a R187 billion boost in revenue for government takes on a new meaning.

Assuming, as the Department of mineral resources does, that production and sales will increase going forward, the argument for increased State ownership of the mining industry, on the basis of trying to increase government revenue, cannot be faulted. If the trend is anything to go by, the revenue of the mining industry will increase substantially over the next decade. What is important to note at this point is the fact that government ownership would be limited to being a majority shareholder and allowing all other things to run as they do in the mining industry at the moment. That failing, no guarantees can be made about the manner in which the industry will develop going forward. Essentially, nationalization will be most useful for government if it is permitted to develop in a manner that permits the private sector business model to continue. If it is run in a way that prioritises other things and “not in order to maximise profits” (ANCYL, 2009: 7) as the ANCYL suggests, it might not be as successful as it is needed to be. From the “Economics of Depletion” chapter above, what is important to realise is that Hotelling’s model and findings are set within a dynamic setting – would nationalisation still hold in a dynamic setting within which all factors vary in response to changes in other factors?

Table 1:

Year	Total Remuneration	As % of total mining revenue	Total Mining Revenue	Mining profits			
				10% of rev	20% of rev	30% of rev	40% of rev
	Nominal						
	R' million	%	R' million	R' million			
1983	3569	21.9	16297	1630	3259	4889	6519
1984	4141	21.7	19083	1908	3817	5725	7633
1985	4853	18.7	25952	2595	5190	7786	10381
1986	5784	19.6	29510	2951	5902	8853	11804
1987	6916	24.1	28697	2870	5739	8609	11479
1988	7915	23.5	33681	3368	6736	10104	13472
1989	9055	24.1	37573	3757	7515	11272	15029
1990	11182	29.4	38034	3803	7607	11410	15214
1991	12621	29.1	43371	4337	8674	13011	17348
1992	12656	30	42187	4219	8437	12656	16875
1993	12827	27.4	46814	4681	9363	14044	18726
1994	13641	26.9	50710	5071	10142	15213	20284
1995	15485	28.1	55107	5511	11021	16532	22043
1996	16885	26.8	63004	6300	12601	18901	25201
1997	18644	27.9	66824	6682	13365	20047	26730
1998	19240	27	71259	7126	14252	21378	28504
1999	20138	26.3	76570	7657	15314	22971	30628
2000	22127	22.5	98342	9834	19668	29503	39337
2001	24409	21.2	115137	11514	23027	34541	46055
2002	26406	19.3	136819	13682	27364	41046	54727
2003	30801	26	118465	11847	23693	35540	47386
2004	33656	26.9	125115	12512	25023	37535	50046

2005	36682	25.7	142732	14273	28546	42819	57093
2006	38989	20.1	193975	19398	38795	58193	77590
2007	50072	22.3	224538	22454	44908	67361	89815
2008	60876	20.3	299882	29988	59976	89965	119953
Total: 1994 - 2008				183848	367696	551544	735392
51% of Total				91924	187525	281287	375050

The additional income that would flow to the government budget that would come from the additional revenue earned in the form of dividends from the mining industry could be used to invest in beneficiation initiatives in the country. It would make it possible for the government to more than just promote the idea of beneficiation at a secondary and tertiary level. It would give the government the means by which to implement their strategy. The increase in local beneficiation, as has been stated elsewhere, would most likely lead to a decrease in unemployment which would directly impact the poverty levels in the country.

The statement was made above that it is important to determine whether state ownership would enhance that industry's ability to contribute to the achievement of poverty and inequality reducing economic growth. Based on the table above, it is clear that a 51% ownership of the mining industry would greatly enhance the State's ability to fund projects that would lead to faster poverty reduction and ensuring equality amongst South Africans. Bearing the fact that the government has done more to achieve these two goals than the private sector appears willing to do, it is tempting to agree with the idea that the increased flow of profits within the mining industry to the government would enhance the mining industry's ability to contribute towards the achievement of poverty and inequality reducing growth. In theory all that is left to determine is the best way to ensure that the super profits flow to the government, ownership or regulation? Unfortunately this only holds in a model in which all that changes is the government stake in the mining industry. Once other dynamics come into play – the cost of acquiring its shareholding, the impact on local investment and FDI, the profitability of nationalised mines etc. – the model near well collapses. Acquiring a 51% stake in Anglo-Gold Ashanti alone would cost the government R269 163 419 613.57 (The market cap of Anglo-Gold Ashanti is R527 771 411 007 (Standard Bank, 2011) – over R500 billion) at the current market cap of the company.

## 6.2 Transforming the Accumulation Path

The “social value of the resource, [when defined as] utility or the happiness to which it leads for a society . . . depends upon the distribution of wealth, and is greater if the products of the mine benefit chiefly the poor than if they become articles of luxury” (Hotelling, 1931: 145). Although free competition tends to maximise the total production of goods within the mining industry (Hotelling, 1931: 143), it does not necessarily maximise the utility derived from the mining industry within an economy which is characterised by huge inequality and uneven spatial development.

There are essentially two areas of focus for a government within the resource market that could assist in increasing the social utility derived from the exploitation of exhaustible resources. The first area is the production schedule of the resources and the factors that influence it. As seen thus far, the production schedule gives the maximum social value of the resource when it is determined within a competitive market. This means that the best thing a government can do to get the maximum possible social benefit from mining industries is to foster conditions of pure competition. The second area is the distribution of the benefits of resources once they have been mined or extracted. Utility increases if resources are being directed to areas of need for the poor instead of going to the production of luxury goods.

In order to know what needs to be done to make the resources market competitive, it is important that we know what assumptions are made in economic theory about the condition of perfect competition. Most principles texts (e.g. Lipsey and Chrystal 2007), describe perfect competition as a situation in which the following assumptions hold:

There are many buyers and many sellers in the market, none of whom can influence the market demand or supply

- All firms sell a homogenous product
- Each firm is a price taker
- There is perfect mobility of resources, i.e. free entry and exit is possible
- There is perfect information available to both buyers and sellers

There are also assumptions made by theorists in the exhaustible resources economics field that are specific to ensuring a competitive equilibrium in the mining industry. These include:

- Society discounts future enjoyment of resources at the same rate that mine owners discount their profits
- Net prices rise at the rate of interest, independently of what mine owners do
- The size of the ore body is known from the start

The conditions needed in order for these assumptions to becoming the reality are near impossible to create. This makes pure competition near impossible to have. In South Africa especially, there exists a number of “price distorting monopolies” (Hotelling, 1931: 138) and given the depths at which some of the minerals are mined, there certainly isn’t homogeneity of product. Given the above, the government’s focus must therefore be on the distribution of the benefits of mining so as to maximise the utility derived from them. This requires the transformation of the accumulation path of South Africa from one that consolidates wealth within a group of a few, to one that ensures that the majority can benefit from all economic activity.

If the ideal conditions of competition were present in industries where the exploitation of natural resources occurs, laissez faire would lead to the production of a maximum social value of the resources exploited. “However, there are in extractive industries discrepancies from our assumed conditions leading to particularly wasteful forms of exploitation which might well be regulated in the public interest” (Hotelling, 1931: 144). The South African mining industry is not maximising the social value of resources because it has been and continues to be dominated by a few big companies, much less the utility derived from it by the South African society. Even if there were competition in

the industry, the conditions actually prevailing are likely to be far removed from the ideal situation spoken about in economic theory (Hotelling, 1931). Herein lies a possible motivation for the nationalisation of the mining industry. If the current market structure in the mining industry is not conducive of a social maximum, then it could be possible that transferring the ownership of the industry to government could lead to a better use of minerals, directing the benefits more to the poor than the rich, and thereby increasing the social value of resources. As it stands, the market structure is distorted and only a select few (who are already rich) are benefitting from the mining industry so the social value of South Africa's minerals is way below its potential value.

### **6.3 To Nationalise or Not to Nationalise**

The MPRDA defines all South Africans in a manner that includes future generations as well (MPRDA, 2002). This puts additional responsibility on the government to safeguard the mineral resources of South Africa for future generations as well. Intergenerational equality is made important by the definition of all South Africans given in the MPRDA. As we have seen from the theory on the economics of depletion (chapter 3) the choice of discount rate becomes very important when future generations are brought into play. What we find is that both the private sector and government are placed under pressure to discount the distant future quite highly for two different reasons, quarterly reports and elections respectively. Who then is best placed to choose a discount rate that will be closest to zero and safeguard the interests of future generations in the currently available mineral resources? This is but one thing to consider when deciding who should have ownership over the nation's mineral resources.

Direct participation in the mineral resources industry by the majority of the nation's living population is difficult to ensure because of the various barriers to entry into the industry, the biggest of which is financing. Knowing this, it is evident that the only way for the majority to benefit from the mining industry is if the government plays its role of representing the people and using its revenue to create a better life for all. The creation of this better life must entail two elements: using the profits of the mining industry to develop the nation and using the actual minerals themselves in the development process of the country by prioritising South African mineral resource needs above export sales.

Would nationalising the South African mining industry enhance its ability to contribute to the achievement of poverty and inequality reducing economic growth? If we assumed that the government could simply be handed 51% of the mining industry without disrupting the status quo (in terms of productivity, investment activity and growth) then the answer is a resounding yes. Nationalising the mining industry would increase the government's revenue if the government did not have to pay to nationalise it – assuming that the mining industry would still be taxed in the same way it is currently being taxed, and the mining industry profits would be additional revenue to the tax revenue already generated from the industry by government. This revenue could be used to improve spatial development in areas where mining occurs, but poverty persists, fund beneficiation projects around the country, thereby creating new jobs and reducing inequality in South Africa. If the government buys its share of the mining industry then there will be little to no net gain in terms of revenue. Assuming that the price they pay is the market price (which is the present value of the expected stream of earnings to be generated) then nationalising the mines would simply be a time

and resource consuming process that will simply shift income from private hands to government. Acquiring 51% of just one Johannesburg Securities Exchange (JSE) listed company would cost R269 163 419 613.57, just over R10 billion more than what the government would have made between 1994 and 2008 (at a 30% of revenue profit level) from the mining industry if it owned a 51% stake in the entire mining industry. In addition to the cost, there is also the question of whether nationalised mining industry would run well enough to ensure that the revenue actually generated and flows to the government. The “lootability” of mining industries, as pointed out by Netshitenzhe (2010), is a real issue of concern.

The one way that looting could be avoided is through the establishment of private-public partnerships in which the government takes a significant equity stake in mining activities across the mining industry’s value-chain without being fully responsible for the decision making and the day-to-day running of the mines. All things considered, nationalisation does not seem like an economically viable or sustainable option for the South African government.

The truth of the matter is that “considerations of efficiency are but one small basis of decision [making] and often relatively minor at that” (Rawls, 1971: 260). The restoration of justice should also be a big factor in the decision to either nationalise or not to nationalise. On the one hand, if mines and mining rights can be justly expropriated by the government, then efficiency of the mining industry could probably be guaranteed. This, however, raises the question of what just expropriation would be, how much it would cost the government and whether government can afford it or not.

On the other hand, justice is also important when considering the millions of South Africans who have been systematically excluded from the economy and its benefits over time. If nationalising the mining industry can restore justice to those people then it is an imperative that the government must pursue. The failure to restore justice in South African society will lead to eventual instability (Rawls, 1971). The evidence seems to suggest that there are other, less costly and more efficient tools that could be used to restore justice to the marginalised majority of South Africans.

## 7 Appendices

### 7.1 Appendix 1: Additional Tables

Table 1: Time Path

t	u(q)	$\beta=0.05$	PV <sup>0.05</sup>	$\beta=0.1$	PV <sup>0.1</sup>	$\beta=0.2$	PV <sup>0.2</sup>
0	100	0.05	100.00	0.1	100.00	0.2	100.00
1	100	0.05	95.12	0.1	90.48	0.2	81.87
2	100	0.05	90.48	0.1	81.87	0.2	67.03
3	100	0.05	86.07	0.1	74.08	0.2	54.88
4	100	0.05	81.87	0.1	67.03	0.2	44.93
5	100	0.05	77.88	0.1	60.65	0.2	36.79
6	100	0.05	74.08	0.1	54.88	0.2	30.12
7	100	0.05	70.47	0.1	49.66	0.2	24.66
8	100	0.05	67.03	0.1	44.93	0.2	20.19
9	100	0.05	63.76	0.1	40.66	0.2	16.53
10	100	0.05	60.65	0.1	36.79	0.2	13.53
11	100	0.05	57.69	0.1	33.29	0.2	11.08
12	100	0.05	54.88	0.1	30.12	0.2	9.07
13	100	0.05	52.20	0.1	27.25	0.2	7.43
14	100	0.05	49.66	0.1	24.66	0.2	6.08
15	100	0.05	47.24	0.1	22.31	0.2	4.98
16	100	0.05	44.93	0.1	20.19	0.2	4.08
17	100	0.05	42.74	0.1	18.27	0.2	3.34
18	100	0.05	40.66	0.1	16.53	0.2	2.73
19	100	0.05	38.67	0.1	14.96	0.2	2.24

20	100	0.05	36.79	0.1	13.53	0.2	1.83
21	100	0.05	34.99	0.1	12.25	0.2	1.50
22	100	0.05	33.29	0.1	11.08	0.2	1.23
23	100	0.05	31.66	0.1	10.03	0.2	1.01
24	100	0.05	30.12	0.1	9.07	0.2	0.82
25	100	0.05	28.65	0.1	8.21	0.2	0.67
26	100	0.05	27.25	0.1	7.43	0.2	0.55
27	100	0.05	25.92	0.1	6.72	0.2	0.45
28	100	0.05	24.66	0.1	6.08	0.2	0.37
29	100	0.05	23.46	0.1	5.50	0.2	0.30
30	100	0.05	22.31	0.1	4.98	0.2	0.25

**Table 2: Mineral Sales**

Mineral Sales					
Year	Local sales (FOR)	Export sales (FOB)	Total sales	Local as % of Total	Export as % of Total
1989	7722911009	29763826424	37486737433	21%	79%
1990	8346508834	29704178384	38050687218	22%	78%
1991	9088592646	34297599022	43386191668	21%	79%
1992	9049509722	33057185537	42106695259	21%	79%
1993	9871730941	40347742930	50219473871	20%	80%
1994	10786122253	42817337762	53603460015	20%	80%
1995	12424126917	44145295178	56569422095	22%	78%
1996	13814513118	51294439977	65108953095	21%	79%
1997	14362761673	51707835420	66070597093	22%	78%
1998	15466759170	55294603758	70761362928	22%	78%
1999	17138869201	58302642837	75441512038	23%	77%

2000	22067934938	76304233144	98372168082	22%	78%
2001	25235294981	89943815166	115179110147	22%	78%
2002	27437822653	107327387999	134765210652	20%	80%
2003	30940471686	86809436374	117749908060	26%	74%
2004	35633700569	89673167730	125306868299	28%	72%
2005	40903727369	101905943133	142809670502	29%	71%
2006	56140955000	137448545000	193589500000	29%	71%
2007	62107451835	161755698930	223863150765	28%	72%
2008	80720893166	219593797676	300314690842	27%	73%

Source: South Africa. Department of Mineral Resources (1989-2009)

**Table 3: Economic Contribution of Mining Industry**

Year	Contribution to Value Added			Contribution to Fixed Capital Formation (FCF)			Contribution to national total exports of goods		
	National GDP	From mining		Total FCF	From mining		Total exports	From Mining	
	R' million	R' million	%	R' million	R' million	%	R' million	R' million	%
1992	343554	26575	7.7	58255	6448	11.1	69837	33062	47.4
1993	390842	30052	7.7	62601	5203	8.3	80877	40348	49.9
1994	440147	32111	7.3	73045	6602	9	93536	42817	45.8
1995	500354	34830	7	87042	7397	8.5	1E+05	44145	40.5
1996	565470	38768	6.9	1E+05	8003	8	1E+05	50691	38.9
1997	627167	40524	6.5	1E+05	9638	8.5	1E+05	51708	36
1998	674874	45879	6.8	1E+05	11317	8.9	2E+05	55295	34.4
1999	738873	52173	7.1	1E+05	11635	9.2	2E+05	58303	33.4
2000	838218	63391	7.6	1E+05	13847	9.9	2E+05	76304	34.4
2001	928215	77214	8.3	2E+05	15871	10.3	3E+05	89943	33.8

2002	1063801	92113	8.7	2E+05	19802	11.3	3E+05	1E+05	32.8
2003	1143679	84258	7.4	2E+05	21706	10.8	3E+05	86747	29.9
2004	1250953	89290	7.1	2E+05	14223	8	3E+05	89673	28.9
2005	1372374	103012	7.3	2E+05	12365	6.4	4E+05	1E+05	29.3
2006	1543938	119365	7.7	3E+05	26302	8.1	4E+05	1E+05	31.9
2007	1768220	135549	7.7	4E+05	36618	8.9	5E+05	2E+05	30.2
2008	2053487	196094	9.5	5E+05	47851	9	7E+05	2E+05	30.8

Source: South Africa. Department of Mineral Resources (1989-2009)

**Table 4: State Revenue from Mining Industry**

STATE REVENUE FROM MINING					
Year ended 31 Mar	Mining Taxation	State share of profits and Diamond Exports Duties	Total Revenue	As % of Total State Revenue	State Aid
	R' 000	R' 000	R' 000	%	R' 000
1983	1478240	415171	1893411	11	56275
1984	1852696	597705	2450401	12.9	34950
1985	1823306	425715	2249021	9.5	54904
1986	2938065	694230	3632295	12.3	34325
1987	3450161	897852	4348013	13.1	31450
1988	2837710	729984	3567694	9.5	26535
1989	2552071	647157	3199228	6.7	29757
1990	2273605	546604	2820209	4.4	49894
1991	2201059	438128	2639187	3.8	55267
1992	1236158	346425	1582583	2.1	48443
1993	884497	217355	1101852	1.4	41818
1994	1011192	326152	1337344	1.4	20855
1995	1509901	259521	1769422	1.6	22726

1996	1608455	217078	1825553	1.4	43239
1997	1849253	146427	1995680	1.4	36404
1998	1681851	157620	1839470	1.1	29999
1999	2134737	57715	2190452	1.2	29499
2000	1072047	120083	1192130	0.6	27990
2001	4499248	452903	4952151	2.3	34939
2002	8885713	169313	9055026	3.5	28914
2003	6850764	1034702	7885467	0.3	20349
2004	3300975	421793	3722769	0.9	32530
2005	4906497	1435487	6341984	1	36225
2006	1391208	888259	14800317	0.3	37339
2007	19372616	897679	20270296	0.1	24139
2008	29254971	834154	30089125	0.1	21000

Source: South Africa. Department of Mineral Resources (1989-2009)

**Table 5: Mining Industry Employment**

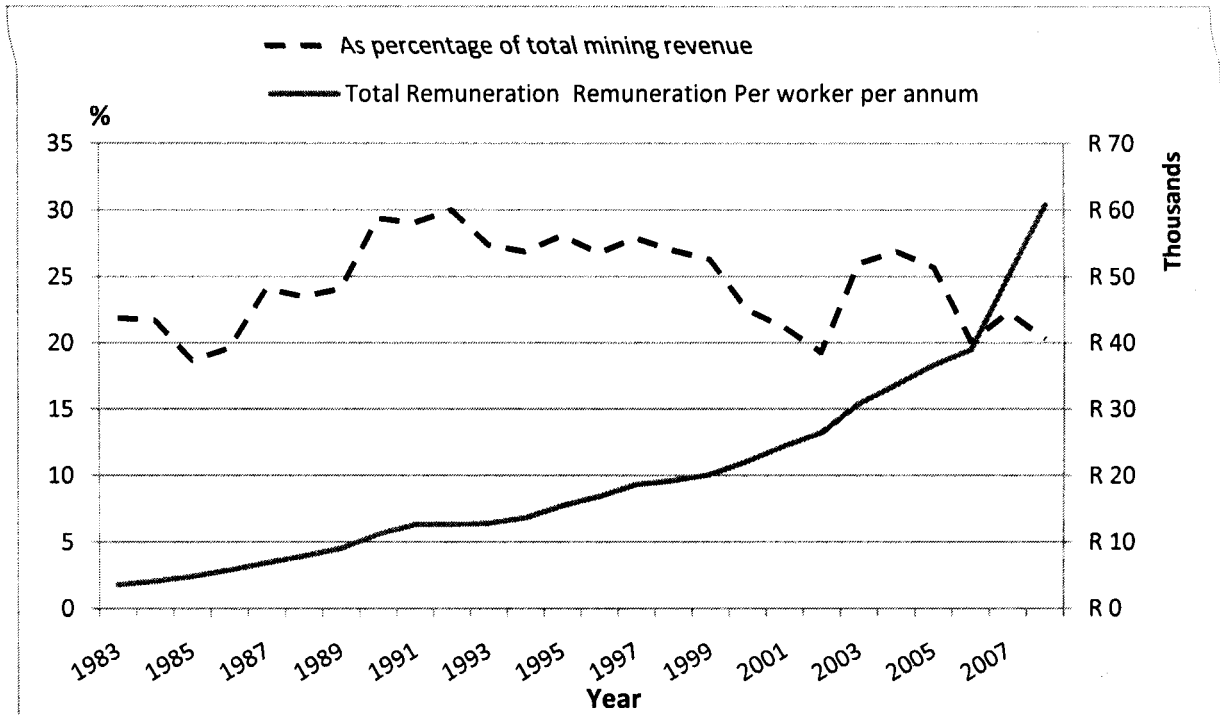
Mining Industry Employment Figures					
Year	Average number employed	As percentage of total economically active population	Total Remuneration	Remuneration Per worker per annum	As percentage of total mining revenue
			Nominal	Nominal	
		%	R' million	R	%
1983	692453	7.3	3569	5154	21.9
1984	711832	7.3	4141	5817	21.7
1985	735163	8.5	4853	6602	18.7
1986	756201	7.4	5784	7649	19.6
1987	749713	7.2	6916	9225	24.1
1988	728378	6.8	7915	10866	23.5

1991	5128147	
1992	4890089	-5%
1993	5271373	8%
1994	6962800	32%
1995	9434116	35%
1996	12798520	36%
1997	16381543	28%
1998	17484117	7%
1999	18216900	4%
2000	22597727	24%
2001	24537886	9%
2002	30893557	26%
2003	27791129	-10%
2004	35409442	27%
2005	37525518	6%
2006	43384659	16%
2007	54759231	26%
2008	86067263	57%

Source: South Africa. Department of Mineral Resources (1989-2009)

## 7.2 Appendix 2: Additional Graphs

Graph 1:



Source: South Africa. Department of Mineral Resources (1989-2009)

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