

**PRESERVATION OR EXPLOITATION?
A STUDY OF THE DEVELOPMENT OF THE
MINING RIGHTS LEGISLATION ON THE
WITWATERSRAND GOLDFIELDS FROM
1886 TO 2008**

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ABSTRACT

Elinor Ostrom (2005: 238) assumes that in understanding the make up and behaviour of institutional systems governing natural resources: “Resource users are explicitly thought of as rational egoists who plunder local resources so as to maximise their own short-term benefits. Government officials are implicitly depicted, on the other hand, as seeking, the more general public interest, having the relevant information at hand and the capability of designing optimal policies.”

This thesis examines the validity of this assumption through an historical analysis of the deep-level gold mining industry of the Witwatersrand, South Africa. The main focus of the assessment is on the institutions of ownership – that is, the development of mining rights and title legislation between 1886 and 2008. The study looks at the legislations’ transformation and implementation from the perspective of the gold mining industry – made up of the mining finance houses and the Chamber of Mines of South Africa – and that of the state.

The transformation of the mining industry’s institutional framework was both a choice by government as well as that of the firms in the mining industry. The theoretical framework is constructed from four areas of economic thought. These include: the neoclassical and Keynesian schools of macroeconomic thought; industrial organisation and its relevance to the relationship between firms and the market; institutional and new institutional economics; and finally property rights. The determinants of policy design and the impact of such design on firms and industry is examined. The development, implementation and use of the aforementioned legislation is examined from two perspectives, namely, that of preserver or exploiter.

Throughout the history of this prominent South African industry, the motivation for action from the industry or government has oscillated between the two extremes of preserver or exploiter over the time period examined. The conclusion is drawn on an overall and broad focus of actions – with a strong focus on the most recent developments in mining legislation – post-1992.

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Chapter 1

Introduction

When the Witwatersrand goldfields were proclaimed in 1886, South Africa (as we know it today) was still divided into two colonies and two independent states (Webb, 1981; Katzen, 1964; The Department of Mines, 1936; Rosenthal, 1970). Under these self-governing states, Jones and Miller (1992: 10) explain general free trade prevailed between these colonies and states and tax burdens were limited. The Witwatersrand fell within the Transvaal, which was part of the Zuid Afrikaanse Republiek (South African Republic or ZAR) under the leadership of Paul Kruger (Mawby, 2000; Marais, 1961; Kaplan, 1985; Yudelman, 1983: 20 – 21). After discovery and proclamation of the fields, the independent states set about transforming the railway network in order to facilitate greater trade (Yudelman, 1983: 20; Katzen, 1964: 45).

It was only in 1910 that the two colonies and two independent states were merged to form the Union of South Africa under the leadership of Louis Botha as head of the South African Party (Jones and Miller, 1992: 6; Yudelman, 1983: 20 – 22; Van Waasdijk, 1964: 19). Jones and Miller (1992: 6) mark this as a significant turning point in the development of the economy. “The coming of Union represented a move to a larger political grouping in which the power of harmful collusive groups could be limited and growth encouraged, in a dynamic situation, which permitted the free movement of factors of production and free trade” (Jones and Miller, 1992: 6). They substantiate this claim by pointing out that with the amalgamation of the resource endowments of the Transvaal and the Cape, as well as the factor and agricultural endowments of Natal and the Orange Free State, it is only logical that the decade between 1910 and 1920 shows some of the fastest growth in South Africa’s history (Jones and Miller, 1992: 6 – 10; see also Lombard and Stadler, 1980; Katzen, 1964). The transport infrastructure developed in prior years also helped to spur the economic development of the new Union and cemented the foundations of the new political structure (Yudelman, 1983: 20). The South African Party, under the leadership of

Smuts held political prominence until 1924, and “advocated conciliation between Anglophones and Afrikaner whites, loyalty to the Imperial connection and accelerated economic development, including the encouragement of gold mining” (Yudelman, 1983: 21).¹

The Union of South Africa remained intact until 1961, when the four territories became part of the Republic of South Africa (Van Waasdijk, 1964: 19). This was a momentous occasion as it signalled the change to a decimal coinage system and the replacement of the pound by the Rand as the unit of currency and the state president assumed the role of leader of the country – previously occupied by the Governor-General (Van Waasdijk, 1964: 19).

Webb (1981: 303) explains “the relationship which developed between the new industry and the citizens of the [ZAR]” as “significant” (see also Katzen, 1964). Gold had been discovered as far back as 1836 but until 1868 there was a “general ban on prospecting” (Kaplan, 1985: 1). Kaplan (1985: 2) goes on to show that the lack of enthusiasm by the state about the future prospects of gold and its role in the development of the ZAR economy, meant that by 1870 “only the most cursory legislation regulating mining for minerals” had been introduced, “without any specific provision having been made to regulate gold mining”. It was only following the “discovery of payable gold deposits” in the Eastern Transvaal, that the Volksraad [Executive] “passed Law No. 1 of 1871² to regulate the discovery and govern and control the fields where precious stones and precious metals had been found” (Kaplan, 1985: 2). According to Innes (1984: 45) prior to the discovery of the Witwatersrand reef, “gold had been found usually in relatively rich nuggets or in alluvial deposits and where an underground reef was discovered, such as Barberton, it was uneven, patchy and contorted.”

¹ The South African Party was opposed by: “(1) the Unionist party, almost exclusively Anglophone, suspicious of Afrikaner motives, business orientated but basically in agreement with the South African Party’s policies; (2) the Labour party, a fairly militant enemy of big business drawing its support from urban white workers and the lower middle class...[and] (3) the National Party, and early offshoot of the South African Party [that] represented diverse Afrikaner interest groups under the integrating banner of Afrikaner nationalism and drew its strength mainly from the rural electorate.”(Yudelman, 1983: 21).

² “This law, despite the reference to precious stones, was essentially employed to regulate gold mining and has come to be regarded as the first ‘gold law’. The expression the ‘gold law’ has been adopted by the courts and legal writers as a convenient shorthand designation of the 1871 law and has been applied as well to the successive enactments governing gold mining” (Kaplan, 1985: 2).

Rosenthal (1970) and Kettell (1982: 30) postulate that it was George Harrison that discovered the main reef outcrop in 1885/86. Upon the realisation “that the Witwatersrand was something much larger than Pilgrim’s Rest, Lydenburg, Barberton, or any of the other goldfields, the Volksraad approved of a measure to take effect on August 4, 1886” (Rosenthal, 1970: 141). Up until 1895, only a small minority of the population of the ZAR was affected by the opening up of the Witwatersrand fields (Webb, 1981: 304). Webb (1981: 304) illustrates that “unlike so much of the previous mineral discovery in the state, the Witwatersrand emerged from the outset as both a capital and labour intensive industry” (see also Katzen, 1964; Innes, 1984; Yudelman, 1983). Gold deposits appeared “in hard conglomerate beds known as ‘banket’, which were unique in that they ran in relatively long and unbroken sequence (Innes, 1984: 45; see also The Department of Mines, 1936; Kettell, 1982: 30 – 31, 132). Early development of the reef by prospectors and diggers was specifically around the “outcrops”, where “the reef reached the surface of the earth” and could be easily mined with the use of picks and shovels (Innes, 1984: 45; see also Kaplan, 1985; Webb, 1981).

Diggers and the state soon realised that the nature and extent of the reef meant that “shaft-sinking” was required to access the deeper-level deposits (Innes, 1984: 45; Webb, 1981; Kaplan, 1985; Sander, 2000). In the words of Innes (1984: 45): “The new shaft-sinking operations were to usher in a period of revolutionary change in the method of gold mining production on the Witwatersrand.” From this sprang opportunities for the employ of vast numbers of African labour; the generation of a significant amount of state revenue; and the development of the “civil service” and secondary industries in support of transport, trade and the military (Webb, 1981: 304; Innes, 1984: 48). Until 1895, however, much of the profits generated from the gold mining industry flowed out of the country and into the hands of overseas shareholders (Webb, 1981: 304 – 305; Kaplan, 1985; Sander, 2000). In the longer run, the multiplier effects of infrastructural expansion and improved capacity within the state had “a profound effect on the economy of the ZAR [and] all the South African states” (Webb, 1981: 308; see also Marais, 1961; Sander, 2000; Fine and Rustomjee, 1996; Feinstein, 2005; Katzen, 1964). In the words of Katzen (1964: 45): “Gold mining was the ‘financial magnet’, which attracted capital to South Africa.” Johannesburg

developed around the outcrops and by 1889 was inhabited by “25 000 Europeans and 15 000 natives” (The Department of Mines, 1936: 88). As Kettell (1982: 30) says, “gold had brought quickly into being an important mining and business centre – one of the few major industrial areas in the world at that time which had no access to a waterway” (see also Sander, 2000; Katzen, 1964: 45).

In their report on “The Mineral Resources of the Union of South Africa”, in 1936, the Department of Mines (1936: 89) describe the Reef in detail: “The Witwatersrand goldfield is situated on the high plateau of the Southern Transvaal...the proven field occupies a strip of country, from 2 to about 7 miles wide, along which a nearly continuous line of mines stretches east and west for 60 miles. At its eastern end, it spreads in a wedge-shaped fashion to a width of 18 miles. The city of Johannesburg, which lies astride of the central part of the mined area is 394 miles by rail to the nearest port – the town of Lorenço Marques on the east coast of Africa...the west and central portion of the field lie south of a series of low parallel ridges that are bounded to the north by a line of abrupt escarpments. From these it has derived its name Witwatersrand, the ‘Ridge of white waters’. The ridge belt is traversed in places by valleys from 200 to 400 ft deep.” The report goes on further to point out that to the advantage of these Witwatersrand mines; there exist “large supplies of dolomite formations lying near the mines, and an abundant supply of coal within easy hauling distance” (The Department of Mines, 1936: 92). Without these it is unlikely that the mining community would have grown to such proportions in the time that it did.

In addition, gold had been established as the global money-commodity when the international gold standard was instituted in 1816 (Innes, 1984: 45). The expansion of European and American capitalism meant an increase in demand for gold and therefore “prospecting activities” (Innes, 1984: 45). “The establishment of the international gold standard as the means by which currency exchange value could become accurately known in terms of one another meant that Britain, as the world’s leading economic and political power, bought up all the gold which was offered for sale on the international market at a fixed price” (Innes, 1984: 48). Innes (1984: 48), Feinstein (2005) and De Kock (1924) all emphasise this as significant as it meant there was an “unlimited market for gold” (Innes, 1984: 48), and thus separated gold from all other commodities (see also Moll, 1990: 33 – 39). Specifically,

Innes (1984: 48 – 49) tells us that this “unlimited market” meant gold was not subject to the same market conditions as other commodities; gold faced no “threat of over production” and therefore “capitalists could plan production on the basis of assured returns on the sale of the commodity”.

It was only following the permanent removal of this standard in 1976 (Kettell, 1982: 102; DeLong, 1996) that the price of gold started to fluctuate according to world demand and supply of the commodity. Supply is represented mainly by “new production and [the] reduction in stock”, while demand represents “current consumption and [an] increase in stock” (Kettell, 1982: 102). Any adjustments to the price of gold prior to 1976 were in accordance with interventions by international central banks (mainly Britain) (Kettell, 1982: 102; Feinstein, 2005).

Kettell (1982: 6 – 8) details that, on average, in order to “produce one fine ounce of gold” companies require: “3.7 metric tons of ore, 3 man hours, 6 400 litres of water, sufficient electric power to run an average household for ten days, between 8 and 17 cubic metres of compressed air and varying quantities of stores and chemicals including cyanide, zinc, acids, lime and borax.” Costs faced by the gold mining industry fall within two major categories: labour and capital (Innes, 1984: 49). The majority of these are “fixed” over the lifespan of the mines (Graulich, 2005; The Department of Mines, 1936: 125; Moll, 1990: 33 – 39). Kettell (1982: 133) states that the success of the South African gold mining industry has rested largely on the fact that the “gold price has risen faster than working costs: this is pertinent to the South African gold industry as it is largely based on lower-grade deposits than elsewhere in the world (Innes, 1984, Kettell, 1982: 132 – 133, Webb, 1981; Lilford, 2005, Baxter, 2005).

In 1982, “some 98 per cent of South African gold [came] from [deep-level] underground operations” (Kettell, 1982: 133). While mining on the whole has remained a key contributor to the South African economy, gold mining has drifted into a long-term structural decline, since the 1980s (CMSA³, 2005b: 17). The Chamber of Mines (2005b: 17) believes this has been exacerbated by “the lack of

³ Chamber of Mines of South Africa.

investment in the sector...and the long lead times” required in getting a mine up and running.

This thesis wishes to extrapolate and examine the assumption by Elinor Ostrom (2005: 238) that in understanding the make up and behaviour of institutional systems governing natural resources: “Resource users are explicitly thought of as rational egoists who plunder local resources so as to maximise their own short-term benefits. Government officials are implicitly depicted, on the other hand, as seeking, the more general public interest, having the relevant information at hand and the capability of designing optimal policies.”

Chapter 2 lays out further detail on the application of this assumption to the South African gold mining industry. It further looks at the theoretical framework that will be used to assess the validity of this assumption in the context of the Witwatersrand goldfields between 1886 and 2008. The main focus will be on the institutions of ownership – that is, the development of mining rights and title legislation, with some regard for peripheral policies such as taxation, where applicable. The development, implementation and use of the aforementioned legislation will be examined from two perspectives, namely, that of preserver or exploiter. The analysis will consider the legislation, but more so the state’s motivations for its design and implementation, as well as the interpretation and assistance in design thereof by the mining community.

These incentives will then determine the preservative or exploitative status of the party. As Chapter 2 will discuss, the South African mining industry is considered to be a price taker. This is as “prices are set on international markets” and “producers cannot pass on cost increase to the final consumer” (CMSA: 2005b: 19; see also Moll, 1990: 33). In order to examine these themes, the theoretical framework will be constructed from four areas of economic thought. These are: the neoclassical and Keynesian schools of macroeconomic thought; industrial organisation and its relevance to the relationship between firms and the market; institutional and new institutional economics; and finally the economics of property rights.

Chapter 3 looks at the industry’s perspective of the mining rights legislation as well as their part in the development of said legislation between 1886 and 2008. As the

chapter will describe, the South African mining industry is based on a “group system” (Kettell, 1982: 133; Moll, 1990: 39; The Department of Mines, 1936: 108, 118; Innes, 1984; Yudelman, 1983; Sander, 2000). The system was developed in order to spread the costs and expertise across a broad range of mining operations, creating economies of scale and efficiencies in operations (Kettell, 1982; Innes, 1984; Yudelman, 1983; GSB UCT, 2000). Six major groups arose as time went by and were associated together in the Chamber of Mines of South Africa (Yudelman, 1983; Innes, 1984; Sander, 2000; The Department of Mines, 1936; Moll, 1990: 33 – 39; Kettell, 1982; Fine and Rustomjee, 1996; GSB UCT, 2000).

Chapter 4 details the state perspective on the mining rights and title legislation. It covers the development and transformation of this regulatory institution alongside associated changes to the taxation system. The chapter examines the state’s motivation for changes and control over the implementation of those changes. The chapter will broadly show that the government has had incentives to sustain the mining industry in order to prolong the extraction of profits for the fiscus and hence redistribution to the wider economy (Kettell, 1982: 133; Moll, 1990: 33 – 39).

The Graduate School of Business at the University of Cape Town (GSB UCT, 2000: 84) undertook a study to investigate the future prospects of the gold mining industry in the new Democratic South Africa post-1994. In their study they noted: “the South African economy looks the way it does because of mining. Mining created the heavy engineering sector, generated the income that built South Africa’s consumer industries, and financed South Africa’s sophisticated capital markets and business law, and kindled an ability to handle massive and technologically complex projects...Using its mining activities as a base, South Africa has nurtured strongly competitive sectors providing inputs and services to the global mining industry...[has become] technology provider to the global mining industry; providers of knowledge-based mining services; [and] specialist mining contractors. South African firms are world leaders in mining explosives, drilling equipment and abrasives, metallurgical processes and plants, and delivering intellectually-based services to mines everywhere. [The South African mining industry] also has a strong regional franchise in specialist contract mining” into Africa.

Finally the conclusion contained in Chapter 5 will show that the transformation of the mining industry's institutional framework was both a choice by government as well as that of the firms in the mining industry. Furthermore, this chapter discusses and details that both the state and the mining finance houses have oscillated between states of preservation and exploitation throughout the period under study. The conclusion is drawn on an overall and broad focus of actions – with a strong focus on the most recent developments in mining legislation – post-1992. Over and above the legislation itself, peripheral initiatives by the state and mining houses have been considered in determining their status as preserver or exploiter.

Chapter 2

Literature survey

2.1 Hypothesis

In her recent work on “*Understanding Institutional Diversity*”, Elinor Ostrom (2005: 238) proposes the following assumption in understanding the make up and behaviour of institutional systems governing natural resources: “Resource users are explicitly thought of as rational egoists who plunder local resources so as to maximise their own short-term benefits. Government officials are implicitly depicted, on the other hand, as seeking, the more general public interest, having the relevant information at hand and the capability of designing optimal policies.”

Reading on, Ostrom (2005: 238) acknowledges that beyond theoretical applications, the “rational egoist” is not a realistic market participant. In reality, participants represent a mixed bag of individuals coming from a multitude of cultural backgrounds; all shaped by a variety of life experiences (see also North, 1990; 2005). Individuals are assumed to be “rational egoists” due to the assumptions of the open, competitive market that analysts use in modelling institutions (Ostrom, 2005: 118). These assumptions are in line with the ideas of neoclassical theory, where “humans are...boundedly rational, fallible individuals who pursue multiple goals for themselves and others, adopt contextually relevant norms of behaviour, and can learn better strategies in a particular situation over time” (Ostrom, 2005: 118).

Similarly, to assume that government officials are equipped with perfect knowledge and altruistic goals is naïve. Ostrom (2005: 238) even states that “the knowledge base of government officials, may not, in reality, be better than that of local appropriators who have used a particular resource for years and know its characteristics in considerable detail. Even when the knowledge base is similar, no guarantee exists that government officials (or the researchers that advise them) will use available

information to make efficient and/or sustainable decisions.” The best that government officials can do is to design policy that they believe will change the incentive structure of resource users, with the desired outcomes. Acheson, Wilson and Steneck (1998) go even further to say that public officials are often so limited in their information, that they generally view “resources in a particular sector [as] relatively similar and sufficiently interrelated that they need to be governed by the same set of rules” (in Ostrom, 2005: 239). In her book, Ostrom (2005) goes into great detail about the various types of rules that exist in institutional design. For the purposes of this study, the role of rules in institutional design and the interplay of resource users and the state with that institutional framework will be acknowledged from a theoretical standpoint. The detail of how these rules are designed and what they govern within the context of this study, however, will not be dealt with in great detail.

Ostrom (2005: 80) describes how, as the value of common pool resources increase, so do the incentives for users to exploit it over the short run. This is particularly the case when the institutional rules are either nonexistent or poorly monitored and sanctioned. Ostrom (2005: 219 – 220, 239) advocates that, in general, policies designed to govern common resources are often based on three broad assumptions (misconceptions). These include an assumption that all resources are of a similar nature and thus can be governed centrally and in a single fashion. Secondly, appropriators of such resources are assumed to be incapable of crafting rules to manage the resource pool in an equitable and sustainable manner, and public officials, having more skill and information are thus better equipped. Finally, public officials are likewise better suited at designing an objective policy.

Resource users will generally organise themselves according to the perceived costs and benefits of different organisational structures (Ostrom, 2005: 247). These are dependent on the prevailing institutional setting. For instance, one can contrast the allocation of mining claims in the early Californian gold rush with that of mineral rights on the Witwatersrand. Libecap (1989) explains in his paper, “Contracting for Mineral Rights” that diggers in California chose self-organisation and formed diggers camps and committees, but remained in charge of independent claims. This was ideal for this situation since both the federal legal system and the geography of gold deposits best suited this formation. This self-governing system is also affirmed by

Lawry (1990) and Gibson's (2001) idea that appropriators will only engage in managing and maintaining a self-governing system as long as the value derived there from outweighs the costs of monitoring.

On the Witwatersrand, the majority of gold deposits were deep-level and the nature of the ground required heavy capital investment in order to run a profitable operation (Kaplan, 1985; Kettell, 1982; Rosenthal, 1970; Krautkraemer, 1998: 2066 – 2067). This meant that individual diggers were very quickly surpassed by the existent foreign businessmen and large conglomerates in the rush for the goldfields (Sander, 2000; Innes; 1984; Yudelman, 1983). Moxnes (1996) explains, “the presence of reliable indicators about the conditions of a resource affects the capacity of appropriators to adapt relatively soon to changes that could adversely affect their long-term benefit stream” (in Ostrom, 2005: 247; see also Krautkraemer, 1998: 2066 – 2067). This links with the thoughts of Schalger, Blomquist and Tang (1994) that management of a resource base is easier in circumstances of a well-defined and predictable output flow. In both the Californian and Witwatersrand examples, resource users shared a common understanding and goal for systems operations. This is important for sustainability (Ostrom, 2005: 248).

Ostrom (2005: 249) – as do many others (see also North, 1990; 2005; Milgrom and Roberts, 1992) – believes that the success of organisation and change in an institution's design is largely dependent on the level of trust within the system. Rodrik (2004:7 – 8), believes that while not specifically related to trust, as long as investors feel safe, the future of a system is secure. In addition, the similarity of proposed changes to systems previously experienced by participants, the size of the group experiencing the change and the shared cultural beliefs or reference points of the group all impact upon the success of potential outcomes (Ostrom, 2005: 249 – 251). For the purposes of this hypothesis though, it is only important to recognise that any change in the rules governing the allocation and use of resources, can have a number of possible outcomes. This is because there is a “potentially infinite combination of specific rules that could be adopted to ascertain whether one has found an optimal set of rules to improve the outcomes achieved in a single situation” and as such “one would need to analyse how diverse rules affect [directly or indirectly] the components of such a situation and as a result, the likely effect of a

reformed structure on incentives, strategies and outcomes” (Ostrom, 2005: 239). This would understandably be a time consuming exercise. Therefore, Ostrom (2005: 240) explains that each party, namely the resource user/s and government will “use their intuitive understanding of the resource and of one another’s norms and preferences to experiment with different rule changes and assess the effects of rules with which to experiment until they find a combination that seems to work in their setting.” This is, of course, a highly simplified explanation of the process, and in reality parties to contractual agreements conduct many of these “experiments” informally. Parties use the boundaries of contracts, prevailing legislation and government regulations, to determine the “limits” of experimentation and application of rules (Milgrom and Roberts, 1992; Williamson, 1975; 1979; 1985; Ostrom, 2005).

This thesis will examine the validity of the above assumption through an historical analysis of the deep-level gold mining industry of the Witwatersrand, South Africa. It will focus only on the Witwatersrand goldfields. Where relevant to the discussion, mention will be made of the Orange Free State gold mines, but the operations of these mines will not be analysed at length. The main focus of the assessment will be on the institutions of ownership – that is, the development of mining rights and title legislation. In this context “resource users” will be made up of the mining companies, associated mining finance houses and the Chamber of Mines of South Africa (CMSA). The development, implementation and use of the aforementioned legislation will be examined from two perspectives, namely, that of preserver or exploiter.

It should be noted that Ostrom (2005) refers mainly to common pool, natural and renewable resources in her study and hypothesis. In the case of this study, however, the non-renewable (gold) resources of the Witwatersrand will be considered. These resources have also been privately held by mining companies for the majority of their history on the Witwatersrand. Krautkraemer (1998: 2065) defines the stock of a non-renewable resource (i.e. the natural deposit) as “an asset that generates returns over [its life] time [and] an important opportunity cost of the current extraction and consumption of a unit of the resource is that there is less to extract and consume in the future.” It is therefore important that the definition of the parameters of the preserver and exploiter actions be better defined.

The thesis will consider the legislation, but more so the state's motivations for design thereof, and the subsequent interpretation by the mining community. These incentives will then determine the preservative or exploitative status of the party. The study will show that each party oscillates between states of preservation and exploitation through the course of time and the conclusion will be drawn on an overall and broad focus of actions – with a strong focus on the most recent developments in mining legislation – post-1992. Over and above the legislation itself, peripheral initiatives by the state and mining houses will also be considered in determining their status as preserver or exploiter. These will be discussed in more detail in the thematic chapters and will include such initiatives as employment and corporate social responsibility.

In the instance of the resource users, their ownership and use of mineral rights will be examined and assessed as either exploitative or preservative. In other words, the thesis will test if they were indeed “rational egoists”, who opportunistically coerced government and the course of legislative developments in order to achieve a short run gain. Or rather, they were instead “rational egoists” who recognised the future benefit and in essence, extended the life of and future benefit from, a non-renewable resource.

As Krautkraemer (1998: 2065 – 2066) explains, when determining the current extraction path, the resource user will take account of the opportunity cost of resource depletion in order to maximise the present value of profit. As developed by Hotelling (1931), the simple model assumes a “finite quantity of a homogeneous resource”, with the cost of extraction as “independent of the remaining stock” (in Krautkraemer, 1998: 2066). In addition, it is assumed that “extraction and consumption of the resource makes it unavailable for future use” (Krautkraemer, 1998: 2066). This is not necessarily the case of gold, but for the purpose of this study it will be assumed that once it has been extracted and sold by the resource user into the open market (and similarly taxed by the state), the future value to the mining companies and state has effectively been lost.

Krautkraemer (1998: 2066) notes the unrealistic assumptions of the basic Hotelling model that say the stock of the resource is of “homogeneous quality” and “the extraction technology does not change over time”. As Krautkraemer (1998: 2066) correctly explains: resource stocks are not always of homogenous quality; extraction

technology does change over time; and mining companies do engage in exploration activities as well as extended development of known deposits. All these factors impact upon the expectations of the future value of the resource stock, which in turn impact upon the equilibrium resource price and extraction paths (Krautkraemer, 1998: 2066 – 2067). Krautkraemer (1998: 2067) does acknowledge that although the assumption of constant technology in Hotelling's model seems unrealistic, in the short run, it is plausible. This is due to the capital-intensive nature of the industry and the large sunk costs required in getting projects up and running (Krautkraemer, 1998: 2067; Baxter, 2005). This can therefore mean, "it may be very costly to adjust extractive capacity in order to change the extraction rate in response to a change in the resource price path" (Krautkraemer, 1998: 2067; see also Cairns and Lasserre, 1986). Over a longer time frame, however, changes in technology do occur, and can influence the quantity of resource extraction as well as prices (Krautkraemer, 1998: 2067). The effects of perfectly competitive or monopolistic market settings on mining firms' behaviour will be elaborated on in the section on industrial organisation.

In examining the role of the state and government, the hypothesis wishes to extrapolate the underlying purpose of the legislative developments. What were the driving forces behind changes to the industry by government and were they preservative or destructive in nature? The policies and legislation developed by the state will be tested in light of the assumption above that government has perfect information and as such, designs optimal interventions. In the thoughts of Krautkraemer (1998: 2078), government interventions can also have a significant influence on the depletion path of resources.

Fine and Rustomjee (1996: 51) describe the state as "an integral agency or set of institutions and social structures", thereby defining "its interaction with or relation to the rest of society". Furthermore, "the state must be able to resist the demands of individual sectors in order to be able to promote their short- and long-term common interests, such as setting the appropriate level of protection" (Fine and Rustomjee, 1996: 62). This means that the state will have a strong influence on which capital factions survive and prosper; magnified through interventionist and protectionist policies (Fine and Rustomjee, 1996: 62). Thus, it is important that the

state “be able to resist the immediate, short-term demands of ‘populist’ pressures in order to meet their goals more effectively in the longer term after developmental goals have been realised” (Fine and Rustomjee, 1996: 62).

Krautkraemer (1998: 2078) notes that “non-renewable resource industries are subject to a variety of taxes in addition to the taxes paid by all firms”. The main motivation for taxation is that “non-renewable resources are part of the national heritage and resource rents should accrue to the general welfare” (Krautkraemer, 1998: 2078). The effect of taxes on the intertemporal extraction path, in the words of Krautkraemer (1998: 2078), will depend “on the present value of tax changes over time” and can significantly impact on the sustainability of the resource stock. In terms of the state, one needs to be aware that the use of the resource for revenue as a natural outcome of fiscal policy, but Ostrom’s (2005) hypothesis suggests that this policy design and revenue use is always optimal.

In order to examine these themes, the theoretical framework will be constructed from four areas of economic thought. These include: the neoclassical and Keynesian schools of macroeconomic thought; industrial organisation and its relevance to the relationship between firms and the market; institutional and new institutional economics; and finally the economics of property rights. It should be noted at this stage that while game theory falls within all of the fields mentioned above, it will not be covered in this study. Game theory studies the interaction and relationships between parties. For the purposes of this thesis we wish to examine the impact of the policy design on firms and industry and the determinants of policy design. The study of the changes in policy through the interplay between the firm and the state would entail a study of its own and therefore falls beyond the scope of this project.

The transformation of the mining industry’s institutional framework was both a choice by government as well as that of the firms in the mining industry. Throughout the history of this prominent South African industry, the motivation for action from the industry or government will oscillate between the two extremes. The theoretical underpinning will help explain the economic causes and reasons for such changes.

2.2 The neoclassical synthesis and Keynesian macroeconomic frameworks

Before Keynes' General Theory was introduced in 1936, the classical school of thought dominated economics. The original classicists viewed the market "as synonymous with either a marketplace or a geographical area" – in the literal sense – and were focused on the production of goods rather than the exchange of them between market participants (Swedberg, 1994: 257). As such it was the labour required to produce the product that determined the price of the good and not the value placed upon it by buyers (Swedberg, 1994: 257).

It was only towards the end of the nineteenth century that classical theory was extended beyond such individuals as Adam Smith (Swedberg, 1994: 259). The market place was transformed into a far more abstract idea, as a mechanism for price-making and resource allocation (Swedberg, 1994: 259; Himmelweit, Simonetti, and Trigg, 2001: 4). Harold Demsetz (1982: 6) explains; "markets became empirically empty conceptualisations of the forums in which exchange costlessly took place. The legal system and the government were relegated to the distant background." It was further implied that all markets within the economy were interconnected and that changes in one of them would have impact upon the workings of others (Himmelweit *et al.*, 2001: 8; Swedberg, 1994: 259; Walras, 1954: 84).

Out of this "marginalist school" grew neoclassical economic theory (Levačić, 1976: 4). Neoclassical theory focused on maximising behaviour consisting of the following rigid assumptions, including; "all economic agents (firms and households) are rational and aim to maximise their profits or utility...all markets are perfectly competitive so that agents decide how much to buy and sell on the basis of a given set of prices which are perfectly flexible...all agents have perfect knowledge of market conditions and prices before engaging in trade...agents have stable expectations" (Snowdon, Vane and Wyneczyk, 1994: 44). As explained by Himmelweit *et al.* (2001: 2), "rational" means "choosing the best means to pursue whatever goal a decision-maker has in mind" and "in their own self-interest." Furthermore, neoclassical economists argued that "government intervention to

regulate the economy was unnecessary and brought about distortions” (Levačić, 1976: 5).

While these conditions constitute a simple model for simple outcomes they were insufficient to understand the occurrences of the Great Depression and the subsequent downturn in the global economy. Keynes’ General Theory therefore introduced the idea that “involuntary unemployment” could exist. He argued that prices and wage adjustments were generally inflexible and in such instances, where there was no natural market-clearing, there was a role for government intervention (Snowdon *et al.*, 1994; Froyen, 2005; Levačić, 1976; Keynes, 1936). Using the underpinning of neoclassical theory he developed the “General Theory” for consumption, investment and the supply and demand functions for labour (Levačić, 1976: 5). More specifically the underlying assumptions of his theory can be summarised as; “the economy is inherently unstable and is subject to erratic shocks...[if] left to its own devices the economy can take a long time to return to the neighbourhood of full employment after being subjected to some disturbance; that is, the economy is not rapidly self-equilibrating” (Snowdon *et al.*, 1994: 91).

Keynes theory, while flawed in its own ways, allowed for intervention via government management through the use of fiscal policy in the market and therefore an opportunity of stabilising aggregate demand (Snowdon *et al.*, 1994: 43; Levačić, 1976: 5). From this emerged the “neoclassical synthesis” (Snowdon *et al.*, 1994: 109; Levačić, 1976: 5), broadly joining the natural functioning and auto-correction mechanism of markets, as suggested by classical thought, with an opportunity for government intervention in extreme circumstances, such as instances of market failure (Beenstock, 1980: 5). This was the Chicago School of thought (1950s) and assumes that individuals and other market participants are rational beings (Levačić, 1976). This neoclassical synthesis believed that in the absence of market failure, “the work of the ‘hidden hand’ will be optimal and government intervention will be unnecessary” (Beenstock, 1980: 5). Even though this synthesis was less laissez-faire in nature than the original classical school of thought, neither Keynes nor neoclassicists were true “institutionalists”.¹ They still advocated that it was the market

¹ Fuller definition to follow later in this chapter.

which played the dominant role in operating and correcting the relationship between aggregate supply and demand.

The 1970s saw a further resurgence of neoclassical economics in the form of the New Classical School as Keynesian theory failed to address the rising oil prices and the emergence of stagflation in the global economy (Beenstock, 1980; Snowdon *et al.*, 1994; Froyen, 2005). The school emerged with assumptions of rational expectations and constant market clearing intact, but still followed a largely laissez-faire approach (Snowdon *et al.*, 1994: 189; Froyen, 2005: 272 – 273). In terms of the rational expectations hypothesis it is assumed that “agents optimise; that is, they act in their own self-interest” (Froyen, 2005: 273; see also Beenstock, 1980: 5). Further, “agents will make the best (most efficient) use of all publicly available information about the factors which they believe determine that variable” (Snowdon *et al.*, 1994: 190). These assumptions will be in line with “utility-maximising behaviour” and “on average will be correct” (Snowdon *et al.*, 1994: 190; see also Beenstock, 1980: 5). Snowdon *et al.* (1994: 190) go on to explain “agents will not form expectations which are systematically wrong (biased) over time. If expectations were systematically wrong, agents would, it is held, learn from their mistakes and change the way they formed expectations, thereby eliminating systematic errors.”

In the 1980s, New Keynesian economics emerged to extend upon Keynes’ General Theory and respond to Business Cycle Theory (based on and largely influenced by classical economic thought (Froyen, 2005: 298)) (Snowdon *et al.*, 1994: 291). Rational expectations laid the foundation for this school of thought. It was assumed that in addition to involuntary unemployment, markets could be plagued by demand and supply shocks leading to “imperfect competition, incomplete markets, heterogeneous labour and asymmetric information...coordination failures and macroeconomic externalities” (Snowdon *et al.*, 1994: 291). While the New Keynesian School made allowances for more opportunities for government intervention, Snowdon *et al.* (1994: 326) explain “there is no unified Keynesian view on the extent of discretionary action that a government may take, in response to aggregate fluctuations. However, most New Keynesians do see a need for government action because of market failure, especially in the case of a deep recession”. Joseph

Stiglitz (1993: 1069) summarises New Keynesian thoughts on this matter as “changing economic circumstances require changes in economic policy, and it is impossible to prescribe ahead of time what policies would be appropriate...the reality is that no government can stand idly by...New Keynesian economists also believe that it is virtually impossible to design rules that are appropriate in the face of a rapidly changing economy” and while not of the institutionalist faction of economics, argue that there is a need for “course-tuning” and institutional reforms (Snowdon *et al.*, 1994: 326-327). The evolution of society and economies indicate that at any one point individuals are only as rational as their circumstances allow.

Given the context of this thesis and study, one has to beg the question of the suitability of classical, Keynesian and possibly even the neoclassical synthesis, as a theoretical framework. For one, if the classicists believed in the optimising power of market forces and the potential for government intervention to create havoc rather than harmony (Snowdon *et al.*, 1994: 43) – where did the role of legislation lie in the economy? And even the idea of “course-tuning” proposed by the New Keynesians is not completely appropriate. It can be said that looking at the South African gold mining industry, the state has intervened in operations – whether through labour policy, the gold law or mining rights legislation, or the taxes on the industry. If one felt akin to the classical school, one would say that this was wrong and the industry should have been allowed to evolve organically, whatever the consequences for the South African economy. However, government’s interventions, throughout the industry’s history have been based on reasons of redistribution. Post-1992 reasons have been based on improving equality among the people of South Africa through further, more widespread redistribution. In such instances, one would take the Keynesian view in favour of addressing a market framework.

Neoclassical economics, however, cannot be entirely dismissed in the context of this study either. In the words of Beenstock (1980: 4) “an anti-neoclassical position implies that supply and demand do not depend upon price and rejects the market approach to economic analysis. Adjustments are then assumed to occur, if at all, via non-price mechanisms which may or may not be stable and that it is quite possible for imbalance between supply and demand to persist even in the long run.” As mentioned previously in this section, neither the classicists nor Keynes were true institutionalists

and as such relied heavily on the functioning of the market to govern the relationship between supply and demand.

Given that the South African economy reacts to changes in government policy and the interpretation of such policy by industry, one can say that the market is operational. The market may not be optimal, but that is not the focus of this study. This study aims to assess the institutions of ownership and the actions of the state and the deep-level gold mining industry on the preservation or exploitation of such resources, and therefore it is important, as Beenstock (1980: 4) says, to draw on elements of both Keynesian and neoclassical theory. Furthermore, where it is assumed (except by the new institutional economists)² that neoclassical economics occurred in a vacuum and independent of any specific institutional context, Himmelweit *et al.* (2001: 14) advocate that given that private property rights and a legal framework to enforce contracts implicitly exist in neoclassical theory; one can assume that these “institutions” are taken for granted and thus as universal in the neoclassical framework. This will be elaborated upon in the section on institutional and new institutional economic theory.

In addition to this, one needs to add other schools of thought and thus create a more solid understanding of the interaction between market participants. The neoclassical and Keynesian schools of thought form the foundation of industrial organisation, institutional economics, the economics of property rights and new institutional economics. As such, one must include these other theoretical underpinnings to the study. This will enable one to delve deeper into the pertinent issues of the hypothesis. One can then appropriately examine the model of the South African gold mining industry. As will be shown in the section dealing with institutional and new institutional economics; individuals, and so the market, are products of the institutional structure – whether it be society, culture or legislative measures. They therefore are products of their environments and make decisions and choices about future courses of action based on such asymmetric information (Atkinson and Reed, 1990; North, 1990; Knight, 1957; Parsons, 1957; Radzicki, 1990;

² More information to follow in a further section of this chapter.

Samuels, 1995; Veblen, 1898; Ostrom, 2005; Milgrom and Roberts, 1992; Himmelweit *et al.*, 2001).

2.3 The theory of industrial organisation

Luis Cabral (2000: 3) describes industrial organisation as “concerned with the workings of markets and industries, in particular the way firms compete with each other...its emphasis is on the study of the firm’s strategies that are characteristic of market interaction.” This is a microeconomic study of firm behaviour underlying macroeconomic schools of thought and does not necessarily fall within any particular one. There are, in fact, factions of schools of thought within the study of industrial organisation; that is, the Austrian School (Schumpeter, Von Hayek, Von Mises and so forth) and the Chicago School (more classicist in nature) (Cabral, 2000: 4; see also Swedberg, 1994; Caves 1964).

In 1937, Ronald Coase published his famous article “The Nature of the Firm”. He (Coase, 1937) advocated that unlike classic and neoclassic theoretical assumptions, there was more to coordination within the market than the price mechanism. This implied, according to Von Hayek (1933) that “society” was “not an organisation but an organism” [in Coase (1937), in Williamson 1996: 4]. It similarly implied that there was no need or room for economic planning – whether by individuals or governments since everything was managed and allocated by the price mechanism. Coase (1937), however, argued that firms did indeed exist. This was an indication that there was more than the price mechanism influencing economic activity. In brief, Coase (1937) believed that firms emerged in order to bypass the unnecessary transaction costs of contracting under conditions of imperfect and incomplete information, for each and every exchange between producer and supplier (see also North, 1990; Milgrom and Roberts, 1992; Williamson 1975; 1979; 1985; Coase, 1988b; 1992). In essence, the existence of the firm represented a long-term contractual relationship between market participants [Coase (1937), in Williamson, 1996: 8]. Furthermore, the firm becomes a form of central planning for economic activity within an industry and as such helps to eliminate some of the uncertainty that previously existed in market transactions

(Coase, 1937; Knight, 1921). Firms will grow in size as long as the benefits to doing so are greater than the costs of contracting with additional suppliers, employees, or other businesses (as in the case of mergers and greater vertical integration) (Coase, 1937). Once this relationship reverses and the costs exceed the benefits, production and output from the organisation will no longer be considered economically efficient (Coase, 1937). This is what occurred within the South African mining industry, as a small group of financiers invested in up- and downstream activities in pursuit of greater economies of scale and efficiency in operations.³ As Krautkraemer (1998: 2077) expresses; “the risk associated with holding a mineral asset can be diversified in a portfolio with other assets” and this is largely what South African mining companies have done and continue to do (Sander, 2000; Fine and Rustomjee, 1996; Feinstein, 2005).

According to Dasgupta and Heal [(1979), in Krautkraemer, 1998: 2076], “ a perfectly competitive market can allocate a non-renewable resource efficiently over time as long as there is a complete set of markets, including forward, capital and risk markets.” In the absence of this set of markets, market participants will need to “form expectations about future prices” and may fail if incorrect assumptions are consistently made about the extraction limits of the resource and its long-run average price (Krautkraemer, 1998: 2067; 2076). Krautkraemer (1998: 2076) explains that a mining firm typically “faces a downward sloping demand curve, and profit maximising extraction occurs where marginal revenue, rather than price, equals marginal extraction cost plus user cost.”

In the study of the South African gold mining industry, it is difficult to place firms within a box of perfect competition, monopolistic competition or oligopoly and with that, collusive behaviour. This is, however, an important element of this thesis as it could determine the way in which firms respond to changes in the institutional framework or how they themselves influence that institutional framework.

Given that the price of gold is set by world demand, South African companies could be said to be acting under perfect competition, as they are price-takers

³ More detail on the development of this conglomerate system will be given in Chapter 3 on the mining companies.

(Cabral, 2000: 85 – 86). In addition to this, perfect competition is characterised by many suppliers in one market and “each supplier is small in that its actions have no significant impact on other suppliers”; products are homogeneous (in the South African case, gold); “perfect information, namely that all agents know the prices set by all firms”; “equal access, namely that all firms have access to all production technologies”; and there are no barriers to entry or exit from the market (Cabral, 2000: 85 – 86).

South African gold mining companies, it is assumed, take for granted the price set by world markets. Given this price structure, the mining companies’ activities have little impact on that of their competitors. However, the nature of gold deposits on the Witwatersrand, the capital-intensive methods required in mining those deposits, and the long lead times and sunk costs in bringing a new gold mine into production all means there are limited opportunities for new entrants and an incumbent’s rapid exit from the industry (Lilford, 2005; Graulich, 2005; Baxter, 2005). The case of the Witwatersrand gold mining market therefore, does not fit the standard perfect competition model as described by Cabral (2000).

Under monopolistic competition, many firms exist and thus their impact upon each others’ production functions is negligible. This model is largely operative due to product differentiation amongst firms (Cabral, 2000: 92). Due to this, firms are price makers and so it is not suitable for the model of the gold mining industry in South Africa. Important to note, however, is that “the effect of market power on the intertemporal pattern of extraction depends upon how demand elasticity varies with the quantity produced” (Krautkraemer, 1998: 2076). Interestingly, Krautkraemer (1998: 2077) explains that under monopolistic market conditions, the “extraction pattern [of a firm] is more conservative than what would occur under perfect competition.” That is the monopoly will set the price initially higher and raise it more slowly, than perfectly competitive industries (Krautkraemer, 1998: 2077).

The case of the South African gold mining industry, however, becomes difficult to model when one considers the relationship between firms in terms of oligopoly. This market is characterised by a small number of firms, where the actions of Firm A can influence the profits of Firm B (Cabral, 2000: 101). Products in this market are

“perfect substitutes” and as such the level at which firms set prices has the ability to capture all the demand (Cabral, 2000: 102). Within oligopoly there is the Bertrand competition model (Cabral, 2000: 104) which states that the dominant strategy for firms is to set prices equal to marginal costs, thus resulting in perfect competition. If one considers that for an extended period of time, South Africa was a leader in world gold production, one could make the case for price-setting (Baxter, 2005; Graulich 2005; Business Day 2007c: 1; Business Times, 2008c: 6). Extending this critique to the manner of organisation of the mining finance houses in the 1950s – the extensive vertical integration across supply chains for the industry; across different types of mining operations; and the establishment of the Chamber of Mines of South Africa – one could superficially conclude that the actions of the industry participants were oligopolistic in nature (Yudelman, 1983; Innes, 1984; Sander, 2000).

Collusion and cartel agreements are often associated with oligopolistic market structures. Cartel agreements “are an institutional form of collusion”, while collusion between firms could be implied for “some historical reason or simply because they are natural focal points” (Cabral, 2000: 127). The question, however, is whether the South African gold mining industry ever operated under oligopolistic market conditions and was there collusive behaviour between firms and mining houses? Given that the mining industry has had such a wide and far-reaching influence upon the economy one could argue that their control over labour and wages could be collusive. Such collusive behaviour could likewise be said to be implemented and monitored by the Chamber of Mines. In the same vein, while gold mining companies are price-takers they are able to, and do, under certain circumstances, set the level of production and thus the supply of gold into the market (CMSA, 2005b: 19). In this way they can maximise profits under varying levels of the gold price and world demand. Cabral (2000: 130) goes on to explain that “collusive pricing is more likely to be an equilibrium the greater the frequency with which firms interact and the greater the probability of continuation and growth of the industry” and that collusion occurs more frequently in “concentrated industries” (Cabral, 2000: 137). In an oligopoly and cartel framework, the analysis of resource extraction paths and price trends becomes more difficult, however (Krautkraemer, 1998: 2077). This is largely because of the need for agreement between members of the cartel and information

about the future expectations of extraction and price paths (Krautkraemer, 1998: 2077).

According to Brad DeLong (1996), in his argument against the gold standard, during the Great Depression, several countries temporarily abandoned the gold standard in order to mitigate the “deflationary bias” and downward pressure on currency. Under the gold standard, he explains, worldwide inflation had an upward bias, directly related to levels of gold production in South Africa and Russia. After 1971, under the Bretton Woods System, the gold standard was finally abolished on grounds of eradicating unnecessary pressure on levels of inflation and unemployment (Feinstein, 2005: 203; Kettell, 1982: 154 – 156; Yudelman, 1983: 134 – 135). This illustrates that up until the 1970s, South Africa and other large gold producers had little to no impact on movements in the gold price as it was fixed (Feinstein, 2005; Kettell, 1982; Yudelman, 1983).

The theory of collusive behaviour in the gold mining industry further holds when one notes “firms that compete with each other in several markets have a greater propensity to collude, and or collude to a greater extent.” This can be shown by mining houses’ participation across various markets and the extent of vertical integration in these companies. Partly because of the unique nature of the early gold mining industry as well as access to capital and existent market power, the mining finance houses chose vertical integration and thus the ability to provide both inputs to the mining process as well as outputs from the mining industry in the form of refined products. This can be simplified by explaining the extent of vertical integration and collusive behaviour amongst South African mining finance houses as a result of the institutional factors in the economy – whether those were established by firms or government [Cabral, 2000: 140; see also Stigler (1996), in Williamson 1996: 72]. At a much simpler level, however, vertical integration was common in the South African mining industry due to the high contracting costs associated with it. As Williamson (1983: 526) explains, vertical integration is likely to occur when parties to a contract (businesses along the supply chain in this case) are required to invest ‘in transaction-specific sunk investments’. These investments have four characteristics, including: “Site specificity...physical asset specificity...human-capital specificity...[and] dedicated assets” [Joskow (1985), in Williamson, 1996: 286]. In

any of these cases, the premature termination of the supply contract would leave the supplier with “excess capacity” (Joskow, 1985: 286-287). (See also Milgrom and Roberts, 1992; Tirole 1986; Williamson, 1975; 1979; 1985).

Industrial organisation touches and merges with the economics of property rights and thus also institutional economics as it aims to determine the role of public policy in determining the market power of firms (Cabral, 2000: 6). Anti-trust law (competition policy) and other forms of regulation can help or hinder a firm in gaining market power and in such cases where these organisations are inefficient this can lead to rent-seeking behaviour by firms; that is, “the unproductive resources spent by firms in attempting to influence policy makers” (Cabral, 2000: 8).

Fine and Rustomjee (1996: 55 – 56) believe the state also has a role to play in the development of the firm and its interactions with the market. Once identifying its economic objectives, it must pursue this path “to the extent that the market does not or is unable to do so” (Fine and Rustomjee, 1996: 56). In an important point, Fine and Rustomjee (1996: 56) criticise that if “the determinants of the state’s actual rather than preferred role [are] unspecified, the laissez-faire position... [is] able to counter the charge of market failure or imperfections with the equally powerful claim of government imperfection, be it regulatory failure or whatever.” Drawing on Ostrom’s (2005: 238) hypothesis that government has perfect information and uses such to design optimal policies, Fine and Rustomjee (1996: 56) elaborate on what this means in an anti-interventionist or interventionist policy environment.

According to Fine and Rustomjee (1996: 56) the anti-interventionist school of thought argues (rightly so in their opinion) that government should refrain from interventionist activities as “there is no reason to presume that government will function anymore satisfactorily than the market.” They (Fine and Rustomjee, 1996: 56) go on to say that once engaged in interventionist policy development, the state effectively encourages lobbyist activities and increases the risk of designing inefficient policies that will lead to rent-seeking and costly behaviour by firms. Fine and Rustomjee (1996: 56) argue that it is because the state does not have “superior information” to override independent market operations that it should remain laissez-faire in attitude. To make their point even clearer, Fine and Rustomjee (1996: 56) state: “the pursuit of profit-

making through the market is seen as beneficial, whereas its pursuit through the state is seen as wasteful, with pejorative overtones of immorality.” Through this, they illustrate that it is not only firms which can engage in rent-seeking behaviour. While the interpretation of this can be either behaviour in pursuit of profits or that in pursuit of rent, it will be examined as one of the elements of policy design by the state; and interpretation by the mining firms.

The Chicago School follows in the classical economic vein by assuming that markets clear and that imperfect competition cannot be sustained indefinitely. They even go as far as to say that it is precisely because government intervened in the market that excessive market power is held by one or more firms (Cabral, 2000: 6, 10). Schumpeter, of the Austrian School, however, would argue that “market power exists and it’s a good thing that it does, for market power is a precondition for technical progress” and that the primary role of public policy is to avoid such (Schumpeter, 1957).

According to industrial organisation theory, “free-entry equilibrium is characterised by a set of active firms such that (1) no active firm wishes to leave the markets and (2) no inactive firm wishes to enter the market” (Cabral, 2000: 243). Further, market concentration increases with an improvement in the economies of scale of the industry, whether through technological progress or mergers between existing market participants, or incumbents and entrants (Cabral, 2000: 245; 277 – 280; see also Williamson, 1975; Coase 1937; 1992). This in turn means that the barriers to entry are increased and this was illustrated in the early twentieth century when the state attempted to open its own mines (Kaplan, 1985: 519 – 541). Some of the main barriers to entry in gold mining include the large sunk costs and capital outlay involved in opening up a new mine. This is also much of the reason why returns on gold production take several years to come to fruition (Baxter, 2005; Graulich, 2004; Lilford, 2005; Mather, 2005). For these reasons, as well as restrictions on the flexibility of input costs, even the state battled to enter the market.

As far back as 1893, the state had argued in favour of state mining operations to address the white unemployment problem in the Transvaal (Kaplan, 1985: 519). The changing economy of South Africa led to rapid urbanisation of the Transvaal, as

Kaplan (1985: 519) details: “forty-five thousand Uitlanders alone had returned to the Transvaal after the [Anglo-Boer or South African] war, headlong into a severe post-war depression. Under these conditions the unskilled ‘poor whites’, who comprised mainly Boers [Afrikaner farmers], found employment almost impossible to obtain, and by 1907 the problem of white unemployment in the Transvaal was more severe than ever.”

The mines were undoubtedly the largest employer of labour on the Witwatersrand and given that the gold price was fixed, out of the control of producers, mines were left only with the ability to alter the cost of labour (Kaplan, 1985: 520; see also Yudelman, 1983; and Johnstone, 1976). Given the inherent segregation between whites and blacks in society at the time, mines preferred to employ blacks than unskilled poor whites, at lower wages (Kaplan, 1985: 520 – 521; see also Johnstone, 1976). Government’s plans to have mines solve the burgeoning white unemployment problem thus failed.

While government considered the option of forcing mining houses to employ more semi- and unskilled whites, they feared the conflict that would arise between the two institutions (Kaplan, 1985: 522). In 1908, the Het Volk Government therefore chose to establish state mines in order to solve this problem, thereby also providing an opportunity for the white youths to be trained and skilled, rather than importing foreign miners (Kaplan, 1985: 522). By May 1908, however, state inactivity as well as its reluctance to expend substantial capital and be exposed to such risk, led to the closure of the Zaaiplaats experimental state mine (Kaplan, 1985: 527). In addition to such profit issues listed above, foreign investor sentiment was heavily set against both the establishment of state mines and the nationalisation of mining operations. This was again made clear in 1948, around the time of the election of the nationalist party to power. Prior to the election “the official economic policy of the nationalist party...included obtaining control of key industries such as gold mines, either by way of state appointed directors ‘of deur korporasies, of andersins [or through cooperations, or other means]’ ” (Kaplan, 1985: 534). This policy helped secure the party victory, however, it was at the cost of an estimated loss in foreign investment of £200 000 000 (Kaplan, 1985: 535). Needless to say the party changed its policy shortly after taking office.

If one follows the Austrian School of thought and tracks the role of technological progress in the model of the South African gold mining industry, one can eliminate the possibility that the industry is perfectly competitive. This is pointed out by the underlying assumption that “perfect competition leads to maximum efficiency given the existing technologies (static efficiency)” (Cabral, 2000: 85 – 86). Furthermore, Cabral (2000: 85 – 86) states that the model of perfect competition does not account for the consequences of technological progress and innovation. Regardless of whether the South African gold mining industry reflects perfect competition or not, it is obvious that the industry operates in a system of “dynamic efficiency” and not static efficiency. That is, “the improvement over time of products and production techniques” (Cabral, 2000: 28).

Two technological developments can illustrate the importance of technological innovation on the development and prospering of an industry. Firstly, the development of the MacArthur-Forrest process to extract gold from pyretic ores in 1887 (Sander, 2000: 78). The encountering of gold in hard blue quartz from a depth of approximately 33 metres resulted in a severe slump in the financial markets in 1889 (Kaplan, 1985: 139; Sander 2000: 77). At the time this sulphide containing quartz meant that the efficiency of the extraction process was reduced “by as much as half” (Sander, 2000: 77) and in turn caused a drop in profits of companies and investor sentiment about the long-term prospects for deep-level gold mining. The MacArthur-Forrest process not only overcame the obstacle of pyretic ore, but managed to improve extraction rates drastically; it achieved an unprecedented recovery of up to 90 per cent (Sander, 2000: 79).

The second example of technological progress was the incorporation of the jack-hammer drill into mining operations. After the mineworkers’ strike of 1922, this and the “all sliming” process were introduced as part of a cost-reducing strategy on mines. Kaplan (1985: 434) expresses “the gold recovery rate improved and annual gold output during that period rose continually from the 1923 peak”. Further with developments in rock mechanics, gold mines are now able to undermine their shaft areas and thus have extended their economic lifespan (Lilford, 2005; Mather, 1995).

Under perfect competition it is assumed that all firms have access to the same technology; firms have perfect information about the market; and the entry process itself is well coordinated, that is, firms make entry decisions knowing what decisions previous entrants made (Cabral, 2000: 245). If, however, one takes the Schumpeterian approach and assumes that there is imperfect information regarding market conditions and available technologies, the behaviour of firms is likely to lead to forecasting and coordination failures (Cabral, 2000: 246). Cabral (2000: 247) extends this to say, “the particular historical details of the evolution of an industry may in some cases determine the long-run market structure in ways that go beyond simple technological determinants.”

Arrow (1963: 94) explains how uncertainty exists in transactions; information and knowledge become scarce resources that can be traded like other goods and services in the market. Unlike other goods traded in a neoclassical framework, the value of information is usually unknown by contacting parties – this is simply because it is not until one knows what information is missing, does one know the value of it (Arrow, 1963; Milgrom and Roberts, 1992; Alchian, 1950). Alchian (1950: 24) describes that uncertainty in transactions arises for two main reasons – “imperfect foresight and human inability to solve complex problems” (see also Ostrom, 2005). Joskow [(1985), in Williamson, 1996: 302] clarifies “there is no easy way to measure the extent to which a particular type of transaction is subject to uncertainty or complexity [but this is] important to the extent that buyers and sellers cannot write unambiguous and easily enforceable full contingent claims contracts.” Going back to neoclassical theory, the assumption of “bounded rationality” suggests that there will always be unforeseen elements in market transactions simply because parties will fail to contemplate certain circumstances and outcomes (Joskow, 1985; Ostrom, 2005; North, 1990).

Towards the latter stages of Apartheid, there was a slowdown in the capital and investment spent on mining (as well as other sectors of the economy). This in turn had an impact on the production of gold mining in the 1990s. As mentioned previously, results from mining operations can take long to come into being – “it can take up to ten years to produce a mine’s first ounce of gold and this can cost up to R3- to R5 billion (pay-back period)” (Baxter, 2005). With the lack of investment in the late

1980s and 1990s, this meant that the industry stagnated in many ways – technology played the same role it did ten years prior, particularly in key areas such as health and safety, where technological innovation really means the difference between life and death for many employees (Baxter, 2005). Baxter (2005) referred to the Apartheid state as a “great incubator and not a great applicator of new technologies”. It appears the attitude of the state and prominent leaders in the sector was that given the significant expansion in the 1970s and early 1980s, there was no need to continue to pump money into something that was clearly working so well (Baxter, 2005).

Another change in mining that transformed the industry was when in the 1980s, management positions were no longer held by engineers. Originally mines were operated and run by engineers, reporting to stakeholders, who in turn reported to overseas investors and shareholders (Sander, 2000). Over the years, engineers began to move into management positions and mines were run on a purely profit basis (Baxter, 2005). Between the 1980s and 1990s, the management of mines began to evolve into additional areas such as logistics, management of the ore body, human resources and community involvement. As such, more and more mines began to be run as businesses by businessmen, and optimisation became the key focus of every part of the process. Baxter (2005) elaborates by indicating four key components for gold mining in the 1990s:

- Increased transformational leadership and exposure to global pressures.
- Globalisation – focus widened to outside of South Africa – the shareholder base changed. Corporate governance increased. Business became more commodities focused and geographic diversification occurred.
- Previously investors were limited by the defined lease system. With the change in policy there was greater scope for investment and investors.
- New focus on human capital. Human resources moved from being a pure cost to being counted as part of the asset base.

Agency theory and the development of the firm incorporate another important aspect of industrial organisation that should be mentioned. Both agency theory and the theory of transaction costs have strong ties with institutional and “new institutional”

economics and have been examined by the likes of Ronald Coase, Douglas North and Oliver Williamson (Samuels, 1995: 578).

Williamson (2005: 41) in his paper on transaction cost economics, states “transaction costs economics is an effort to better understand complex economic organisation by selectively joining law, economics and organisation theory...transaction cost economics is concerned with the allocation of economic activity across alternative modes of organisation.” He goes on to elaborate that while orthodoxy (neoclassical thought) is “well-suited to aggregation in the context of simple market exchange”, transaction cost economics is more concerned with “the micro-analytics of complex contracting and non-market organisation” (Williamson, 2005: 41). Samuels (1995: 578) draws on North’s emphasis “that institutions and transaction costs influence transformation costs, and that the cultural lag in human capital adjustment to physical capital selection is a major problem. In addition, the importance of information and transaction costs offers a useful mode of analysing advertising, marketing and policy making, and is especially enriched when informational asymmetries are introduced into analysis.” Coase [(1992), in Pejovich, 2001: 7] describes: “in a regime of zero transaction costs...negotiations between parties would lead to...arrangements being made which would maximise wealth...irrespective of the initial assignment of [property] rights” and as an economic system moves from zero transaction costs, to positive transaction costs, the operation of the legal system becomes increasingly important. (See also Williamson, 1975; 1985; 1979; Milgrom and Roberts, 1992; Pejovich, 2001; Ostrom, 2005; Joskow, 1985; Coase 1937; 1988a; 1992)

In terms of agency theory Samuels (1995) and Coase (1937) both talk about the role of the manager in the organisational transformation. Samuels (1995: 579) specifically refers to the transformation of capitalism “from an individualist entrepreneurial to a managerialist corporate system”, and taking this idea further one can say “firms have developed from individual enterprises connected by markets to increasingly large firms with increasing coordination.” Ronald Coase (1937) pioneered this idea in his paper “The Nature of the Firm”. In this paper Coase (1937: 390) explains that firms are primarily established because there is a cost involved in “organising production through the price mechanism [and] discovering what the relevant prices are.” More

specifically, these and related transaction costs emerge from a lack of information (Coase, 1937). Unlike the neoclassical assumption of perfect information, Coase (1937) recognised that any and every transaction the firm involved itself in required interaction and exchange with another market participant, and as such the use of information to make final choices. North (1990: 12) summarises Coases' findings from this paper as "when it is costly to transact, institutions matter" as these determine the level of such costs, and the ease or difficulty in overcoming such barriers as asymmetric information in pursuit of an efficient outcome.

Taking account of the theory of industrial organisation, one can conclude that while firms within the South African gold mining industry produce a homogeneous product and are price-takers, it is more akin to an oligopolistic arrangement than perfect competition. The industry has the ability to determine its level of supply, and given its size in the world market can thus influence prices and demand. The Chicago School believes that any form of market power cannot be sustained indefinitely (Cabral, 2000: 4). Looking at history, the deep-level gold mining industry has transformed the South African economy and commanded a significant influence over the performance of it too (Kettell, 1982; Lombard and Stadler, 1980). In such an instance, one would therefore have to follow the Austrian School and acknowledge the role of government, technology and subsequently institutions in the dominance of this industry. Market power has been retained and strengthened over the years as mining finance houses have diversified vertically along the value chain and merged with any companies that could assist in extending their hold on input markets (Fine and Rustomjee, 1996; Yudelman, 1983).

The next section explores the theory of the economics of property rights. Property rights relate to the way rights are allocated between market participants and are a basis for helping explain the allocation of mining rights and title within the South African gold mining industry as it pertains to the hypothesis of preservation versus exploitation of resources.

2.4 The economics of property rights

Fisher (1916: 27) defines a property right as “the liberty or permit (under sanction and protection of custom and law) to enjoy benefits of wealth – in its broadest sense – while assuming the costs which those benefits entail...it will be observed that property rights, unlike wealth or benefits are not physical objects nor events, but are abstract social relations.” Pejovich (2001: xiii) elaborates on this by explaining that rather than things, property rights represent “relations among men” that govern the allocation and use of scarce resources, as per neoclassical theory. This has led scholars to subsume the theory of the economics of property rights under a broader neoclassical theory (as mentioned previously by Himmelweit *et al.*, 2001) and thus also under the new institutional economics (North, 1990; 2005; Ostrom, 2005; Pejovich, 2001: xiv). Especially in the case of new institutional economics, property rights are said to represent the “effects on the costs of transactions and [the] incentive structure [of] economic behaviour” (Pejovich, 2001:xiv). Schatter (1983: 375) argues for the inclusion of property rights theory in the broader neoclassical framework since the assumption of the competitive market as the sole institution, operated through perfect information and prices, is too limited for application in real-world scenarios (see also Blaug, 1998: 28).

Under the theory of institutional economics, as discussed in the next section, one finds two subcomponents – formal and informal institutions (Pejovich, 2001; North, 1990; 2005; Ostrom, 2005; Rutherford, 1994; Von Hayek, 1988). Various types of rules that govern interactions and choices by individuals make up these institutions – as illustrated by Elinor Ostrom (2005). Pejovich (2001: xv) believes property rights to represent an aggregation of these formal and informal rules, and the institutions themselves as the “containers holding, protecting, and enforcing [the] various bundles of property rights.” He (Pejovich, 2001: xv) goes on to say, “the success of prevailing rules in enhancing cooperation and coordination among members of the community depends on their stability and credibility. Rules that are loosely enforced do not encourage human interaction and cease to be a predictor of human behaviour; the result is higher transactions costs of exchange and fewer exchanges.” This has been echoed by several other authors, including;

Williamson (1975; 1979; 1985; 2005), Coase (1937; 1988a; 1988b; 1992), Milgrom and Roberts (1992), North (1990), and Ostrom (2005).

Pejovich (2001: xv) explains that over time individuals become familiar with the rules of the system and adjust accordingly (see also Ostrom, 2005; and North, 1990). They also learn to “identify exchange opportunities and exploit the most beneficial ones” (Pejovich, 2001: xv). Many economists believe the rule-of-law to be the benchmark for order and functioning in an economy, and so also ideal for examining the distribution of property rights within that system. As per Pejovich’s (2001: xv) definition: “the rule-of-law means absence of arbitrary power on the part of the ruling group; subjection of all citizens to the same laws; stable and credible rules; and democratic elections. An implication is that the political elite in a rule-of-law country has incentives to satisfy preferences of the median voter on key issues.” It is argued “the further a country travels away from the rule of law the greater the power of the ruling group to reallocate property rights to their supporters” (Pejovich, 2001: xv; see also: Benson, 1994a; Hobbes, 1651 [1651]).

According to Stahl [(1997) in Pejovich, 2001: 142], property rights can be classified into three distinct forms: an “open access regime” where “other individuals are not excluded from the use of the resource”; “common property” where “the use of a resource is limited to a group of people”; and finally, “private property rights” where all rights are allocated to “a single individual who is allowed to exclude all other individuals from the resource.” The allocation and development of property rights over time has been known to oscillate between each of the forms; changing in accordance with changes in technology, political structures, transactions costs and benefits, shared values and so forth [Stahl (1997), in Pejovich, 2001: 143].

The property rights system that comes to the fore is that which implies the lowest net cost (Witt, 1991a: 23). Stahl [(1997), in Pejovich, 2001: 143 – 144] adds that this is only true “if individuals are perfectly informed about the institutional alternatives.” However, given that individuals are only partly aware of the full complexity of their environments at any given time (this is due to the limited capabilities of human cognitive abilities); individuals call upon their past experiences, beliefs, values and norms to help filter available information and make choices [Ostrom, 2005;

North, 1990; 2005; Stahl, 1997). This means that the transition to a new property rights system or institutional setting does not necessarily mean a more efficient allocation of resources or necessarily lower transaction costs (North, 1990; Stahl, 1997; Ostrom, 2005). Stahl [(1997) in Pejovich, 2001: 144] goes on to say that participants may even choose to forego changing the system if “the design of a new system of property rights itself imposes costs which may turn out to be a major obstacle to the transition from one system of property rights to another” (see also Posner, 1998). Ostrom (2005: 63) indicates that this may mean that actors remain at a suboptimal allocation point for a period of time. Whatever system of property rights should evolve Ellickson (1993: 1329) emphasises that while institutions and organisations “evolve to reduce the transaction costs” in activity, “these costs do not fall to zero” [in Benson (1994c; 1994d), in Pejovich, 2001: 130].

Both Benson [(1989; 1990), in Pejovich, 2001: 124] and McChesney [(1990) in Pejovich, 2001: 163] advocate that the system of private property rights generates more wealth for the rights holder than open-access or common property regimes. While this form of property ownership emerges naturally, it is most often assigned and maintained through government regulation [McChesney (1990), in Pejovich, 2001: 163 – 164]. Epstein [(1994), in Pejovich, 2001: 476] suggests the optimum system is one that naturally evolves, “becoming more or less private in particular sectors of economic activity as people adapt to changing social and technological circumstances.” As in the case of individual choice and government policy design discussed above, there is no guarantee that government will allocate property rights in the most efficient manner. Public officials are similarly limited in their access to information and ruled by opportunistic motives [McChesney (1990), in Pejovich, 2001: 163 Williamson, 1996; Ostrom, 2005].

Posner [(1998), in Pejovich, 2001: 207] believes “the creation of individual (as distinct from collective) ownership rights [to be] a necessary rather than...sufficient condition for the efficient use of resources [as contrasted with the tragedy of the commons].” Rights should also be easily transferable. On the other hand, Epstein [(1994), in Pejovich, 2001: 431] critiques that in terms of natural resources, there is no benchmark that stipulates that resources be allocated according to one and only one of the above mentioned regimes. Allocation of resources is a function of

society's norms and values as well as the political and legislative structures governing it (Ostrom, 2005; Epstein, 1994; Marx and Engels, 1977; Rousseau, 1755).

In the instance of the South African gold mining industry, rights were initially allocated to individual diggers when gold was discovered in the Zuid Afrikaanse Republiek [South African Republic (ZAR)] (Kaplan, 1985). This then moved to a system of rights vested in the hands of larger foreign conglomerates (Sander, 2001; Innes, 1984; Yudelman, 1983). Both these examples of private property right allocation are in contrast to that which was suggested in the African National Congress (ANC) Freedom Charter (ANC, 1955) and called for a nationalisation of all natural resources. Ostrom (2005: 277) elucidates that if in a move from one end of the spectrum of allocation to the other, there is no recognition of any previous institutional arrangements, there can be three adverse consequences. These may entail: redistribution of previously attained property rights from poorer and less fortunate individuals to those who hold more power; declining appetite for investment by those who lose property rights, and; a possible "general downgrading of the status of indigenous knowledge and institutions." These outcomes are more likely to occur under conditions of corruption, or in cases where there is a lack of reputation and trust in the system.

In granting private rights to an individual one is able to "[create] strong incentives for the person to seek ways to reduce transactions costs of discovering the best use for the asset" (Pejovich, 2001: xvi). Coase (1988a: 158) explains further that "[Individuals] who are normally only interested in maximising their own incomes, are not concerned with social cost and will only undertake an activity if the value of the product of the factors employed is greater than their private cost...But if private cost is equal to social cost, it follows that [individuals] will only engage in an activity if the value of the product of the factors employed is greater than the value which they would yield in their best alternative use. That is to say, with zero transaction costs, the value of production would be maximised."

In his work on transactions costs, contracts, and organisational structures, Coase (1992) prescribed that "(1) clearly defined private property rights are an essential requirement for resolving the conflict of interests among individuals via

market exchange; and (2) an efficient allocation of resources is independent of the initial assignment of private property rights as long as transactions costs are insignificant” (Pejovich, 2001: xvi). However, reality is not devoid of transaction costs (Pejovich, 2001: xvii) and therefore Coase (1988a) is advocating that due to uncertainty and incomplete information, property rights be allocated so as to minimise transaction costs [see also Witt (1991b), in Pejovich, 2001: 279]. Coase [(1992), in Pejovich, 2001: 7] goes on to say that property rights are traded, like goods and services in the neoclassical model, in the market. It is the legal system that largely determines the types and levels of transaction costs associated with trades (Coase, 1988b).

As discussed in the section on industrial organisation, technological change impacts upon the organisation, as well as the constitution of various other institutions in the economy. Likewise, Ellickson (1993) and Libecap (1978) explain that the allocation of property rights will change. Barzel (1989:65) draws from Demsetz (1967) when saying, “people acquire, maintain, and relinquish rights as a matter of choice...As conditions change...something that has been considered not worthwhile to own may be newly perceived as worthwhile.” This is linked to the utility derived from such rights. Benson [(1994c; 1994d), in Pejovich, 2001: 130] stipulates, however, that “the direction of change in property rights will depend to a degree on the nature of the legal system” as this is what has the strongest influence on the transaction costs in trading property rights. The legal system also defines the value of alternative property rights (Benson, 1994c; 1994d). Posner [(1998), in Pejovich, 2001: 206] expands on this idea by saying that “legal protection of property rights creates incentives to exploit resources efficiently...the proper incentives are created by parcelling out mutually exclusive rights to the use of particular resources among the members of society.”

As can be seen from the above summary of the theory, property rights (and thus also institutions) determine distribution and allocation within a society. Linking this with the theory of industrial organisation one can determine that rights are allocated in accordance with the assumptions of opportunistic behaviour by rational market participants (Williamson, 1996; 1979) and the minimisation of transaction costs in pursuit of efficient outcomes (Demsetz, 1967; Coase, 1988a; 1988b; North, 1990;

Ostrom, 2005; Williamson, 1975, 1985; Pejovich, 2001). Benson (1994a) describes the allocation of property rights as a “might takes right” scenario when contractual relations are formed on a continuum of pure duress to pure consent. Property rights will therefore be allocated to the “more powerful” individuals in society and will only remain in such a distributional formation to the extent that such individuals manage to retain power (Jasay, 1994; Benson, 1984; 1990). Ostrom (2005: 50) defines an individual’s “power” in a situation as “the value of the opportunity (the range in the outcomes afforded by the situation) times the extent of control...Action situations may involve differential distributions of control and opportunity to different individuals in the situation. Consequently, individuals may differ in the amount of power they have in the situation. Concepts of opportunity, control, and power are thus defined as situation-dependent.” Property rights therefore can be seen to determine the power of a market participant and the way participants interact with one another (Bailey, 1992; Benson, 1994b). This will be illustrated throughout this thesis as the allocation of mining rights and titles are assessed. Similarly, it will be evident that the allocation of property rights is both an outcome and determinant of the motivation (preserver or exploiter) for such rights or policy changes and implementations.

In the following section, more detail is provided to the theory of institutional economics. This has already been mentioned in several places but now needs to be more explicitly discussed as a basis for further determining the structure of the gold mining firm and its interaction with the state.

2.5 Institutional and new institutional economics

In his book “*Institutions, Institutional Change and Economic Performance*” Douglas North (1990: 4 – 5) describes the distinction between an “organisation” and an ‘institution’: “Like institutions, organisations provide a structure to human interaction...Organisations...are groups of individuals bound by some common purpose to achieve objectives....Both what organisations come into existence and how they evolve are fundamentally influenced by the institutional framework. In turn they influence how the institutional framework evolves...institutions...are the

underlying rules of the game and the focus on organisations...is primarily on their role as agents of institutional change...institutions affect the performance of the economy by their effect on the costs of exchange and production.” In this thesis the same distinction will be made with the resource users and government being the dominant organisations; and the policies and legislation developed by government, as well as the structure and role of the gold mining industry in the economy seen as the institutions. There will be no distinction between the state and the market, as it is assumed that the state is an organisation acting within the market. In her book “*Understanding Institutional Diversity*” (2005), Elinor Ostrom also uses North’s definition of institutions and Seabright’s (1993) conceptions of market versus state as institutional structures.

In the words of Radzicki (1990: 58), “one of the characteristics that distinguishes institutional economic theory from neoclassical economic theory is its portrayal of socio-economic change. In neoclassical theory, all change takes place within a given social structure...in institutional theory, all change occurs as a result of a changing social structure.” In institutional theory, as in neoclassical economics, it is believed that individuals are utility-maximisers and will thus pursue those things that “most enhance their personal or community well being” (Radzicki, 1990: 60; see also Himmelweit *et al.*, 2001; Hodgeson, 1994). Furthermore “the set of all possible goals and means is defined for a social system, at any one time, primarily by its level of technology” (Radzicki, 1990: 60). Over time, social systems and the state of technology change; thus so do the choice sets of market participants (North, 1990; Radzicki, 1990; Samuels, 1995; Hodgeson, 1994; Rodrik, 2003; 2004; Ostrom, 2005).

It is said that the evolution of technology and society occurs when there is a barrier to or conflict involved in individuals or entities achieving their goals; alternatively when they perceive an opportunity to enhance their well being (Radzicki, 1990: 61; 69). Being “rational individuals”, “they apply both knowledge and reason to the problem, and in doing so, advance their society’s level of technology” (Radzicki, 1990: 61). Samuels (1995: 581) concurs that the state and development of technology over time is an integral part of the analysis of institutions, the development and use of which is “a product of human choice”. This links with Schumpeter’s (1957) emphasis of the key role of technological “innovation, diffusion, interdependence, regimes and

trajectories as well as the cumulative nature of technological change, in part in relation to gateway technologies; the historical, cultural and processual factors in the genesis, form and direction taken by technology” in societal development (Samuels, 1995: 581; see also Allen, 2005; Simon, 1996).

Saperstein (1984: 303), in fact postulated that the actions of single individuals or companies can lead to grand and significant amendments in the behaviour of an entire system. This is shown in Innes’ (1984) and Yudelman’s (1983) respective studies on the impact of the mining finance houses development and their interactions with the state on the progress of the South African economy (see also Fine and Rustomjee 1996; Sander, 2000; and Feinstein, 2005). In a broader example, Ayres (1957: 27) corroborates this idea by drawing on the impact of the industrial revolution, and how “we are now witnessing the impact of our own industrial revolution upon the rest of the world” – this is as true now as it was in 1957 since the “the institutional patterns of Western society...[are themselves] a technological consequence of the turmoil of preceding centuries” (Ayres, 1957: 27). Therefore, insitutionalists, in the words of Samuels (1995: 573) “emphasise technology as a major force in the transformation of economic systems.”

According to institutional theory it is unlikely that a state of equilibrium will be achieved for any memorable length of time, if at all. Saying this, the theory does assume what conditions must hold in order for equilibrium to be achieved, specifically; in an institutional dynamics model equilibrium can only be reached “when all of its actual states equal their desired states, simultaneously. In such a situation all goals are satisfied and there is, consequently, no motivation for change and no fluctuation” (Radzicki, 1990: 61). Given that society is constantly changing and as human beings we are constantly striving for new and improved methods and systems, the state of equilibrium is a moving goalpost (Atkinson and Reed, 1990; Boulding, 1980; Daly, 1980; Chase, 1985; Georgescu-Roegen, 1980; North, 1990; Knight, 1957; Parsons, 1957; Radzicki, 1990; Samuels, 1995; Swaney, 1985; Veblen, 1898).

Atkinson and Reed (1990: 1096) speak of institutional economics being a form of economic problem solving and in so doing one needs to consider how solutions and

adjustments to institutions “will affect people’s behaviour in other related institutions...[and] individual behaviour as it is controlled by collective action.” In other words, the institutional framework dictates the incentives for economic interaction. It follows, then, that changes to that framework would change the incentives and as discussed in the section on industrial organisation, could swing behaviour from profit-seeking to rent-seeking, or vice versa. Atkinson and Reed (1990: 1096) go on to say that “institutional adjustment is a complex and continuous process that must account for individual behaviour in going concerns in a going society” (Atkinson and Reed, 1990: 1096; Samuels, 1995).

Looking at Foster’s (1981) work, institutional adjustment is not necessarily Pareto optimal (see also North, 1990; and Fine and Rustomjee, 1996); one need only look at legislative changes that occur daily across the globe to see that with each incremental change there are those who prosper and those that lose out – overall though, the aim is to make the majority better off in the long run. The outcomes of such changes are the result of negotiations, according to the Foster-Bush theory (Atkinson and Reed, 1990: 1099). The “negotiations” are determined according to the tools at the disposal of market participants [“coercive power, cooperative good-will, compensation, etc” (Atkinson and Reed, 1990: 1099)] and “this range of adaptive tools stands in contrast to the singular use of compensation [wages] as a tool of adaptation by the neoclassical and the ‘new institutional’ paradigms” (Atkinson and Reed, 1990: 1099). Veblen (1898; 1919; 1934) agreed with the thought that the neoclassical price-adjustment mechanism for market clearing was one-dimensional and inadequate to explain the dynamic interaction between preferences and techniques in reality (Boulding, 1957: 9).

Hodgeson (1994: 65) illustrates that while institutions themselves may change, what “is important is to stress the relative invariance and self-reinforcing character of institutions.” He (Hodgeson, 1994: 67) goes on to show “because of the momentum of technological and social change in modern industrial society, and the clashing new conceptions and traditions thrown up with each innovation in management and technique, the cumulative character of economic development can mean crisis on occasions rather than continuous change or advance.” However, regardless of whether it is a smooth transition or one of revolt, “the achievement is its embodiment of the

idea of the cumulatively self-reinforcing institution” (Hodgeson, 1994: 67). It is Denzau and North (1994; 2000) who emphasise the role of communication in the process of institutional change. As in the case of organisation through contracting, discussed in the previous section on property rights, repetitive interactions, characterised by trust are more likely to succeed. This is also reiterated by Ostrom (2005).

Radzicki (1990: 83; 86) explains, however, that even when these conflicts arise, or societal thresholds are reached – whether due to domestic or global economic strife, political upheaval, social conflict, or the introduction of a new technology – the evolutionary trajectory and final outcomes are a random result of time and space choices of and interactions between market participants (Laszlo, 1987: 98; see also Ostrom, 2005: 13). Any slight change to these “inputs” to the model of societal evolution, and a different outcome will easily be achieved (Radzicki, 1990: 86; 93). However, Laszlo (1987) believes that technological and societal innovation can overcome any threat to the system, with the system moving to a more complex and efficient level. This is in contrast to North’s (1990) theory that institutional transformation is a function of its underlying structure and should this structure be inefficient to start with, it is likely (but not necessarily predetermined) that the system will move to another inefficient state.

Ostrom (2005: 271) explains that there is no indefinite protection for institutions against change. Regardless of the strength of governance systems, even robust institutions will be affected by these endogenous or exogenous conflicts, threats or stresses and be forced to adapt. She describes such adaptations as an “unravelling” of “systems that [may] have survived multiple generations” (Ostrom, 2005: 272). Where individuals and market participants are skilled in adaptation and feedback systems work, they will be able to adopt small or slow changes to a system relatively easily. However, “the faster the key variables change and the more variables that change at the same time, the more demanding is the problem of adaptation to new circumstances. Those kinds of threats are difficult for all organisations” (Ostrom, 2005: 273).

Thorstein Veblen (1898) pioneered the idea of economics as an evolutionary science (Radzicki, 1990; Atkinson, 1987). Atkinson (1987: 199) goes on to tell us Commons (also a pioneer in the field of institutional economics) agreed with Veblen. Atkinson and Reed (1990: 1098) extend the question to “whether institutions are structures or behaviour or both.” Atkinson and Reed (1990: 1102) summarise Commons’ (1961: 647) and Dewey’s (1960: 257) ideas by saying, “the task is to explain the interaction of individual habits and social customs in order to predict the consequences of interdependence in actual situations”. Samuels (1995: 573) agrees: “institutionalists emphasise social and economic evolution and so take an explicit activist orientation toward social institutions. Institutions, they say, are important and cannot be taken for granted, because they are man-made and changeable.” Unlike neoclassical theory, which assumes “automatic mechanisms and laws” – not to say that institutionalists deny the existence of adjustment mechanisms – they rather “emphasise the reality of individual and collective choice” (Witte, 1954: 134 – 135).

North’s (1990) theory of informal institutions concurs with Atkinson and Reed (1990: 1104) when they say, “individuals did not come out of the wilderness to be tamed by society; they are born into a going society with evolving working rules”; likewise with Commons (1970: 21) “an institution is collective action in control, liberation, and expansion of individual action...human beings are born into this process of collective action and become individualised by the rules of collective action”. Atkinson [(1987), in Atkinson and Reed, 1990: 1100] suggests, “changes in rules are about changes in the governance of future relationships of participants in the system” and “since institutions govern interdependence among humans and between humans and their environment...[institutional adjustment] must be negotiated among the participants in a situation.” Boulding (1957: 20) concurs that “human society must always be largely of the original institutional character; custom and habit must rule most of what people feel, think, and do. Institutions are more or less explained historically rather than scientifically.” It follows that these “collective rules that control, liberate, and expand the individual define the individual [and hence] the liberation of one individual may come at the expense of another” (Atkinson and Reed, 1990: 1104). This acts as a form of conflict and thus supports Foster’s theory of the failure to achieve Pareto efficiency.

Further comparison between neoclassical economics and institutional economics is pointed out by Atkinson and Reed (1990: 1101) when they state the “neoclassical rationalists have a simplistic theory of society because they constructed a passive one-dimensional individual. Institutional economics has a more credible theory of economic society to some extent because the individual is more complex and interesting. Institutional theory is built on the concept of the active mind rather than the passive individual who merely chooses among alternatives presented.” Samuels (1995: 571 – 572), in his critique of the failing of neoclassical economic theory, adds “neoclassicism is faulted for its methodological individualism, that is, for its practice of treating individuals as independent and self-subsistent, possessing given preferences, whereas institutionalists find that individuals and culture are mutually interdependent.” Samuels (1995: 571) goes on to say that unlike in neoclassical theory, the allocation of resources is determined by “the organisational structure of society – in short, its institutions” with the market giving “effect to prevailing institutions.” This is in contrast to the neoclassical theory, which assumes the market is the driving force behind allocation and behaviour amongst participants. Ayres (1957: 26) insists that, “by focusing on the market mechanism, economists have ignored the real allocation mechanism.”

Samuels (1995: 572) critiques that “neoclassicists tend to fail to make the jump in applying their theories from the logical categories of pure markets to the specific institutions that create and define markets in the real world...and cannot properly be applied to the real world without additional assumptions, assumptions which willy-nilly determine how markets form, operate, and generate results.” Neoclassicists view any change in regulation as unwarranted government interference (Samuels, 1995: 572). Samuels (1995: 572) is strong in his opinion that this insistence upon laissez-faire “obfuscates what institutionalists consider to be necessary analyses of power structure and the uses of which government is put in the formation and performance of markets, thereby depriving economic theory of both the importance and the non-ideological analysis of government” and as such “institutional analysis encompasses both markets and institutions”.

Secondly, a distinguishing factor between neoclassical and institutional economics is the affirmation by institutionalists of “the importance of social control and the exercise

of collective action therein” (Samuels, 1995: 573). Further, “institutionalists insist that projections by neoclassicists of the mechanical operation of pure, automatic markets create the illusion of autonomous, free markets operating independently of human action and control. On the contrary, institutionalists emphasise that the market economy per se is itself a system of social control, and that specific markets are what they are and perform as they do because of the institutions operating as social control which form and operate through them” (Samuels, 1995: 573).

Samuels (1995: 574) compares the pricing mechanisms of neoclassical versus those of institutional theory and explains that while neoclassicists are concerned with “the relative prices of commodities”, institutionalists are more interested in the “process through which the values ensconced in institutions, social structures and behaviour are worked out”. Also, institutionalists, “pay attention to the views and ambitions and values of the working class” (Samuels, 1995: 574); unlike neoclassicists who “take for granted, obfuscate, and reinforce the existing structure of power and social relations” (Samuels, 1995: 574).

All that has been discussed above is important in the context of this study as both government and mining finance houses have and still do dominate the South African economy. Labour’s force was slower to rise, and mostly due to government’s consistency in determining the power that each market participant holds in South Africa. Likewise, government largely determined the power and command that mining has held at any one stage in our history. The importance of the distinction between the institutional school of economics and neoclassical economic theory is important in this context. It demonstrates both the failing of neoclassical economics to fully address the study at hand and the necessity to include an institutional aspect in the theoretical framework of the hypothesis. Reading further, the institutional economic school of thought is compared with the new institutional economic faction.

The field of “new institutional” economics “works largely within neoclassicism, and shares its rationality, maximisation, and market or market-like orientation and likewise tends to seek, though with less formalisation, the conventional determinate, optimal, equilibrium solutions to problems” (Samuels, 1995: 578). More specifically, Himmelweit *et al.* (2001: 17) explains the adoption by new institutional economics of

the neoclassical assumption “that individuals are self-interested and rational”. The theory of new institutional economics, as mentioned above, studies “individuals might find some institutional forms more to their advantage than others and therefore have an incentive to set them up” (Himmelweit *et al.*, 2001: 18). Hodgson (1994: 69 – 70) understands that the new institutional economists assume the individual (as a rational opportunistic market participant) to be “the elemental building block in the theory of the social or economic system”. This is not unlike the “old” institutionalist construction of an economic system (see Veblen, 1919; Mitchell, 1937 and; Commons 1961; 1970). The two schools of thought differ substantially on their interpretation of the individual as economic actor though.

In addition the new institutional economic school of thought extends the original neoclassical model by including theory on “[the] organisation and operation of the corporation, the formation of markets, the division of activity between corporations and markets, and the formation of market systems and the institutions which form market systems, including throughout consideration of transaction costs and...the role of power and ideology in institutional and system evolution” (Samuels, 1995: 578). This links closely to the previous section on industrial organisation and is in most cases an extension of the microeconomic elements to a macroeconomic framework for studying the economy. The study of new institutional economics also touches on “public choice, property rights, rent seeking, and law and economics” (Samuels, 1995: 578). Williamson (1979: 223) believes the preoccupation of new institutionalists to be with transactions costs – “origins, incidence and ramifications” (See also Swedberg, 1994).

Thinking back to the role of agents and regulation in the operation of firms in the market, institutional economics studies the role of power; “with its dual focus on the organisation and control of the economic system and on the legal-economic nexus” (Samuels, 1995: 581), which as Samuels (1995: 581) insists is “the central institutionalised process through which [power] is effectuated”. Finally, “one of the principal areas which has preoccupied institutionalists from the beginning has been the interrelationships between the legal-governmental-political and the economic-market spheres” (Samuels, 1995: 581). This is a key element of this thesis’s focus as

the hypothesis examines the interaction of the state and mining houses, respectively, with the mining rights legislation.

The theoretical underpinnings of the new institutional economic school are better suited to the purposes of this study as they allow for the basic neoclassical assumptions, but also expand upon it to examine the legal-political-economic influences on the market. It thus creates a far more stable and robust theoretical framework than the original institutional economics. Under the old institutional economic framework, there is too much room for exogenous factors and influences. While this may be more realistic in some aspects, the hypothesis requires boundaries of study. The neoclassical foundations of the new institutional theory provide these.

Since the start of the South African gold mining industry's lifespan and the development of the gold law (as well as related and subsequent legislation), there have always been the interests of three parties to consider; the state [meaning "the total of the various institutions, legal, political and administrative, which operate to maintain and direct existing social order and regulate conflicts within it" (Kaplan, 1985: 56)]; the person undertaking the development and mining of the minerals; and finally, the owner of the proclaimed land (Kaplan, 1985: 40).⁴ The threat of social disorder and a misalignment of interest between all parties concerned were constantly at the forefront of the state's conscience. This was on three levels; firstly, the threat of uprising by the black and largely migrant labour population, employed mainly in mining but also in several other industries; secondly, from the Boers [Afrikaner farmers] – the voter population that ensured government retained its power; and finally from the foreigner or Uitlander contingency living on the Witwatersrand (Kaplan, 1985; Johnstone, 1976; Sander, 2000; Yudelman, 1983). Interests in mining capital were held mostly by this foreign population (Kaplan, 1985; Johnstone, 1976; Sander, 2000; Yudelman, 1983).

In addition to worries about conflict between stakeholders, the state was pre-occupied with the disproportionate ownership of South African resources by so-called Uitlanders. For instance, "between 60 per cent and 80 per cent of foreign capital on

⁴ There are now four parties that need to be considered. This accounts for the needs of labour and labour unions, in addition to those mentioned above.

the Rand was British at the outbreak of the Anglo-Boer War in 1899; in 1917 only 14 per cent of the shares of gold mining companies were locally owned, while in 1930 it was estimated that 75 per cent of the annual dividends from gold mines [were] paid to overseas shareholders. Thus although enormous infrastructural benefits and general economic development followed the growth of the mining industry, the bulk of the dividends from 1886 until at least 1930 were remitted to foreign countries and were generally not available for investment in South Africa” (Kaplan, 1985: 57). This in itself had a significant effect upon the shaping of the economy and institutional framework of the industry. Other factors, such as the general state of the economy and the government’s requirement of fiscal resources influenced decisions and possibly more so the timing of such decisions. One of the themes that has been ever present in the state’s mind is redistribution. The chapter on the influence of the state on mining rights legislation will examine, in part, how the state used the tax system (aligned to the mining rights legislation) to redistribute wealth from mining capital to other sectors of the economy and population. Although redistribution and wealth creation was at the forefront of the state’s motives, it will not be argued whether this was a fair reallocation of resources amongst groups.

Throughout the period 1871 – 2008, there have been several conflicts between the state and mineworkers, mineworkers and mining houses, or the state and mining houses and it is the institutional adjustments and changes that largely influence how and when these conflicts arise. In addition, to agree with Radzicki (1990: 83) “the precise states of these [institutions and institutional relationships] and the exact evolutionary paths they will take...however, are unpredictable because they depend crucially upon the particular time at which the systems become strained and sensitive to the fluctuations.” In other words, the trajectory of development is dependent on the space and time in which change takes place. This translates, to paraphrase Radzicki (1990: 83), into a new system which is likely to be operating at a more complex level. However, as North (1990) points out, this does not necessarily mean that it is operating at a more efficient level. Unlike the neoclassical assumption that mistakes are corrected over time by rational individuals’ choices (Snowdon *et al.*, 1994: 190), humans can consistently make inefficient choices as these are based on social, cultural and other institutional/environmental reference

points. So it can be that given an inefficient starting point, inefficiencies can become an inherent part of the make up of society and the economy.

Lombard and Stadler (1980: 56) acknowledge the impact of the mining industry upon both the country's economic and political trajectories. They describe the development of the industry as "relatively stable, strongly rationalised and highly capitalistic, which set the basic philosophy of much of what was to come in future years" (Lombard and Stadler, 1980: 56).

Most important in the process of recent legislative changes in the mining industry, was to ensure that the state achieved its aims of redistributing the resource wealth of South Africa more evenly across society, while maintaining property rights and the security of tenure for the mining companies – those responsible for transforming the resource into foreign exchange earnings and other income for various sectors of the economy. There have been some concerns over this "change" in ownership being tantamount to expropriation of such rights, but on the whole, as long as changes are not seen as diminishing the sustainability of the industry, industry participants have been cooperative (CMSA, 2004b and 2005a).

Taking consideration of these changes, it is important to assess their consequences on the future of the deep-level gold mining industry in South Africa. Most important to this analysis is to take cognisance of how the given imperatives of relatively new legislation have fitted with industry conventions. The approach taken here concerns the institutional framework and all the characteristics and integral parts of that framework.

An analysis of this particular institutional framework requires one to look at the history of the gold mining industry in South Africa. In order to narrow the study slightly, emphasis will only be placed on the Witwatersrand deep-level mining operations, taking a perspective over time and conducting research on the changes in mining rights legislation. As detailed in the beginning of the chapter, this study wishes to assess the actions of the resource users and the policy design of the state and government. These will be assessed against the motivations of preserver or exploiter.

What is assessed will help explain the changes made during the 1992 discussions between the ANC, The Department of Mineral and Energy Affairs – now called the Department of Minerals and Energy (DME) – and The Chamber of Mines of South Africa. These talks, according to Chief Economist of the Chamber, Roger Baxter (2005), were based on the ANC Freedom Charter and hoped to provide a better framework for the eminent democratisation of South Africa. The main goal of these talks and drafts of green and white papers, equality and redistribution aside, was to provide change that made progressive sense but in all cases made economic sense. These discussions provided an adequate foundation from which the ANC could build. They helped create an environment in which legislative changes could be negotiated and hence welcomed by the mining industry. This does not, however, mean that all changes were welcomed by the mines and public alike.

As Ritchie (2004: 2) points out, the South African mining industry has been the foundation upon which the South African economy has relied for the better part of the last one hundred years. Mining, being an integral part of our history, has therefore been accused of creating much of the inequality and disadvantaged population of South Africa. It is for these reasons that the South African government wishes to maintain the mining industry as an engine of growth but also as a pioneering industry in reversing and correcting inequalities that previous regimes implemented. It is therefore no surprise that the industry is a leader in terms of Broad-Based Economic Empowerment (BEE)⁵ deals and provisions for social security set-ups, skills development and employment equity. These issues will be examined more closely in the thematic chapters on the mining houses (Chapter 3) and state (Chapter 4), respectively.

The study will span the entire history of this industry, from the first discovery of gold in 1886 through to current legislative changes implemented by the ANC government since 1994 (Kettell, 1982 and Baxter, 2005). The thesis will look at the history of deep-level gold mining in South Africa. This is a unique area of research as South Africa is the only gold producer in the world that depends on this particular type of

⁵ Legislation often makes reference to these individuals as broad-based socio-economic empowerment (BBSEE) or broad-based black economic empowerment (BBEE) shareholders. The terms are effectively interchangeable.

mining operation. This is due to the nature of the ore deposits found on the Witwatersrand Reef (Mather, 1995; Kettell, 1982; and Katzen, 1964).

The thesis aims to identify the motivations of resource users and policy designers in an environment of political change, with specific reference to the mining rights and titles legislation developments. In turn, the study aims to show how appropriate significant historical events pertaining to the gold mining industry reflected and reinforced the institutional framework of the economy. It is intended that by assessing the consequences of these events and drawing on the theory of neoclassical and Keynesian economics, industrial organisation, the economics of property rights and new institutional economics, one will be able to identify the motivations for interventions and actions by the mining houses and state. By determining the preserver or exploiter status of these respective parties, one could possibly identify strategies or areas that would help sustain the industry for the benefit of not only future generations but also those individuals who depend upon it for their livelihood and community at present.

Chapter 3

The mining house perspective

3.1 Introduction

The South African gold mining industry developed rapidly after the discovery and proclamation of the Witwatersrand goldfields in 1886. While initially characterised by individual prospectors and diggers, these were soon overtaken by the creation of mining companies (De Kock, 1924: 249; Innes, 1984: 55; Jones and Miller, 1992: 10; Kaplan, 1985: 51). Over time these companies merged to form six major conglomerate mining finance houses, or groups (Feinstein, 2005: 103 – 104; Fine and Rustomjee, 1996: 96 – 97; GSB UCT¹, 2000: 62; Innes, 1984: 55; Jones and Miller, 1992: 10; Moll, 1990: 39; Kaplan, 1985: 51; Kettell, 1982: 137 – 138). While these were not the only companies in operation on the Rand, they were certainly the most influential and powerful. As Duncan Innes (1984: 16) mentions, “Anglo American [and its counterparts] emerged both as a product of the evolving social relations in South Africa and had an important influence on them” (See also De Kock, 1924: 249; Feinstein, 2005: 103 – 104; Fine and Rustomjee, 1996: 96 – 98; Economic Trends Research Group, Unknown: 22).

The discovery of the reef was initiated by the “outcrops” of gold that breached the surface of the earth (Feinstein, 2005: 100; Fine and Rustomjee, 1996: 98; The Department of Mines, 1936: 123 – 124; Innes, 1984: 45; Kettell, 1982: 31; Webb, 1981). These initial findings could easily be mined with the use of shovels, picks, pans, and manual labour (Innes, 1984: 45). Soon however, it was discovered that the reef dipped to unknown depths and extended for yet unknown miles. This meant that individual prospectors and diggers were unable to invest in the necessary capital and technology to amalgamate claims and work them profitably (Krynauw, in Heywood, 1948: 994; DME, 1995: 30; The Department of Mines, 1936: 124; Feinstein, 2005: 100 – 103; GSB UCT, 2000: 62 – 63; Fine, 1992: 14 – 16;

¹ Graduate School of Business, University of Cape Town.

Innes, 1984: 45; Kaplan, 1985: 50 – 51; Kettell, 1982: 31; Rosenthal, 1970: 142; Webb, 1981: 2, 13; Yudelman, 1983: 54). Since the Transvaal at that stage was still “a small agrarian country with virtually no financial system”, capital and expertise needed to be sourced from abroad (GSB UCT, 2000: 63; Kaplan, 1985: 50; Katzen, 1964: 44 – 45). The Kimberly mining magnates, rich from the diamond discoveries and well connected to investors in Europe, provided the majority of this start up capital (Feinstein, 2005: 93, 100; Innes, 1984: 54; Kaplan, 1985: 50; Webb, 1981: 2, 13). As Innes (1984: 46) details, it was only a year after the opening of the Witwatersrand goldfields that shafts were being sunk in an attempt to access the deeper gold deposits.

“In 1887 the first London-registered, South African gold mining finance house, the Goldfields of South Africa Limited, was formed” (Innes, 1984: 46). And thus, foreign-owned, monopoly capital became established on the Rand. Innes (1984: 47) argues that in spite of the monopolistic fashion in which capital took hold of the operations on the Rand, there still existed large elements of competition between the conglomerates. He uses the example of owners competing for “possession of the richest areas on the fields” (Innes, 1984: 47; see also Kaplan, 1985: 299 – 300; Webb, 1981: 209; Yudelman, 1983: 53). In addition to Cecil Rhodes’ Goldfields Company, Werner, Beit and Company (grown out of Jules Porges and Company of Paris)², Rand Mines Limited, the House of G. and L. Albu, the House of Messrs. Ad. Goerz, Barnato Bros. [later developed into the Johannesburg Consolidated Investments company (JCI) c.1889], Neumann and Co., J.B. Robinson, Farrar Bros., and Lewis and Marks were all formed in those early years (De Kock, 1924: 249; Feinstein, 2005: 103 – 104; Fine and Rustomjee, 1996: 98; Innes, 1984: 47; Webb, 2008). These companies underwent much transformation and with the addition of Anglo American in 1917, emerged as part of the “big six” major mining groups – dominating the South African economy through to the mid 1960s (GSB UCT, 2000: 65 – 93; Feinstein, 2005; Fine and Rustomjee, 1996; Kaplan, 1985: 51; Innes, 1984: 200 – 237).

² The House of Eckstein became the Johannesburg branch of Werner, Beit and Company (Webb, 2008).

The development of the group system in the Witwatersrand (and South African) gold mining industry is evidence of the market arrangements that Coase (1937) and Von Hayek (1933) spoke of. As stated in the previous chapter, Coase (1937) believed that firms emerged in order to bypass the unnecessary transaction costs of contracting under conditions of imperfect and incomplete information, for each and every exchange between producer and supplier (see also North 1990; Milgrom and Roberts, 1992; Williamson, 1975; 1979; 1985; and Coase, 1988a; 1988b). The formation of the dominant mining finance houses in South African mining and industry is an excellent example of the long-term contractual relationship that Coase (1937) describes exists between market participants (in Williamson, 1996: 8). It was the manner in which private property rights were allocated to these market participants by the state which also played a key role in determining that the firms did become a form of central planning for economic activity – thereby eliminating some of the uncertainty that had previously existed within the market (Coase, 1937; Knight, 1921; Pejovich, 2001).

The Johannesburg Stock Exchange was established in 1887, a mere “10 months after the goldfields were proclaimed and only two months after the first company started crushing” (Webb, 1981: 12; see also Feinstein, 2005: 177). The new conglomerates ensured there was sufficient funding flowing from Europe to buy as much ground as possible and Sander (2000: 66 – 68) details that this, led to much frenzied speculation within the new and immature market (Feinstein, 2005: 100, 103; Innes, 1984: 47; Webb, 1981). Sander (2000: 68) even suggests that individuals were more enamoured with the “speculation in mining shares” than the actual mining (see also Innes, 1984: 47; Katzen, 1964: 101). With the true extent of the reef unknown to entrepreneurs in those early days of operation, many mining companies rushed to make as much money for overseas shareholders as possible, with the least amount of cost and effort (De Kock, 1924; Feinstein, 2005; Innes, 1984: 47; Katzen, 1964). This is one of the first clear suggestions of exploitative behaviour of early mining companies, however, not necessarily in terms of mineral development (Innes, 1984: 47; Katzen, 1964: 101). Rather, exploitation in the sense of making as much money as fast as possible, regardless of the impact on the future prospects and development path of the reef. This behaviour talks to Cabral’s (2000) discussion on the behaviour of short-term relationships between firms in a cost-sensitive

environment – as discussed in the previous chapter in the section on industrial organisation.

As development and exploration continued, “shaft-sinking operations proliferated under the control of the mining houses, ushering in a revolution in the method of production” (Innes, 1984: 47; see also Glanville, 1888; Letcher, 1936: 95 – 97; Noble, 1892: 500 – 503). And thus, gold production gained momentum and so did mining capital. New techniques for drilling, crushing and extraction came to the fore with the passage of time and so the industry grew; each time spurring interest on international capital markets (Feinstein, 2005: 103; Innes, 1984; Katzen, 1964; Kettell, 1982; Sander, 2000; Webb, 1981; Yudelman, 1983). Innes (1984: 48) is one of the few authors who suspects it was the low-grade ore that momentarily dampened international investment sentiment in those first few years of Johannesburg’s expansion.³ Other authors, such as Sander (2000) and Katzen (1964), while mentioning it as an attribute of the Witwatersrand gold deposits, do not highlight it as a particularly negative one (see also The Department of Mines, 1936: 123; Feinstein, 2005: 103; Yudelman, 1983: 137 – 138). It is, however, important in terms of the hypothesis being studied as it largely determined the method of production adopted by mining companies to keep cost structures low and make as much profit as possible. As is discussed further on in this chapter, the lower-grade of ore found in the Witwatersrand deposits meant that production changed from high-grade deposits to lower ones, as the cost structures rose and fell (Lilford, 2005; Innes, 1984: 49; Langton, 1960: 751 – 752; Moll, 1990: 34 – 37). After 1971, when the price of gold was allowed to fluctuate, this too played a role in determining the type of deposits accessed by mines – thereby extending the life of mines (Moll, 1990: 34 – 36; Yudelman, 1983: 136 – 137). The low-grade nature of deposits on the Witwatersrand dictated that large areas needed to be developed to allow the reduction of ores to create a “profitable” mix and accommodate economies of scale via large mills (Webb, 2008).

The grade of ore is a measure of ounces of gold per ton of ore (Nattrass, 1995: 858). And as Webb (1981: 13) explains, the low gold content in the ore dictated that large-

³ Rodrik (2004: 7 – 8) believes that investor confidence is paramount in the smooth functioning of an economy and the soundness of its institutional framework and development.

scale production facilities were needed to process a greater quantity of ore and thus yield adequate profits (see also Feinstein, 2005: 103). Dr Eric Lilford (2005) explains the misconception that the grade of gold declines with increased depth. It is the positioning of alluvial deposits in the basin that determines grade, thus it varies with the reef package rather than depth (Lilford, 2005). It should be borne in mind, however, that regardless of how grade deposits vary with depth, costs of extracting such ore does increase with depth (Webb, 2008; Mather, 2005; Baxter, 2005). The economic life of a mine is therefore determined by costs and grades through the use of pay limits⁴ [“the minimum limit at which ore can be profitably mined” (Innes, 1984: 49)] and cut-off grades (Innes, 1984: 49; Lilford, 2005; DME⁵, 1995: 14; Mather, 2005; Moll, 1990: 34 – 37). With the price of gold fixed on the international market up until the 1970s, it meant that mine owners “were unable to transfer the cost rise” onto consumers and thus “the cost restraint made itself felt more directly and acutely than in other industries” (Innes, 1984: 49; see also CMSA⁶, 2005b: 19; DeLong, 1996; Feinstein, 2005: 104; Kettell, 1982: 154 – 156; Moll, 1990: 34 – 37; Yudelman, 1983: 134 – 135; Mining Weekly, 2005b: 8).⁷ Innes (1984: 49) explains that this becomes all the more important when one considers the long lifespans of the mines and thus requires strategic management of cost inflation in order to preserve the economic value of gold deposits and keep the threat of mine closures at bay (Baxter, 2005; Feinstein, 2005: 103 – 104; Graulich, 2005; Moll, 1990: 34 – 35; Yudelman, 1983: 136 – 137). If costs are not kept under control, investors will be denied long-term gains and this was one of the problems in the early development of the goldfields (Feinstein, 2005: 103; Innes, 1984: 49 – 50; Sander, 2000; Webb, 1981). The low-grade nature of the ore deposits, coupled with the capital intensive operations required (not only in equipment, for example, mills and plants, but also underground shafts and stoping),

⁴ Innes (1984: 49) explains “the lower the pay limit, the more ore becomes available in reserves for profitable production and the longer the mine’s lifespan; conversely, the higher the pay limit, the less ore is available in reserves and the shorter the life of the mines. Thus if costs are kept low the pay limit will be low and there will be a greater potential for long-term profitability” See also Langton (1960: 751 – 752) and Moll (1990: 34 – 37).

⁵ Department of Minerals and Energy.

⁶ Chamber of Mines South Africa.

⁷ When there was a change in the fixed price (whether due to a change in the gold standard regulations, or the exchange rate between the Sterling and the dollar), however, this tight control of costs allowed mines to make “windfall” profits. Mines were then able to extend their economic life and companies often mined tailings and dumps for ore containing a lower gold content (Feinstein, 2005: 104; Business Day, 2007g: 1 – 2).

and the shortage of labour, meant that a “low and tightly controlled cost structure [was needed] to maintain profitability over the long term” (Innes, 1984: 52; see also Feinstein, 2005: 103; Moll, 1990: 34 – 37; Webb, 2008). Innes (1984: 52 – 53) and Clay (in Frankel, 1938: 81 – 82) both believe that it was this environment that motivated the formation of and consequent development of the group system, Chamber of Mines and other associated organisations (see also Kaplan, 1985: 51 – 56).

The gold mining industry on the Witwatersrand developed into an interesting network of information exchange and operation. Through the Chamber of Mines, and other organisations such as the Transvaal Association of Mine Managers, most of this exchange and cooperation was administered and coordinated (CMSA, 1991: 2; Fine and Rustomjee, 1996: 10; Kaplan, 1985: 521 – 522). In 1936, The Department of Mines (1936: 108) pointed out that “an outstanding feature of the Witwatersrand is the free exchange of technical information both in regard to methods of mining and ore reduction.” This has been said by many authors to be one of the reasons that there was such rapid development of new methods and progress in technological capabilities (The Department of Mines, 1936: 108; Feinstein, 2005: 103; GSB UCT, 2000: 62 – 64, 86, 93; Innes, 1984: 55; Kettell, 1982: 139; Webb, 1981: 279; Yudelman, 1983: 53).

The group system too helped facilitate this exchange of information (The Department of Mines, 1936: 117 – 118; GSB UCT, 2000: 63 – 64; Webb, 1981: 279; Feinstein, 2005: 104; Kettell, 1982: 139; Fine and Rustomjee, 1996: 97; Yudelman, 1983: 53). While each individual mine operated with its own board of directors and accompanying organisational structure, they were controlled by one of the major mining finance houses (Kettell, 1982: 137 – 139; The Department of Mines, 1936: 117; Innes, 1984: 54). These parent companies held significant, but not necessarily controlling share interests in the individual companies (The Department of Mines, 1936: 117; Innes, 1984: 56; Webb, 1981: 280; Kettell, 1982: 138 – 139; Fine and Rustomjee, 1996: 97; Yudelman, 1983: 54). Control was usually exercised through representation on the individual company boards of directors, and the groups maintained a staff of technical specialists in mining, mechanical and electrical engineering, in metallurgy and so forth (The Department of Mines, 1936: 117;

Innes, 1984: 55; Webb, 1981: 280 – 281; Kettell, 1982: 30, 138 – 139). Since all the companies produced an identical product, and the price of gold was fixed, “mining houses were willing to pool their expertise and experience, and to cooperate to reduce costs” (Feinstein, 2005: 104). By providing subsidiary companies with this pool of expertise and resources, these individual mining companies were able to save time and costs on procuring this intellectual capital and creating economies of scale in terms of efficiency gains and technological progress (The Department of Mines, 1936: 117 – 118; Innes, 1984: 55; Feinstein, 2005: 103 – 104; GSB UCT, 2000: 93; Webb, 1981: 279; Kettell, 1982: 30; Yudelman, 1983: 53 – 54). In addition to these services, groups provided individual companies assistance with administration, holding of share registers, insurance and legal matters, procurement of inventories, property or mining rights and supplies, taxation and financial aid (The Department of Mines, 1936: 118; Innes, 1984: 56; GSB UCT, 2000: 63 – 64; Webb, 1981: 279; Kettell, 1982: 139). Mining finance houses thus procured and provided any service that all of its subsidiary companies needed (The Department of Mines, 1936: 118; Innes, 1984: 56). The parent companies also typically maintained a board of directors in South Africa as well as one in London (Innes, 1984: 56). Finance was raised in the majority from overseas but as the Johannesburg Stock Exchange and South African money market matured⁸, more and more finance came to be raised domestically (GSB UCT, 2000: 65; Feinstein, 2005: 177).

Over the years, as documented by several authors (Sander, 2000; Feinstein, 2005; Fine and Rustomjee, 1996; Innes, 1984; GSB UCT, 2000), the original six major groups have undergone several changes. GSB UCT (2000: 94) talks specifically about how much of this transformation was needed to streamline operations and rid the system of repeated operations and inflated costs. It was found that in some cases, sourcing outside services (as opposed to using those provided by parent companies) would be more cost effective and improve economies of scale even further (GSB UCT, 2000: 94). GSB UCT (2000) and Baxter (2005) also explain how prior to

⁸ The Johannesburg Stock Exchange had matured into a market for long-term capital but the South African financial markets were still lacking (Feinstein, 2005: 177). “In the late 1940s the South African Reserve Bank was keen to promote the growth of a money market in order to broaden the market for government securities, this would in turn strengthen its position as lender of last resort and controller of credit” (Feinstein, 2005: 177). Previously, mining houses and other large institutions had placed short-term capital funds offshore on the London markets – Anglo American was a leading corporation in the development of this “more comprehensive financial system” (Feinstein, 2005: 177).

the 1990s mines had been run by engineers with great expertise in mining methods, however, the changing face of the industry dictated that a new approach was needed to improve performance; this led the changeover to a management system based on strategic and pure business practices by individuals not necessarily from a mining background (see also Economic Trends Research Group, Unknown: 23). For the purposes of this study, however, these transformations will not be detailed further. All that is necessary for this thesis is to recognise the significant role the group system played in the development of the gold mining industry and as such, the power it exerted on the economy and the exploitation or preservation of the gold resources of the Witwatersrand by both mining houses and the state.

The Chamber of Mines was initially formed in 1887 as a response to the “antipathy of the government of the Republic towards the industry and because its laws and administrative systems were inadequate for the purposes of the new fields” (Kaplan, 1985: 52 – 54; Etheredge, 1949: 1 – 2; Webb, 1981: 281; Innes, 1984: 51). As Webb (1981: 281) explains though, it was only when the organisation was reconstituted in 1889 that it truly succeeded in its goals and objectives (see also Etheredge, 1949: 1). Unlike the first Chamber of Mines, the reconstituted body was “truly representative of the mining industry” (Webb, 1981: 281; see also Etheredge, 1949; Kaplan, 1985: 52 – 52).⁹ Etheredge (1949: 16 – 17) lists the twelve objectives of the new Chamber and summarises that the new chamber was only made up of mine owners (directors and shareholders) and since the government was “not well disposed towards the mining industry...the underlying object of the Chamber was to protect and foster the interests of the owners of the mines as against a government it considered oppressive and as against its employees...which it considered overpaid.”

The Chamber of Mines “has no executive authority over the groups or individual mines”, but provides assistance on more overarching matters of mining policy and records for the whole mining industry, including employment, industrial relations, government control, health and safety on mines and so on (The Department of

⁹ The first Chamber of Mines was made up of financiers and individuals from industry rather than mine managers or representatives from mining companies and operations. In general, mine managers were discouraged from joining the organisation and as such the Chamber was unable to truly affect changes in the industry and gain the respect of the Department of Mines and other sectors from government (Webb, 1981: 281 – 282; Etheredge, 1949: 1 – 4).

Mines, 1936: 118; Kaplan, 1985: 52 – 54; Etheredge, 1949: 1 – 17; Webb, 1981: 281 – 288; Kettell, 1982: 139; Fine and Rustomjee, 1996: 96 – 97; CMSA, 1991: 2). In his thesis, Webb (1981: 272 – 273) talks of the example of cooperation in the industry through the example of the Chamber of Mines, while referring to the organisation as “the mouthpiece of the industry” (see also Kaplan, 1985: 52 – 54). It is opinions such as these that advocate the existence of a cartel-type arrangement in the South African gold mining industry. As discussed by Cabral (2000: 101 – 104), the market is characterised by a small number of firms, where actions by firm A can influence those of firm B, especially in terms of unit costs. Further, looking at the Bertrand model (Cabral, 2000: 104), one could argue that the mining companies behave competitively because they collaborate, through the Chamber of Mines, to set prices equal to marginal costs and thus operate under perfectly competitive conditions. Regardless of whether the Witwatersrand mining companies were operating under oligopoly or perfect competition, it is clear that the Chamber of Mines played a crucial role in maintaining low costs, sturdy relationships between the government, labour and the mines, as well as providing further technical support and intellectual capital to companies, over and above what was already existent within the group structures. Going back to the arguments listed by Coase (1937), Arrow (1963: 94), and Samuels (1995: 578), the Chamber of Mines acted suitably as an agent for the industry and helped minimise transaction costs and improved the availability and exchange of information between parties (See also North, 1990; Milgrom and Roberts, 1992; Alchian, 1950, Ostrom, 2005; Joskow, 1985; and Williamson, 1996; 2005).

Innes (1984: 51), feels the Chamber of Mines was “an integral part of the monopoly relations which had been established on the Rand” (see also Kaplan, 1985: 52 – 56, 299 – 300). Innes (1984: 54) believes it was this market structure along with the unlimited demand for gold that allowed “maximum exploitation of existing resources”. The only barriers to complete depletion of the pool of resources was the need for capital to finance operations, securing a stable supply of labour and maintaining an overall low cost structure (Innes, 1984: 54; Katzen, 1964: 45; Yudelman, 1983: 21). Along with the spreading of risk and economies of scale in terms of cost, the group system was the mechanism through which capital could be sourced from overseas investors (Innes, 1984: 54 – 55; Kaplan, 1985: 50; GSB UCT,

2000: 62 – 64; Webb, 1981: 280; Katzen, 1964: 45). As time went on, the groups spread investor risk even wider across a variety of industries and countries (Innes, 1984: 54, 233 – 237; Sander, 2000; Feinstein, 2005; GSB UCT, 2000: 66; Fine and Rustomjee, 1996: 10). This system of mine management and coordination, Innes (1984: 57) points out, allowed the groups to monopolise the shareholding of the large dominant companies on the Rand and leave the remainder for public or state consumption. The Chamber of Mines therefore came to hold a growing and important role in the industry and their relation with the state. It was this relationship that eventually allowed the industry to prosper and exploit the field via labour, cost control and most importantly, the gold law and related mining rights legislation (Innes, 1984: 57 – 61; GSB UCT, 2000: 64; Webb, 1981: 280; Kettell, 1982: 139; Kaplan, 1985: 52 – 54, 300; Moll, 1990: 34 – 37; Yudelman, 1983: 21; CMSA, 2004a: 1).

3.2 Foundations of development: 1886 – 1920s

3.2.1 Transition to sound mining practices

As Webb (1981: 22) points out, “the big money on the Rand was not made by those who came first and found gold, but by those who came at the fateful moment and exploited it industrially.” Crushing began in early 1887, and the ability of companies to attract large amounts of foreign capital was what finally secured its existence (Webb, 1981: 22; GSB UCT, 2000: 63; Kaplan, 1985: 50; Katzen, 1964: 44 – 45; Feinstein, 2005: 93, 100; Innes, 1984: 54). In 1887 and early 1888, the mines, founded initially on South African and especially Kimberley capital, pushed operations to a maximum in order to build ore reserves in anticipation of a labour shortage over the winter months of 1888 (Webb, 1981: 35). There was general financial uncertainty amongst the companies of the infant industry in these early days, given the generally speculative nature of gold mining and the yet unproved extent of the Witwatersrand goldfields (Webb, 1981: 36; Katzen, 1964: 101). This was one of the reasons for the speculative boom on the stock market in 1888/89 (Webb, 1981: 36).

Webb (1981: 199) describes mining activities in the late nineteenth century as exploitative in that “the decision making by company managers...was dominated by the pursuit of profits”. Companies existed for the sole purpose of “winning and [distributing] profits to shareholders” (Webb, 1981: 199). The gold mining industry, as mentioned previously, was a highly speculative one in nature, and so the ability to produce consistent profits was all the more important (Katzen, 1964: 101). Operations were “dominated by a productive approach which aimed at profit maximisation through the incentives to minimise costs and maximise output” (Webb, 1981: 199 – 200). Companies, thus, sometimes adopted unethical measures in order to achieve the optimal outcome (Webb, 1981: 199 – 200). One could say the limited amount of working capital available to companies on the Rand’s first developmental phase was an indication of the uncertainty of investors in the longevity of the industry – this probably drove the companies to exploit the mineral outcrops faster than under alternative circumstances (Webb, 1981: 200 – 201). Webb (1981: 201) believes that the limited working capital was a misconception on the part of investors, rather than an indication of the amount of capital available. He suspects that investors thought the richness of the Witwatersrand deposits “could be self-financing” and that either there were no business plans presented to investors or they were simply ignored (Webb, 1981: 201).

Webb (1981: 205) puts the success of the early phase of development of the Witwatersrand goldfields on the back of the boom in the Barberton share market and the previous success of the Kimberly diamond mines. This he says made investors more open to the speculative risk involved in the new mines (Webb, 1981: 205). The Witwatersrand gold mining companies therefore also had to compete against these other, proven, ventures for capital injections (Webb, 1981: 205). This emphasised the “tremendous, and possibly inevitable, gamble on the part of company promoters [as well as] the need for quick and spectacular returns if shareholders were not to withdraw their support” (Webb, 1981: 205). This “ability to attract a large amount of foreign capital” (primarily on a purely speculative level), guaranteed the success and bargaining power of those early mining entrepreneurs (De Kock, 1924: 247; Webb, 1981: 36 – 38; 206; Katzen, 1964: 101). Rosenthal (1970: 133) explains that it was initially a group of diggers and Kimberley magnates (with access to such foreign

earnings) that petitioned the Volksraad to open the Witwatersrand goldfields for prospecting and digging.

Further evidence of speculative and exploitative behaviour was that “a number of mines were exploited by directors who served their own ends rather than those of the shareholders for whom they acted as trustees” (De Kock, 1924: 247; Webb, 1981: 36 – 38). De Kock (1924: 247) and Sander (2000) both detail how directors and company owners gambled with their own company shares and the dividend payouts of shareholders in an attempt to boost share values – leading to a boom on the infant stock exchange in 1888, peaking in 1889 (see also Webb, 1981: 36 – 38; 236 – 237).¹⁰ Companies were so obsessed with the ability to show returns and dividends to shareholders, that none of the earnings were retained to extend operations or as a reserve fund (Webb, 1981: 207).

The crash that followed in April of 1889 put a big dent in the credit worthiness of the infant industry and for some time there was little new capital flowing in to develop it further, at a time when the outcrop reefs had been depleted (Sander, 2000: 68; De Kock, 1924: 248; Webb, 1981: 23). The crash was prompted by “the growing presence of iron pyrites from a depth of about 33m” in mining operations (Sander, 2000: 68; Webb, 1981: 264). This meant that “the chlorination method of treating ore became less and less effective in extracting gold” (Sander, 2000: 68; see also Webb, 1981: 264). Many companies shut down after this, and it was only the steadfast ones with sound working methods and a sustained inflow of funding from overseas shareholders that persevered through the harder surface rock and water logged reef (De Kock, 1924: 248). The crash reversed banking institutions’ willingness to grant loans and provide capital to operations (Webb, 1981: 203). Instead, mines were forced to turn to private loan companies or the newly fledged mining groups like H. Eckstein and company, which had either excess funds or access to such (Webb, 1981: 239).

¹⁰ Rosenthal (1970: 180) describes how the frenzy in trading led to the single-story stock exchange building “supplemented by a street market”, giving rise to the expression “traded between the chains” (Rosenthal, 1970: 183). He goes on to say, “unofficial trading continued even on Sundays, with brokers bargaining in bars...companies were registered at the rate of several per day” (Rosenthal, 1970: 183).

Webb (1981: 208) further illustrates the exploitative nature of early mining companies on the Rand: “Whatever the perspective, however, there remains the overall judgement that as a decision made by a management group participating in a reef mining venture, the exploitation of only the richest reef in a mine was short-sighted and bound to generate difficulties in the future. Similarly, the payment of an early dividend before reserve funds could be established reflected the general inexperience of the management.” Companies bought up as many claims as the law allowed and with them, water rights (Innes, 1984: 47; Kaplan, 1985: 299 – 300; Yudelman, 1983: 53; Webb, 1981: 209).

On 6 April 1889, *The Diggers News* (in Webb, 1981: 213) exposed the strategy of crushing rich ores “as a means of influencing share prices” and in the aftermath of the crash, mines battled to maintain working costs and output without the frenzied backing of the market. *The Diggers News* (in Webb, 1981: 214) also opened the eyes of the community to the general incompetence of the mine management – stating “while the emphasis lay with share speculation rather than production, it mattered little to a company’s shareholders and directors alike whether the manager was competent in his field.”

Given the general low grade of ore on the Witwatersrand goldfields, mining companies with limited working capital soon reached the pay limit of the ore body (Webb, 1981: 219 – 220; Innes, 1984: 45 – 49; Feinstein, 2005: 100 – 103; GSB UCT, 2000: 62 – 63; Kaplan, 1985: 50 – 51; Kettell, 1982: 31; Rosenthal, 1970: 142; Yudelman, 1983: 54). There was also very little regard for cost saving methods in the early days of the Witwatersrand (Webb, 1981: 220). In fact, in 1886/87, it is believed that this was specifically true in the efforts to secure the supply of labour, and this was partly because managers felt that whatever profits came from operations would be more than sufficient (Webb, 1981: 225). Management cut costs mainly on machinery in the early days, attempting to keep operations as labour intensive as possible and altering the positioning of machinery of mines in order to maximise the use thereof (Webb, 1981: 231). As time went on though, this attitude soon changed and mining companies began to follow the theoretical norms of perfectly competitive firms and minimise all costs in pursuit of maximum profits (Webb, 1981: 232; Cabral, 2000: 85 – 86).

These companies continued to persist in exploration and mining, but extraction through the existent amalgamation process only recovered approximately 60 per cent of the gold from the ore (De Kock, 1924: 245; Feinstein, 2005: 102 – 103). Webb (1981: 265 – 266) points out that many companies at the time were unaware of the low yield under the amalgamation process and it was only after the institution of new refining methods that they realised just how much gold was being lost to tailings. The MacArthur-Forrest cyanide process became a standard feature of refining activities from around May 1891, and improved extraction levels to between 95 and 98 per cent (Sander, 2000: 71; 105; Webb, 1981: 266; Feinstein, 2005: 102 – 103). In the words of De Kock (1924: 245): “If this improved chemical process had not been instituted, the gold industry would never have assumed such gigantic proportions, on account of the relatively low grade of the ore” (See also Yudelman, 1983: 136). This improvement in production efficiency spurred investor confidence, and funding from all over Europe poured into the industry in the mid 1890s (Sander, 2000: 71; De Kock, 1924: 248; Webb, 1981: 236). The stock market regained some ground and companies began to contemplate being a more permanent feature of the emerging township of Johannesburg through the undertaking of mining the deeper level reefs (De Kock, 1924: 248).

With the implementation of the improved refining methods and the MacArthur-Forrest cyanide process, so did the level of management on the mines improve (Webb, 1981: 269 – 271). After the stock market crash in 1889, companies rebuilt their wealth and changed their methods of management (Webb, 1981: 236 – 237). Managers and directors began to realise “the need to concentrate on winning profits from their mines rather than the stock exchange” (Webb, 1981: 236). As Webb (1981: 236) states: “Most companies along the main reef had by 1889 proved their ability to produce gold: what was now required was that they did so profitably.” As time went on, companies reduced costs through improved technology and machinery, the continued improvements in labour saving devices and the ability to suppress wages and the prices of materials (De Kock, 1924: 246; Johnstone, 1976; Innes, 1984: 54; Katzen, 1964: 45; Feinstein, 2005: 104; Yudelman, 1983: 136). New machinery was developed which allowed the surviving mines to expand operations to a larger scale – yielding increased profits and dividends for shareholders

(De Kock, 1924: 248). The ability of the gold mining industry to gather and exploit native labour from within and around Southern Africa has been well documented over the years and was key to their success in keeping costs as low as possible (De Kock 1924: 250; Johnstone, 1976; Yudelman, 1983; Innes, 1984; Webb, 1981: 213). “It was in the period between 1889 and 1894 that the true foundations of the Rand gold mining industry were laid. Prior to this very little serious mining was undertaken and the crisis of 1889 awakened those connected with the industry to the technological and financial requirements for successful reef gold mining” (Webb, 1981: 271).

The companies’ ability to reduce costs proved all the more important with the price of gold fixed on the international market (Webb, 1981: 236; Innes, 1984: 49; CMSA, 2005b: 19; DeLong, 1996; Feinstein, 2005: 104; Kettell, 1982: 154 – 156; Moll, 1990: 34 – 37; Yudelman, 1983: 134 – 135). It is possible that a large proportion of these changes were undertaken as ‘window dressing’, which would ensure them a better reputation to investors (Webb, 1981: 242). When, however, “the boom never materialised, all companies had soon to settle down to the serious business of working their mines effectively and efficiently to overcome their indebtedness and to yield dividends to a critical shareholding” (Webb, 1981: 242).

This is a clear indication of the mining companies continued attempts in the early days of the Rand to exploit as much of the mineral resources as possible, with little regard for the long-term effects on the companies and community. However, this initially exploitative behaviour had to become fine tuned to a preservative outlook as the market lagged behind investor and director sentiments or ideals. “Hence, where companies plundered their richest ores merely for the sake of early dividend payments, such a move, while placing them in a favourable position vis-a-vis their competitors, was not necessarily in the long-term best interests of either company or shareholder” (Webb, 1981: 287). So the change in mindset to a more permanent structure on the Rand shows that the companies matured and began to take control of determining the micro-institutional foundations of doing business in early Johannesburg.

Under the theoretical framework of new institutional and institutional economics, it is known that equilibrium cannot ever be sustained (Radzicki, 1990: 61). As discussed in the previous chapter, society (and specifically in this case, industry) is constantly changing and as human beings (or firms) we are constantly striving for new and improved methods and systems, the state of equilibrium is a moving goal post (Atkinson and Reed, 1990; Boulding, 1980; Daly, 1980; Chase, 1985; Georgescu-Roegen, 1980; North, 1990; Knight, 1957; Parsons, 1957; Radzicki, 1990; Samuels, 1995; Swaney, 1985; Veblen, 1898).

The move to create a more permanent structure to the industry refers back to the discussion on the importance of lowering transaction costs. By cementing the industry as a feature of Johannesburg, mining houses could begin to improve their economies of scale in terms of value chains and supply chain linkages. This too assisted in their endeavours to build relations with the state and thus improve their ability to play a part in legislative developments that may impact upon their costs of conducting business. It is Denzau and North (1994; 2000) who emphasise the role of communication in the process of institutional change. Linking with the theory of property rights and industrial organisation, contracting between the firm and state (in this case) through repetitive transactions, are more likely to succeed if built upon trust and will eventually become “self-reinforcing institutions” (Hodgeson, 1994: 67; see also Ostrom, 2005; and Denzau and North, 1994; 2000).

3.2.2 Interaction with the state: mining law

Under the original gold law, many companies were able to purchase land from farmers and benefit from “owners’ rights” – a form of mining title given to the owners of mineral rich land (Kaplan, 1985: 43). Kaplan (1985: 43) describes how many mining companies benefited from changes to the gold law, especially around owners’ rights, instituted under the auspices of benefiting the Boer [Afrikaner] farmers and landowners. From the 1890s, the Chamber wielded tremendous power in shaping the gold law (Kaplan, 1985: 56). The likes of H. Eckstein and Co. and Consolidated Goldfields, would acquire as many large claims as the law allowed prior to the discovery of gold-bearing reef on such land, all in the hopes that it would be a

profitable venture (Kaplan, 1985: 142; Yudelman, 1983: 54). Often these could be obtained for no more than the licence fees (Kaplan, 1985: 142). Until the change in law in 1891, these claims were vulnerable to jumping as unworked areas (Kaplan, 1985: 143 – 144; Webb, 1981: 288). Given the yet unproved extent of the reef, it was hoped that the larger the size of properties owned by companies, the longer the expected lifespan for these enterprises (Webb, 1981: 208; Innes, 1984: 47; Kaplan, 1985: 299 – 300; Yudelman, 1983: 53). After the stock market crash, however, companies in financial difficulty found it most profitable to sell any unused claims to larger conglomerates in order to render additional working capital and profits for distribution to shareholders (Webb, 1981: 209 – 210).

With each change in the gold law to the type and size of claims in the 1890s, the mining companies figured a way around it to make maximum use out of the area (Kaplan, 1985: 155 – 156). As the Gold Commissioner, Wilson (in Kaplan, 1985: 159) commented, the financial and gold mining industry of the Transvaal had become dominated by a few mining companies in 1900 – evidenced especially through the selling and exchange of claims records. For example, the 1894 Gold Law allowed mining companies to nominate dummy individuals to hold additional claims and titles on their behalf – thereby increasing the size of land held under a mining house or group (Kaplan, 1985: 314 – 315). And in the mid 1890s, mining houses would deliberately set up small homesteads, or scatter a few maize crops on property to claim even more ground under the “werf – mynpachts” [mining title over homesteads or agricultural land] ¹¹ allowances in the gold law (Kaplan, 1985: 318 – 320). As Kaplan (1985: 403) states: “The situation had enabled the large mining groups virtually to monopolise prospective gold mining areas by acquiring the mineralised land or options to purchase it.” Only in the 1908 Gold Law

¹¹ From 1885 onwards, the gold laws contained the terms “mynpacht”, “mynpachten” and “mynpachtbrief” (Kaplan, 1985: 372). Before 1908 there was no clear distinction between these terms, however, it is assumed that “mynpacht” refers to the “right to mine” and “mynpachten” is the plural of such (Kaplan, 1985: 372). In the case *Klipoortjie Estates and Tramway Co. v The Government*, CJ Innes “held that a mynpacht could only be exploited under a mynpachtbrief, indicating that the mynpacht reserved by the grantee was more in the nature of an inchoate right, consummated on the issue of the mynpachtbrief” (Kaplan, 1985: 372). Further, “between the time of the mynpacht being reserved and the brief being granted, the rights of the prospective grantee were nevertheless protected in the sense that no pegging of claims on the area was permissible” (Kaplan, 1985: 372). Kaplan (1985: 373) explains further “under the 1908 Gold Law mynpachtbrieven clearly constituted a “mining title”...[but] the act provided little assistance as to the precise nature of the concept of the “mynpacht”, which was circuitously defined as “ground held as a mynpacht”.

was a provision included to say that “werven” had to stay as such for a minimum of two years before being mined (Kaplan, 1985: 325 – 326).

The Chamber of Mines, constantly on the lookout for maximising institutional arrangements for its members, in 1889 formed a committee to petition the government to draw up an entirely new gold law (Webb, 1981: 288). While not always successful in these attempts to shape legislation, the Volksraad did make some amendments to the gold law in response to petitioning from the Chamber (Webb, 1981: 287). Webb (1981: 288), lists one of the greatest achievements of the Chamber’s perseverance was “the abolition of the concept of the jumping of claims and the granting of surety of tenure to legitimate claimholders”. In the same amendment discussions, “mynpacht rights were also made renewable in perpetuity” and the pegging off of homesteads for mining activities or tailings dumps was outlawed (Webb, 1981: 288; Kaplan, 1985: 303 – 305). The ability to continually renew mynpachtbriewen (see footnote 11) was retained until the 1967 Mining Titles and Registration Act, when it was abolished and mines were simply given “permanent” ownership of mining rights already held (Kaplan, 1985: 305).

Both the securing of tenure and option to renew rights, gave the mining houses (and their overseas shareholders) more surety of their investments (Rodrik, 2004: 7 – 8). As Fisher (1916: 27) believes; property rights enable holders of such rights “to enjoy benefits of wealth...while assuming the costs which those benefits entail”. This meant that companies were therefore more likely to spend the large amounts of capital required in developing the deeper level mines and improving extraction processes (Webb, 1981; Baxter 2005). It follows then, that by becoming an effective shareholder in the system or economy, mining houses took more responsibility for the institutional development of the legislative system as it pertained to their mining operations (North, 1990; 2005; Pejovich, 2001; Benson, 1989; 1990; McChesney, 1990; and Ostrom, 2005). As expressed by Posner [(1998), in Pejovich, 2001: 206]: “legal protection of property rights creates incentives to exploit resources efficiently...the proper incentives are created by parcelling out mutually exclusive rights to the use of particular resources among the members of society.”

The 1890 Gold Law introduced the term “bewaarplaatsen” (Kaplan, 1985: 451). It was used to refer to reserved areas such as townships, native locations, areas on mines used for stamp batteries and crushing and processing facilities or tailings dumps (Kaplan, 1985: 449 – 450). In other words, any area that was of little value to mining or was reserved for human habitation (Kaplan, 1985: 449). The 1890 law committed the term specifically to meaning “areas used in mining operations” and these were mostly found beyond the boundary of outcrop mines (Kaplan, 1985: 449 – 451). In 1891, mining companies realised they had located stamp batteries and crushing facilities on previously claimed land (Kaplan, 1985: 451). Believing the wealth from these areas had been exhausted, companies made applications to the mining commissioner to convert these claims to bewaarplaatsen (Kaplan, 1985: 451). This meant companies retained ownership and rights over the area but paid considerably less in licence monies (Kaplan, 1985: 451). As time went on, however, it was discovered that these areas were, in fact, located above valuable portions of the reef and the mining companies began a process of attempting to undermine these areas (Kaplan, 1985: 451 – 452). As can be imagined, this posed great risk to the safety of workers and operations, not to mention a violation of the 1891 definition of bewaarplaatsen (Kaplan, 1985: 451 – 452).

The 1892 Gold Law was thus amended to allow for the conversion of bewaarplaatsen to mining licences, provided “satisfactory security” had been given over this previously reserved ground (Kaplan, 1985: 452). Many mining companies put in applications to convert their bewaarplaatsen but by 1894 the Volksraad had still not granted any licence conversions (Kaplan, 1985: 453 – 454). This led to much animosity from the mining houses as most of these areas lay between “outcrop and prospective first row deep-level mines” (Kaplan, 1985: 453). By 1898, and only under certain conditions could mining be conducted under bewaarplaatsen and in 1899, under water rights and other specific areas in mining operations (Kaplan, 1985: 459). This, however, Kaplan (1985: 460) says, was still not to the satisfaction of the Chamber of Mines. Only in 1910, did the Chamber of Mines and the state reach a reasonably amicable agreement regarding profits sharing and distribution of bewaarplaatsen (Kaplan, 1985: 465 – 470). Even though no bewaarplaatsen were granted after 1908, the issue of existing bewaarplaatsen remained tenuously unresolved for several years to follow (Kaplan, 1985: 465 – 470).

Under the Kruger regime, “Uitlanders”, or foreigners, were not given any franchise or right to political debate (Kaplan, 1985: 46; Sander, 2000). This led to tension between the Volksraad and the group of mining magnates who felt entitled to a platform, given their importance in the economy of the Transvaal (Sander, 2000: 143 – 144; Kaplan, 1985: 57; Innes, 1984: 63). Kaplan (1985: 57) defends the Volksraad’s position by explaining that “although enormous infrastructural benefits and general economic development followed the growth of the mining industry, the bulk of the dividends from 1886 until at least 1930 was remitted to foreign countries and was generally not available for investment in South Africa”.¹² This tension between state and mining was to lead to the Jameson Raid (Sander, 2000: 143; Kaplan, 1985: 317). Lionel Phillips, President of the Transvaal Chamber of Mines, “warned the Kruger government in a speech that the leaders of the mining industry ‘would not be content to remain politically impotent in a country which had become wealthy through their efforts’” (in Sander, 2000: 144). The impact of the Volksraad’s decision to deny property (voting) rights to the mining magnates will be examined more closely in Chapter 4.

Eventually the Volksraad gave in and announced its willingness to make certain concessions to the foreigners, however, it came too late (Sander, 2000: 145). Jameson had already set off to attack the seat of government in Pretoria and the Jameson Raid ensued (Sander, 2000: 145 – 146). As a result of the Jameson Raid, mines momentarily shut down and some inhabitants of Johannesburg returned home to Europe (Sander, 2000: 145). It was only in the early days of 1896 that the mines began crushing again and life returned to normal in Johannesburg (Sander, 2000: 152 – 153). However, “even when the excitement of the raid was over, political troubles in Southern Africa continued to disturb investor sentiment and depress the market” (Sander, 2000: 173). The next time mining operations stopped was in 1901, in the last year of the South African War (Sander, 2000: 157).

¹² Kaplan (1985: 57) expresses the primary reason for such tension was the state’s dislike for the lack of “local” participation in the mining industry. For example, “between 60 per cent and 80 per cent of foreign capital on the Rand was British at the outbreak of the Anglo-Boer War in 1899; in 1917 only 14 per cent of the shares of gold mining companies were locally owned, while in 1930 it was estimated that 75 per cent of the annual dividends from gold mines was paid to overseas shareholders.”

Following the Jameson Raid, mining magnates still had grievances with the Volksraad (Sander, 2000: 202 – 203; Kaplan, 1985: 321; Innes, 1984: 63).¹³ As the prospect of war approached, the mining community appealed to the government to allow them further concessions and protection, so that they might continue mining operations in spite of an outbreak of conflict (Sander, 2000: 204). Failing to achieve this, the Chamber of Mines requested that mines be allowed to export any gold that was not required for salaries or other working expenses (Sander, 2000: 204). At the threat of this, the Transvaal Republic conceded to provide the mine owners any protection they needed so that operations might continue undisturbed; “provided that the companies concerned applied for government permits to cover them” (Sander, 2000: 205). Mines were obliged, therefore, to deposit any gold with the government for “safekeeping” – “and out of this, enough money was to be coined to pay all working and exploitation expenses, the remainder to be repaid to the rightful parties at the end of the war after deduction of rates and taxes” (Sander, 2000: 205).

Despite every effort to continue production, at the outbreak of war in 1899, it became clear the mining operations would have to cease (Sander, 2000: 206). In addition to various protective measures¹⁴, mining companies, like JCI, and the Chamber of Mines, transferred head office operations to Cape Town and prepared to move the board of directors there too if necessary (Sander, 2000; 209 – 210). It was only in March 1901 that milling activities were allowed to recommence and on a moderate scale at that (Sander, 2000: 213). With the end of the war, and the entrance of the Milner Administration into power, an economic downturn gripped the Rand. This was mainly due to the “departure of the 200 000 or so British troops at the end of hostilities, which occasioned a drastic fall in the demand for local produce and a shortage of foreign capital coming into the country” (Sander, 2000: 242). In addition, drought meant that crops failed and livestock perished, and labour shortage on the gold mines called for drastic measures (Sander, 2000: 242). This was “partially and

¹³ As Sander (2000: 202) states: “Among the disappointments of the mine owners...was the failure of the Volksraad to establish the purely local board for the government of the Johannesburg goldfields that had been recommended by the Industrial Commission.”

¹⁴ Mining companies compensated a makeshift group of approximately 390 men to police and protect mining operations for a short period of eight months, before it was disbanded (Sander, 2000: 207 – 208). In January 1901, the Chamber obtained permission to establish a larger group of 1500 men to guard mine property through the final throes of the war (Sander, 2000: 208).

temporarily resolved by the importation of Chinese labourers from 1904” (Sander, 2000: 242 – 244).

No doubt, mining companies, through the Chamber of Mines, opportunistically negotiated changes to the gold law in as much of their favour as possible. In 1908, under the threat of the incorporation of the mining lease into the gold law, mining companies began lobbying for increased areas under the *mynpacht*¹⁵, arguing that the current allocation was insufficient given the changing scale of mining on the Rand (Kaplan, 1985: 351 – 353, 414). It could even be argued that the development of the Far East Rand was stalled by the mining companies in an attempt to force the state to abolish the mining lease policy (Kaplan, 1985: 355 – 356; Innes, 1984: 87). Kaplan (1985: 355 – 356) shows this as likely as the lobbying activities of mining companies leading up to the 1908 Gold Law went unheeded by government and when pressed on the lack of development of the Far East Rand in 1915/16 by the state, companies argued that the *mynpacht* allocations were insufficient to mine at the deep levels required.

Benson (1994a; 1994b), Ostrom (2005: 50) and Bailey (1992) show how the power of a market participant¹⁶ is largely dependent upon the allocation of property rights within that system. In the case of the development of the Far East Rand, one could argue, that in allocating the mining magnates such an extensive right over mining title, the Volksraad had become trapped in the “might takes right” situation described by Hobbes (1615) and elaborated by Benson (1994a).¹⁷ The Volksraad had subsequently become hostage to the demands of the industry.

¹⁵Probably the most well known form of mining title, the ‘*mynpachtbrief*’ (often loosely referred to as a ‘*mynpacht*’) was first introduced in the 1885 Gold Law (Kaplan, 1985: 128). In his report of 1886, Rissik (in Kaplan, 1985: 286) pointed out that in order to attract the correct investor, any new form of mining title should preferably grant “a large area at low rental” [(Rissik, 1886) in Kaplan, 1985: 286], and so the *mynpachtbrief* was born (Kaplan, 1985: 286). Once in possession of a *mynpachtbrief*, owners could sell them at a price suitable to them, and still retain ownership of the land (Kaplan, 1985: 287). The “*mynpacht*” was far more successful than any prior form of mining title and was retained in the gold law for more than eighty years (Kaplan, 1985: 282). It was only after 1908 that *mynpachten* were overtaken in importance by other forms of mining leases and finally no provision for further granting of *mynpachten* was contained in the Act of 1967.

¹⁶ An individual’s power in a situation is “the value of opportunity...times the extent of control” and are largely “situation-dependent” (Ostrom, 2005: 50).

¹⁷ Described in Chapter 2, section 2.4.

The 1908 Gold Law introduced the mining lease in addition to the traditional mynpachtbrieven (Kaplan, 1985: 349). The cost, both in terms of licence payments and state control, of this form of title was considerably more than the traditional mynpacht (Kaplan, 1985: 349 – 350). As Kaplan (1985: 350 – 351) states: “To many mining houses, the mynpacht constituted a foot in the door as it were, giving them entrée to a particular area by virtue of having acquired the mineral rights; under the mining leases system...this prerogative would be lost, as the state in its discretion, would decide upon the recipient of a mining lease.” Understandably, the mining groups fought to retain the mynpacht “as a viable mining title for new development” (Kaplan, 1985: 351). The Chamber of Mines (drawing on the perceived power of the industry), even went so far as to threaten the outflow of capital from the industry should the new mining lease (as proposed in the 1908 draft bill) be adopted (Kaplan, 1985: 351; Benson, 1994a; Bailey, 1992; Ostrom, 2005: 50; Cabral, 2000: 6).

“The mining houses, from their side, felt the government ‘insensitive to the needs of capital’ and in 1913 the Chamber of Mines complained that ‘direct and indirect taxation through the customs, railways and profits tax’, together with other expenditure required under the mining regulations and Mines Phthisis Act, were ‘all factors tending to discourage new mining enterprise’.” (Kaplan, 1985: 424). During the period 1913 to 1917, there was a continuing shortage of new investment in the industry, labour shortages, rising working costs and, understandably, low and static levels of output (Kaplan, 1985: 424; Yudelman, 1983: 94). Both the government and the Chamber realised that the “rich East Rand goldfields could ensure the long-term prospects of the industry” and resurrect it from its apparent stagnation (Kaplan, 1985: 424; Innes, 1984: 87; Katzen, 1964: 51). The views on how best to exploit this section of the reef, however, differed greatly. As the Union of South Africa entered the First World War in 1914, the government realised that the country’s defence budget was inadequate and that gold production was vitally important to maintaining assistance to Britain (Kaplan, 1985: 424). The Far East Rand reef was the key to this, but under the mining lease arrangement, mining houses refused to take up the objective (Kaplan, 1985: 425 – 426). Also other forms of mining title, such as mynpachten or discoverer’s claims provided insufficient area to constitute a viable working area (Kaplan, 1985: 426).

Yudelman (1983: 218 – 220) provides an excellent example of the lobbying tactics of the mining companies in their endeavours to mould policy to their liking. He (Yudelman, 1983: 218 – 219) describes how Lionel Phillips contacted his son from London and urged him to “make personal contact with the new [PACT Government] ministers”. Yudelman (1983: 218) continues: “it was essential [Lionel added] to get to the relevant minister before important issues were publicly debated, partly because the government often harmed the industry without intending to do so.” Yudelman (1983: 218) explains “Phillips was advising the continuation of a tried and tested principle.” Phillips had used such tactics to partially succeed in the drafting of the 1908 Gold Law, indicating the political leverage of the industry (Yudelman, 1983: 65). This speaks to the earlier description by Denzau and North (1994; 2000) of the importance of communication in the process of institutional change. Specifically, Phillips, in this instance was referring to the trust that had been developed between the mining industry and previous governments (Hodgeson, 1994: 67; Ostrom, 2005; Denzau and North, 1994; 2000).

In 1924, as before, Phillips knew that given the unpopularity of the industry amongst the Afrikaner, white proletariat, the state and mining houses should debate policy changes outside of the public eye. In this way, Yudelman (1983: 218 – 219) believes that “the first public announcement would already be relatively acceptable to the employers but would appear to come from the government alone.” According to Yudelman (1983: 219), Phillips was merely “expressing a lingering and pervasive fear among mining capitalists that the change of government might endanger what was previously a categorical imperative for the state: the commitment to the centrality of a profitable gold mining industry, able to supply revenue and, directly or indirectly, employment opportunities.” As was seen in the following years, however, the PACT Government possibly made better use out of the mining industry’s profits and employment capabilities than any government before it (Feinstein, 2005: 105; Innes, 1984: 129; Sander, 2000: 320 – 327; The Department of Mines, 1936: 131; Yudelman, 1983: 63). While, the PACT Government attempted to initiate a move away from this collusive relationship, it soon found that the increased tension from the Transvaal Chamber of Mines began to impact poorly on the public’s view of both state and capital (Yudelman, 1983: 220). As a result of the breakdown in the state-

capital relationship “the Transvaal Chamber of Mines...attempted to gain more parliamentary support through such measures as inviting all the members of both houses to visit the Rand goldfields at the [Chamber’s] expense” (Yudelman, 1983: 220 – 221).

There is little dispute that the power of the mining houses (generally exercised through the Chamber of Mines) had a sizeable impact on the evolution of various mining titles and the gold law generally (Ostrom, 2005: 50; Benson, 1989; 1990; Bailey, 1992; and Hobbes, 1615). Prior to 1900, under President Kruger’s restrictive franchise laws, the majority of shareholders in the mining houses were precluded from voting in the ZAR. In spite of this, the influence of magnates and wealthy Uitlanders [according to the Concessions Commission Report of 1897 (Denoon, 1973: 8)] meant that they enjoyed “privileged access to the legislature and executive decision makers.” This privilege was maintained following the Anglo-Boer War and was further enhanced from 1906 “when the access of mining houses to parliament became more direct through political parties such as the Progressives, the Unionists and the South African Party of General Smuts” (Kaplan, 1985: 52). Through this, as described by Yudelman (1983: 218 – 219) above, the relationship between the state and the mining houses became a “self-reinforcing institution” (as described by Hodgeson, 1994: 67). Through this trust and communication, the power the mining houses held in determining the legislative changes for the mining industry, was secured (Denzau and North, 2000; Ostrom, 2005; Benson, 1994; Bailey, 1992; Cabral, 2000: 6).

3.2.3 Drive to a mature industry

It was only in 1893 that the mining magnates started to take a hand in politics (Webb, 1981: 297). This laid the foundation for mining’s role in the broader political economy and signalled their response to government’s lax administration and lack of capacity; their heavy taxation of the industry and general apathy for the industry’s woes (Webb, 1981: 297). This was somewhat understandable given the industry’s failure to comply with many of the government’s requests for output data and financial statements, amongst other things (Webb, 1981: 298). The mines in fact, since the 1891 pyretic ore scare, had begun to work on a plan of averaging monthly

output (Webb, 1981: 298). In other words, any product in excess of the average would be held to “beef-up” output figures in months when the pay limit was lower, or in the winter months when labour and energy sources were scarce (Webb, 1981: 298; Feinstein, 2005: 103). Through this shareholders were not subject to the same fluctuations that managers knew existed in the gold output market and as such felt safer in their investments (Webb, 1981: 298). Output figures were therefore never really a true reflection of production each month (Webb, 1981: 298).

These actions, however, were interpreted by the press as further speculative behaviour by directors to influence the share market and “shock” overseas investors with sensational figures (Webb, 1981; Sander, 2000; Kaplan, 1985). This change in reporting format by companies might also be cited as a ploy by mining companies to exploit the tax system¹⁸ and investor confidence in the industry. In relation to the hypothesis being studied here, however, this “exploitation” can be defended in terms of preservation. Firstly, through the gold mining tax formula, companies were able to manipulate the level of taxes paid through changing the grade of ore mined (see footnote 18 and 23) and this effectively lowered the burden on company profitability. Secondly, by stabilising investor confidence (and thus institutional soundness), companies ensured a constant stream of financing for the extension of operations to deeper levels or the establishment of new mines (Rodrik, 2004: 7 – 8; Webb, 1981; Baxter, 2005).

Mining directors were also lax about safety regulations and measures on the mines (Webb, 1981: 299 – 300). This was an effort to further depress costs. The lack of administrative capacity on the part of the state (and the Chamber of Mines to some extent) meant that it was a long time before the mining companies suffered for such disregard (Webb, 1981: 299 – 300). It was only when labour shortages caused by the reputation of dangerous working conditions threatened mining operations that the

¹⁸ The gold tax formula implemented by the state in the 1920s tried to maximise the working life of mines while taxing the industry. It was constructed in such a way that companies could manipulate output and grade, effectively changing the amount of tax they paid (Moll, 1990: 34 – 37; Natrass, 1995: 859; Van Blerck, 1992; Sander, 2000: 327 – 332). Thus continuing to maintain monthly output tonnage at an average meant they could maintain and sometimes even improve profitability simply by changing the grade of ore mined (Feinstein, 2005: 204; Kettell, 1982: 133; Moll, 1990: 34; Natrass, 1995: 859 – 865; Sander, 2000: 327 – 330; Yudelman, 1983: 94). This formula was most effective since the price of gold was set on the world markets up until the 1970s (Feinstein, 2005; DeLong, 1996).

mining community took notice (Webb, 1981: 300 – 301). Once under the spotlight, the Chamber of Mines made amends by building a new wing onto the Johannesburg General Hospital and aiding in assuaging food shortages on the Rand in 1889 (Webb, 1981: 301). This in turn led to the Chamber's campaign to build important rail links with the coast (Webb, 1981: 302).

In 1894 the industry grew substantially (Sander, 2000: 119). The second stock market boom began in late 1894, with clear signs of it in January 1895 (Sander, 2000: 71; 128).¹⁹ Although backed by vast amounts of capital, and despite attempts by companies to stabilise investor behaviour through improved output data, this boom was also highly speculative in nature, with “the most speculative price rises [occurring] in the largest and best-established companies” (Sander, 2000: 128). This period, signalled a momentary set-back in the changing attitude of mining houses to the nature of doing business on the Rand.

De Kock (1924: 248) argues the behaviour of mining companies during this period was exploitative in nature. As he (De Kock, 1924: 248) states: “Several larger companies were formed in [1894/95] for this purpose and were assisted by the flourishing conditions of the industry to attract large sums of money required for deep-level mining.” As Sander (2000: 71) counters, however; investors had moved beyond speculation when they realised the vast extent and consistent value of the Witwatersrand goldfields. In 1895 the stock exchange, once again, experienced “frenzied trading” (Sander, 2000: 71). However, by September 1895, the stock market had once again collapsed (Sander, 2000: 71).²⁰ This decline in trading and prices continued until after the South African War (1899 – 1902) (Sander, 2000: 136; Yudelman, 1983: 20, 52).

Following the Anglo-Boer War, the economy was immersed in a financial depression lasting six years (1903 – 1909) (Kaplan, 1985: 401; Yudelman, 1983: 20, 52). The Department of Mines laid this down to the lack of capital from overseas investors

¹⁹ Sander (2000: 128) believes this boom was “unprecedented and not to be repeated until the gold standard boom of 1933.”

²⁰ Sander (2000: 75; 136) believes this was a latent correction to the astronomical prices that had occurred in the previous boom in 1888-9, unfortunately prompted by the large sale of gold shares on the Paris market on a day when trading in Johannesburg was closed.

coming to the mining industry and many of the mines thus standing idle and eventually being shut down (Kaplan, 1985: 401). Kubicek (in Kaplan, 1985: 401 – 403) suspects that even though capital was available in Europe, the unstable political climate in the Transvaal kept investors at bay (see also Innes, 1984: 63). Yudelman (1983: 136) explains, “capital’s strategy after 1902 was to lower costs, particularly by lowering wages generally or by amalgamating small mines in an attempt to benefit from the economies of scale.” Thus, despite this, the lack of investment, output of the gold mining industry “increased substantially” in this period (Kaplan, 1985: 402; Innes, 1984: 63; Yudelman, 136 – 139). As Katzen (1964) and Lombard and Stadler (1980) have also shown, this was not an uncommon phenomenon in the sector. In order to change the course of the economic cycle, and balance the outflow of capital to Europe, South Africa needed to attract more foreign direct investment (Kaplan, 1985: 401).

In 1896, the Witwatersrand gold mines emerged as the leading gold production area in the world, and as such had the ability to influence world prices (De Kock, 1924: 251). Sander describes this early stage of development as “energetic” and characterised by “a multitude of highly speculative deals in which financial buccaneers masquerading as company promoters enriched themselves with flagrant disregard for the welfare of other shareholders” (Sander, 2000: 235). De Kock (1924: 248), however, argues that although there were still some speculative elements existent on the stock market and in company operations, generally “the capitalists fully realised the fact that mines controlled by them were to be operated in accordance with recognised commercial principles and honest practices.” De Kock (1924: 248 – 249) goes further to explain this change in behaviour was not altruistic, but rather “in order that they might retain the confidence and trust of foreign investors and always obtain capital for new flotations.” The gold mining industry developed in leaps and bounds up until the first major strike by white workers in 1913 (De Kock, 1924: 249; Yudelman, 1983: 21 – 25).

Once war broke out in 1914, mines began to feel the pressure of rising costs and a shortage in the supply of materials (Innes, 1984: 76; Yudelman, 1983: 137). As previously stated, the price of gold was fixed by international markets and as such mines were particularly sensitive to cost inflation (Webb, 1981: 236, 285;

De Kock, 1924: 251). With minimal room to manoeuvre on both costs and price, Innes (1984: 78 – 79) explains how the mining groups chose to attack both. On the price front, “arrangements were entered into with the Bank of England in accordance with which all South African gold was purchased by the Bank at the standard rate, but subject to increased charges for freight, insurance and refining” (De Kock, 1924: 252; see also Innes, 1984: 78). Due to the depreciation of Sterling against the dollar this particular agreement was terminated in July 1919 (De Kock, 1924: 254). Through arbitrage the mining companies were able to extract the premium on gold via a free gold market in London using British paper currency (De Kock, 1924: 252).²¹ Innes (1984: 78 – 79) describes that the above agreement gave way for the British concession in July 1919 to allow “a free market...for gold produced in South Africa and Rhodesia” to be used. This caused an immediate boost to working revenues with an estimated increase of 53 per cent “to the standard working profit of the Witwatersrand gold mines” (Innes, 1984: 79). Before the start of World War One, mining groups “disposed of all their gold in London at par value in British Currency, which was based on the gold standard at the time, the mines paying the charges for freight, insurance and refining” (De Kock, 1924: 252).

Since the cost of operations did not rise as fast as the price of gold, many mines (especially low-grade ones) were able to exploit relief from this trading agreement (De Kock, 1924: 254; Innes, 1984: 79). On the cost front, companies, primarily through the initiative of the Chamber of Mines, began to produce and source many of their inputs locally (Innes, 1984: 79 – 85). The majority of these were originally manufactured by British companies and then shipped to South Africa (Innes, 1984: 79 – 80). Through the development of improved engineering and metallurgical capabilities, South Africa was for the first time able to cut costs and improve productivity, and thus revenue – and under a lower gold price (Innes, 1984: 80 – 85). It was at this point that a decision was taken to establish the Rand Refinery and South African Mint (Innes, 1984: 79 – 80; The Department of Mines, 1936: 114). It was only in 1922 that general price inflation and mine wages

²¹ More specifically, “there was a premium on gold in terms of British currency, and, accordingly, the mines made representations for the establishment of a free gold market in London so as to enable them to obtain that premium on gold. Under the agreement of July, 1919, the gold was shipped to London, consigned to the Bank of England, but sold by the agents on the mines...in the London market at the best price obtainable” (De Kock, 1924: 254). This was the result of “depreciation on inflated paper currencies as [compared] with gold” (De Kock, 1924: 252).

caught up with the premium value on gold (De Kock, 1924: 252 – 254; Innes, 1984: 79 – 85).

After the 1922 miners strike and some intervention by government in the co-optation of white labour, gold mining managed to return to operating on a sound and profitable basis (Yudelman, 1983: 21 – 27; De Kock, 1924: 254).

It was during these early phases of development within the industry that one sees the most exploitative behaviour of the gold mining companies. This is in line with the theory of industrial organisation, as detailed in Chapter 2 (Cabral, 2000). As has been discussed throughout the section, firms engaged in efforts to lower costs (sometimes even to the detriment of the safety of their workers) and maximise profits (mainly through speculative behaviour) as much as possible. The lack of administrative capacity and immaturity of the institutional structures meant that firms could manipulate the system in order to achieve their goals. In instances, such as the issue of mine safety regulations, where the state found the firms guilty of a violation of laws and sound mining practices, the punishment was not so severe as to set the industry back – even slightly. Some may even argue that in some circumstances, firms held enough market power to adequately coerce the state into a more lenient sentence [as detailed by Sander (2000) on the sentencing of mining officials associated with the Jameson Raid], or alternatively to cover additional transaction costs associated with such penalties. In the next section, the further maturation of the industry, along with more sound institutional practices and state regulation of gold mining is discussed.

3.3 The gold standard and a changing political landscape: 1930s – 1990

3.3.1 The impact of the gold standard

For a very long time only a small portion of ownership of mining companies was local (Kaplan, 1985: 361). This meant “the bulk of the profits derived from the mining of what was viewed as a national resource was lost to the country annually through dividends being remitted to overseas shareholders.” (Kaplan, 1985: 361).

Kaplan (1985: 361) quotes findings from the 1932 Low Grade Ore Commission which, effectively translate to annual overseas dividend payments being far greater than annual investment in gold mining, between 1911 and 1932. This, no doubt, exacerbated the recession in the Union economy in 1930 (Kaplan, 1985: 361). As the government made plans to change the gold law so that they might participate more in the profits of the industry, the Chamber of Mines fought to maintain owners' rights (including both the original *mynpacht* and discoverer's claims) "free from state participation in profits (Kaplan, 1985: 362 – 364).

In addition to the changes in mining rights legislation, the industry had one of its most memorable boosts in the 1930s. After the Wall Street crash on 29 October 1929, the Great Depression enveloped the markets of the United States, United Kingdom, and their major trading partners (Sander, 2000: 318). While Britain chose to remain on the gold standard for some time following the crash, it soon realised that to stem the run on banks, large capital outflows, and ensure the stability of European currencies, it was necessary to remove the monetary standard in September 1931 (Sander, 2000: 319). Once removed from the standard, Sterling devalued and most of the commonwealth countries' currencies followed suit (Sander, 2000: 319). As the world's leading supplier of gold, under the leadership of Hertzog, and bolstered by national pride, South Africa chose not to devalue and remained on the gold standard (Sander, 2000: 319). Businessmen, politicians and even the majority of the Chamber of Mines, initially supported this decision (Sander, 2000: 319). The devaluation of the Sterling and South Africa's decision to remain on the standard (causing the South African currency to be overvalued in terms of Sterling) soon proved disastrous for industries' (for example: agriculture) ability to trade with Britain and fellow commonwealth countries no longer on the standard (Sander, 2000: 319). After much discussion, and an urging by the Chamber of Mines, it was agreed that despite the gains being made by the gold mines, it was in the wider economy's best interest to go off the gold standard (Sander, 2000: 319 – 321).

Hertzog decided to leave the gold standard in December 1932 and profits surged with the readjustment in exchange rates to the price of gold (Cooke, 1969: 3; Feinstein, 2005: 104, 166; Innes, 1984: 129; Sander, 2000: 316 – 321; Yudelman, 1983: 41 – 42, 251). By 1934 the price of gold had risen by 45 per cent

(Sander, 2000: 321; Yudelman, 1983: 251). This windfall gain [compared by some to be at least as significant as the implementation of the cyanide process (Sander, 2000: 320)] allowed companies to maintain profits while extracting ore with a lower grade, which was “also encouraged by the special excess profits duty” imposed by the state from 1933 (Feinstein, 2005: 105; see also Innes, 1984: 129; Sander, 2000: 320 – 327; Yudelman, 1983: 135, 252). Feinstein (2005: 105) explains that through the support of the government, companies were able to exploit new and deeper sections of the reef as well as reprocess tailings dumps that would have, in other circumstances, been unprofitable ventures (Sander, 2000: 317; The Department of Mines, 1936: 131; Business Day, 2007g: 1 – 2).²² While not increasing profits, this meant an extended life for mines (Feinstein, 2005: 105). Sander (2000: 320 – 321) describes how abdicating from the gold standard encouraged a new wave of exploration and prospecting on the goldfields, along with increased capital inflows and working revenues (see also Yudelman, 1983: 251 – 252).

3.3.2 Interaction with the state: mining law

By 1934, the new government under Hertzog was still trying to rid the gold law of the mynpacht (Kaplan, 1985: 363 – 365). The Chamber of Mines, however, maintained that the mynpacht was still the best way to manage the system of claims on the Rand and in order to further encourage prospecting; the mynpacht area should be increased in size (Kaplan, 1985: 365). It is unclear if this truly was the case or if mining houses pushed for an increased mynpacht size in order to take advantage of the economies of scale in mining larger areas. In the same presentation, the Chamber again objected to the states right to profits (Kaplan, 1985: 365 – 366). The mining houses argued for the “retention of the mynpacht principle, more flexible guidelines on state profit sharing under mining leases and the elimination of the absolute discretion of the state to allocate leases by entitling only specific parties to apply” (Kaplan, 1985: 441).

²² In the event of an improvement of technology or an increase in the gold price, it became profitable for companies to rework tailings dumps and extract any gold previously processed under inefficient methods (Kaplan, 1985: 189 – 190; Sander, 2000: 317; The Department of Mines, 1936: 131; Business Day, 2007g: 1 – 2). Kaplan (1985: 190) lists the 1898 (after the cyanide process was instituted), 1903 (further improvements in the recovery process) and the 1930s (after the eradication of the gold standard) as key points in time when companies used this to increase output and profits.

The Chamber triumphed in the 1934 presentation and the Mineral Law Amendment Act of 1934 adopted changes proposed to the mynpachts size (Kaplan, 1985: 366 – 367). While the state was not to share in increased profits, it would have greater control over the allocation of mynpacht titles (Kaplan, 1985: 366 – 367). Changes were also made to the 1934 Mining Leases Act and as Kaplan (1985: 441) explains, this meant, “mining houses would not be forced to compete directly against one another when applying to the state for a mining lease”. In eliminating the competition between mining houses for mining leases, the state effectively improved the efficiency with which the industry functioned. This lowered transaction costs and improved the efficiencies of scale within industry operations (Cabral, 2000: 245; 277 – 280; Williamson, 1975; Coase, 1937; 1992).

The next time the mynpacht came under threat was 1965 and again the Chamber protested against its elimination (Kaplan, 1985: 367 – 370). The Chamber argued that if the mynpacht was abolished, “the position of the mining companies negotiating with the mining leases board...would be weakened, both specifically in relation to...state participation in profits, and...the right was seen as a right upon which mining companies could fall back on in the event of a breakdown of negotiations with the mining leases board” (Kaplan, 1985: 370). In the end, however, the 1967 Mining Titles and Registration Act eliminated the mynpacht as a form of title (Kaplan, 1985: 371). The Department of Mines successfully motivated that given the infrequent granting of mynpachts – only nine had been “registered between 1942 and 1967” – and the manipulative way mynpachts were dealt with by the mining industry, it should be eliminated (Kaplan, 1985: 370 – 371). This change applied to all forms of mynpachten and while not replaced specifically by another form of grant, Section 58 of the Act assumed conversion to a new form of grant and in general, “wholly...supplanted by the mining lease system” (Kaplan, 1985: 371). The state thus, succeeded in changing the incentives underlying the behaviour of mining houses (Cabral, 2000: 8). This will be discussed in more detail in Chapter 4.

During the Second World War (1939 – 1945), in addition to restricted working conditions, inflationary costs and labour shortages, mines were put under pressure to provide the state with revenue (Sander, 2000: 330; Yudelman, 1983: 57). The state tried to implement a tax of 150 shillings per fine ounce of gold sold – over and above

the prevailing gold tax formula²³ (Sander, 2000: 330). While government argued this was to combat any speculative investor behaviour that could come from a rise in the gold price during wartime, JCI and the Chamber argued, given the existent view of discriminatory tax practices towards the industry, the additional tax would in fact deter investors, which were as important for the industry as they were for the economy (Sander, 2000: 330; Yudelman, 1983: 259; Rodrik, 2004: 7 – 8). The industry argued further that “the method of collecting more money...[was] fundamentally unsound, since a method which taxes or introduces a levy upon the product of any enterprise instead of on the profit there from is bad in principle and carries in it the seeds of its own destruction” (Sander, 2000: 330). In the end the state rationalised the possible effects of a fall in investor confidence on the economy and settled for capturing their share in any extraordinary profits earned through the existent formula (Sander, 2000: 331).

In any event, the prevailing mining practice meant that any rise in the gold price usually led to an increase in working costs and a decrease in gold per ton of ore milled (Sander, 2000: 331). In fact, Sander (2000: 331) shows that by 1938 (six years after leaving the gold standard), “higher disposable profits made by the industry...[did] not come about by extra profit per ton but for the reason that as more tonnage became payable with the rise of the gold price, the mines spent great sums of money...[to] increase their operating capacity.” Thus after taking account of increased taxation, lease payments and working costs, investors were only earning an additional 4 pence per ton of ore milled in 1938 (Sander 2000: 331). Smuts removed the levy on excess profits during the war and replaced it with “a special tax of 9 per cent on working profit from mining...[which] was progressively increased during the course of the war until it reached 22.5 per cent” (Sander, 2000: 331; Yudelman, 1983: 252; Van Blerck, 1992: C-5). It was for such reasons that Yudelman (1983: 63) states “mining capital both feared [state] intervention...[but] could not survive without it.” In particular the industry depended on state intervention to secure its cheap supply of

²³ In 1936 two taxes were introduced on profits derived from gold mining: (a) Basic tax of 15 per cent, and (b) the formula tax of $y = 40 - (40 \times 12.5/X)$, where “y” is the lease rate to be determined and “X” is the ratio of profit to revenue (Van Blerck, 1992: C-5). Van Blerck (1992: C-5) explains: “the formula taxes profits at a marginal rate of 40 per cent but only to the extent that the profit to revenue ratio exceeds 12.5 per cent. If the basic tax is ignored, this formula assists the mining of marginal ore by lowering the ore pay limit by a factor of 8.33 per cent.” This formula prevailed until the end of the War in 1945/46 (Van Blerck, 1992: C-5 – C-6).

migrant labour (Yudelman, 1983: 63). The mining industry also feared the imposition by the state of further white labour employment quotas, but this falls beyond the scope of this study (Yudelman, 1983: 63).

The mining lease legislation prescribed that mining companies calculate “the average value of its payable reserves” and given the long lead times and expense of opening and closing mines, the mining industry is generally conservative in its estimations (Kettell, 1982: 133; Sander, 2000: 328; Business Day, 2007g: 1; Financial Mail, 2005e: 19 – 20). The gold tax formula, which was (instituted in the 1920s) implemented by the state in order to maximise the working life of mines while taxing the industry, was constructed in such a way that companies could also manipulate output and grade (see footnote 23) (Moll, 1990: 34 – 37; Natrass, 1995: 859; Van Blerck, 1992: C-5; Sander, 2000: 327 – 332). As Sander (2000: 328), explains; “departure from this customary practice might lead to spectacular temporary results on some mines, particularly if the argument of certain shareholders were deemed sound and the mines concentrated on working the highest grade ore as quickly as possible.” In other words, the mining lease legislation, and the gold mining tax formula, ensured the investors did not engage in speculative behaviour and thus confidence in the industry was sustained (Sander, 2000: 328). Thus continuing to maintain monthly output tonnage at an average meant they could maintain and sometimes even improve profitability simply by changing the grade of ore mined (Feinstein, 2005: 204; Kettell, 1982: 133; Moll, 1990: 34; Natrass, 1995: 859 – 865; Sander, 2000: 327 – 330; Yudelman, 1983: 94).

The collaboration between state and mining companies in the design of the mining lease legislation and gold mining tax formula, show the beginnings of a shared vision for preserving and maximising the Witwatersrand reef and the returns there from. The relationship draws on previously discussed importance of communication and trust in institutional development (Denzau and North, 1994; 2000; Ostrom, 2005; Hodgeson, 1994) and optimal behaviour by companies to maximise profits (Cabral, 2000; Coase, 1937; Williamson, 1975). It should be noted, however, that after 1977, the rise in costs dictated that this method be abolished (Feinstein, 2005: 204 – 205).

3.3.3 Foundations for the changing face of mining

The 1940s then saw further gains for the industry as major discoveries were made on the Far West Rand of the Witwatersrand (Klerksdorp)²⁴ and in the Orange Free State (Cooke, 1969: 3; Feinstein, 2005: 165; Moll, 1990: 34; Katzen, 1964; Innes, 1984: 142 – 144; Sander, 2000: 321). Despite inflationary pressure on working costs, the gold mines were able to maintain operations and even slightly boost profits with the growing demand for uranium – a by product of gold mining and in great demand after the Second World War for the production of nuclear weapons (after the Cold War, uranium was demanded in the development of atomic energy) (Cooke, 1969: 3; Feinstein, 2005: 170). With this came another 4 per cent surge in the gold price in 1949 and the subsequent extension of the life of gold mining (Feinstein, 2005: 104, 165, 203; Financial Mail, 2005e: 19 – 20). This price remained stable until 1970 and as such was the cause of some woes for the industry (Feinstein, 2005: 165).

The Sharpeville Massacre in 1960 signalled a change to mining and general business operations and was the start of the investment decline that hurt the industry in the 1980s when the price of gold failed to buoy operations (GSB UCT, 2000: 65; Innes, 1984: 174 – 175, 200; Fine and Rustomjee, 1996: 110). Between 1957 and 1965, working costs had risen without a matching increase in the gold price (Cooke, 1969: 3; Feinstein, 2005: 203; Moll, 1990: 34 – 37). Under these conditions companies changed strategy, rationalised operations and reshuffled subsidiary operations to improve performance (Fine and Rustomjee, 1996: 110 – 117; Feinstein, 2005: 203 – 210; Innes, 1984: 183, 200). Those mines that did not close, survived through changing organisational structure, while others needed state assistance to get by (Feinstein, 2005: 203). The windfall price change in gold in 1971²⁵ revived the industry and mining went from strength to strength despite the

²⁴ Although gold was known to exist on the West Rand in the Carltonville district as far back as the 1890s, major new extensions to this portion of the Witwatersrand reef were made in the 1940s (Webb, 2008; Feinstein, 2005).

²⁵ Feinstein (2005: 203) describes the events of 1971: “the United States took the first step towards the abolition of the fixed price of gold of \$35 per fine ounce that had prevailed since 1934”. The price was raised to \$38 per fine ounce, with a further increase to \$42.2 per fine ounce in February 1973 (Feinstein, 2005: 203). In addition “the Bretton Wood’s system of fixed exchange rates was replaced by floating rates for all the leading currencies, and after prolonged discussion it was formally agreed in

continual rise in global and domestic inflation (Feinstein, 2005: 204 – 205; Moll, 1990: 34; Innes, 1984: 159; Yudelman, 1983: 134 – 135; Fine and Rustomjee, 1996: 13). “By 1978 [the price of gold] had reached almost \$200, and in January 1980 it soared to...\$850” (Feinstein, 2005: 204).

This bonus was, however, short lived and between 1982 and 1997 the price of gold battled to move beyond the \$380 mark (Feinstein, 2005: 204; Natrass, 1995: 859). As Feinstein (2005: 204) and other authors have explained (Kettell, 1982: 133; Moll, 1990: 34), mining companies held the tonnage of ore they treated on a monthly basis roughly constant. As long as the price of gold continued to rise faster than costs, mines could mine lower grades of ore and even reprocess previously treated tailings (Kettell, 1982: 133; Innes, 1984: 159; Kaplan, 1985: 189; Browning, 1948: 433; Business Day, 2007g: 1 – 2).

While the changes in price were way above the previously fixed price regime, the continued rise in working costs, the loss of gold’s status on the world markets and the imposition of sanctions by the international community, meant that by the late 1980s, the weakening of the Rand against the Dollar (boosting the Rand price of gold) and the many improvements in productivity in the 1980s were insufficient to sustain large profits (Feinstein, 2005: 204 – 210; Natrass, 1995: 859 – 865; Fine and Rustomjee, 1996: 13; Yudelman, 1983: 273; Mining Weekly, 2005b: 8). As GSB UCT (2000: 66) details, “isolation made it progressively more difficult for mining houses to evolve to global mining specialists rather than as diversified regional champions.” Mining companies were unable to continue their standard mandate of channelling finance between local and international operations and capital markets (GSB UCT, 2000: 66). GSB UCT (2000: 66) describes how “exchange controls prohibited the investment of surplus South African capital in mining ventures abroad; rules ‘ring-fencing’ mining activities for tax purposes discouraged mining investment in South Africa; and the trade barriers artificially raised returns on import replacing manufacture.” This illustrates how a change in the formal rules of operation

1976 to abolish the official price of gold and to demonetarise gold internationally (as it had previously been notionally). Since then, gold has no longer served as either a standard of value or a medium of exchange. From then on, the dollar price of gold...was determined by market forces and rose rapidly in a decade of raging worldwide inflation” (Feinstein, 2005: 203 – 204).

in the economy worked to increase the transaction costs faced by the mining industry (North, 1990; Milgrom and Roberts, 1992; Coase, 1937; Williamson, 1975; 2005).

Mining groups, therefore, took advantage of government's industrial policy and diversified even further into other industrial and manufacturing operations, not necessarily related to mining (GSB UCT, 2000: 66; Fine and Rustomjee, 1996, Feinstein, 2005: 207 – 210; Yudelman, 1983: 242). Mining houses were thus able to diversify portfolios as well as “finance research and technological innovation, and to invest in the further mechanisation required to contain the costs of mining lower grades of ore and of working at ever greater depths” (Feinstein, 2005: 207; see also Innes, 1984: 159). As Feinstein (2005: 207) and Baxter (2005) point out, this technological drive signalled a change from earlier decades of mining development. In previous decades, mining companies had only substituted machinery for unskilled labour where government policy or labour supply had proved harder to overcome (Feinstein, 2005: 207; Kettell, 1982: 185). In the 1980s, however, mines wished to simply improve productivity and lower costs, and not necessarily replace labour, (Feinstein, 2005: 207; Mining Weekly, 2005b: 8). Through this innovation mining houses showed their ability to shape the rules within the market to best suit their needs. One could argue that while this is indicative of perfectly competitive behaviour of firms to maximise profits under changing circumstances, it also shows the commitment of the industry to the prosperity of the economy beyond gold mining.

While this represented a coup for mining in the short run, by the closing years of Apartheid, the economy's capital and industrial inefficiencies were exposed (GSB UCT, 2000: 66; Nattrass, 1995: 859 – 865). This led to the transformation of management structures and the outsourcing of several operations to consultancies in the 1990s in the mining industry – a movement away from the traditional “in-house” strategy of the group system (GSB UCT, 2000: 67 – 73; Mining Weekly, 2005b: 8). By rationalising labour requirements and improving technology and thus productivity, profitability was somewhat revived in the 1990s (Feinstein, 2005: 209 – 210; Nattrass, 1995: 859 – 865; Mining Weekly, 2005b: 8). Without the discovery of new reefs (as in the 1940s and 1950s with the Orange Free State), or a windfall change in the price of gold (as in 1932, 1949 and 1971), this improvement was insufficient to raise the South African gold mining industry back to its zenith (Feinstein, 2005: 210).

One could argue that up until this stage, the mining industry (or resource users) had prospered in an inefficient manner by depending upon concessions and windfalls in legislation or world markets. In a presentation by the Chamber of Mines of South Africa (2005b: 17), the structural decline of the industry since the 1980s, was highlighted. The lack of investment in mining and the long lead times associated with opening new deep-level operations has only managed to exacerbate the situation (CMSA, 2005b: 17; Baxter, 2005; Business Day, 2007g: 1; Mining Weekly, 2005b: 8; Financial Mail, 2005e: 19 – 20).

3.4 Transformation under new legislation: 1990s – 2008

3.4.1 A big change

During the transformation of the gold mining industry in the post-1994, democratic environment, many of the major mining houses were restructured to incorporate historically disadvantaged South African (HDSA), shareholders or as they are more often referred to: black economic empowerment (BEE) shareholders²⁶ (CMSA, 2004e: 1). Sander (2000: 353) describes how JCI went through significant unbundling under the instruction of its parent company, the Anglo American Corporation (See also GSB UCT, 2000: 76 – 78). It was one of the first significant BEE deals to take place in the industry and certainly paved the way for the other major mining groups – even before the change in ownership was legislated by the new government (CMSA, 2004e: 1). Sander (2000: 355) details that, in spite of possible complications and criticism, JCI officials met with the ANC leadership in Paris, as far back as 1989, in anticipation of the changing political economy of South Africa. This proactive stance to the imminent changes in the political and economic landscapes could be interpreted as a preservative strategy on the part of the mining companies. By actively engaging with the potential new leaders of South Africa, mining companies managed to secure their role in the process and preserve their dominance in the economy.

²⁶ Legislation often makes reference to these individuals as broad-based socio-economic empowerment (BBSEE) or broad-based black economic empowerment (BBEE) shareholders. The terms are effectively interchangeable.

Anglo American executives concurred with the views of the ANC and recognised the limited amount of time in which to make changes. They argued that political transformation was imminent and as such, transformation in a strategic and organic manner would not suffice as a short-term solution. Dr Ronald Bethlehem, Group Economics Consultant (c.1990) explained “restructuring of ownership” should not be feared; “when seen in a broader economic perspective, the restructuring of ownership is probably a normal process; it is happening all the time” (Sander, 2000: 356). Bethlehem went on to argue, “a serious structural defect in the South African economy was the non-participation of black individuals in the entrepreneurial sense. We have the very troubled situation at present in South Africa where the business community embraces the idea of capitalism as being the best future for the economy...whereas the workers of the business community and the customers of the business community in their broad numbers embrace the vision of a socialist future for South Africa. So business is in conflict with its workers and its customers, and it is the kind of conflict that will tear the society asunder unless wise men address their own self-interest and address the structural defect of non-participation in the entrepreneurial economy on the part of blacks...The only way to persuade blacks, not about capitalism, but about the market economy and its desirability is to draw them into participation in the economy so that they can begin to enjoy its fruits” (Sander, 2000: 356 – 357).

This was an important development in the history of the mining industry of South Africa. While it does not singularly pertain to the gold mining industry and even though it is still in the tone of the previous regime, it indicates the changing attitude of mining capital from exploitation to preservation. While they may continue exploiting the mineral resources, it is done with the intention of allowing for sustained benefit to the future of the community and economy (CMSA, 2004e: 1 – 7; Financial Mail, 2005a: 44; CMSA, 2004c: 4, 8; Ritchie, 2004; Baxter, 2005; CMSA, 2002: 1; Economic Trends Research Group, Unknown: 23).

At the beginning of transformation in the 1990s, mining capital recognised its ability to effect changes more efficiently and swiftly than government and bureaucracy (Sander, 2000: 357 – 358). They also embraced an opportunity to pre-empt the

ascendance of the ANC to power and the possibility of being forced to change business operations and take on state-specified black shareholders (Sander, 2000: 357 – 358; CMSA, 2004e: 1). By taking this proactive stance, mining companies were able to take control of any potential increases in their transactions costs structure, access to information, uncertainty about market transactions and the security of maintained property rights (Coase, 1937; Williamson, 1975; 1979; 2005; Milgrom and Roberts, 1992; Knight, 1921; North, 1990; Ostrom, 2005). Bethlehem was adamant that “it is in the private sector’s self-interest...to look ahead, to see what is happening and pre-empt any need for state action” (Sander, 2000: 358). He was also very much aware that unlike other ownership transfers, these transactions had the potential to destabilise the economy and spook foreign investors if not managed well (Sander, 2000: 358). Most important, the transfer of shareholdings should be legitimate and not a superficial façade (Sander, 2000: 358; Graulich, 2005; Ramos, 2004; Baxter, 2005). If the mining companies were still continuing to exploit the gold resources at their disposal, they would have been relatively comfortable to create a false cover of redistribution and democracy in action.

The preservative attitude and commitment to the future prospects of the country can be seen in the example drawn from the JCI Centenary Annual report of 1989 (in Sander, 2000: 360). JCI argued in favour of their shareholders’ long-term prosperity: “[JCI] recognises that its obligations to advance the long-term interests of its shareholders will be capable of achievement only if the country...enjoys the benefits of a free market system in a fully democratic society. The well being of the group’s stakeholders...must stand or fall by the state of the health of the society in which it exists. That state of health depends, and depends critically, on the establishment and success of a genuine free market system embracing all members of society” (Sander, 2000: 360). In addition to the attitudes of the shareholders and investors, JCI noticed that the attitude of the workers also changed through increased productivity and an association with company objectives and the common values of the shared workplace (Sander, 2000: 377).

The above pre-emptive interaction between the mining houses and the incoming state could be seen as an example of the mining firms’ familiarity with the institutional rules of the system. Pejovich (2001: xv) describes that over time individuals become

familiar with the rules (both informal and formal) of the system and adjust accordingly. These market participants also learn to “identify exchange opportunities and exploit the most beneficial ones” (Pejovich, 2001: xv; see also Ostrom, 2005; and North, 1990). The mining houses, in this instance, possibly exploited their incumbent knowledge of the industry and its role in the economy to try and shape the ANC’s policy towards the industry and future operations of the mining companies. In their way, the mining houses were choosing to retain the current system for fear or knowledge that a new system would impose restrictive transactions costs on future operations [Stahl (1997) in Pejovich, 2001: 144; Posner, 1998].

At this time, mining companies were forced to change the structure of production operations from one managed by trained engineers to managers with a background in business administration (GSB UCT, 2000: 28; Baxter, 2005; Mining Weekly, 2005b: 8; Feinstein, 2005: 209 – 210). This was largely due to declining profits following a worker strike in 1987 (GSB UCT, 2000: 30; Natrass, 1995: 864; Baxter, 2005). Companies realised the longevity of gold mines was to be secured through “greater worker participation, leading to increased responsibility and productivity” and further that under this new structure, mines learnt that they could produce the same levels of output with a smaller, but better utilised, workforce (GSB UCT, 2000: 30; Natrass, 1995). So the gold industry was undergoing both production and management restructuring as well as an institutional and legislative change – forcing it to react quickly in order to retain market power and globally competitive levels of production (Feinstein, 2005: 209 – 210; Natrass, 1995: 859 – 865; Baxter, 2005; CMSA, 2005b: 17; Lilford, 2005).

3.4.2 A new legislative framework

As detailed in the previous chapter, the mining industry was one of the many parties involved in the drafting process of the new mining legislation (CMSA, 2004a: 1; CMSA, 2004e: 2; CMSA, 2004c: 9 – 12). This process began in 1995 and offered an opportunity for all stakeholders to develop views and policies that would ensure the longevity of the industry as a “cornerstone of the South African economy” (DME, 1995: 2, 12; CMSA, 2004d: 1; Baxter, 2005). As a pre-emptive measure the

Chamber of Mines compiled the “mining and minerals policy in the new South Africa” document on behalf of “member and non-member organisations” (DME, 1995: 12). Through this statement, the Chamber wished to ensure the future well being of its employees and mine owners, and its own expectations of the industry’s future through a collaborative effort between the tripartite alliance of business, labour and the state (DME, 1995: 12 –13; CMSA, 2004f: 47; CMSA, 2004e: 1 – 7; Baxter, 2005; CMSA, 2004c: 9 – 12). As the owners of the mineral rights, the industry wished that any policy changes made would continue the tradition of limited intervention by government and followed “market orientated and sound business principles in steering the industry to develop the country’s wealth to its full potential, and maximum benefit for all the country’s people” (DME, 1995: 13). In addition, policy should “serve the mining industry, and by extension the long-term national economic interests” (DME, 1995: 13; CMSA, 2004d: 1; Baxter, 2005; CMSA, 2004c: 15). The Chamber held there was no need for the needs of the various stakeholders to be in conflict with one another (DME, 1995: 13; Baxter, 2005).

Within the discussions the representatives of the industry argued that minerals are a non-renewable resource and as such, the mining industry, has a finite lifespan (DME, 1995: 13 – 14). The majority of the working costs are fixed in nature and cannot be passed on to the consumer (Innes, 1984: 49; Graulich, 2005; CMSA, 2005b: 19; Feinstein, 2005: 104; Kettell, 1982: 154 – 156; Moll, 1990: 34 – 37; Yudelman, 1983: 134 – 135). The greater the depth of mining, the greater the costs are (Lilford, 2005; Graulich, 2005; Baxter, 2005). This can have an impact on the pay limit and determine the longevity and profitability of mining ventures (Innes, 1984:49; Lilford, 2005; Mather, 2005; Moll, 1990: 34 – 37; DME, 1995: 14). In the words of Roger Baxter, Chief Economist of the Chamber of Mines: “While the industry has consistently focused on improving productivity and reducing costs, there are simply too many costs the industry does not have control of, which places inordinate pressure on the sector” (Business Day, 2005a: 1). Within the minerals industry there is competition on an international basis and so it is really only the private sector, which can efficiently produce to investors’ satisfaction (DME, 1995: 14). “The role of government is to create a policy and regulatory framework, as well as the macro-economic [conditions] conducive to the private sector’s willingness to take the necessary investment risks” (DME, 1995: 14).

Furthermore, the government must ensure “security of tenure” in order for stable project development over the long time frame of mining (CMSA, 2004d: 1; Baxter, 2005; CMSA, 2004c: 15). As McChesney (1990) explains, government regulates the assignment and maintenance of property rights in society. As explained in Chapter 2, there is no guarantee that the type of system advocated by government will be the most efficient, but regardless of its efficiency, the system which evolves determines the distribution of wealth amongst market participants [McChesney (1990) in Pejovich, 2001: 163 – 164; Benson (1994b) in Pejovich, 2001: 124; Williamson, 1996; Ostrom, 2005; Epstein (1994) in Pejovich, 2001: 476].

Continued investment by both mining companies and external parties is key to sustaining the industry. As mentioned previously, the risk of investment in gold mining is high and has a longer lead-time (return to investment) than alternative assets (DME, 1995: 19; Business Day, 2007g: 1; Financial Mail, 2005e: 19 – 20; Kettell, 1982: 103; Feinstein, 2005: 103, Webb, 1981). Investors, therefore, need to know that security of tenure is ensured; certainty in the ability to do business in a “well-developed regulatory framework” and a stable political, macroeconomic and fiscal environment exists (DME, 1995: 16 – 17; CMSA, 2004d: 1; Baxter, 2005; Financial Mail, 2007: 35 – 40; CMSA, 2004c: 15). Discussions in 1995 also highlighted that “Measures are required to attract investors through improving the investment climate of South Africa” (DME, 1995: 17; CMSA, 2004d: 1). Further highlights from the discussions amongst stakeholders was an emphasis by the Chamber to the non-interventionists role of government, the provision of financial assistance from the state for small and junior mining companies and finally, the abolition of “regulations which result in the undue constraint of industry’s performance” (DME, 1995: 18).

On the issue of fiscal stability representatives from the Chamber of Mines emphasised “the taxation system must recognise that mining turns to account a non-renewable asset. It must also recognise the huge capital commitment and long lead times typically associated with the South African gold...mines. These considerations require a dual system of accelerated depreciation and capital allowances in order to encourage the industry to look for new assets [and thus preserve the industry]...” (DME, 1995: 19; see also Financial Mail, 2005e: 19 – 20; Business Day, 2007g: 1;

Baxter, 2005). The tax regime facing the industry also impacts upon its competitiveness and risk-profile for investment (Baxter, 2005).²⁷ Most importantly though, “taxation of the industry must be based on profits” and not on revenue (before costs have been deducted) (DME, 1995: 19).²⁸ The Chamber also argued in favour of the removal of the system of ring-fencing²⁹. They argued that the ability to write off capital expenditure against tax should be extended across all operations (including beneficiation projects) and be indexed to inflation on an annual basis; also to promote investment and better flow-through share schemes and profit sharing across the industry (DME, 1995: 20 – 21).³⁰

The Chamber and other stakeholders argued during the 1995 discussions “in order to promote, support and regulate minerals and mining it is essential that government institutions are competent and efficient” (DME, 1995: 73). Furthermore, “exploration and mining are high risk businesses and consequently it is important that individuals and companies are confident in their dealings with state institutions and that decisions are made timeously and efficiently. If contracts are to be negotiated and investment mobilised it will be important that institutions respond rapidly and professionally.” (DME, 1995: 73). As has been discussed extensively in the press, this has failed to materialise to date (Financial Mail, 2005a: 44 – 45; Mining Weekly, 2005d: 23; Mining Weekly, 2005a: 20; Business Day, 2005b: 15; Business Day 2007i: 1; CMSA, 2004c: 41; Business Day 2007d: 1 – 2; Campbell in Ritchie, 2004: 18). It is important that government perform more than a regulatory function; they must also perform a promotional one and as such be familiar with “the nature and interrelated technical complexities of mining”; and the DME should perform the central and

²⁷ The Chamber knew that with the government’s Reconstruction and Development Policy, demands on the tax system would be high and government should therefore look to broadening the tax base over raising tax rates. The Chamber suggested this could be accomplished through incentive schemes that promoted further exploration and the development of junior mining companies and by leasing mineral rights from the state.

²⁸ There were several other suggestions from the Chamber of Mines on proposed amendments to the tax system. These included beneficiation, environmental rehabilitation and royalties, amongst other things, which fall beyond the scope of this thesis.

²⁹ Ring-fencing allows mining companies to deduct a proportion of capital expenditure from taxable income (Van Blerck, 1992: C-9).

³⁰ In addition to the specifics of the tax system, the Chamber of Mines highlighted the need for sustained energy supplies from Eskom, adequate infrastructure and transport facilities in line with the industry’s export needs (DME, 1995: 21 – 23). “The continued well-being and international competitiveness of South Africa’s mineral industry is therefore dependent on productive internal competition in respect of mineral exploitation and the provision of mining related services” (DME, 1995: 23).

coordinating role rather than state functions being split across several different bodies (DME, 1955: 73). “The DME should also promote the industry’s interests in relation to other departments and agencies of the government” (DME, 1995: 75).

The passing of the Minerals and Petroleum Resources Development Act (MPRDA)³¹ into law was despite remaining concerns by the mining sector (CMSA, 2004b: 3; Business Day, 2007d: 2; Financial Mail, 2005a: 44). Even as an improvement on the original document, industry representatives list three key aspects of the MPRDA still considered unsatisfactory: (i) lack of clarity; (ii) level of ministerial discretion and its effect on the allocation of property rights; and finally (iii) the act contained no direct route of appeal (only a procedural review by the department) to the high court on departmental decisions (CMSA, 2004b: 7; see also Business Day, 2007d: 1 – 2; Financial Mail, 2005a: 44; Business Day, 2005b: 15; Financial Mail, 2007: 35 – 40).

Each of these areas of concern was for good reason. They each have tremendous implications on the functioning of the mining firm in the South African market. In terms of (i), this would impact upon access to information and transactions costs (Coase, 1937; 1988a; 1988b; Williamson, 2005; 1975; Milgrom and Roberts, 1992). Greater control by government and a change in the property rights structure in terms of (ii) would decrease the mining firms’ autonomy and freedom of transaction (Financial Mail, 2007: 35 – 40). A move towards state discretion particularly changes the rule-of-law prevailing within society. Pejovich (2001: xv) explains that the “rule-of-law” determines the incentive structure of the ruling party to “satisfy preferences of the median voter on key issues”. As expressed in Chapter 2, “the further a country travels away from the rule-of-law the greater the power of the ruling group to reallocate property rights to their supporters” (Pejovich, 2001: xv; see also Benson, 1994a; and Hobbes, 1951). Finally concern (iii) follows on this argument of the rule-of-law present in society. It also brings to light the concerns of industry with respect to their power in determining their access to information and transactions costs. As referred to by Cabral (2000) and Milgrom and Roberts (1992), these two aspects of the firms’ environment can impact on what type of competitive structure develops.

³¹ Described in more detail in section 3.4.3 of this chapter.

3.4.3 Broad-based socio-economic empowerment (BEE)

The MPRDA, signed into law by the State President in June 2002 (as a Bill), and finally passed into law in May 2004, encapsulates the sentiment of industry and government to exploit mineral resources with the intent of sustained benefit to the future of the community and economy (MPRDA, 2002; CMSA, 2004d: 1; CMSA, 2004b: 3, 7; CMSA, 2004c: 19). It covers issues of “human resource development, employment equity, mine community and labour-sending community development, procurement, broad-based equity participation and beneficiation” through the Broad-Based Socio-Economic Charter for South Africa’s Mining Industry³² (Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002; CMSA, 2004d: 1; CMSA, 2004b: 4; CMSA, 2004e: 3 – 5; Business Day, 2006: 1; CMSA, 2004c: 13). In addition to these, the MPRDA covers ideals for mineral ownership, environmental preservation, corporate social responsibility, royalty taxes, corporate governance and many more (MPRDA, 2002; CMSA, 2004b; Baxter, 2005).

In 1995, the mining companies maintained that black participation in the industry should be voluntary and not through government intervention, in particular without the use of regulated quotas (DME, 1995: 27). Can one argue, however, that the percentage of BEE ownership stipulated in the mining charter and scorecard are in fact quotas? If so, this then appears to be one of the arguments that the industry has lost. In July 2002, the mining charter was leaked to the media with damaging consequences – spooking investors who pulled billions of Rand from the market – the first net outflow of funds since 1995 (CMSA, 2004b: 4; CMSA, 2004e: 2; Business Day, 2005b: 15; CMSA, 2004c: 29). The leaked draft “proposed that black partners should hold 30 per cent of existing mines and 5 per cent new mines in South Africa”, interpreted by companies and investors as a “nationalisation of the industry” (CMSA, 2004b: 4; see also Business Day, 2005b: 15). This faux pas was “the catalyst that led to government and the mining industry working more closely together in determining the final charter” (CMSA, 2004b: 4; see also CMSA, 2004d: 1;

³² Published in October 2002 (CMSA, 2004b: 8).

CMSA, 2004e: 2). As with most policy design, the discussions wished to find “common ground, accommodating both business and political imperatives, and promoting transformation while at the same time not deterring investment in the country’s mining industry” (CMSA, 2004b: 4; CMSA, 2004d: 1). This, alas, has not been the outcome, as has been detailed in several media publications over the past few years (FinWeek, 2006: 64; Financial Mail, 2007: 34 – 40; Business Day, 2007d: 1 – 2; Financial Mail, 2005a: 44 – 45; Mining Weekly, 2005a: 20; Business Day 2005b: 15; Business Day, 2007i: 1).

The new charter was published late in 2002 and required that “15 per cent of mining companies’ South African assets, or equivalent in units of production, have to be held by black partners by 2009 and 26 per cent by 2014” (Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002: 9 – 11; CMSA, 2004b: 4; see also CMSA, 2002: 1; CMSA, 2004e: 2; Business Day 2005b: 15; CMSA, 2004c: 9, 30; Lilford, 2005; Ritchie 2004: 4). The stress upon ownership in mining (and other industries) by HDSAs is understood by the gold mining industry and they recognise that “the competitiveness and long-term success of the mineral industry will depend fundamentally on the development of all available human resources” (DME, 1995: 26; see also CMSA, 2002: 1; Financial Mail, 2005a: 44; Economic Trends Research Group, Unknown: 23; CMSA, 2004c: 5 – 8, 42; Ritchie, 2004; Baxter, 2005). As such many in the industry implemented training, development and career advancement programmes ahead of discussions in the 1980s (Sander, 2000; Graulich, 2005; Ramos, 2004). This, the Chamber explained, was “to create conditions in which employees of all races can compete equally on the basis of merit...and facilitate the development of disadvantaged persons” (DME, 1995: 26). The Chamber, as well as Graulich (2005), Ramos (2004) and Baxter (2005), emphasised the challenge to the mining industry was to “ensure [black persons] occupy positions of real power and discharge their responsibilities with competence” (see also Sander, 2000: 358), especially since “black ownership and participation in the mining industry is essential for South Africa’s development as a democracy” (DME, 1995: 26; see also Sander, 2000: 356 – 357; CMSA, 2004e: 1). This is particularly important for the soundness of institutions advocated by Hodgson (1994: 65). More specifically, institutions are constantly evolving but it is important that in this evolution, the “relative invariance and self-reinforcing character

of institutions” is emphasised and stressed (Hodgeson, 1994: 65). This helps maintain a relative continuity for market participants in their “costs of exchange and production” (North, 1990: 4 – 5). Without this reinforcing nature, it is likely that the trust between mining houses and government (in this study) would break down (Ostrom, 2005; Denzau and North, 1994; 2000).

This all requires a long-term approach as there are gaps in the education system, generational perceptions, and quite simply a lack of available financing and capital amongst HDSAs (Graulich, 2005; DME, 1995: 27; Ritchie, 2004: 16; CMSA, 2004c: 27, 41; Lilford, 2005). In fact, the Business Day has reported (Business Day, 2008: 2) – several years after the mining charter was established – that it still often happens that “potential empowerment partners did not have the resources to fund a purchase”. The industry and their lawyers cite this, as “an enormous stumbling block to structuring empowerment transactions” (Business Day, 2008: 2; see also Graulich, 2005; Ritchie, 2004: 16). In 2007 mining companies were still appealing the MPRDA be amended to allow companies to assist empowerment shareholders financially even though this would go against the initial spirit of good governance i.e. preventing companies from using their own income to acquire their own capital (Business Day, 2007a: 2; CMSA, 2002: 1).

A reflection of the lack of capital available to HDSAs could be proved in the fact that “the same faces keep appearing in key empowerment deals, whether it be in mining or banking...Cyril Ramaphosa, Patrice Motsepe and Tokyo Sexwale” (CMSA, 2004b: 44; see also Business Day, 2005b: 15). This is a reflection that even through changing ownership, the mining house concept has not moved far from its roots, interlinking mining with finance and other business enterprises. The mining industry feels that this is a natural progression in transfer of ownership since as competitive entities with shareholders, they are unlikely to take on partners that do not show proven track records and sound reputations (CMSA, 2004b: 44). This attitude is in line with industrial organisation theory as outlined in Chapter 2 (Cabral, 2000). As the Financial Mail reported (2005d: 14), the true value of BEE is increasingly being judged over two criteria: sustainability and distribution to first-time beneficiaries. In a harsh critique, it goes on to say “in the end, however admirable the effort, the big deals are about broadening an elite, not diluting it [and] the most profound broad-

based empowerment will ultimately come through better education and better health services, more access to housing and job opportunities.”

Surveys have shown that investors are more comfortable with companies that have met their empowerment criteria earlier than those that have yet to do so and risk being forced at the last minute to take on dubious BEE partners (CMSA, 2004b: 6). Even though great strides have been made by several of the larger mining groups in fulfilling BEE quotas the industry acknowledges that there are still some murky areas of interpretation that may have to be settled in court (CMSA, 2004b: 6; CMSA, 2002: 1; CMSA, 2004e: 1; Financial Mail, 2007: 35 – 40; Business Day, 2005b: 15; Financial Mail, 2005a: 44 – 45; Ritchie, 2004: 14 – 16). The financial Mail (2007: 35) has gone as far as describing the mining houses’ unease as a “fear of victimisation by the DME”. But as the same article (Financial Mail, 2007: 35 – 36) reported, Sandile Nogxina, Director-General of the DME, has said in some interviews, that any legal disputes mining houses have with the department will help to establish jurisprudence on the matter and set some precedent (Financial Mail, 2007: 36 – 38; CMSA, 2004b: 6). In 2005, the Financial Mail (2005a: 44 – 45) interviewed Nogxina about the problems of interpretation. Nogxina, surprisingly, admitted that the legislation was “designed to give government flexibility in the applications of new laws” (Financial Mail, 2005a: 45). As Dr Con Fauconnier (then president of the Chamber of Mines) aptly responded by saying that differences in interpretation have become particularly problematic especially since these discrepancies are “not only between the private sector and the DME, but between various officials within the DME” (Financial Mail, 2005a: 45).

In recent years there has been a decline in the levels of gold production as well as investment in mining operations (Financial Mail, 2007: 35 – 40). On 8 March 2007, Business Day reported that production had “hit its lowest levels since the 1922 strike” (Business Day, 2007c: 1) and one of the many reasons for this decline was “that government policy had not instilled confidence in the sector” (Business Day, 2007c: 1; see also Business Day, 2007d: 1 – 2; Business Day, 2007k: 1; Financial Mail, 2005a: 45; Mining Weekly, 2005a: 20; Business Day, 2005b: 15; Financial Mail, 2007: 35 – 40; Business Day, 2007i: 1). One of the concerns amongst investors, says Dean MacEarhern, vice president of the Foreign Investors’ Mining

Association (speaking at the Mining Week expo in September 2004), “the charter failed to distinguish between mining companies and exploration companies” (CMSA, 2004b: 14). He went on to say that the vagueness of the mining regulations and looming royalty taxes were relatively unattractive to investors [however]...security of tenure, the prospective nature of South Africa’s geology and the “use-it-or-lose-it” mineral rights approach by the government were all plus signs for investors” (CMSA, 2004b: 14; see also CMSA, 2004c: 15; Baxter, 2005). Elaborating on the vagueness of mining regulations, he raised the issue of a 26 per cent minimum BEE shareholding in the charter. “There is no guarantee that after the transition period, when all the mineral rights come under the custodianship of the state, that 51 per cent will not be the norm imposed by the state for any new rights” (CMSA, 2004b: 14; see also CMSA, 2002: 1; Business Day, 2007d: 1 – 2; Financial Mail, 2005a: 44; Lilford, 2005). In response the DME stated that there should not be any confusion as “companies will not be required to have a larger than 26 per cent black shareholding after 1 May 2005” (CMSA, 2004b: 14).

Going back to the concern of ministerial discretion, the Chamber as well as individual mining companies have raised unease about the silence on the value, if any, of empowerment transactions that took place before the promulgation of the MPRDA and related legislation (CMSA, 2004b: 44; see also CMSA, 2002: 1; Financial Mail 2005a: 44; Financial Mail, 2007: 35 – 36). While Bobby Godsell, CEO of AngloGold Ashanti, points out that the charter does mention that these transactions will be credited, it is not clear on whether they will count towards the 26 per cent or if the 26 per cent quota will be over and above previous transactions (CMSA, 2004b: 44; CMSA, 2002: 1). Also a question that has been raised on more than one occasion and not answered as yet by the DME is: Is it a case of once empowered, always empowered? In other words, what happens when the original empowerment partners sell their shares? Must other empowerment partners replace them or can the company take on any shareholders? (Financial Mail, 2005a: 44 – 45; Lilford, 2005). This all impacts upon the mining industries certainty in transacting within the market and as mentioned previously influences their transactions costs structures and the confidence of shareholders and investors alike (Coase, 1937; Williamson, 2005; 1975; Milgrom and Roberts, 1992; Rodrik, 2004).

As seen in the beginning of this section, mining companies recognised early on that there was a need for empowerment of HDSAs (CMSA, 2002: 1; Financial Mail, 2005a: 44; CMSA, 2004c: 8, 42; Ritchie, 2004; Baxter, 2005; Economic Trends Research Group, Unknown: 23). The mining industry has thus, openly acknowledged on several occasions “the MPRDA was necessary to address the inequality of South Africa’s apartheid past” (CMSA, 2004b: 8; see also; CMSA, 2004e: 1; Financial Mail, 2005a: 44; CMSA, 2004c: 8, 42; Ritchie, 2004; Graulich, 2004; CMSA, 2002: 1; Economic Trends Research Group, Unknown: 23). Dr Con Fauconnier, then president of the Chamber of Mines, acknowledged in 2003 that the MPRDA presented challenges to the mining industry. It wished to transform the industry from an exploiter to one of further benefit and gain by: “exercising state sovereignty over mineral resources...expanding opportunities for historically disadvantaged people to enter the mineral industry and benefit from the exploitation of mineral resources, encouraging economic growth and mineral development; and promoting employment and social and economic welfare and ecologically sustainable development” (CMSA, 2004b: 12).

In an interview for the Chamber of Mines publication “Mining” (CMSA, 2004b: 2) Godsell said, “We had to attend to the distortions of the country’s racist past.” Mr Godsell explains that it was a long and involved process of negotiation between government and industry to come up with a BEE policy that suited both parties (CMSA, 2004b: 2; see also CMSA, 2004c: 5 – 12). Negotiations between the Chamber and the DME commenced in 2000 after the release of the draft MPRDA (CMSA, 2004b: 2). The second draft of the MPRDA was released in 2002 (CMSA, 2004b: 2). While many of the industry’s needs had been addressed there was still concern about the “lack of clear guidelines on the criteria to be fulfilled to ensure the conversion of old order mining rights to new order rights in terms of the proposed new legislation. There were also worries about the level of ministerial discretion in the draft, leading to fears about security of tenure” (CMSA, 2004b: 2 – 3; see also Financial Mail, 2007: 35 – 36).

3.4.4 Conversion from the old to the new

One of the main aspects of the Act was that it transferred “mining rights from private owners to the state” – this was the state’s measure to ensure rights are used and not held idly and resources are allocated efficiently amongst market participants (CMSA, 2004b: 3; MPRDA, 2002). This is often referred to as the “use-it-or-lose-it clause” (CMSA, 2004b: 3). Given that development of the new legislation has been through negotiation amongst stakeholders, it is understandable that there are still issues that some parties are not satisfied with (Financial Mail, 2007: 35 – 40). One of these issues is around the definition of the transfer of rights from private holders to the state and subsequently a change in the property rights structure within the economy (Financial Mail, 2005a: 44; Business Day, 2005b: 15; Ritchie, 2004: 16 – 17). As detailed by Dr Fred Cawood of the University of the Witwatersrand School of Mining Engineering, “at the time of the writing of the Constitution, mineral rights were classified and registered as immovable property, which is a right entrenched by the Constitution. The MPRDA gives custodianship of mineral rights to the state – not ownership. There is nothing in the Act that takes away such ownership. There is also no provision for a change in common law ownership of mineral rights, which by implication means it will still be there in some form in the future. Clarification is therefore needed on the state’s role and intervention powers as the custodian of mineral rights versus the rights of common law old order rights. As a result the Constitutional Court may at some time be called upon to clarify the differences between custodianship and ownership” (CMSA, 2004b: 13 – 14). This query has not been resolved as yet, although it may become a contentious issue if allegations of expropriation come to the fore and challenge the legislation and DME (Financial Mail, 2007: 35 – 40).

As illustrated above, mineral ownership until 2004 was predominantly in the hands of the private sector (Kaplan, 1985; Webb, 1981; CMSA, 2004b: 12 – 14; MPRDA, 2002). The MPRDA effectively transferred custodianship of all mineral resources into the hands of the state (MPRDA, 2002; CMSA, 2004b; Ritchie, 2004: 4; Baxter, 2005). The new mining charter attaches the dual goals of BEE and the efficient use of mineral rights. Companies are expected to reapply for mining rights

(i.e. convert from “old order” rights to “new order” rights) through the DME (Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002; CMSA, 2004b). The conversion of rights is dependent upon companies’ compliance with the BEE quotas (Scorecard for the Broad Based Socio-Economic Empowerment Charter for the South African Mining Industry, 2002; Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002; MPRDA, 2002; Business Day, 2005b: 15; Business Day, 2006; 1; CMSA, 2004c: 35; Ritchie, 2004: 4). Many overseas companies (not in the gold mining industry specifically) have taken legal action against the South African government arguing that this conversion is tantamount to expropriation (Financial Mail, 2007: 34 – 40; Business Times, 2008c: 6; Business Day, 2007e: 1; Financial Mail, 2007: 35). In addition to the BEE requirements, the charter lays out stipulations that mining companies need to meet an employment quota of 10 per cent woman and 40 per cent of their managerial staff as HDSAs within five years of converting their rights – in order to retain them (Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002: 6; CMSA, 2004b: 44). All these stipulations are in line with the state’s aims of redistribution. The state wishes to change the incentive structure of the industry, primarily by amending the distribution of the property rights amongst firms and owners, in order to provide a more equitable allocation and distribution of industry wealth to the people of South Africa (see Pejovich, 2000; Ostrom, 2005; North, 1990; Ritchie, 2004; DME, 1995; CMSA, 2004d; CMSA, 2004b; CMSA, 2005a).

According to the Chamber of Mines publication “Mining”, in order for companies to convert old order mining rights they must comply with stipulations as laid out in the annexes to the MPRDA; i.e. the Broad-Based Socio-Economic Charter for South Africa’s Mining Industry and the Scorecard for the Broad-Based Socio-Economic Mining Charter (MPRDA, 2002; CMSA, 2004b: 4; see also Business Day, 2007d: 1 – 2).³³ The charter and scorecard are not legal documents in themselves, but rather additional documents that help interpret the MPRDA (MPRDA, 2002; CMSA, 2004b: 4; CMSA, 2004e: 3).

³³ Published in October 2002 and February 2003 respectively (CMSA, 2004b: 8).

In 1995, four types of mineral rights existed (DME, 1995: 29). These included “mineral rights in respect of tribal land and owned by the state or tribes; mineral rights owned by the state; mineral rights owned by the surface owners; and mineral rights owned by mining companies” (DME, 1995: 29). Most countries (except the USA and South Africa) assume public ownership of mineral rights (DME, 1995: 29). In the case of South Africa, however, due to the unique ore bodies, it has been argued that private ownership has been the best method of property rights distribution (Kaplan, 1985; DME, 1995: 29; Sander, 2000; Feinstein, 2005; Kettell, 1982; Katzen, 1964). This is because of the great capital outlay and investment required in order to mine such deposits (DME, 1995: 30; Krynauw in Heywood, 1948: 994; The Department of Mines, 1936: 124; Feinstein, 2005: 100 – 103; GSB UCT, 2000: 62 – 63; Innes, 1984: 45; Kaplan, 1985: 50 – 51; Kettell, 1982: 31; Rosenthal, 1970: 142; Webb, 1981: 2, 13; Yudelman, 1983: 54; Fine, 1992: 14 – 16). As the DME (1995: 30) states, “ensuring the security and continuity of tenure [is] essential to investors’ confidence [in undertaking] large-scale and long-term projects.” While in countries such as Chile and Australia, state-held mineral rights have allowed for long-term high cost mineral exploitation, South Africa’s experience is slightly different (DME, 1995: 30). Under the long-term, high-cost, and large-scale mining operations required in the South African context, privately held rights are best suited (DME, 1995: 30). This draws on basic property rights theory as detailed in Chapter 2. When individuals (companies) wholly own their rights (rather than share in a common ownership), they will inevitably use a more efficient and sustainable production method [Benson (1994b), in Pejovich, 2001: 124; McChesney (1990) in Pejovich, 2001: 163; Pejovich, 2001: xvi; Coase, 1988a; 1988b: 158].

In 2004, after much muttering from the mining industry about a lack of clarity in implementation of legislation, Phumzile Mlambo-Ngcuka, then Minister of the DME, continued to reiterate “that there is room for flexibility of interpretation” (CMSA, 2004b: 4; see also Financial Mail, 2005e: 18 – 20; Financial Mail, 2007: 35 – 40). At the time industry representatives were weary of this aspect of the legislation – especially given the ministerial discretion allowed for in the Act as well as other concerns regarding the capacity of the DME to process the conversion of mining rights (CMSA, 2004b: 13; Financial Mail, 2005a: 45, Mining Weekly, 2005d: 23; Mining Weekly, 2005a: 20; Business Day, 2005b: 15; Business Day 2007i: 1;

Business Day 14 March 2007: 1 – 2; Campbell in Ritchie, 2004: 18; Financial Mail, 2007: 35 – 36). Bobby Godsell, however, spoke out by saying that “any law needs interpreting” and while this may be the case, it has proved to be a thorn in the side of both the DME and mining industry to this day (CMSA, 2004b). It is suspected that such comments as those of Godsell were more to placate investors’ jitters than a true reflection of the mining industry’s feelings about the new legislation.

In 2007 (Financial Mail, 2007: 35), Lazarus Zim, then president of the Chamber of Mines, blamed this “underperformance” by the DME as partially responsible for the drop in investment flowing into the mining industry. As reported by the Financial Mail (2007: 35), Zim’s speech “signalled the industry’s frustration at missing out on the commodities boom [and] marked a sea change in the mining industry’s attitude [towards government and changes to the mining legislation].” As Peter Leon (a partner at law firm Webber Wentzel Bowens) points out “[the mining industry] is not as resilient to government meddling as it once was” and industry sources have complained that rather than improving the situation, legislative changes have saddled mining operation with additional “red-tape” and increased costs of doing business (transactions costs) (Baxter, 2005; Lilford, 2005; Graulich, 2005; Ramos, 2004; Financial Mail, 2007: 35).

3.5 Conclusion

In the initial stages of implementation of the new mining legislation, it was difficult for mining companies to “establish clearly what was required” (Business Day, 2007k: 1; see also CMSA, 2002: 1; Business Day, 2007d: 1 – 2). This was largely the result of the extensive pieces and requirements of legislation for mining rights, BEE and so forth. This has subsequently meant increased barriers to “foreign investors [undertaking] further investments in South Africa with full confidence” in full compliance with legislation (Business Day, 2007k: 1; see also Financial Mail, 2005a: 45; Mining Weekly, 2005a: 20; Business Day, 2005b: 15; Business Day, 2007i: 1; Business Day, 2007d: 1 – 2; Financial Mail, 2007: 36 – 38). Some examples of these barriers include: BEE transactions “should be structured to comply

with both the mining charter and the trade and industry department's codes"; "the mining charter contains nine empowerment elements, all of which must be met, to enable mining companies to qualify for and maintain mining rights. The department's codes contain seven empowerment elements, which combine to create a score, depending on the level of compliance. The codes need to be met for the issue of mining licences, concessions or authorisations, for companies to qualify for the government's preferential procurement policy and to qualify for entering into partnerships with the government" (Business Day, 2007k: 1). It is therefore understandable that mining companies were being (and still are to some extent) defensive about the changes in legislation.

Included in other provisions for sustainable communities, mining companies have instigated environmental rehabilitation programmes and training for workers to enable them to find alternative employment after the closure of mines in communities (DME, 1995: 35; 46; see also; CMSA, 2004e: 3 – 5; Baxter, 2005). In the event of mine closure, mining companies believe that government "has a socio-economic obligation to assist in alleviating the consequences of sizeable downscaling or closure through a combination of counselling, training and other initiatives targeted at the retrenched and their dependents and other measures aimed at stimulating demand for labour" (DME, 1995: 46). In some instances, mining companies argue that it would be of economic benefit to the country for government to provide financial assistance to mines that have exceeded their pay limit but still contain large ore bodies of benefit to the economy (DME, 1995: 46). The benefits flowing from such mines include, foreign exchange generation, employment, community assistance and employment in upstream and downstream industries (DME, 1995: 46). This is an example of the more abstract forms of preservative behaviour by the mining companies and state. By engaging in community upliftment, rehabilitation of the environment and education, the benefits of the mining community can be extended and sustained beyond the lifespan of the mines (GSB UCT, 2000; DME, 1995; Sander, 2000, Baxter, 2005; Ramos, 2004; Graulich, 2005).

One of the largest BEE companies – Mvelaphanda Holdings – has taken big strides in extending investment into Africa and other industries (Business Times, 2008a: 1). This ironically, is in the same spirit of the original mining houses government tried to

do away with by implementing BEE legislation. Despite this expansion through international markets, Mvelaphanda maintains they are committed to South Africa and continue to invest heavily in local operations (Business Times, 2008b: 4). This seems to be an echoing of the sentiment expressed by Gwede Mantashe (then General Secretary of the National Union of Mineworkers) who noted that “local mining houses should always be free to explore offshore possibilities, although the companies have a fundamental allegiance to the country” (Mining Weekly, 2005c: 14). Both these examples appear to be in stark contrast to recent comments made by Anglo American’s chief executive Cynthia Carroll (Business Times, 2008c: 6).

While in the past Anglo had strongly supported government’s new mining policies, and indeed worked tirelessly to complete the conversion of mining rights and BEE quotas ahead of deadline (Business Day, 2006: 1; Business Day, 2005b: 15; Ritchie, 2004: 4, CMSA, 2002: 1); this article (Business Times, 2008c: 6) reported that “Anglo American...along with most mining giants, is steadily reducing its dependence on [South Africa], and the new mining regime it publicly supports is probably principally to blame...Carroll said the group has \$5 billion in approved projects for this country. This is less than half of Anglo’s total \$12 billion projects under way, and a sixth of the \$29 billion in proposed projects. Anglo’s latest annual report shows the company once known as ‘South Africa Inc’ has expanded geographically to the point where this country only contributes a third of its earnings.” This is very different to a report in Business Day (2007b: 2), more than a year ago that stressed Anglo American’s commitment to the country. It quoted Anglo American South Africa’s acting CEO, Philip Baum, as saying “[in 2006] South Africa was the largest single contributor to the global group and 42 [per cent] of Anglo’s assets were in South Africa...Anglo’s investment in South Africa would remain strong in future...with more than half of Anglo’s R6 billion of capital projects in the pipeline to be spent in South Africa” (Business Day, 2007b: 2; see also Business Day, 2007d: 1 – 2).

The changing attitude of Anglo American to South Africa could be construed as an example of the theory of industrial organisation that states firms will maximise profits under perfectly competitive conditions (Cabral, 2000). This was described in great detail in Chapter 2. Reading the discussion papers of the Association of Mine

Managers of the Transvaal (Knight, Van Essyen, and Edwards, 1942: 141), one is made aware of just how focused the mining companies are in terms of maximising production through: the layout of operations; low cost structures; and strategic labour and stores management (see also Hill in Knight *et al.*, 1942: 176; Moll, 1990: 34 – 37). Further reading reveals that, as with most industries, strategies are required to adjust to changes in labour supply and economic conditions – in the case of gold it would be fixed costs of labour, electricity and water, as well as the price of gold and the Rand/US Dollar exchange rate (Van Essyen, 1948: 351; Heywood, 1948: 959; Moll, 1990: 34 – 37). As A.S. Knight (Knight *et al.*, 1942: 195) states in his contribution, “it is axiomatic that the aim of the management of any mine is to produce the maximum amount of ore from the least number of working places, in the cheapest possible manner with due regard to the safety and health of the personnel employed.” This shows that even through the improvements of health and safety, employee benefits, community outreach projects and so on over the years, the mining companies have maintained a purely competitive and exploitative outlook in the pursuit of profits. Perhaps this is an indication to test Elinor Ostrom’s original hypothesis in a different light. Perhaps, given the nature of the South African gold mining industry, companies can only behave in an exploitative manner and as such their behaviour should rather be judged in the amount of benefit they provide the local mining community and greater South African economy.

As discussed above, the markets faced by Anglo American and Mvelaphanda Holdings are in contrast with each other. It is true that Anglo American has expanded to a greater international status than Mvelaphanda currently finds itself in and as such faces different cost structures and global strategies than Mvelaphanda. This is not to say that the exit of Anglo American from the South African mining industry is a complete reflection of the exploitative behaviour of the firm. It is simply the firm behaving in line with economic theory and maximising its returns while lowering its cost structure, in the search for the best investments. The argument stated earlier about the preservative nature of the mining industry extending beyond the extraction of resources from the ground, to the rehabilitation of the environment and preservation of mining communities still holds.

The article from the Business Times (2008c: 6) also reiterated the industry's concern that "new order rights replace clear property rights with vague laws leaving much to the whim of the minerals and energy minister" (see also Business Day, 2007d: 1 – 2; Financial Mail, 2005a: 44 – 45; Business Day 2005b: 15; Ritchie, 2004: 16 – 17; Financial Mail, 2007: 35 – 36). This has been cited as a deterrent to investment in an international poll of mining executives, conducted by Canada's Fraser Institute (Business Times, 2008c: 6; see also Business Day, 2007c: 1; Business Day, 2007d: 1 – 2; Business Day, 2007k: 1; Financial Mail, 2005a: 45; Mining Weekly, 2005a: 20; Business Day, 2005b: 15; Business Day, 2007i: 1; Financial Mail, 2007: 35 – 36). Peter Leon, a partner at law firm Webber Wentzel Bowens, is renowned for speaking out on these issues. The Business Times (2008c: 6) was not the first publication to quote his views: "what appears to be serial decline in South Africa's mining industry at a time when the world experienced its longest...commodity boom, one has to ask how this happened and more importantly, how can it be remedied? In my view, South Africa's new mining regime plays a principal role in this" (see also Financial Mail, 2007: 35 – 36). In 2007, the Financial Mail (2007: 36) reported that "the combination of hostile legislation and inefficient regulation has turned the [mining] industry away from opportunities in South Africa in favour of those elsewhere in the world [and] government's efforts to knock the industry into a post-Apartheid mould have had damaging consequences aside from international perceptions."³⁴ Examples of this have been discussed above.

One of the biggest problems is the ability of the DME to process applications (Financial Mail, 2007: 36). From the department's perspective, it has been the mining companies who have failed to submit applications that comply with legislative guidelines and that the Department's accommodating attitude in assisting companies in correcting applications is what has slowed the processing of conversion claims (Financial Mail, 2007: 36). And following from that perspective, the Director-General, Sandile Nogxina, has stated that the DME will no longer be taking the "Mr. Nice Guy" approach and only accept applications that are in compliance with regulation guidelines (Financial Mail, 2007: 36 – 37). This response, however, has managed to incense the mining community, with an increase in "legal challenges" as

³⁴ Specifically, the article (Financial Mail, 2007: 36) was referring to the loss of jobs in the industry since the implementation of new legislation.

with the “speeding up” of applications, the DME has rejected many applications – and in some cases, on “spurious grounds” according to Peter Leon (Financial Mail, 2007: 37).

As mentioned in sections 3.4.3 and 3.4.4, the mining industry feels strongly that there is a lack of clarity within the new mining rights legislation and this has created “an unpredictable regulatory environment” (Financial Mail, 2007: 37). This is not in line with the discussion of Hodgesson (1994), Ostrom (2005), Radzicki (1990) or North (1990, 2005) who advocate the relative invariance of institutions and continuity of regulatory systems. This is important for investor confidence (Rodrik, 2004; 2003) and the smooth transition between states of dynamic equilibrium (Radzicki, 1990: 61; Samuels, 1995). It is also important that certainty exists for firms in terms of their transactions costs functions and access to information from the market (Coase, 1937; Williamson, 2005; 1996; Milgrom and Roberts, 1992).

Despite the breakdown in trust, it is still felt that the industry and state still have some semblance of a good relationship and dependency upon each other (Financial Mail, 2007: 38). Both parties have acknowledged that there is constant discussion over their respective issues and therefore the historical state-capital relationship remains intact (Financial Mail, 2007: 38). One of the major issues that threaten this collaboration, is the intimation that the conversion of mining rights is tantamount to expropriation (Financial Mail, 2007: 38). The Business Times article (2008c: 6) also made suggestions of expropriation – as “Italian investors in Marlin and Red Granite last year launched their 266 million Euro expropriation claim against the [South African] government, under the World Bank’s dispute settlement facility, and a flood of similar cases may start” (see also Financial Mail, 2007: 35). Government has continued to reject these statements by explaining that “legislation amounts to a conversion of rights, not expropriation [and] if a company meets the new requirements for rights, they automatically convert” (Financial Mail, 2007: 38). Furthermore, the DME has stated that if after 2009 (the deadline for conversion), companies still believe that expropriation has occurred, they may “claim compensation” (Financial Mail, 2007: 38). Leon (in Financial Mail, 2007: 38) believes that the case for “expropriation has probably increased rather than diminished” and would in all likelihood be fought within the Constitutional Court.

This would mean that if the finding of the court was in favour of the mining company, it would be applicable to all converted mining rights as it would form part of a constitutional issue and amount to “billions of Rands” in compensation (Financial Mail, 2007: 38).

In the 2004 Chamber of Mines Annual Report – “Preserving the Future” – the mining industry emphasises the preservation of mining and the economy through initiatives such as infrastructure for health care, local community and economic development, “funding business against crime, the business trust and tertiary education” (CMSA, 2004f: 16 – 17; Ritchie, 2004; Graulich, 2005; Baxter, 2005). “The mining industry has been at the forefront of empowerment with 34 deals worth around R16.8 billion being concluded between 2001 and 2003. There has also been progress with employment equity, woman in mining, procurement from HDSA companies and skills development” (CMSA, 2004f: 43; see also CMSA, 2002: 1; Ritchie, 2004: 2; CMSA, 2004e: 1). As long as conglomerates invest in South Africa it can be seen as preservative. If, however, their long-term plans are to leave and sever ties completely, then they could be considered to be exploitative. One needs to take account of the attitude towards the country’s development and the types of multiplier and legacy effects their business has.

Although the charter and scorecard provide additional information and clearer guidelines about the requirements of companies in completing the conversion of mining rights, the Chamber of Mines of South Africa still maintains that implementation of the legislation is not crystal clear (CMSA, 2004b: 8; Financial Mail, 2005a: 44; Business Day, 2005b: 15; Ritchie, 2004: 16 – 17). They therefore continue to lobby government for amendments to the original MPRDA. In 2004 there was optimism by certain representatives, like Bobby Godsell, who felt that should mining companies need help with the process, government would gladly oblige (CMSA, 2004b: 8). This was reiterated by Roger Baxter [quoted in Business Day (2005b: 15)] as saying that “while the process of conversion appears to have been relatively slow, it is not just the charter but a number of other requirements that need assessment – such as the social plan, mining plans, environmental plans, and so on.” Baxter went on to say the process was still in its “infancy” and is a continual “learning process, with both companies and the minerals and energy department working

towards developing and improving systems” (Business Day, 2005b: 15; see also Financial Mail, 2007: 40). Furthermore, “while hiccups are possible, the industry, through the chamber remains committed to working with the department to ensure the new system works and that the original intents and principles prevail” (Business Day, 2005b: 15).

At the time, it appeared that government shared this view. As time has progressed and the deadline for conversion looms closer, however, perceptions and attitudes have changed (Financial Mail, 2005a: 44 – 45; Financial Mail, 2007: 35 – 40). Godsell believes that while the spirit of the law and empowerment is good, the focus on the level of equity is perhaps a bit disproportionate; i.e. 15 per cent and 26 per cent BEE shareholdings are not hard tasks for the large mining groups, but the smaller and junior mining ventures are expected to have the same levels (CMSA, 2004b: 8). This goes back to previous comments about the availability of finance for prospective BEE shareholders. The charter states that the “the industry agrees to assist historically disadvantaged South African companies in securing finance to fund participation in an amount of R100 billion within five years” (Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002: 11). Despite this provision there is still doubt in the industry’s mind that BEE shareholders will be able to access sufficient financing (Graulich, 2005; Lilford, 2005; CMSA, 2004b: 8; CMSA, 2004c: 27, 41; Ritchie, 2004: 16 – 17).

The Chamber and state alike see the mining industry as a national asset that needs to be utilised optimally (CMSA, 2004e: 1). Thus it has been argued by the Chamber throughout policy and legislation negotiations, that “preservation and sustainable growth of the mining industry” is paramount (CMSA, 2004e: 1 – 5). This will only be achieved through the maintenance of the rule-of-law, assurance of the security of tenure, stable transactions costs and the relative soundness and invariance of institutions (Pejovich, 2000; Hobbes, 1651; Benson, 1994a; Hodgson, 1994; Coase, 1937; 1988a; 1988b; Williamson, 1975; 1979; 1985; 2005; Ostrom, 2005). As stated by Zoli Diliza, then Chief Executive of the Chamber of Mines, in a media release (2004d: 1 – 2): “The critical issue facing the mining industry today is to ensure that the minerals policies spearheaded by South Africa should comply with the highest standards of administrative justice, promote internationally acceptable levels

of security of tenure and ultimately promote an environment that would enhance South Africa's competitiveness as an investment destination...The charter represents a compromise solution, and not all parties were entirely happy or entirely dissatisfied with the outcome...From the Chambers perspective, much of the Charter makes business sense and over the longer term, the emergence of a more inclusive mining industry will actually reduce the sovereign risk profile of operating in South Africa. The charter also recognised that it was not the government's intention to nationalise the industry, that the transfer of ownership would take place in a transparent manner and at fair market value and that the targets established in the charter represent what is practically achievable without value leakage from existing companies...As expected, the mining sector has been the focus of significant policy reform over the last few years. The time is fast approaching where hopefully the suite of mining policy reforms will be complete and the practical application of the new laws and regulations will start to take effect. It is only once mining companies have been able to re-register their rights under the new system that all parties, including investors, mining companies and the government will be more comfortable with the new paradigm. For its part, the [Chamber of Mines] continues to be a key conduit through which the industry engages with government and the other social partners to ensure that the suite of mining policy reforms will not only work but also enhances South Africa's international competitiveness." Therefore, it is paramount that the state communicates more effectively to industry that BEE quotas are not implemented within a vacuum and at the expense of other equally important outcomes and goals of this major South African industry.

Another statement by the Chamber in 2004 (CMSA, 2004e: 5), illustrates the preservative attitude of the industry and points to sustainability being "crucial" to mining companies in their pursuit of social-environment orientated goals. It was the King II Report that listed "corporate governance [as] a major driver for sustainability reporting [and recommended] that every company should report at least annually on its social, transformation, ethical safety, health and environment management policies and practices" (CMSA, 2004e: 5; see also Baxter, 2005). Further, the industry has leveraged their arguments with the facts that "it is only a vigorous and profitable mining industry that can deliver on its accepted transformation obligations" (CMSA, 2004e: 7).

Chapter 4

The state perspective

4.1 Introduction

The role of the state has been debated by economists and academics for centuries. In his work on the Anglo American Corporation and their role in the development of the South African economy, Duncan Innes (1984: 41) states: “one of the most important economic roles which the state comes to play in capitalist society [is] that of securing the conditions for the expanded reproduction of capitalism even – and especially – when particular capitalist groupings are on the point of destroying themselves.” (See also Fine and Rustomjee, 1996: 38). In other words it is the state’s role to develop optimal policy to monitor and regulate economic development (Fine and Rustomjee, 1996: 19; Ostrom, 2005: 238). In their work on the mineral-energy complex, Fine and Rustomjee (1996) argue the role of the state is particularly important for the interpretation of the “evolution of industrial and other economic policy and its impact” (p19) and is “a crucial factor in economic development” (p24).

Fine (1992: 15) goes into further detail by explaining that the role of government is much more emphasised and important in terms of mining and access to mineral-bearing land than say, their ability to control general manufacturing activities. This also raises the issue of the relationship between state and capital. As Fine (1992: 24) elaborates: “For the mineral sector, the role of access [to]...property containing the resources, or the mechanisms for controlling such access along the chain of provision is critical.” Fine and Rustomjee (1996: 10) believe the “integration between the state and the private, group producers” is so close and historic that it is “entrenched institutionally” in the operation of the South African economy. In their study, Fine and Rustomjee (1996: 92) also show how the interaction between the state, private mining capital and the financial sector steered the development of the structure and location of various sectors of the economy. The process of industrial progress in

South Africa therefore was heavily reliant on this symbiotic relationship between the state, state corporations and private capital (Fine and Rustomjee, 1996: 223).

Yudelman (1983: 7) suggests that South Africa was in fact a forerunner in the extent of symbiosis between state and industry and an example of what this collaboration could achieve. He (Yudelman, 1983: 7) goes on to specify what made this relationship so unique and successful included “three central characteristics...Seen in combination, they explain a good deal about the early maturation of the state–capital relationship: 1. The unusual concentration and homogeneity of capital resulting largely from the peculiar nature of the mining industry, and of the gold mining industry in particular; 2. The unusual concentration of political power in the hands of the minority group – the Afrikaners – which was relatively impermeable to direct infiltration by capital; and 3. The extremely divided nature of the working class, which was split, not only on race, urban-rural, and skill criteria, but was also composed largely of (black and white) migrants.”

Until the late 1870s many regard the state as pre-capitalist and in some instances feudal. Kaplan (1985:62) explains that “commensurate with this polity...certain statutes and resolutions enacted by the Volksraad prior to 1875 exhausted themselves on single fact situations.” After 1871, however, with the growth of the gold industry, “the institutions of the state underwent continual reform in an attempt to cope with and regulate the rapid transformation of the economy and congruent with the crystallisation, legislation tended to assume a more ‘law-like’ form” (Kaplan, 1985: 62). Congruent with this Kaplan (1985: 63) goes on to say “the various legislatures revising and amending the gold law, and especially the ZAR [Zuid Afrikaanse Republiek or South African Republic] Volksraad, appeared to rely fairly heavily on the proposals and draft amendments of commissions and select committees appointed for such purpose.”

These constant changes to the gold law are an indication of the dynamic equilibrium that exists within an institutional framework. As discussed in Chapter 2, equilibrium can only hold “when all of its actual states equal their desired states, simultaneously” (Radzicki, 1990: 61). Given that the institutional points of reference are in constant flux, and the state of equilibrium is a moving goalpost in many respects,

Hodgeson (1994: 65) emphasises the importance of the “relative invariance and self-reinforcing character of institutions” (see also Atkinson and Reed, 1990; Boulding, 1980; Daly, 1980; Chase, 1985; Georgescu-Roegen, 1980; North, 1990; Knight, 1957; Parsons, 1957; Radzicki, 1990; Samuels, 1995; Swaney, 1985; and Veblen, 1898).

From 1885 onwards, commissions like those mentioned above, often composed of different people who were not necessarily motivated by common principles, continually altered the gold law. Prior to 1900, Kaplan’s study (1985: 64) shows little evidence of substantive reports. Accordingly, reports appeared to be brief and contained minimal insight into the rationale behind motivations and principles guiding the commissions’ draft amendments. The weight of influence carried by the public, the Chamber of Mines, the mining commissioner, and even prominent figures in the legislatures (such as Burgers, Kruger and Smuts), in shaping the mining titles and gold law is therefore unclear (Kaplan, 1985: 64). This early development in the gold law as described by Kaplan (1985) suggests the immaturity of the state and legal system at the time. The state, it appears, was not adequately equipped with the expertise and information needed to design an optimal policy to allocate the resources of the ZAR (Ostrom, 2005: 238 – 239; Acheson *et al.*, 1998; Snowdon *et al.*, 1994; Levačić, 1976: 5; Beenstock, 1980: 5). By establishing commissions of enquiry in order to better amend the legislation, the state does, however, show an understanding of the need for collaboration and communication in the evolution of institutions, as discussed in Chapters 2 and 3 (Denzau and North, 1994; 2000; Ostrom, 2005).

The original laws regulating mining activity in the Transvaal were essentially employed to regulate gold mining (despite their reference to precious stones) and have come to be regarded as the “gold law” (Kaplan, 1985: 2). Kaplan (1985: 1 – 3) explains that this expression has been adopted by the courts and legal writers as convenient shorthand for the 1871 law¹ and has been applied to successive enactments governing gold mining. The gold law regulated the mining of precious

¹ By 1870 the Volksraad had only introduced the most cursory legislation to regulate the mining of minerals. This was without any provisions specifically being made for the mining of gold deposits. The first payable gold deposits were found in 1871 and in October of that year, Law No 1 of 1871 was passed ‘to regulate the discovery and govern and control the fields where precious stones and precious metals had been found (Kaplan, 1985: 1 – 3).

stones, base minerals and the grant of trading and industrial rights on mining ground (Kaplan, 1985: 6). From 1908, these various forms of grants were collectively referred to as “mining title” (Kaplan, 1985: 7). The 1871 Gold Law was relatively short and simple and was followed by successive gold laws (Kaplan, 1985: 1 – 2). Each of these modified and expanded on the existing law. This process was particularly rapid between 1883 and 1899 (Kaplan, 1985: 3). “Significant changes were made by way of amendments and revisions every year with the exception of 1893 and 1897. Thereafter further significant changes were made to the gold law in 1909, 1918 and 1934” (Kaplan, 1985: 3).

Some researchers and historians have claimed that of all the laws within the Republic, it was the gold law that most affected the credit and very existence of the Transvaal and hence, the prosperity of South Africa (Letcher in Kaplan, 1985: 4). Between 1886 and 1898, the Volksraad made amendments to the gold law on almost an annual basis – in order to keep pace with the rapid transformation of the industry and mostly the need for larger working areas on the Rand (Kaplan, 1985:5). Again this represents the constant evolution of the institutional structure discussed above. The state needed to continually update the allocation of property rights within society in order to optimise the gains from the gold mining industry. By doing so, the state effectively sped up the natural market allocation of these rights (Snowdon *et al.*, 1994; Froyen, 2005; Levačić, 1976; Keynes, 1936; Beenstock, 1980).

From the discovery of gold in 1886, the state was heavily involved in the development of the industry through mining rights legislation, company legislation and particularly the recruitment and supply of labour (Yudelman, 1983: 19; Katzen, 1964; Kaplan, 1985: 48 – 50; Johnstone, 1976). Many studies have been conducted on the role of the state in recruiting and securing labour for the gold mining industry, as well as the relationship between the mining houses and said labour. The topic of labour, however, is beyond the scope of this thesis and thus will not be discussed in any more detail than is necessary.

As detailed in Chapter 2, Elinor Ostrom (2005: 238) uses the assumption that government officials are equipped with sufficient information about natural-resource deposits, and hence are responsible for optimal policy design and implementation.

Through the changes to the mining rights legislation the state influenced the distribution of property rights and access to wealth within society. In addition to the overarching examination of optimal policy design in the preserver and exploiter contexts (as detailed in Chapter 2), this chapter will survey the development of the gold mining rights legislation from 1886 through to 2008 in order to assess the issues of ownership, redistribution and fiscal policy. These three issues will only be discussed to the extent that they link with the mining rights legislation and more specifically the ideas of preserver and exploiter.

4.2 Foundations of development: 1870s – 1920s

4.2.1 Developing the definitions of ownership

In terms of the early ZAR Grondwet [law governing the use of land] (in accordance with Dutch law), it was legislated that the minerals under the ground belonged to the owner of the land (Kaplan, 1985: 9; Webb, 1981: 15). This prevailed until the extent of the mineral wealth in South Africa was finally explored (Kaplan, 1985: 9). According to Kaplan (1985:10), “in the absence of any state intervention, the owner of land would have been entitled to mine such land for gold without any permission from the state...a mineral lease from the owner would have entitled the lessee to mine.”

During the 1860s and 70s, the ZAR Volksraad made alterations to this, ensuring “the policy of state control of mining” and therefore by the time the Witwatersrand goldfields were proclaimed, “the right of mining for precious metals rested in the State” (Kaplan, 1985:10). By this the state “not only [wished] to divest the owner, but to invest the government...with the general control both over the working for gold and also the surface over the proclaimed gold field” (Kaplan, 1985: 10). As Kaplan (1985: 12) goes on, it is the “right to mine” that is conferred upon the state and not the “ownership of the unreserved precious metals themselves”. The gold law thus entitles the state to grant the right to mine to third parties.

The state soon became aware of the lack of expertise, motivation and capital amongst the Afrikaner landowners on the Witwatersrand and so amended legislation to include provisions of license and control (Kaplan, 1985: 13). This meant the ownership of the minerals was separated from ownership of the land as soon as the mineral right holder (having obtained the right to mine from the state) had severed the minerals from the ground (Kaplan, 1985: 13 – 15; Webb, 1981: 15). Hence the right to mine could be transferred to a third party by the state. The owners of such rights could then sell or lease these rights to other interested parties by way of contract (Kaplan, 1985: 21 – 22). By separating the rights to land and rights to minerals, the state managed to allocate these market resources to those individuals with the greatest finance, expertise and ability to harness the most efficient outcomes and productivity for the development of the Rand and subsequently, the South African economy. As discussed in Chapter 2, the effectiveness of institutional functioning is dependent upon the allocation of property rights. Pejovich (2001: xv) details that property rights (and informal and formal rules) need to be enforced sufficiently to encourage “cooperation and coordination among members of the community”. Should these “rules” be too slack, or lack “credibility” and “stability”, the system will operate with higher transactions costs and fewer exchanges than under otherwise optimal conditions (Pejovich, 2001: xv; see also Williamson, 1979; 1975; 1985; 2005; Coase, 1937; 1988; 1992; Milgrom and Roberts, 1992; North, 1990; 2005; and Ostrom, 2005).

In order for the state to issue a “right to mine” or “mining title”, however, the affected land had first to be proclaimed as a goldfield (with some exceptions) (Kaplan, 1985: 26). This was first regulated in the 1875 Gold Law even though this had been practised by the state prior to legislation (Kaplan, 1985: 26). The management of these operations was vested in the mining commissioner, who had certain powers conferred upon [him] by the state (Kaplan, 1985: 27). The various forms of mining title and claims determined the split of profits from operations between the state, landowner, mineral right holder and the holder of the mining title (Kaplan, 1985: 18; Webb, 1981: 210).

The rights assumed by the state under the gold law extend only to the mining and disposing of gold. At no stage, other than under the 1883 Gold Law, did the state

assume ownership of or the right to the gold and other precious metals in the land (Kaplan, 1985: 22). However, as Kaplan (1985: 22 – 24) points out “if the state has not assumed dominium in the gold or the rights to it, it cannot, confer such rights upon the holder of a mining title under the gold law...such rights are treated as distinct from the dominium of the soil, they are vested in and disposed of by the state, and are exercisable and enjoyed quite apart from the... ownership of severed gold”. In general the Volksraad was reluctant to change or remove the common-law rights regarding land and mineral ownership from the “Burghers²” (Kaplan, 1985: 69 – 71).³ Kaplan (1985: 42) deduces that because the Volksraad was made up mainly of landowning Boers, the interests of those holding gold-bearing farms were given preference, and often with irrational consequences. One should bear in mind the Boer landowners who petitioned the Volksraad for amendments to the gold law did not represent the entire class of Boer landowners – generally only those “directly and potentially affected by gold mining” (Kaplan, 1985: 42). The behaviour of the Volksraad in the early development of mining rights legislation is an indication of the importance of the Boer landowners to maintaining the power held by the Volksraad within the ZAR. Initially, the Volksraad seems to have believed that they could satisfy the proletariat’s needs, as well as develop the gold mining industry for the greater economy. As mentioned above, however, the state eventually had to concede that the rights to minerals had to be granted to those (mostly foreigners) with the necessary capital and expertise (Webb, 1981; Kaplan, 1985; Pejovich, 2001; Benson, 1994a; Hobbes, 1651; The Department of Mines, 1936: 124).

Shortly before the opening of the Witwatersrand goldfields, the gold law was amended to include provision for the landowner’s consent (Kaplan, 1985: 134). In the 1885 Gold Law “required that proclamation of private land by government be in concert with the landowner”, meaning a landowner could refuse the proclamation of

² Afrikaner landowners and tenant farmers resident in the Transvaal (Kaplan, 1985).

³ The majority of privately held farmland within the ZAR was in the hands of the Boers. From 1871 the operations of farmers and those of diggers and prospectors came into conflict. Early gold laws made provision to protect the rights of landowners and hence avoid further conflict through the introduction of the idea of proclaiming goldfields. Owners were thus provided with various “owners’ rights” including a share of claim license monies as compensation for the loss of their rights (Kaplan, 1985: 41).

their property and block development of the field (Kaplan, 1985: 134).⁴ The 1886 Gold Law asked that consent be “obtained if possible” but it was no longer a prerequisite (Kaplan, 1985: 134). The Volksraad appointed a commission of inquiry into the working prospects for the Witwatersrand goldfield (Kaplan, 1985: 134). The commission reported back to the Volksraad that unlike the previous goldfield discoveries in the ZAR, the Witwatersrand could not be worked efficiently by individual claim holders, especially given the scarcity of water and “expensive machinery required” [Transvaal Archives (1886), in Kaplan, 1985: 134; see also Webb, 1981: 16]. Thus it was suggested by the commission that “the opportunity be ‘first given to owners or bona-fide lessees to secure sufficient ground as to warrant the importation of expensive machinery’ ” (Kaplan, 1985:136; see also Webb, 1981: 16; The Department of Mines, 1936: 124) and being aware of the stimulus created by the influx of diggers to the local economy, recommended “the throwing open of ground lying in between the mynpachts [areas of land subject to mining title] ⁵” (Kaplan, 1985: 136).

Webb (1981: 288) describes how vital a role the Chamber of Mines played in the development of the mining rights legislation in these early years. As he (Webb, 1981: 288) describes, this integration between industry (as represented by the Chamber) and the state, was both the case for cooperation and conflict between the parties. “The greatest area of cooperation between the state and the Chamber of Mines...was in relation to the amending of the gold law and the promulgation of mining regulations” (Webb, 1981: 288). It is important to note how the government adopted the attitude of including the Chamber’s view on the drafting and amending of this legislation. It indicates a maturity that was not always very apparent – and can be seen in some examples that follow. From the Chamber’s perspective, though, as

⁴ Between September and October of 1885 the Volksraad granted all requests for owner’s rights, subsequently leaving very little gold-bearing ground for public pegging and signalling the beginning of the end of the use of the claims system within the ZAR (Kaplan, 1985: 136).

⁵ Kaplan (1985: 282 – 283) explains more clearly a distinction between titles: “In terms of the 1908 Gold Law the mynpachtbrief constituted the ‘mining title’ as such, whilst the ‘mynpacht’, although somewhat circuitously defined, was essentially an area of land. The two terms are often used synonymously, and indeed were employed somewhat loosely even in the early gold laws between 1885 and 1908.” Mynpachten, Kaplan (1985: 284) further explains, “conferred only a ‘mynreght’ [right to mine], and not rights to minerals”. This meant that the state was no longer obligated to assume the ownership of minerals prior to granting this right.

Webb (1981: 288) illustrates, it was not shy in “advising the government of changes which it considered essential for the smooth operation of the Witwatersrand industry”.

The 1898 Gold Law allowed a party to purchase mining rights directly from a landowner (Kaplan, 1985: 307). As Kaplan (1985: 307) explains, “since the land at that stage would not have been dealt with under the gold law, the state and not the landowner would have held the rights to mine for precious metals on the property, and the owner would consequently not be in a position to sell such ‘mining rights’.” Therefore one needs to assume that “mining rights” could be interpreted as either “mineral rights” or “rights to mine”, with no clear distinction between them, but this murkiness was eliminated in the law of 1908 (Kaplan, 1985: 307 – 308). The 1908 law, instead stipulated (in line with a draft ordinance in 1904) “ ‘the holder of the mineral rights’ (1908 Gold Law: Section 20(1)) on un-proclaimed private land would be entitled to obtain a mynpacht, irrespective of whether the land in question was to be proclaimed” (Kaplan, 1985: 331). This was not in the favour of Boer farmers, many of which had sold their mineral rights after the Anglo-Boer War [also known as the South African War] with the understanding that they were entitled to various owners’ rights should their property be proclaimed (Kaplan, 1985: 331). The most important aspect of this change was that “farmers could retain ownership of their land and reap financial benefit from the sale of their mineral rights to an interested party” (Kaplan, 1985: 332).

Kaplan (1985: 334) explains, however, that some uncertainty still arose with regards to the ownership of mineral rights within the law. According to Kaplan (1985: 334), since the term “mineral right holder” was not defined in the 1908 Act, it was by no means clear whether the “mineral right holder” was required to hold the rights to all minerals, or only to that precious metal intended to be mined under the mynpacht sought. This remained unclear until 1967. These changes show the fine-tuning of the institutional framework as government worked towards improving the efficiency with which the industry functioned. As incremental changes were made, so too were the transactions costs faced by both government and the firms adjusted (Coase, 1937; 1988; Williamson, 1975; 1979; 1985; 2005; North, 1990; Milgrom and Roberts, 1992). As Ellickson (1993: 1329) explains, transaction costs will be reduced with changes to the institutional framework, but do not ever fall to zero. It should be

noted here that in some instances, the changes made to institutions do not always lead to more efficient outcomes (North, 1990; 2005; Stahl (1997) in Pejovich, 2001; Ostrom, 2005). This will be discussed in more detail in the relevant sections of this chapter.

From 1903, mining titles could be granted over both state and private land, and any state land “given out under the various land settlement acts was generally disposed of subject to a reservation of the mineral rights in favour of the state” (Kaplan, 1985: 18). Up until 1903, any disposal of state land to the public was done so without the reservation of mineral rights attached thereto (Kaplan, 1985: 472).⁶ Land was therefore alienated and mineral rights upon that land were leased on an annual basis with the option to renew dependant on the state (Kaplan, 1985: 472). This provision was contained within the gold law and used up until about 1915 (Kaplan, 1985: 73).⁷ In 1920 the Mines Department reported that due to “the interests and rights of the surface owner [conflicting] so sharply with those of the prospector” [(The Mines Department Report, 1920: 7) in Kaplan, 1985: 475] settlement lands would be withdrawn from prospecting and would thus no longer be given out if it was known the lands were mineralised (Kaplan: 1985: 475).⁸ It was further recommended that rights of this sort should be granted in terms of the Transvaal Mining Leases Act no 30 of 1918 (Kaplan, 1985: 476; Department of Mines, 1936: 124).⁹ Between 1926 and 1967 any rights to mine for precious metals in respect of this “alienated state

⁶ The gold law commission of 1901 – 02 recommended these mineral rights be retained by the state and this was adopted by the Milner Administration (Kaplan, 1985: 472).

⁷ This provision remained virtually unchanged until 1912. By then, these alienated state lands (definition as per the 1967 Act) became known as “settlement lands” and formed part of the government’s white labour policy and their appeasement of the poor white population on the Rand (Kaplan, 1985: 473). The state continued its policy of reserved mineral rights beyond 1912.

⁸ With South Africa experiencing post-war (World War One) depression, coupled with the failure of the reserved minerals policy, the Mines Department believed “the only practicable way...to encourage the development of reserved minerals [was] to put prospecting in the hands of the settler himself, and to give him such an interest in any minerals found as [would] induce him to take the risks involved in prospecting” [T.A./M.M., 1910 - 1933:12 para. 25), in Kaplan, 1985: 423].

⁹ It was only in 1926, however, that the recommendation was to be contemplated seriously by the Pact government (Kaplan, 1985: 476 – 477). Kaplan (1985: 477) states the delayed bill regarding settlement lands “stood to affect approximately thirty thousand people, most of them Transvalers, and a total land area of over four million hectares.” After being inundated with petitions from farmers’ associations, the government gave up on its ideas of state mining upon alienated state lands and granted the relevant provisions in the Reserved Mineral Development Act of 1926. The act provided owners of such lands the exclusive right to obtain a mining lease, if the land proved to be mineralised (Kaplan, 1985: 477 – 478). All mining leases were granted in accordance with the 1908 Gold Law and Transvaal Mining Leases Act, with the extent of such determined by the mining leases board (Kaplan, 1985: 478). The Reserved Minerals Development Act remained in force until 1967 when it was repealed (Kaplan, 1985: 480). The 1967 Act incorporated the principles of the 1926 Act (Kaplan, 1985: 480).

land” were granted under the Reserved Minerals Development Act 55 of 1926 (Kaplan, 1985: 19). The move by the Milner Administration, in 1901 – 02, to retain greater control of the allocation of mineral rights shows a contrasted and growing maturity of the state to that of the Kruger regime. From this point on the state became more aware of the potential fiscal gains from the goldfields. This will be discussed more fully in section 4.2.3.2.

The 1908 Gold Law adopted and defined the term “mining title” as “documents of title which confer upon their holders the right to mine – as distinct from the ground upon which mining operations could be concluded” (Kaplan, 1985: 16). In addition, the definition did not include all of the various grants of rights to mine (Kaplan, 1985: 17). This was only amended in the 1967 Mining Rights and Titles Registration Act, “which defined ‘mining title’ as ‘any right to mine’...granted under that Act or any prior law” (Kaplan, 1985: 17). Kaplan (1983: 17) elaborates that before commencing operations, parties would need to apply for a mining title or “right to mine” from the state. Further “the fundamental right conferred there under would entitle the holder...to dig for gold within the vertical limits of the area specified...” (Kaplan, 1985: 17, 20). This contrasted with the law prevailing on the American goldfields, which granted the discoverer rights to that reef “in all its spurs and angles” (Kaplan, 1985: 20). The differences between the American and South African systems can be interpreted as a method for the state to retain greater control, but also as an indication of the lack of understanding of the state for the nature of the gold deposits on the Rand. It was this “vertical limitation” that spurred unrest amongst mining magnates in the lead up to the Jameson Raid (discussed in section 4.2.3.1).

The 1908 Gold Law signalled the state’s feeling that “mining rights should be dealt with independently of private ownership and that the government should retain a greater discretion as to its allocation” (Kaplan, 1985: 405; see also The Department of Mines, 1936: 124). This, along with the question of “direct revenue benefits” (Kaplan, 1985: 405) became critical under the strain of economic depression (1903 to 1909). This will be discussed in more detail in sections 4.2.3.2. The introduction of the mining lease system in the 1908 Gold Law (discussed more fully in section 4.2.2.2) was also aimed at improving the prosperity of the Transvaal (Kaplan, 1985: 407 – 408). So as the gold law evolved, the state continued to tighten

its hold on the functioning of the gold mining industry in an attempt to optimise the distribution of wealth between Uitlanders (foreigners), Afrikaner Boers and the white proletariat (mostly made up of poor whites, who no longer were able to farm – for several and varied reasons – and had moved to the Rand in the hopes of finding employment in industry) (Kaplan, 1985; Feinstein, 2005). As described by Kaplan (1985), Webb (1981) and Sander (2000), government's concerns that ownership and distribution of mining capital lay, in the majority, in the hands of foreigners, and subsequently there had been a tremendous loss of revenue and dividends to overseas shareholders.

Sander (2000: 246) expresses that this revised gold law (The Precious and Base Metals Act of 1908) “introduced the system by which the state [could] lease mineralised areas on the basis that the lessee provides all the capital to develop the mine.” This supposedly gave the citizens of the country “a direct interest in certain gold mining areas without the necessity of having to commit itself to the vast capital expenditure and risk” (Sander, 2000: 246). Given government's concerns that the Afrikaner Boers had been deprived of an opportunity to partake in the fortunes of the Witwatersrand goldfields this change in policy masqueraded as an opening for such participation (Kaplan, 1985; Webb, 1981; Sander, 2000). In reality though, Sir Robert Kotzé, then as Government Mining Engineer, designed the policy to ensure the state's improved share in profits from the industry (Sander, 2000: 246).

4.2.2 Prominent forms of mining rights and title

4.2.2.1 Mynpachten

The “mynpachtbrief” (often loosely referred to as a “mynpacht”), was probably the most well known form of mining title, and was first introduced in the 1885 Gold Law (Kaplan, 1985: 128). In his report of 1886, Rissik (in Kaplan, 1985: 286) pointed out that in order to attract the correct investor, any new form of mining title should preferably grant “a large area at low rental”, and so the mynpachtbrief was born (Kaplan, 1985: 286). Once in possession of a mynpachtbrief, owners could sell them at a price suitable to them, and still retain ownership of the land

(Kaplan, 1985: 287).¹⁰ The “mynpacht” was far more successful than any prior form of mining title and was retained in the gold law for more than eighty years (Kaplan, 1985: 282). It was only after 1908 that mynpachten were overtaken in importance by other forms of mining leases and finally no provision for further granting of mynpachten was contained in the Act of 1967.

In September and October of 1886, farms on the Witwatersrand were proclaimed under the gold law. According to Rissik [(Gold Law Commission Report, 1901 – 02: 22) in Kaplan, 1985: 297], no applications for mynpachts were denied. On 13 September 1886, the Eastern Star (Webb, 1981: 15 – 16), reported that “mynpachtbriewen had been taken out on all but two of the nine farms proclaimed and commented that this had ‘the practical effect, in many cases, of shutting up the farms as public diggings’ ” (Kaplan, 1985: 297). In 1886, the size of mynpachts was unstipulated within the gold law and subsequently whole farms could be proclaimed (Kaplan, 1985: 309). This allowed owners and lessees to secure large portions of the main reef outcrop. In 1891 provisions within the law became more specific about the extent of the area of mynpachts, and until 1908 a ratio of one-tenth of the proclaimed area could be granted (Kaplan, 1985: 309 – 310). It was seldom that the Volksraad did not proclaim whole farms (Kaplan, 1985: 309). “By 1893, when geological investigations had shown that the main reef could extend southwards under whole farms and beyond, mining companies sought to increase the extent of the mining area available via the ‘owner’s rights’ conferred under the gold law” (Kaplan, 1985: 310; see also Webb, 1981: 15). And so, along with limited control governing surface use, and low licence fees, companies coveted mynpachts over other forms of mining title (Kaplan, 1985: 309).

Companies chose mynpachtbriewe over other forms of mining title as this entitled them to the most extensive access to mineral-rich land and private property rights. Looking at Stahl’s [1997, in Pejovich, 2001: 142] classification of property rights, the allocation of private rights limits use of such land or resource to a single individual (in this case the firm) and “excludes all others from the resource”. The system of private property rights generates more wealth for the rights holder than an open-access or

¹⁰ See footnote 5.

common property regime according to Benson [(1994b) in Pejovich, 2001: 124] and McChesney [(1990) in Pejovich, 2001: 163]. McChesney [(1990), in Pejovich, 2001: 163 – 164] surmises that while the optimum system is that which evolves naturally, it is assigned and maintained through government regulation.

In 1888, mynpachts over private land became obtainable by the owner's or lessees of the respective area of land (Kaplan, 1985: 302). This was ground originally declared as a public digging but which could not be worked by individual claimholders and was thus abandoned (Kaplan, 1985: 302; Yudelman, 1983: 136). This change to the law was “consistent with the prevailing trend of encouraging mining (even of marginal areas) by granting rights to mine over large tracts...so as to warrant and attract capital investment” (Kaplan, 1985: 303). This specific provision was, however, only retained until 1895 (Kaplan, 1985: 303). Kaplan (1985: 303) points out, “it is paradoxical that it was abolished at a time when the depths of the mines being established on the Witwatersrand gave greater justification for its retention than did mining conditions in 1888, when it was first introduced.” In fact, it was the abolishment of this provision within the gold law that spurred the unrest of mining magnates and sparked the Jameson Raid (to be discussed in more detail in section 4.2.3.1) (Webb, 2005; Mawby, 2000; Marais, 1961).

The Chamber of Mines, it is assumed, motivated many of the changes to the 1891 Gold Law (Kaplan, 1985: 304; Webb, 1981: 287 – 289). The most notable of these enabled the “holder of a mynpacht to renew that mynpacht for a further period of up to 20 years” (Kaplan, 1985: 304).¹¹ The importance of this amendment lay in the promotion of certainty amongst mynpacht owners and lessees – particularly with respect to investor confidence and the security of tenure (Rodrik, 2003; 2004: 7 – 8; Pejovich, 2001). It was, however, only in 1898 that the gold law was explicitly amended (with no sign of Witwatersrand mines being exhausted) to allow for successive renewals of mynpachts (Kaplan, 1985: 304 – 305; Webb, 1981: 289). And it was only in 1908 that the gold law plainly provided for the renewal of mynpachts by individuals who had obtained a right through transfer or cession

¹¹ This was fortuitous for those who had been granted mynpachts for the minimum period of five years, as these rights would've been nearing expiry (Kaplan, 1985: 304). In the event of this, “no further mynpacht could be obtained by owners or lessees over the same area” (Kaplan, 1985: 304).

(Kaplan, 1985: 305). Prior to this it was only the original owner who could apply for renewal (Kaplan, 1985: 305). This was retained until 1967 (Kaplan, 1985: 305). In addition, amendments to the 1891 Gold Law¹² regarding the payment of license fees show the government was relatively lenient in terms of its lead times and enforcement of penalties for the violation of arrears payment stipulations and the renewal of *mynpachtbrieven*. This meant mining companies had room to manoeuvre and negotiate with the Department of Mines. This behaviour by the state indicates their understanding that it is the private sector that has more information about the business of mining and possibly the extent and nature of the reef too (Ostrom, 2005: 238; Acheson *et al.*, 1998). By leaving room for communication and negotiation, the state in many ways lessened the level of transaction costs that both the government and mining finance houses may have faced under a more stringent regime (Coase, 1937; Arrow, 1963; Milgrom and Roberts, 1992; Alchian, 1950; Williamson, 2005).

In 1894, the “werf-mynpacht” was introduced into the gold law. While this term was not specifically used in the law, it was adopted to describe “werven” [homesteads and agricultural land] that had been converted into *mynpachten* (Kaplan, 1985: 310 – 311). This development fortuitously coincided with the expansion of the first and second row of “deep-levels” (mines) and it helped secure an owner/lessee *mynpacht* prior to proclamation (Kaplan, 1985: 310). This became the favoured *mynpachten* by mining companies, as unlike the maximum ratio of one-tenth for *mynpachts*, *werf-mynpachts* had unlimited size and provided companies with greater freedom in terms of mining operations development and potential profit outcomes. Due to exploitation of the *werf-mynpacht* (for example, building of a make-shift home/township and planting a small crop of maize), and in order to protect honest farmers from being overrun by mining operations, some stricter provisions were included in subsequent gold laws (Kaplan, 1985: 311 – 322). This again shows the need for the Volksraad to constantly juggle the needs of the mining companies with those of the voting public.

¹² The 1891 Gold Law, stipulated the size of the area of owners’ or lessees *mynpachts*. It also “provided that if annual payments for the *mynpachtbrieven* were six months in arrear, demand would be made by the state in the *Staatscourant* [Government Gazette] for the arrear moneys, and also by written notice to the holder; if the arrear moneys were not paid within three months after date of publication of the demand in the *Staatscourant*, the government would “have the right to declare the *mynpachtbrief* to have lapsed” (Kaplan, 1985: 306). This too, was to be retained until 1967 and specifically allowed the government a mechanism for cancellation of the rights (Kaplan, 1985: 307).

In 1898, the second Volksraad tried to eliminate werf-mynpachten but gave in to mining capital's demands for their retention and even extended the law to include provision for "mynpachten of unrestricted size to be acquired over werven on cultivated lands, which existed before proclamation" (Kaplan, 1985: 323).¹³ Despite recommendations for the abolition of werf-mynpachten in both the majority and minority reports of the Gold Law Commission of 1901/02, the provision was retained until 1908 (Kaplan, 1985: 323 – 324).¹⁴ The momentary triumph of the mining companies over the abolishment of werf-mynpachten shows that at this stage, the state was far more concerned with the prosperity of the economy and improvement of fiscal revenues than the welfare of the proletariat. Perhaps it was the fear of further conflict, such as happened in the case of the Jameson Raid and the South African War, from the mining industry that prompted the Volksraad to retain this provision within the law (to be explored in more detail in section 4.2.3.1). The economy was still recovering from the economic recession that had gripped the Transvaal following these incidents, and the return of investors to the industry was paramount for the development of new deep-level areas (Sander, 2000).

In 1908, changes to the gold law, and the discontinuance of werf-mynpachten, caused tension between the state and mining houses to intensify (Kaplan, 1985: 328). The Chamber of Mines issued a warning to the government "stating that 'vested rights and interests [that is, contracts between the government and individuals] should not be interfered with by legislation, and the government will be well advised to avoid taking upon itself responsibilities which older countries shrink from assuming'" [(Chamber of Mines, 1907: 1xxiv), in Kaplan, 1985: 328]. As it turned out, the Chamber's fears were unfounded. The 1908 legislation introduced several new provisions, changing the nature and conditions, in favour of the grantee (Kaplan, 1985: 329). In hindsight, these changes, as well as the introduction of the mining lease (discussed in section 4.2.2.2), did not bode well for the future of the mynpacht right (Kaplan, 1985: 329).

¹³ "Werf-mynpachts were to be restricted to one-thirteenth of the size of the farm" (Kaplan, 1985: 323).

¹⁴ Between 1894 and 1898, the various gold laws only allowed for landowners to "beacon off werven, which could then be converted into mynpachten. Ordinary mynpachten could, nevertheless, be obtained by other parties, such as lessees or holders of 'mining rights'" (Kaplan, 1985: 327). For instance, a lessee was unable to obtain a werf-mynpacht directly from the government (Kaplan, 1985: 328).

Despite the implementation of the mining lease policy in 1908, by 1916, mynpachten were still the most favoured form of mining titles and the mining lease system had shown limited success (Kaplan, 1985: 354 – 355). The magnitude and structure of the Far East Rand¹⁵ reef, however, could not be adequately exploited using owners' rights and mynpachten alone (Kaplan, 1985: 354 – 355). A select committee constituted to investigate this gold bearing area thus proposed scrapping the mynpacht and replacing it with the mining lease (Kaplan, 1985: 355). According to Kaplan's (1985: 355) study, however, this was opposed on the grounds that at that stage of development on the Far East Rand, it was impracticable to implement (Kaplan, 1985: 355).¹⁶ It was only after the failure of state mining and amendments to the size of area granted under the mining lease system and profit-sharing provisions in the Transvaal Mining Lease and Mineral Law Amendment Act 1918, that the mynpacht could begin to be scrapped as the primary choice of title by companies (Kaplan, 1985: 355 – 357).

4.2.2.2 Mining leases

The term "mining lease" had been used in the Cape Colony, Australia and New Zealand for several years prior to its introduction into Transvaal legislation (Kaplan, 1985: 411). The type of mining lease implemented in the 1908 Gold Law, however, was not exactly the same as those from which it drew its name (Kaplan, 1985: 411). The preliminary idea for the mining lease system emerged in 1904 (Kaplan, 1985: 411). In 1905, H.C. Hull (Hull, 1905: 4), as a member of the 1904 Select Committee suggested that "instead of claims being disposed of, they should remain the property of the state and be given out for working on...on condition that the government receive a share of the profits...[and] a board [should] be

¹⁵ The Far East Rand was "a continuation of the main reef containing unusually rich pockets of gold bearing ore, running in a east west direction and extending a distance of about twenty miles from a point south of Boksburg" (Kaplan, 1985: 353). "The bulk of the Far East Rand was estimated to lie at depths of less than 5000 ft, with small portions at depths of over 7000 ft" (Kaplan, 1985: 354)

¹⁶ Kaplan (1985: 357) explains how the mynpacht-lease system worked: "section 2 of the Act entitled mynpacht holders to apply for additional areas contiguous to the mynpacht in order to obtain a workable mining proposition. The additional area was granted under lease, and together with the mynpacht would form a so-called joint area. Unlike ordinary mynpachten, the government would participate in a share of the profits derived from mynpachten forming part of the joint area, on a sliding scale specified in the schedule of the act, which took into account the size of the particular mynpacht involved. Furthermore, leases were only to be granted where the mynpacht had been selected as a single area. This provision was undoubtedly to avoid the mynpacht being split and selected in two portions...the possibility of mynpachts being purposely split to form two 'insufficient' workable areas in order to obtain two additional leases was thus effectively precluded."

established to determine workable areas to be granted, settle the terms of the grant and ensure that mining was continuously and properly carried on” (Kaplan, 1985: 412). One of the important advantages of this proposal was that according to Hull (1905: 4), “the state wouldn’t run the risk of being dispossessed of areas which may turn out to be very valuable”. All these points were incorporated within the gold law of 1908, introduced and adopted in February of that year (Kaplan, 1985: 412). By maintaining control of these profitable areas of the extended reef, government retained power over the distribution of rights and thus shows in this example an element of preservation. By holding onto the rights to property, the state retains the discretion to allocate rights through a leasing (transitory) system to those individuals, one would assume, who had the best expertise and capital for the development of the reef. Through this system of leases the state also achieved its goal of gaining fiscally from the arrangement.

Through the imposition of the mining lease system in the 1908 Gold Law the Het Volk Government hoped to abolish the issuance of mynpacht grants and to consolidate all other forms of prospecting and mining rights under a single title (Kaplan, 1985: 397). This, however, was only to be fully achieved in 1965 with the beginnings of the 1967 Mining Rights and Titles Act (Kaplan, 1985: 397). This was discussed in some detail in section 4.2.2.1. Unlike the mynpachtbrief and mynpacht, the mining lease was envisaged to be subject to state supervision throughout the lifespan of a mine (Kaplan, 1985: 350). Understandably, mining houses favoured the mynpacht and were reluctant to take up this new form of title.

The Het Volk Government hoped that through the new system of mining leases, they could elicit greater control over large-scale mining areas, especially in the districts of the Far East Rand (Kaplan, 1985: 351; The Department of Mines, 1936: 124). Resistance and criticism from the Chamber of Mines threatened to lead to “a boycott of the [mining lease] system” (Kaplan, 1985: 351). As described in the section on mynpachten, the mining houses favoured the mynpachtbrieven over other forms of mining title as it allowed the greatest freedom in reef and deep-level mine development (Kaplan, 1985; Webb, 1981). Kaplan (1985: 350 – 351) describes in more detail: “to the mining houses, the mynpacht constituted a foot in the door as it were, giving them entrée to a particular area by virtue of having acquired the mineral rights; under the mining leases system (as initially implemented) this prerogative

would be lost, as the state in its discretion, would decide upon the recipient of a mining lease.” However, as the Witwatersrand mining operations expanded, it became increasingly clear that areas granted under the policy of *mynpachten* were “insufficient to constitute workable mining propositions in deep-level areas” (Kaplan, 1985: 353). With the state intent on implementing its new mining lease policy it is “not surprising that the efforts of the mining houses to obtain a *mynpacht* of increased size went unheeded” (Kaplan, 1985: 353).¹⁷ Through this insight the government showed an increased understanding for the nature of the reef and its optimal development. Using Ostrom’s (2005: 238) hypothesis, one could argue that under these circumstances, the state had designed an optimal policy with the required information. As was discussed in section 4.2.2.1, though, the transition to the mining lease system could not be done in 1908, and only became the title of choice by 1916 (Kaplan, 1985: 528 – 529).

Kaplan (1985: 416 – 418) elaborates on specific elements of the 1908 law governing state control over mining: “first, state control over mining, under mining leases, was far greater than under other forms of mining title. For the first time, the state retained absolute discretion as regards allocation of mining title, with the state (in theory) deciding between competing tenders from different mining houses for the mining lease advertised. Furthermore, in terms of the 1908 Act (and as distinct from other forms of mining title which could be freely transferred) a mining lease could only be transferred or mortgaged subject ‘to the approval of the governor...’, thus extending state control over successors in title. This meant that the state could prevent any single mining house, which had acquired all or the bulk of land in a district, from monopolising the area for mining...state control was not confined to the allocation of the lease but extended to measures ensuring that mining areas would not remain undeveloped and ‘locked-up’. This was attained by way of conditions imposed regarding the satisfactory development and working of the area held under lease.”

At this juncture, it was the state’s feeling that “mining rights should be dealt with independently of private ownership and that the government should retain a greater

¹⁷ Mining leases allowed for state participation in profits [usually not less than fifty percent of profits (Kaplan, 1985: 413)] and as most deep level areas were not proclaimed for public pegging – prospectors were limited in their ability to consolidate large tracts of land under a *mynpacht* grant (Kaplan, 1985: 369).

discretion as to its allocation” (Kaplan, 1985: 405). This is not dissimilar from the “use-it-or-lose-it” clause contained within the MPRDA of 2004 discussed in Chapter 3 and later in section 4.4 of this chapter. More importantly though, the mining lease system was intended to help limit the abuse of company laws by mining houses through the flotation of companies and “vendors’ shares”¹⁸ (Kaplan, 1985: 407 – 408). It once again shows the determination of the state to take full advantage of the opportunity for development of the economy through the expansion of the reef and limit any form of rent seeking behaviour by mining firms (Cabral, 2000: 8; Atkinson and Reed, 1990: 1096; Fine and Rustomjee, 1996). This shows the state’s maturity in guarding against such opportunistic behaviour by mining companies, as discussed in Chapter 2 (Cabral, 2000: 8; Fine and Rustomjee, 1996: 56; Atkinson and Reed, 1990: 1096).

The constant consultation between state and mining companies ensured improved communication, trust and buy-in from all relevant stakeholders. The coordination and cooperation in contractual relations between these market participants helped to secure each party the lowest possible transactions costs given their respective uncertainties and limited access to information (Coase, 1937; Arrow, 1963; Milgrom and Roberts, 1992; Williamson, 2005; 1975; Joskow, 1985; North 1990; Ostrom, 2005). This improved access to information allowed the state to make better-informed policy decisions and amendments. This too ultimately lowered the set of transactions costs faced by the state. As emphasised both in Chapters 2 and 3, this constant communication between state and firm allowed a relationship based on trust to develop. This is paramount to the optimal functioning of an institutional framework (Hodgeson, 1994; Denzau and North, 2000; 1994; Ostrom, 2005).

¹⁸ “Issued to vendors as a quid pro quo for mining titles...usually constituting the basis upon which a future gold mining company was to be floated...investors also bore the bulk of the risk if the company failed, whilst the vendors would obtain the lion’s share of dividends in the event of the company’s being successful...the [gold law] commission [considered these] to be a factor adversely affecting potential capital investment” (Kaplan, 1985: 407 – 408). Despite the government’s clear distaste for ‘vendors’ shares’, they were not prohibited by the 1908 Gold Law (Kaplan, 1985: 420). “Instead, the government’s stated intention of eliminating that practice was achieved simply by stipulating in the tender notices for mining leases that vendors’ shares would not be permitted” (Kaplan, 1985: 420). In practice, however, the state relented on this provision by allowing “ a more equitable and controlled issue of vendors’ shares in respect of areas covered by mynpachten, for instance, which were subsumed under and formed part of a joint area lease provided for after 1934” (Kaplan, 1985: 420).

4.2.3 Conflict and control on the Rand

4.2.3.1 The Jameson Raid and the South African War

The Jameson Raid was the expression of much political tension between mining capital on the Rand and the Transvaal Volksraad (Sander, 2000: 143). These tensions were mainly caused by the refusal of Kruger to grant foreigners the franchise, and without this, mining magnates could not voice concerns about policy despite being expected to pay taxes and invest in the local economy (Sander, 2000: 143 – 144; Kaplan, 1985: 45 – 46, 52). In addition, mine owners were discontented with the Volksraad's lack of understanding for the nature of the reef deposits on the Witwatersrand. As mentioned in section 4.2.1 and 4.2.2.1 there were two other reasons that inflamed tensions between the mining capitalists and the state. These were the restriction of the mining title issued at the time to “entitle the holder...to dig for gold within the vertical limits of the area specified...” (Kaplan, 1985: 17, 20); and secondly, the abolition of provisions in the 1895 Gold Law to allow unlimited proclamation of titles over private land (Kaplan, 1985: 302; Yudelman, 1983: 136). As Kaplan (1985: 303) criticises, “it is paradoxical that it was abolished at a time when the depths of the mines being established on the Witwatersrand gave greater justification for its retention than did mining conditions in 1888, when it was first introduced”. The lack of franchise and increased limitations on the size and availability of mining titles, at a time when the MacArthur-Forrest cyanide process was improving the output capacity of mines, incensed the mining community (Sander, 2000: 71; 105; Webb, 1981: 266; Feinstein, 2005: 102 – 103). In economic terms, these changes meant the firms faced increased transaction costs and deterioration in the level of trust in the relationship between the state and the firm. As mentioned in Chapters 2 and 3, these two things are at the centre of optimal functioning of the institutional environment (Milgrom and Roberts, 1992; North, 1990; North 2005; Denzau and North, 1994; 2000; Ostrom, 2005; Coase, 1937, Hodgson, 1994).

It is also well known that the mining capitalists thought the Volksraad to be inefficient and nepotistic (Sander, 2000: 144). After some negotiation between parties and the growing threat of an uprising on the Rand, the Volksraad conceded to some of

the gold mining industry's demands (Sander, 2000: 145). This resolution, however, was too late and Jameson and his men had already set off towards the Transvaal border (Sander, 2000: 145). Although the conflict was short-lived, the events of the Jameson Raid (1895) played a crucial role in the lead up to the South African War (1899 – 1902) (Sander, 2000: 143 – 145; Yudelman, 1983: 20).

From 1895 the Witwatersrand underwent what Sander (2000: 157) refers to as a “severe economic depression”. This dip in the market probably acted as a mitigating factor in the raid and the following conflict of the South African War. Sander (2000: 157) describes that the depression enveloped the Rand right up to the start of the Anglo-Boer War and forced most business operations to cease until 1901. It has been said that Barney Barnato [head of Johannesburg Consolidated Investment Company (JCI)] “threatened [President] Kruger with the closure of his mines and the sale of the properties if the government did not commute the death sentences [of those being held responsible for the Jameson Raid]” (Sander, 2000: 170). Kruger gave in to Barnato's wishes, but this failed to alleviate the already tense environment and depressed investor sentiment of the economic recession (Sander, 2000: 171 – 173). At this stage the Volksraad had still failed to establish a purely local board representative of the mining industry in the Transvaal (Sander, 2000: 203). This indicates the immaturity of the state in the early days of development of the Witwatersrand. The Volksraad's lack of understanding for the need for collaboration and cooperation between these two entities ultimately meant that neither party won in the end. Looking at Benson's (1994) theory of “might takes right”, as described in Chapter 2; property rights will be allocated to the “more powerful” individuals in society and will only remain in such a distributional formation to the extent that such individuals manage to retain power (Jasay, 1994; Benson, 1989; 1990). In this case the Volksraad miscalculated the extent of their power with respect to the distribution of property rights on the Rand. The Jameson Raid and subsequent South African War illustrated that ultimately it was the mining capitalists that held the economic power on the Rand and with it the ability to have a hand in the determination of the distribution of property rights, transactions costs, information and eventually the amount of revenue handed over to the fiscus.

In the lead up to the South African War, companies and landowners alike, “had rushed to secure all rights obtainable under the gold law” (Kaplan, 1985; 397). As evidenced by the gold law commission of 1901 – 1902, “whether this war took place or not it was understood there was going to be an amendment of the gold law...owners’ rights had exceeded the limits to which they ought to have grown, and a process of cutting down was to take place” [(Gold Law Commission Report 1901 – 02: 32) in Kaplan, 1985: 397]. From the state’s side, it was felt that mining companies had abused the owners’ rights system in order to obtain as much mineral-rich property as possible (Kaplan, 1985; Webb, 1981). It was thus the state’s intention to redefine the allocation of property rights. In preparation for the imminent conflict on the Rand, the state mining engineer sent a circular to all companies in operation in order to ascertain the level of inventories, food stocks and supplies on hand (Sander, 2000: 204). The Chamber of Mines responded by meeting with government representatives and requesting that all miners (regardless of nationality) be granted protection should hostilities arise, but government refused (Sander, 2000: 204). The Chamber then countered this by requesting that mines be allowed to “export gold not required for the payment of wages and other working expenses” (Sander, 2000: 204).

The meeting dispersed and a week later the Executive Council of the Transvaal Republic published a resolution “stating essentially that government would take ‘all reasonable steps to enable the mine owners to continue their work undisturbed’ ” (Sander, 2000: 205).¹⁹ It was agreed that all gold obtained in the time of war was to be deposited with the government for safe-keeping; and out of this, enough money was to be coined to pay all working and exploitation expenses, the remainder to be repaid to the rightful parties at the end of the war after deduction of rates and taxes” (Sander, 2000: 205). This shows that even at an early stage the government was willing to change course for the benefit of the most prominent industry in the Transvaal, but also in order to secure their income. As Webb (2008) points out, this

¹⁹ All reasonable protection would be granted to all miners who wished to remain at work and respect the laws of the land. If ‘war should unfortunately break out’, all mine labourers could remain at their work on the mines, provided that the companies concerned applied for government permits to cover them. In addition, permit holders would have to take an oath binding themselves to ‘quiet, orderly and submissive’ behaviour or leave the country. In the case of war and the proclamation of martial law, miners who had taken the oath would be granted free passes enabling them to leave the country if they wished (Sander, 2000: 205).

was essentially a confiscation of gold production against some future re-payment for the courtesy shown by government in protecting the industry during the war.

Despite all conciliatory efforts by parties involved, war broke out (Sander, 2000: 205; Yudelman, 1983: 20). And in the end mining operations were suspended (Sander, 2000: 206). From October 1899, Sander (2000: 207) explains, “the mines came under the direct control of the government and a board was set up under the acting state mining engineer”. The board was responsible for supervising “the working of certain mines, including some of the richest ...on behalf of the government” (Sander, 2000: 207).²⁰ In the end, the Transvaal Republic surrendered and the British Administration took office under Milner and began transforming the Witwatersrand operations (Sander, 2000: 242 – 243; Yudelman, 1983: 20). Through the use of the gold mines, Milner aimed to accomplish: increased employment and British immigration and greater fiscal income to reconstruct the Transvaal (Yudelman, 1983: 20). This is important to note as even though it was now the British government that held power in the Transvaal, the aim of the state was still to redistribute wealth amongst society. Granted the sectors of the economy to received these redistributions were different to those chosen by the previous regime, it was still redistribution and an overriding of the market mechanism (Snowdon *et al.*, 1994; Beenstock; 1980, Froyen, 2005; Lavačić, 1976).

Yudelman (1983: 59) does acknowledge the legacy of achievements the brief period of this British occupation gave the Transvaal and hence the future Union of South Africa. He (Yudelman, 1983: 59) lists: the creation of “a modern civil service, with controls and an information gathering capacity sophisticated enough to institutionalise the relationship of the state and industry and make the competence, helpfulness and honesty of individual state officials relatively less crucial.” The Milner administration effectively restructured the civil service with respect to its dealings with the mining industry (Yudelman, 1983: 59). The new bureaucracy “was divided into a secretariat and a Government Mining Engineers’ Department”, with the latter focused on technical issues and reporting “to the relevant member of the government or executive

²⁰ Not all mines fell under government supervision and private companies enlisted the help of the police to secure these few operations and prevent the takeover by “minor government officials” (Sander, 2000: 207 – 208). As the war drew on the government tightened its permit regulations for citizens and expelled many foreigners (Sander, 2000: 212).

through the secretariat, which theoretically, would have sole jurisdiction over ‘policy’ issues” (Yudelman, 1983: 59 – 60). Over the years the Government Mining Engineer began to play an increasingly important role in the development and shaping of policy – perhaps even more so than the Secretary of Mines (Yudelman, 1983: 60).

All these changes and reforms to the functioning of the state played a crucial role in stabilising the institutional framework. While “institutional adjustment is a complex and continuous process” (Atkinson and Reed, 1990: 1096; Samuels, 1995), and is not necessarily always Pareto optimal (Foster, 1981), it does aim to make the majority better off in the long run. What becomes important in the incremental changes to institutions is that the costs of exchanges and production are minimised (North, 1990: 4 – 5). The ever maturing state was moving forward in developing the knowledge, relationships and information systems needed to create the optimal policy in regulating the gold mining industry.

4.2.3.2 Taxation and fiscal issues

As illustrated by Webb (1981: 291), in the early years of development of the Witwatersrand gold mines, companies escaped relatively unscathed in terms of tax payments to the fiscus. With only 2.5 per cent of total gold production taxed – and this only as an alternative to paying license fees – the majority of profits went to shareholders and capitalists rather than to the state (Webb, 1981: 291). At the time, this was the most lenient mining law in the world (Webb, 1981: 291).

Understandably, the mining houses and hence the Chamber of Mines responded apprehensively to the proposal to enforce any taxation, even as low as 2.5 per cent, in October 1891 (Webb, 1981: 297). Webb (1981: 297) describes how mines reacted swiftly to the proposal, upon hearing the tax would be levied on monthly output data. By 1892, the Mining Commissioner had grievances with several mining companies and their failure to submit monthly production figures, returns, financial statements, proceedings of regular meetings, and additions to capital and machinery (Webb, 1981: 297). More importantly for the purposes of this chapter, however, is that the non-compliance by mining houses was overshadowed by the incompetence of the state to enforce compliance (Webb, 1981: 297 – 298). This is a further example of

the state's immaturity in designing optimal policies. Or rather, in this case, having the skills and experience in order to support the policies set in place. Webb (1981: 298) goes on to explain that it was at this point that mines began to average monthly output in order to create a stable environment for stakeholders and standard monthly tax burden on profits. This effectively shut down the government's plans to impose the tax in the end (Webb, 1981: 299).

Despite the prior leniency, however, by 1893 the Witwatersrand had become "the chief source for revenue for the Republic, both directly from the sale of licences for mining and prospecting and indirectly through the massive increase in import duties payable on the food and mining equipment brought into the state" (Webb, 1981: 295), as well as indirect revenue drawn from concessions (Webb, 1981: 291, 295). The mining community and therefore the Chamber of Mines and media too, soon noticed the state's dependency upon mining revenue (Webb, 1981: 295). In terms of the direct and indirect contributions to the fiscus combined, it has been said that the ZAR was rather "excessive" and amounted to approximately 25 per cent of state revenue (Webb, 1981: 296). This is in comparison with an estimated contribution of 1 per cent from the equivalent industry in Victoria, Australia at the time (Webb, 1981: 296). As pointed out earlier though, this contribution was in the majority from indirect sources and thus it can still be said that the direct taxation of profits during this period of time was low in comparison with other countries (Webb, 1981: 296). These generous allowances for direct taxation of mining only lasted until war threatened the Republic in 1898 and the state chose to enforce both the payment of licence monies and the 2.5 per cent tax on profitable *mynpachten* (Webb, 1981: 291).

According to Webb (1981: 304) "the expenditure of state revenue was channelled into three main areas, namely, the development of a civil service, the construction of railways, and the equipping of the arsenal with modern military hardware." In terms of railway and military expenditure, Webb (1981: 304) believes that these remittances flowed out of the state as the majority of labour in these industries were "expatriate Hollanders and thus considered foreigners by the Boer inhabitants of the republic." This was a trying dilemma for the Volksraad as their voting public was made up of Boers and before 1895 "a large percentage of state expenditure had little direct influence on...[these] traditional white inhabitants" of the Republic

(Webb, 1981: 304 – 205). It should be noted that the future multiplier effects of spending on the development of “a more efficient civil service and the railway network” should not be discounted in the analysis of state spending (Webb, 1981: 305). Whether the state was aware of these future gains at the time it is unclear. One can only assume they were equipped with sufficient information to have designed the policy as such.

Following the downfall of the Milner administration, the Het Volk Government, under the leadership of Generals Botha and Smuts, was elected in 1906 (Hancock, 1962: 207). The Het Volk Government was very much aware of the importance of the mining industry to the economic success of the Transvaal (Kaplan, 1985: 401; Yudelman, 1983: 63 – 65). Innes (1984: 64) states that immediately following the South African War, the government raised “(above pre-war levels) [the] direct taxation on mining revenues; the increase [went] from 5 to 10 per cent of the Republican profits tax.”²¹ “Furthermore, precisely because the mining industry was to provide the backbone of capitalist expansion, it was inevitable that the state would seek to secure the bulk of its revenue from that source” Innes (1984, 64).

At the time, however, the country was undergoing one of the most prolonged and severe economic depressions between 1903 and 1909 (Kaplan, 1985: 401; Yudelman, 1983: 61). Described by Kaplan (1985: 401): “the depression retarded development of new mines, kept prospective mines standing idle and led to a number of important developing mines being shut down”. It was suspected that the situation described was aggravated by the absence of overseas capital investment and the increased tax burden from government (Innes, 1984: 64; Kaplan, 1985: 401). The Department of Mines advised that ‘if the tide of capital cannot be induced to flow again, the long continuance of depression, in spite of mineral output, appear[ed] to be inevitable’ (Mines Department Report, 1906: A1; see also Yudelman, 1983: 61 – 62).

Smuts’ government needed investment capital in order to finance state projects and repair the Transvaal after the war (Yudelman, 1983: 61). It is suggested by

²¹ This had been “legislated in 1898,[but] had never actually been collected under the Kruger regime” (Innes, 1984: 64).

Kubicek (1979: 85 and 173), that “the unfavourable political climate and the Randlords unpopularity, as well as an indifferent profit picture” sustained the lack of interest by European investors. This was in strong contrast with the substantial increase in output by the Witwatersrand mines between 1903 and 1909 (Kaplan, 1985: 402). Kaplan (1985: 402) explains the situation was exacerbated by the loss of profits through “repatriation of dividends to overseas shareholders”. It was at this time that Smuts and Botha began to realise the true extent of dependence of the state on the mining industry – whether for “revenue, foreign investment in the mining industry, [or] the ability to raise government loans abroad from financiers” (Yudelman, 1983: 61 – 62). This was the first, but not the last time that government would be faced with choosing between their dual policy goals of creating employment for poor whites and using the mining industry as the “cash cow” it was thought to be (Yudelman, 1983: 62 – 65).

Although speaking within the context of the 1907 relations between state and mining, Yudelman (1983: 69 – 83), expresses that despite the “transitory nature of [state and mining’s] friendly intercourse [it underscored] the weakness of any attempt to substitute informal friendships between government and capital for a stable, institutionalised state-capital relationship.” What materialised in the end though, was characteristic of most “bureaucratised interventionist states” i.e. “that it does not even require that government and private-sector leaders know each other” (Yudelman, 1983: 69). In other words, “the relationship between the gold mines and the state was important enough to necessitate a permanent institutional framework that would survive changes of regimes and the crumbling of friendships” (Yudelman, 1983: 69 – 70). And this is exactly what Hodgson (1994), Denzau and North, (1994; 2000) and Ostrom (2005) mean when they talk about the importance of communication and trust between individuals within the institutional context and the “relative invariance” and “self-reinforcing nature” (Hodgson, 1994: 65) thereof. While Yudelman (1983: 83) describes the symbiosis which developed between the state and mining capital in 1907 as relatively complacent, he acknowledges its achievements (Yudelman, 1983: 76 – 77). In particular, the state began to understand their need for international capital and revenue, as mentioned above; but also the constraints faced by the gold mining industry in terms of working costs and labour (Yudelman, 1983: 76 – 77). The Het Volk Government thus felt compelled to create

an environment favourable to working profits and foreign direct investment in order to fund its agenda and lift the economy out of depression (Yudelman, 1983: 77).

It was in the 1908 Gold Law with the introduction of the mining lease system that the state began to consider the opportunities for economic support through “direct revenue benefits” (Kaplan, 1985: 405). Up until then, the state had only accrued revenue from the payment of licence fees on mynpachten, claims and concessions, and not from any form of direct taxation or royalty, which even though imposed from time to time was never fully recovered (Kaplan, 1985: 405 – 406). The state’s new profit sharing arrangements under the system of mining leases, was hoped to help the future “general prosperity” of the Transvaal (Kaplan, 1985: 407). It is now that one can see the extension of the state’s intent to redistribute wealth within the economy. Prior to this the state had used property rights as its primary instrument. Now redistribution took on a fiscal focus as the state realised the wider potential for this form of reallocation of gold mining profits.

Following the workers strike in 1913 and 1914, the state realised that rising working costs on the mines and inflation were posing a threat to their main source of income (Yudelman, 1983: 125). Yudelman (1983: 138) estimates that in 1917, 50 per cent of fiscal revenue was accrued directly and indirectly from mining. The industry was still under pressure from post-World War One inflation (a global problem) and a fixed gold price (Yudelman, 1983: 137). Yudelman (1983: 137) notes that this was the first time “that mining capital had thrown itself on the mercy of the state by asking for direct subsidies”. While state assistance to mining was generally unpopular to the electorate²², the state felt obliged to intervene, however, it truly only succeeded in this economic intervention in 1921/22 (Yudelman, 1983: 125). While initially suggesting the closure of four or five mines (1918), the outcomes of the Low Grade Ore Commission and placating from the Transvaal Chamber of Mines, changed the state’s mind (Yudelman, 1983: 138 – 140). The state faced one of the most challenging policy goals – distributing wealth and supporting the economy through continuity in service delivery but also the sustainability of fiscus and in this case, the dominant

²² This unpopularity for the industry from the electorate, was driven mainly by the large dividend flows abroad and the general mercantilist thinking of the mining industry at the time (Webb, 2008; Kaplan, 1985).

revenue stream supporting the fiscus. In this instance the state took a preservative outlook by providing subsidies to support those ailing mines, probably on the assumption that their “investment” would bring rewards in the longer term.

Chapter 3 discusses the use of the “premium on gold” to momentarily revive the gold mining profits in 1919 through 1921 and provides detail of the intricacies of the arrangement between South Africa and Britain (De Kock, 1924: 254; Innes, 1984: 78 – 79; Yudelman, 1983: 141 – 142). For the purposes of this chapter, though, it is important to note that through the arrangement, companies and the state (through revenue) were able to arbitrate a rent over and above the prevailing international gold price (Yudelman, 1983: 141 – 142). It was Sir Robert Kotzé, the government mining engineer and chairman of the Low Grade Mines Commission who noted “the South African gold mines have always been looked upon as milch cows for state revenue, but that the state attitude to them had to change...The time [was] coming when it [would] be as necessary in the national interest to support and stimulate mining as any other industry...” (Yudelman, 1983: 143).

According to Yudelman (1983: 143) this admission was never made public but was discussed with General Smuts. Apparently Kotzé, known as one of the most intelligent and knowledgeable members of the Department of Mines, always saw the government’s policy as being the maximisation of revenue and employment opportunities, within the limits of continued growth (Yudelman, 1983: 143). It is interesting to consider Yudelman’s (1983: 143) point that clearly the state saw mining as its instrument and not as the simple preserve of the industry’s management and shareholders. Although Kotzé discussed the possibility of direct subsidies with Smuts to the low-grade mines, it was never acted upon and rather Smuts chose to co-opt the trade unions and remove pressure from the white labourers on mines (Yudelman, 1983: 143 – 144). This was the beginning of the integration of poor whites into the industry. The results of the 1907 and 1913 miners’ strikes had cornered the government into making some kind of meaningful amends. Government thus chose to co-opt labour in an attempt to reconcile the grievances of these white workers, while retaining favour (and a flow of fiscal revenue from) with the gold mining industry (Yudelman, 1983; Johnstone, 1976). As De Kock (1924: 239 – 240) explains, “the Union Government [derived] a considerable [amount of] revenue from

the mining industry...in 1920/21 mining revenue represented about 15 per cent of total revenue of the Union, and in 1922/23 9.8 per cent.”²³

Moll (1990: 36) expresses the preservative attitude of the state in his doctoral thesis by expressing how “the South African state has historically maintained a policy of maximising the working life of the gold mines” (Wallace and Robertson, 1951 in Moll, 1990: 36; Kettell, 1982: 133). They did so by encouraging mines to “work the poorest (average) seams possible” and this was motivated by the state’s wish to sustain the royalties from mining for the gain of the long-term national interest (Moll, 1990: 36; Kettell, 1982: 133). This was enforced through the gold mining tax formula, first implemented in the early 1920s (Moll, 1990: 36; Mainardi, 1997: 66). As Moll (1990: 36) and Van Blerck (1992: C-3) illustrate, the gold mining tax formula²⁴ allowed companies to adjust production according to the cost of inputs and the prevailing gold price (fixed until 1971²⁵).²⁶ There is very little evidence if the design of this particular formula was deliberate by the state or flawed and taken advantage of by the mining houses. Whatever the true intentions of the state, the outcome was one of preservation. The mining houses too used this formula to their advantage in maintaining relatively consistent output on a month-to-month basis, thereby retaining investor confidence and shareholder happiness (Rodrik, 2004: 7 – 8).

In 1920, the state was once again forced to take a more direct role in industry to secure its main employer and revenue source (Yudelman, 1983: 136). While, according to Yudelman’s (1983: 135) study, “the price of gold in pounds Sterling in 1920 was the highest ever...in ‘real’ terms [however]...it was the lowest price in the twentieth century.” This threatened to close the low-grade and less profitable mines.

²³ “The low figure for the latter year is to be attributed to the strike on the gold mines in the beginning of 1922 and the depression in the diamond trade” (De Kock, 1924: 240).

²⁴ The percentage of gold mining profits paid to government is equal to “ $a - b/x$ ”; where x represents the “ratio of profits to gross revenue, expressed as a percentage, and the parameters ‘ a ’ and ‘ b ’ are set by the state” (Moll, 1990: 36).

²⁵ See DeLong, 1996; Feinstein, 2005: 203; Kettell, 1982: 154 – 156; and Yudelman, 1983: 134 – 135.

²⁶ By manipulating the grade of ore extracted, mines could continue to operate at marginal levels and lower their tax burden (Moll, 1990: 36; Sander, 2000: 327 – 328; Mainardi, 1997: 66). Moll (1990: 36) shows that “when aggregated across all mines and combined with land lease and capital allowances...the amount of fine gold extracted per ton of ore milled – is inversely related to the real gold price.” In other words “the long-term supply of gold moves in the opposite direction to the real gold price” and this is evidenced in business cycle surveys of the interaction of the South African economy and the gold mining industry (Moll, 1990: 37; Katzen, 1964; Lombard and Stadler, 1980).

Yudelman (1983: 281) believes the intervention by the state at this point “firmly established” the relationship and symbiosis between the state and mining finance houses. It became a collaboration and partnership to sustain the industry and preserve its future.

In 1924, the PACT Government²⁷ came to power (Yudelman, 1983: 22 – 27; Fine and Rustomjee, 1996: 123). Members of the alliance were great proponents of both the white labour policy and state mining (Yudelman, 1983: 22 – 27; Kaplan, 1985: 530 – 531; Fine and Rustomjee, 1996: 123). There were very few in the new Cabinet, however, who had experience with or an understanding of the symbiotic relationship between state and capital (Yudelman, 1983: 219 – 220). Under the leadership of the new Prime Minister, General Hertzog, it soon became clear that private mining capital was not sufficient to provide both revenue and employment in pursuit of government policy (Yudelman, 1983: 40, 219 – 220; Fine, 1992: 20; Kaplan, 1985: 530 – 531).²⁸ Despite this realisation and changes to white labour policy, evidence shows that under this new regime, government revenue from gold mining, “as a percentage of total revenue, declined quite steadily from 8.4 per cent in 1923, to 7.2 per cent in 1924 and failed to move much above the 6 per cent mark for the remainder of the 1920s” (Yudelman, 1983: 28). As Chapter 3 showed, this was mainly due to rising working costs, post-World War One inflation and the fixed price regime (Innes, 1984: 76; Yudelman, 1983: 137). While mines were able to extract some surplus through arbitrage on the premium on gold, this was a short-term solution (De Kock, 1924: 252; Innes, 1984: 78 – 79). The decline in profits helped greatly in deterring any hope the state had of accomplishing its white labour employment goals on the gold mines (Yudelman, 1983: 39). And so through economic circumstances the

²⁷ In 1924, General Jan Smuts (leader of the South African Party, which had absorbed the Unionist Party in 1921) called a general election. As Yudelman (1983: 22) describes: “The South African Party polled the most votes (47 per cent against the National Party’s 36 per cent), but the larger electoral weight given to the rural constituencies – increasingly the National Party’s stronghold – more than counteracted this difference. The South African Party lost 19 seats and the National Party emerged with 63 seats compared to the South African Party’s 53. The Labour party, with 18 seats, was very much the junior partner in the new Pact government.”

²⁸ Under the previous government, the Status Quo Agreement had been enacted to ensure mining companies continued to employ semi-skilled and unskilled whites (Yudelman, 1983: 40). While these jobs were ‘superfluous’, they did amount to a subsidised labour policy (Yudelman, 1983: 40 – 41). After 1922, the agreement was scrapped and replaced in ideal by the PACT Government’s “civilised labour policy” (Yudelman, 1983: 41). The civilised labour policy was not enforced upon the mining industry however, as the state regarded their revenue generation as more important (Yudelman, 1983: 41).

state was forced to change policy and in so doing further showed preservation as their primary attitude towards the mining industry. While there has been limited research and analysis done with regards to an appropriate level of taxation of the South African gold mining industry, it is felt that the level of taxation of the mining industry, as discussed above, was not extensively exploitative. As has been commented by several authors (Yudelman, 1983; Innes, 1984; Kaplan, 1985; Sander, 2000; Moll, 1990; Feinstein, 2005), almost regardless of the revenue skimmed off by the state through taxes, the mining industry performed well and managed to sustain relatively consistent and meaningful levels of profit and dividends for shareholders.

4.3 The gold standard and a changing political structure: 1930s – 1980s

4.3.1 Redistribution and economic development

As detailed in Chapter 3, the Wall Street crash in 1929 stimulated what was going to become a significant change in the mining industry as well as government strategy and revenue. The devaluation of Sterling following Britain's decision to leave the gold standard, coupled with South Africa's decision to remain on the standard, soon meant South Africa was unable to trade with its partners (Sander, 2000: 319; Feinstein, 2005: 94 – 95). By remaining on the gold standard, South Africa's currency had become overvalued in terms of British Sterling (Sander, 2000: 319). After much lobbying by industry and the agricultural boards, Hertzog folded on his cause for national pride and announced South Africa's removal from the gold standard in December 1932 (Sander, 2000: 319 – 321). As a result, profits surged with the readjustment in exchange rates to the price of gold (Cooke, 1969: 3; Feinstein, 2005: 104, 166; Innes, 1984: 129; Sander, 2000: 316 – 321; Yudelman, 1983: 41 – 42, 250 – 251).²⁹

²⁹ The strategy chosen by Hertzog to remain upon the gold standard until put under pressure by lobbyists incited a change in the political power base (Sander, 2000: 320; Yudelman, 1983: 27; 251). Led by General Jan Smuts, the South African Party entered negotiations with the National Party (led by Hertzog) and following election in May 1933, merged to form the United South African Party (more

In 1933, the new government chose to implement a “special excess profits duty”, which like the gold mining tax, was aimed at sustaining marginal mining operations (Feinstein, 2005: 105; see also Innes, 1984: 129; Katzen, 1964: 55; Sander, 2000: 320 – 327; Yudelman, 1983: 135, 252). By 1934 the price of gold had risen by 45 per cent (Sander, 2000: 321; Yudelman, 1983: 251). Feinstein (2005: 105) explains that through the support of the government, companies were able to exploit new and deeper sections of the reef as well as reprocess tailings dumps that would in other circumstances be unprofitable ventures (Sander, 2000: 317; The Department of Mines, 1936: 131; Yudelman, 1983: 252). Sander (2000: 320 – 321) describes how abdicating from the gold standard encouraged a new wave of exploration and prospecting on the goldfields (see also Yudelman, 1983: 251 – 252).

As briefly noted in the previous section, government taxation policy was to extend the life of mines through the encouragement of low-grade ore extraction when prices increased and/or working costs declined (Sander, 2000: 327; Moll, 1990: 36; Mainardi, 1997: 66; Kettell, 1982: 133). In addition to sustaining mining policy, government used revenues from the gold mining industry to create state corporations [Iskor (steel) and Eskom (electricity)] and subsidise agriculture and protect domestic industry (Fine and Rustomjee, 1996: 123). As Fine and Rustomjee (1996: 125) explain: “the policy of remaining on the gold standard, as an act of independence from Britain after it had abandoned gold in 1931, proved so disastrous that it had to be dropped even though this boosted gold mining profitability in particular. Indeed, with the pressure of the pay limit system to ensure the full working of poorer ores when the gold price was higher, it can be argued that policy was directed to prolonging mining capital rather than allowing the maximisation of immediate returns, because of its continuing importance in sustaining other government objectives. Government policy cannot be read off from political power irrespective of the specific economic conditions involved.”

Therefore in the case of the gold standard, one can only argue that government took the preservative approach as far as revenue was used to benefit the wider economy.

commonly known as the United Party or the Fusion Government) (Sander, 2000: 320; Yudelman, 1983: 42).

What seems more plausible, however, is that Hertzog's decision to remain on the standard, for such an extended length of time, and in contradiction of global developments, is an indication of the greed on the part of government. The wider economy suffered more in lost trade and commerce, than it gained from the siphoning of inflated gold mining revenues by government. The windfall gains that followed the leaving of the standard were quite possibly unforeseen by both government and industry and as such cannot be classified as "optimal policy design" under Ostrom's (2005: 238) hypothesis. Yudelman (1983: 252) describes that under the new tax regime, gold mining profits went from contributing 8 per cent of total fiscal revenue in 1932 to 33 per cent in 1933. Fine and Rustomjee (1996: 124 – 125) highlight in their discussion that "the taxation of gold mining, whether directly or indirectly...is indicative of dependence [by the state] on and not dominance over mining, especially after the rise in gold prices when heavy profits were to be made". Dave Kaplan (1977: 157) goes further to express that "the excess profits tax on gold mines in the 1930s reveal there was give-and-take in the amount appropriated by the state". Some examples of these include the co-optation of white labour (Fine and Rustomjee, 1996: 123 – 124; Innes, 1984; Yudelman, 1983; Johnstone, 1976); the design of the tax formula (Moll, 1990; 34 – 36; Van Blerck, 1992); "the definite limits of the tax yields [from gold mines] for...five years" (Fine and Rustomjee, 1996: 125). Contrasting this Kaplan's study [(1977: 270) in Fine and Rustomjee, 1996: 134 – 135] shows that in the 1930s "companies whose principle business was gold mining were taxed 4 [shillings] in the pound on all profits earned on non-mining activities [as] compared with 2 [shillings and] 6 [pence] in the pound taxation rate on all other companies."

In addition to the tax formula, government ensured sustainability of mining through the lease system (Kettell, 1982: 183; Yudelman, 1983: 260; The Department of Mines, 1936: 124). According to the legislation "mines are bound by law to mine ore to the average value of their ore reserves, i.e. they are forbidden to mine only rich ore and leave poorer but economically viable ore behind" (Kettell, 1982: 183; see also The Department of Mines, 1936: 124). As Kettell (1982: 183) explains, "this ensures that all the gold is extracted that can be, but it also facilitates the estimation of recovery grade for evaluation." As shown in Chapter 3, this is influenced largely by any changes in working costs and the gold price. According to Sander (2000: 327 –

328), these policies showed an understanding by government of the need for sustainability of the non-renewable resource, as well as the need for stability in the industry – primarily for investor confidence and to avoid a speculative boom in the stock market (see also Yudelman, 1983: 259 – 260). It can thus be argued in this case that policy design was optimal in preservation

In contrast to the thoughts of Moll (1990: 36) and Sander (2000: 327), Feinstein (2005: 108 – 109) believes that government exploited gold mining strategically to further the development of the country's economy (see also Katzen, 1964: 55; Yudelman, 1983: 42; Fine and Rustomjee, 1996: 123 – 135). While saying the royalties and taxes paid to government proved critical to development, Feinstein (2005: 108) also criticises that these taxes were “discriminatory, in the sense that they were levied at special rates not applicable to other industries”. As Kettell (1982: 133) notes: by extending the life of mines, the state effectively extends the lifespan of their income stream, not to mention the industry's contribution to employment levels and the balance of payments. In addition, as seen above, government significantly increased the tax burden in 1933 in an attempt to appropriate part of the windfall profits from the currency devaluation (Feinstein, 2005: 108; Katzen, 1964: 55; Fine and Rustomjee, 1996: 123 – 130). Taking Feinstein's (2005) attitude, one can argue that while the idea of taxing the industry is more for argument of exploitation of the industry, the use of such revenue can swing the argument towards preservation. By using fiscal revenue to improve infrastructure in other sectors and distribute wealth to those sectors which will aid in creating economic growth, government effectively preserves the value of gold mining for the broader population, even if not the actual resources. This is an important distinction that was discussed in Chapter 2. It is conditional upon the definition of preservation and exploitation in the context of a non-renewable resource such as gold.

Furthermore, in 1935 another surtax was implemented on the profits of the gold mines and thus by 1936 Feinstein (2005: 108) states that “total government receipts from mining were approximately twelve times larger than in 1913, whereas the value of the gold produced and the dividends declared had only doubled.” This suggests that government had found a better policy design to preserve the excess profits extracted from the gold mining industry for redistribution and development of the broader

economy (Yudelman, 1983: 259 – 260; Fine and Rustomjee, 1996). Yudelman (1983: 253) speaks of the “South African politico-economic situation” in 1932/33, and how “that limited the power of any government, in dealing with the industry, to fairly circumscribed parameters”. This refers to the power held by the mining houses in negotiating levels of taxation. This will be discussed further on in this section in more detail.

Yudelman (1983: 253) goes on to point out that “there can be no doubt...that all South African governments have taxed mining capital at rates they thought the traffic could bear [and] [s]ometimes, they underestimated, helped by the Transvaal Chamber of Mine’s formidable and unrelenting propaganda programs.” By 1932/33 the state had matured [as supported by Yudelman’s (1983: 257) study], and created a relatively firm relationship with mining capital. The success of this was shown in the “series of budget surpluses between 1933 and 1937 as a result of the gold bonanza” (Yudelman, 1983: 258). Yudelman (1983: 258) elaborates that the state “paid off a significant proportion of [South Africa’s] foreign debts and began to raise more loans in South Africa, which made it less dependent on foreign capital and gave it an important degree of financial independence...[t]his was highly significant, not only in the state’s dealings with the international community of states, but also in that the mining industry was the source of much of this debt finance, which further cemented the symbiotic relationship of state and mining capital.”

Looking at this under the preservation spotlight, one can conclude that the state had matured significantly in its policy design and implementation since the early days of the Rand. The state had also improved its relations with the mining industry and used this to improve its access to information, thereby decreasing its transactions costs and improving its policy design. The ability of the state to change the institutional structure timeously to capture the benefits from windfall gains on currency valuations also indicates a newly acquired maturity in policy making. Feinstein (2005: 108) goes on to say that “it was revenue raised from the gold mines that enabled the state to give huge sums to other sectors, especially the white commercial farmers, with an array of subsidies, relief grants, capital works, and loans” (see also Yudelman, 1983: 42; Fine and Rustomjee, 1996: 122). As Yudelman (1983: 42) points out, it was a direct source of revenue that government used to “increase vastly its borrowing powers while

simultaneously reducing the proportion of its foreign borrowing.” Some authors have remarked that it was not necessarily the amount the government taxed the industry that was most astonishing – but rather that the industry still prospered under the so-called burden (Feinstein, 2005; Kettell, 1982; Katzen, 1964; Lombard and Stadler, 1980). This further cements a swing in favour of preservation. If the state had undertaken truly exploitative measures in taxing the industry, the industry would have subsided and eventually perished. Saying this, however, one must bear in mind this study has not assessed an optimal level of taxation during this period. Where applicable, the objections or suggestions from mining houses in connection to this system of taxation, have been discussed in Chapter 3. Taking all of this into account it is only at “face value” that one concludes this policy design was close to “optimal”.

There are several studies that examine the relationship between gold mining and the industrial policy implemented by government. Feinstein (2005) and Fine and Rustomjee (1996) are just two examples that feel government exploited mining by imposing excessive taxes and tariffs on production in order to benefit other sectors of the economy. Also noted by many authors, has been the support of government through the development of transport, trading and power facilities to improve conditions of operation for the mines (Fine and Rustomjee, 1996: 109; Christie, 1984: 218; Jones and Miller, 1992; Sander, 2000; Feinstein, 2005; Yudelman, 1983: 56). The detail of such industrial policy and infrastructural development and implementation falls beyond the scope of this study. In spite of this, it should be noted that, as Feinstein (2005: 109) remarks, this is an indication of the critical role that mining played in South Africa’s industrialisation strategy and the attraction of foreign capital and investment, as well as how much government depended upon the revenues flowing from gold to fund said industrialisation (see also Lombard and Stadler, 1980; Katzen, 1964: 55; Yudelman, 1983: 42). These examples highlight the inter-linkages that the institutional and new institutional economists speak of (North, 1990; 2005; Ostrom, 2005; Boulding, 1957).

In 1939, government announced its intention to implement a surcharge on the sale of gold above 150 shillings per fine ounce – over and above the prevailing tax on companies and gold (Sander, 2000: 330). According to Sander (2000: 330) government feared the “increased gold price resulting from war conditions in Europe

would lead to widespread speculation and extraordinary profits to the gold mining companies.” Following lengthy discussions between the Chamber of Mines and the state, however, government soon realised their motivation wouldn’t fly and they had to abandon the policy (Sander, 2000: 330 – 331). Government explained the change of mind was motivated by four things: (a) the speculation they anticipated may not emerge; (b) they received 50 per cent of profits under the existing tax policy already; (c) given the nature of the industry, higher prices usually led to higher working costs, thus netting off any surplus profit; and (d) in general, mining recovery fell with any rise in price – also netting off any income effects (Sander, 2000: 331). The Smuts government thus replaced this surcharge with a “special tax of 9 per cent on working profit”, which was increased to 22.5 per cent by the end of the war in 1945 (Sander, 2000: 331). Through this period, Sander (2000: 332) records the gold mining industry paid taxes at an effective rate of 68 per cent, allowed workers to join the armed forces and helped in the production of arms and munitions. Webb (2008) suggests the decision to implement special tax on mining was an attempt by Smuts to curb post-war inflation through higher fiscal revenues for redistribution to the economy and therefore the retention of purchasing power amongst its beneficiaries. This is another example where the use of tax is important in determining the preservative or exploitative nature of government policy. If Webb’s (2008) proposal was the underlying thought of Smuts in designing the special tax, one can argue that this was an optimal policy given the high inflation caused by war-time conditions, and general global recession (Feinstein, 2005). Taking from the earlier discussion above (and in Chapter 2) regarding the nature of preservation in the context of a non-renewable resource, one can argue further that the redistribution of excess mining profits to those suffering under inflationary conditions, was preservative to the development of the economy as a whole.

After the Second World War, there was a marked decline in fiscal revenue contributions by the gold mines (Van Waasdijk, 1964: 200). This is suspected to have been due to the exhaustion of older mines but with the exploitation of new fields in the Orange Free State in the late 1940s and early 1950s, industry and government revenue recovery was insured (Van Waasdijk, 1964: 200; Cooke, 1969: 3; Feinstein, 2005: 165; Moll, 1990: 34; Katzen, 1964; Innes, 1984: 142 – 144; Sander, 2000: 321).

As detailed in the introduction, the gold mining tax was easily manipulated by companies and thus with the rise in working costs and the inflexibility of the gold price, government revenue took a knock in 1954 (Van Waasdijk, 1964: 175). This lasted until 1956, when the government revised the gold mining tax and revenue was on the rise again (Van Waasdijk, 1964: 175 – 176; Van Blerck, 1992: C-8).³⁰ This spike in revenue was no doubt partially spurred by increased demand for uranium (Feinstein, 2005: Cooke, 1969: 3; Feinstein, 2005: 170).³¹ By this stage gold mines were allowed to deduct capital expenditure and interest on loans as part of working costs, provided they were incurred in the same tax year (Van Waasdijk, 1964: 176; Van Blerck, 1992: C-8 – C-9). The government chose to boost incentives for the industry by amending the 1956 Income Tax Act with the provision that “ultra-deep gold mines” could inflate their capital deduction allowances by an additional 5 per cent (Van Waasdijk, 1964: 176). Van Waasdijk (1964: 176) explains the motivation for this concession “was that the development of a very deep mine requires a large amount of capital, and that it takes longer than usual for such a mine to reach the production stage” (see also DME, 1995: 19; Kettell, 1982: 103; Feinstein, 2005: 103, Webb, 1981; Baxter, 2005). The ability of mining companies to deduct capital expenditure from their tax liability was a very progressive step as gold mines cannot charge depreciation against profits (Kettell, 1982: 186). Therefore, any expansion or replacement of machinery and equipment are charged at full value.

By 1959, the state extended the concession to existing mines that wished to expand operations to deeper levels or new ultra-deep shafts (Van Waasdijk, 1964: 176). To illustrate the bias or maybe sympathy towards the gold mining industry by the state, Van Waasdijk (1964: 176) describes that other mines, such as coal and base-minerals were not allowed to make any deductions.³² Following the Keynesian approach, aware of the need to stimulate investment in the economy, and the great role that

³⁰ “In 1956 the ‘capital allowance’ was introduced for the first time in regard to expenditure on deep-level gold mines, as a means of encouraging the development of the Western Deep Levels mine” (Van Blerck, 1992: C-8).

³¹ Uranium is a by product of gold mining and in great demand after the Second World War for the production of nuclear weapons (after the cold war, uranium was demanded in the development of atomic energy) (Cooke, 1969: 3; Feinstein, 2005: 170).

³² “In the case of other mines (including coal and base minerals) the write-off as working costs in any year was, before 1956, not allowed to include any single item of equipment costing more the R10 000; this limit was raised to R40 000 in 1956” (Van Waasdijk, 1964: 176).

mining companies had to play in this, government made use of relatively new (at the time) budget techniques and tax incentives designed to “promote mining development with a minimum sacrifice of revenue” (Van Waasdijk, 1964: 180; see also Snowden *et al.*, 1994; Krugman, 2008: 1). This was the beginning of a string of subsequent, annual changes to the tax system and investment allowances (Van Waasdijk, 1964: 180 – 181; Van Blerck, 1992: C-8 – C-9).³³ Through all these fiscal reforms, the government ensured the sustainability of the gold mining industry and boosted investment, while only incurring a marginal decline in its own revenue take and most importantly, offsetting the deflationary effects of the central government cash surplus in the 1959/60 fiscal year (Van Waasdijk, 1964: 187 – 188).

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The 1960s heralded mixed fortunes for the state with the Sharpeville Massacre in 1960, and the departure of South Africa from the British Commonwealth and proclamation of a Republic of South Africa in April 1961 – with their subsequent effects on investor confidence and political stability (Van Waasdijk, 1964: 189; GSB UCT, 2000: 65; Innes, 1984: 174 – 175, 200; Fine and Rustomjee, 1996: 110). Any improvement to national income that the government hoped to achieve during this time was impeded and marginalised by these events (Van Waasdijk, 1964: 189). To try and stem the outflow of capital to foreign shareholders, the state impeded mining capital by implementing the Exchange Control Policy shortly after the Sharpeville Massacre in the early 1960s (Yudelman, 1983: 279).

In 1966, inflationary pressures threatened to put several mines out of business but following a report by the Prime Minister’s Advisory Council on the outlook of gold, government and the Reserve Bank stepped in to assist (Cooke, 1969: 4). In 1968, the Gold Mines Assistance Act was introduced and by 1969, 19 mines were receiving assistance under the scheme (Cooke, 1969: 5). Cooke (1969: 5) explained in his address that through this scheme, mines that would otherwise have been forced to close, were able to lower the grade of ore recovered and thus extend their lifespan.

³³ Van Waasdijk (1964: 181) highlights the “exemption from income tax of bonus share issues, and of capital profits realised on share transactions by companies whose shareholders were resident outside the Union” as a prominent turning point in government’s strategy to attract foreign capital and investment.

³⁴ “The investment stimuli were, however, initially too weak to overcome the rise in unemployment which began to manifest itself early in 1959” (Van Waasdijk, 1964: 188).

This illustrates again the preservative attitude of the state towards the gold mining industry. Even if it was motivated by a need to sustain fiscal income and further plans of industrialisation and development in other sectors of the economy, it was beneficial to the longevity of the gold mines (Feinstein, 2005; Fine and Rustomjee, 1996). Most important to note in this example is the realisation by the state of the symbiosis between state and capital in the gold mining industry (Yudelman, 1983; Fine and Rustomjee, 1996; Innes, 1984).

With the collapse of the Bretton Woods system and the removal of a fixed gold price and the gold standard in the 1970s, government made a concerted effort to bolster the mining and manufacturing sectors of the economy (Fine and Rustomjee, 1996: 13). Mining capital was dependent on the state for protection against a volatile exchange rate (Yudelman, 1983: 274). The state therefore ran a managed floating exchange rate, allowing the Rand to depreciate against the US Dollar (Yudelman, 1983: 274).

In 1972, government strengthened its interest in mining and its contribution to the national economy and income and instituted the Minerals Bureau in order to “monitor mineral resource management and mineral processing (Main, 1975: 109). By 1979, Kettell (1982: 186) reports, “the average tax rate payable on the South African gold mines was 48 per cent but after the recent rise in the bullion price several mines have been paying up to 65 per cent.” In 1979 “gold provided about 10 per cent of total tax revenue” and accounted for “35 per cent of all exports” (Yudelman, 1983: 283). Through the 1970s the price of gold in Rand terms increased faster than that of oil (Yudelman, 1983: 283). This led to favourable terms of trade effects, which helped boost growth (Yudelman, 1983: 283; Lombard and Stadler, 1980). By 1980, gold mining was contributing 14 per cent to total tax revenue and 45 per cent of exports; in 1981 these contributions increased to 25 per cent of revenue and 37 per cent of exports (Yudelman, 1983: 283).

In 1980, government took the step to formally institutionalise the coordination of state and mining relations by implementing the Department of Minerals and Energy Affairs (Fine and Rustomjee, 1996: 97; DMEA, 1980: 71). It is at this stage that some authors begin to feel the policies of government started to show signs of exploitation of the gold mining industry for the sake of preservation of the political structure of

Apartheid and Afrikaner capital pursuits (Fine and Rustomjee, 1996). And as time has progressed, the legacies of these decisions have both helped and hindered the development of industry within the democratic South Africa post-1994 (Fine and Rustomjee, 1996; Flatters and Stern, 2008). This leaves one with room to argue in favour of government interference in order to combat what it believed to be market failures (such as advocated by Keynes), but also an opening for arguments in favour of interference in fact leading to government failure.

By the 1980s, however, government's aims to prosper from the mining industry were slowly eroded by the collapse of the Apartheid regime (Fine and Rustomjee, 1996: 13; Natrass, 1995: 858). South Africa faced increased sanctions from international trading partners, a declining investment rate and rising labour and social unrest (Fine and Rustomjee, 1996: 13; Natrass, 1995: 857 – 865; Baxter, 2005). Natrass (1995: 858) believes that the declining growth and the emergence of unfavourable conditions in the gold mining industry and government's dependency upon it as a source of revenue, was one of the main reasons pushing the Apartheid state to the bargaining table with the ANC. The gold price peaked in 1980 before declining rapidly and the state, once flush with gold revenue receipts, was forced to re-evaluate its industrial strategy and political ideals (Fine and Rustomjee, 1996: 117, 198). Natrass (1995: 858) notes "the proportion of tax revenue collected from the gold mining industry dropped from 26.4 per cent in 1981 to less than 1 per cent in 1993" and this was in spite of adjustments to the capital expenditure concessions allowed for gold mines in the introduction of ring-fencing.³⁵ By 1988, the government ceased all assistance to marginal mines and aligned gold mining to the tax structure prevailing for all other companies (Natrass, 1995: 859). It was also decided to abolish ring-fencing as soon as fiscally feasible (Natrass, 1995: 859). All these concessions were made by government both in an attempt to counter-act the prevailing economic conditions but also in an attempt to preserve what little was left of gold deposits within South Africa and hence sustain one of the main sources of government revenue – as long as possible (Webb, 2008; Baxter, 2005). By 1985, the

³⁵ Ring-fencing refers to the provision within the tax law governing gold mining whereby companies were prevented from offsetting capital expenditure on a new mine against taxable income from an existing mine (both mines being under the same parent company) (Natrass, 1995: 858; Van Blerck, 1992; Mather, 1995).

economic crisis had worsened so much that government declared a moratorium of debt repayments (Fine and Rustomjee, 1996: 114).

4.3.2 An evolving mining rights system

Between 1918 and 1932 little use was made of the provisions of the mining lease system (Kaplan, 1985: 358 – 359). According to the Chamber of Mines (U.G. 16 – 1932: 74 – 5 para.157), and despite recommendations to the contrary by Kotzé, the Mining Leases Board stipulated the state obtain a large and non-negotiable share of profits earned from mining leases. The Chamber of Mines explained “the proportion of profits accruing to the state, even on the minimum basis specified, is so large that the holder of the mynpacht is unable to raise the necessary capital” (U.G. 16 – 1932: 74 – 5 para.157). Hence those in possession of mynpachts were reluctant to apply for additional areas under these conditions (Kaplan, 1985: 358). In order therefore to force mining houses to use the mining lease system, the PACT Government “prepared a bill with the intention of abolishing mynpachten and extending the mining leases system” [c.1932] (Kaplan, 1985: 435; see also Yudelma, 1983: 251). Due to the pressure of the worsening gold crisis, and to the relief of the mining houses, the PACT Government never introduced the bill (Kaplan, 1985: 436).

In 1933, following the economic downturn precipitated by the gold standard crisis, the newly established Fusion Government reopened proposals to finally eliminate mynpachten (Kaplan, 1985: 364). Government prepared and introduced a bill in this vein, aiming to abolish mynpachten grants and “extensively broaden the variety of mining lease grants to cover areas previously developed under mynpachten or claims” (Kaplan, 1985: 329, 364, 437). By 1934, the Fusion Government was still trying to rid the gold law of the mynpacht (Kaplan, 1985: 363 – 365; The Department of Mines, 1936: 124). Both the 1933 Bill and its successor in 1934 were eventually withdrawn and instead replaced with the Mineral Lease Amendment Act of 1934 – retaining the mynpacht grant (Kaplan, 1985: 364 – 367, 437). The state criticised the use of mynpachten for various reasons, including; “selection of the mynpacht area often operated to the state’s prejudice” (Kaplan, 1985: 364), “absence of state control over companies floated to work mynpachten” (Kaplan, 1985: 365), and “small

revenue benefit was derived directly by the state” (Kaplan, 1985; 365). The state therefore wished to intervene in the market for distribution of mining rights more forcefully. This links to theory discussed in Chapter 2 on the distribution of property rights and the intervention of government within markets to speed up what they believe to be the most efficient allocation of resources within the economy (Pejovich, 2001; Snowdon *et al.*, 1994; Beenstock, 1980; Levačić, 1976; McChesney, 1990). As usual, the Chamber of Mines countered these criticisms, especially those pertaining to the state’s right to profits (Kaplan, 1985: 365 – 366).

The 1934 Mining Leases Act retained mynpacht grants, and contained amended provisions in terms of both the gold law and the Mining Leases Act (Kaplan, 1985: 437). In terms of section 2 (of the Act), the following amendment was made: “a holder of mineral rights, entitled to select a mynpacht and thereafter to apply for a lease of an additional area, would, in the event of such leases being granted, obtain a joint area ‘in lieu of the mynpachtbrief’” (Kaplan, 1985: 437). Also, in line with Kotzé’s original recommendations, the 1934 Mining Leases Act gave more discretion to the Mining Leases Board in determining the scale of profit-sharing by the state (Kaplan, 1985: 438 – 439). Initial comments on the 1934 changes to the law, suggested “all new mines [were] likely to be lease mines, in which the government [would] acquire a share in the profits” (Kaplan, 1985: 439 – 440). Through the “retention of the mynpacht principle, more flexible guidelines on state profit-sharing under mining leases and the elimination of the absolute discretion of the state to allocate leases by entitling only specific parties to apply” (Kaplan, 1985: 441), the 1934 changes also managed to secure the interests of the mining companies. As a result, in applying for mining leases, mining companies were not forced to compete directly against each other (Kaplan, 1985: 441).

As expressed by Jasay (1994) and Benson (1989; 1990), property rights are generally allocated to the “more powerful” individuals in society and will only remain in such a distributional formation to the extent that such individuals manage to retain power. Bailey (1992) and Benson (1994b) go further to show that property rights determine the power of a market participant and the way that participants interact with one another. By retaining the mynpacht for yet another term and giving concessions to the mining companies by lowering their share in profits, the state effectively

acknowledged the market power held by the mining houses. This is also an indication that the rule-of-law was existent in South Africa, as the state was unable to simply change the laws as and when they pleased (Pejovich, 2001: xv; Benson, 1994a; Hobbes, 1615).

The more flexible provisions of the 1934 law and the boost to the mining industry through capital investment and a higher gold price meant an increase in application for mining leases (Kaplan, 1985: 441 – 442).³⁶ It was in 1934 that the mining lease finally overtook the mynpacht as the mining title of choice (Kaplan, 1985: 442). Between 1934 and 1967 only minor changes were made to the Mining Leases Act and the gold law (Kaplan, 1985: 443).

The mynpacht continued to be granted between 1934 and 1965, although the laws governing this form of title remained unclear and were not without criticism from various parties (Kaplan, 1985: 368). Kaplan (1985: 368 – 340) describes the final demise of the mynpacht grant: “between 1934 and 1967, new gold mines were established with operations being conducted at unprecedented depths and on a massive scale. The Far East Rand was developed from 1934, the Free State goldfields after the Second World War and the ‘ultra deep-level mines’ of the Far West Rand during the late 1950s. With mynpachten alone being invariably insufficient for the establishment of these huge mines, virtually every large gold mine established since 1934 was on the basis of a mining lease granted under the ‘joint area’ provision”³⁷. In 1936 the gold law, which applied only to the Transvaal, was, with some modification, made to apply to the Orange Free State (OFS).

“The next major revision of gold mining legislation occurred in 1967 with the introduction of the Mining Rights Act, applicable to the whole of the Republic of South Africa” (Kaplan, 1985: 3). This slow transition away from mynpachten and

³⁶ “The 1934 amendments to the gold law followed closely on the heels of an investment boom in South Africa, occasioned by the abandonment of the gold standard in December 1932” (Kaplan, 1985: 441).

³⁷ Included in section 2 of the Mineral Law Amendment Act of 1918. It “entitled mynpacht holders to apply for additional areas contiguous to the mynpacht in order to obtain a workable mining proposition...granted under lease...with the mynpachten would form a so-called joint area” (Kaplan, 1985; 357).

towards a system of only mining leases, was important in terms of the simultaneous stability and transformation of the institutional framework (Hodgeson, 1994; North, 1990; 2005). The transition was relatively slow and negotiated for mining houses. This meant the companies had opportunity to adjust to new transactions costs functions (Williamson, 2005; Coase, 1937). By giving in to the requests of mining firms for slower changes to legislation, the state helped extend the working lives of some mines and therefore prolonged the life of the South African goldfields and their access to revenue from gold mining.

In 1948, as part of their pre-election campaign, the Nationalist Party made promises to nationalise gold mining, if they were re-instated into power (Kaplan, 1985: 534). “The official economic policy of the Nationalist Party at the time included obtaining control of key industries such as gold mines, either by way of state appointed directors” or by way of corporations and any other means possible (Kaplan, 1985: 534). Once voted to power, the party’s policy priorities and implementation thereof became contingent on a thorough investigation into “all long-term questions of policy” (Hansard, 1948: column 1205). It was made clear, however, that “it was not the policy of the National Party to nationalise gold mines” (Rand Daily Mail: 1949). Kaplan (1985: 535) surmises that this “was certainly in some measure brought about by the need to remove the apprehension of foreign investors on the taking of office of the new government”, already evidently shaky by the withdrawal of an estimated £200 000 000 by investors upon the unexpected Nationalist Party victory (Walker, 1968: 777). The National Party thus had to amend its policy line to preserve investor and business confidence (Rodrik, 2003; 2004; 7 – 8).

In 1965, the government embarked on “a major revision and consolidation of the many acts regulating prospecting and mining for minerals and metals in the republic” (Kaplan, 1985: 369). A commission was established to do a complete inquiry into all mining legislation in place (Kaplan, 1985: 443). A select committee was appointed to investigate the resulting draft bill, which amongst other things, “provided for the abolition of further mynpachts grants” (Kaplan, 1985: 369). Through this process of assessment and refinement the state took an opportunity to consolidate policy to date. It therefore aimed to lessen confusion and repetition within legislative Acts thereby lowering both its transactions costs and those of mining companies (North, 1990;

Coase, 1937; 1992; Williamson, 1975; 2005). One would assume these changes to the institutional framework also improved the efficiency with which the system of mining rights allocation, monitoring and control operated (Ostrom, 2005; Samuels, 1995; North, 1990; 2005). As in 1934, criticisms were raised by the Chamber of Mines, but these were rebutted by the Department of Mines. They claimed that, in fact, only nine mynpachts had been granted between 1942 and 1967, and therefore was no longer the most popular form of mining title [(R.P. 37 – 1966: 2 para. 13) in Kaplan, 1985: 371]. Unanimous conclusions by the committee established the end to mynpacht grants in the 1967 Mining Rights Act (Mining Rights Act 1967: section 68). “The Act further provided that [existing] mynpachten could be abandoned, or, where mynpacht dues were in arrear, cancelled by the minister acting in accordance with the Act” (Kaplan, 1985: 371) and the system of granting mynpachts was entirely superseded by that of the mining lease. Between 1934 and 1965 virtually all mining leases had been granted as part of the joint-area provision (Kaplan, 1985: 443 – 444). The 1965 report proposed the granting of mining leases as independent mining titles (Kaplan, 1985: 445 – 447).

The 1967 Act eliminated the prospecting and mining leases (1908 Mining Leases Act), and the joint-area leases, which was redundant with the abolition of mynpacht grants (Kaplan, 1985: 446 – 447). “Although from a drafting and technical point of view the 1967 Act introduced many improvements relating to the granting and administration of mining leases, in essence the basic philosophy of the state to regulate mining generally by way of the mining lease (as opposed to other forms of mining title) was maintained and consolidated” (Kaplan, 1985: 447). The 1967 Act, by incorporating all previous forms of mining rights and titles under one term, gave the Mining Commission the authority “to issue licences in respect of dumps on the lease area (or other proclaimed land) on the lapsing or abandonment of the lease” (Kaplan, 1985: 490).

4.4 Transformation under new legislation: 1990s – 2008

4.4.1 A process of negotiation

JCI (and other large mining houses) met with the ANC leadership as early as 1989 (Paris) to discuss the impact of the future political regime on mining (Sander, 2000: 355). It was in a meeting with the ANC in Harare that Thabo Mbeki “asked whether business could give its attention to the fact that there was very little...black presence at board level and senior management in the corporate sector” (Sander, 2000: 355). Mbeki commented further that he saw “the restructuring of ownership, corporate ownership, as necessary in order to preserve the market economy. Nationalisation is a form of redistribution, and redistribution is a form of restructuring. Restructuring of the South African economy is necessary in many ways. There are manifest imbalances in the South African economy that need to be addressed” (in Sander, 2000: 355). Further, Mbeki suggested that these imbalances (as well as the various macroeconomic ones) were the consequences of “mixing apartheid and capitalism” (in Sander, 2000: 356).

The ANC realised that while in time, the market economy would correct the imbalances caused by Apartheid, there was little time “politically” available to make a strategic difference and impact (Sander, 2000: 356; see also DME, 1995). They therefore negotiated with key industries to come to an understanding of what could be implemented by the private sector to help the process along in the short run (Sander, 2000: 356). With the incorporation of the homelands, and the dissolution of discrimination against non-whites, the population of South Africa exploded (Sander, 2000: 357). Consequent to this was that the majority of the population would need to be assisted and given common opportunities to be included in the greater economy, including access to levels of ownership (Sander, 2000: 37). JCI realised, as did several other major industries, that failure to include this new population would possibly result in a hostile and socialist outcome (Sander, 2000: 357).

In the 1955 Freedom Charter, the ANC had expressed their wish to nationalise all mineral resources, so that “the heritage of South Africans, shall be restored to the

people” (ANC, 1955: 2; see also CMSA, 2004c: 9). While this was still a key element of the ANC’s manifesto, it realised that this could not be achieved in the short run without destabilising the weak market economy of South Africa in the early 1990s (Sander, 2000: 358). The compromise by the ANC, gave them additional leverage in negotiations with the mining industry (Sander, 2000: 358). JCI feared that failure of the gold mining companies to begin the process of transformation and inclusion of BEE shareholders would lead to the appointment of government-chosen individuals (Sander, 2000: 358). There is no evidence of the ANC ever expressing such a threat.

The DME (1995: 12) informs us the ANC first debated the issues surrounding changes to mineral policy at its 1992 “Ready to Govern” Conference (see also CMSA, 2004c: 9). At these talks, the ANC “amplified aspects of standing party policy applicable to minerals” (DME, 1995: 12). These views laid the foundations for the Reconstruction and Development Programme, which was adopted by the ANC in February 1994 (DME, 1995: 12). From this the party drew a summarised “Draft Minerals and Energy Policy Discussion Document” (DME, 1995: 12). At the same time the Department of Minerals and Energy Affairs (DMEA), issued its “Draft Principles on which a Mineral and Mining Policy for South Africa should be Based” (DME, 1995: 12). The ANC document covered 21 points of departure for policy development, and the DMEA covered 18.

The ANC policy proposal was informed by three themes: “that minerals in the ground are part of the nations’ wealth; that workers and the nation should get their fair share of the wealth generated; and the minerals mined should be integrated into the rest of the economy through further processing prior to export” (DME, 1995: 13). As shown above, this was largely drawn from the Freedom Charter (ANC, 1955; CMSA, 2004c: 9). The document also dealt with issues on the need “to transform the mining and minerals industry to serve the whole population; to supplement the vital regulatory functions of government with a promotional role; to widen access and ownership to those historically discriminated against; and to improve the skills, working and living conditions for workers in the industry” (DME, 1995: 13). The DMEA policy outlined principles with an emphasis on “a limited role for government intervention”, the need for “market orientated and sound business principles in

steering the industry to develop the country's wealth to its full potential, and maximum benefit for all the country's people" (DME, 1995: 13).

In 1993, the Chamber of Mines, ANC, Minerals and Energy Policy Committee and the National Union of Mineworkers first convened to start discussion on a new minerals policy for South Africa (CMSA, 2004c: 9). In 1994 the ANC released its draft "Minerals Policy Paper" (CMSA, 2004c: 9). In 1995, Minister R.F. Botha, then Minister of Mineral and Energy Affairs, "convened a plenary of stakeholders in the mining industry on 24 April" to consult and review South Africa's mineral policy (DME, 1995: 2). A working group consisting of "two representatives from...mining business, organised labour, the [DMEA] and the Parliament Portfolio Committee on Mineral and Energy Affairs"³⁸ was appointed to "work out a mechanism and the time frame whereby minerals policy formulation can proceed urgently, by means of an open and transparent process, allowing for full participation by all stakeholders" (DME, 1995: 2).³⁹ The group met on eight occasions and was dissolved on completion of its task and the creation of the steering committee, made up representatives from business, labour and government (DME, 1995: 2 – 3).

The steering committee, it was envisioned, would take over a rough draft document from the working group, and in consultation with the DMEA and Minerals and Energy Policy Committee, incorporate issues from the DMEA policy principles document (November 1994), the ANC draft "Mineral and Energy Policy" document (November 1994), the Chamber of Mines "Mining and Minerals Policy in the New South Africa" document (June 1995)⁴⁰, and the contribution from the National Union of Mineworkers (August 1995) and other responses to these documents (DME, 1995: 4, 12). A meeting was held on 29 September 1995 to discuss the

³⁸ "NEDLAC declined to participate in the working group, but the Trade and Industry Chamber of the Council took the view that the draft policy document should be tabled with NEDLAC". (DME, 1995: 2)

³⁹ "The Mineral and Energy Policy Centre (MEPC) acted as secretariat to the working group" (DME, 1995: 2).

⁴⁰ The Chamber's contribution emphasised "the need for policies that serve the mining industry, and by extension the long-term national economic interests, encompassing in the short term the success of the RDP" (DME, 1995: 13). They also highlighted "the need to revitalise the gold mining sector...[and] development of new approaches to aspects of the organisation of work within the industry" (DME, 1995: 13). The Chamber called for a minimum role for government intervention and to provide an "enabling environment for the industry to prosper" (DME, 1995: 13).

outcomes of this process and stakeholders endorsed the process thus far but requested that it be sped up significantly (DME, 1995: 4).

The DMEA realised that “the industry is a cornerstone of the South African economy and exerts significant economic and social impact throughout the region” and as such all discussions bore in mind the potential ramifications of policy discussions and changes (DME, 1995: 12). This is an extremely important example of the intentions of the new government to sustain the relationships between the various stakeholders (and possibly improve upon them) that had been developed over all the years. The level of communication between parties and the trust which had developed was crucial for the smooth transition to a new institutional framework (Denzau and North, 1994; 2000; Hodgeson, 1994; Ostrom, 2005). Therefore the policy outcomes aimed to “endorse free market principles”; “recognise the major contribution that the mineral industry has made and can make to the economic and social development of the country”; through government “create a stable legal and fiscal climate that is conducive to technological innovation and entrepreneurial initiatives”; and the promotion of “secondary and tertiary mineral-based industries” (DME, 1995: 16). The outcomes also included a set of issues and arguments that stakeholder should be aware of when finally designing and implementing changes (DME, 1995; 17).

Given the long-lead times and large capital investment required for gold mining ventures, it was noted that prospective investors would require: “certainty in the ability to do business”; macroeconomic, political and social stability; “a smoothly functioning labour market and industrial relations”; and “provisions for repatriation of profits and capital” (DME, 1995: 17). The importance of economic infrastructure, an attractive investment climate and the reduction of the cost of doing business (access to infrastructure, labour regulations, regulatory red tape and macro stability) was also noted (DME, 1995: 17 – 18). Taking account of the unique nature of the deep-level gold mining industry, policy proposals also asked for the tax system to “recognise that mining turns to account a non-renewable asset” (DME, 1995: 19). Furthermore, considerations should be made in terms of depreciation allowances and capital expenditure concessions in order to encourage investment in maintenance, research and development, and exploration (DME, 1995: 19). The state had already recognised

at this stage that by “encouraging the return of mineral rights to the state, revenues from rentals for access to these rights [could] be increased” (DME, 1995: 19).

The state saw its own role “to gather, collate and disseminate geological and mineral information to prospective investors” through an “institutional framework” including: “a minerals promotion body, independent from the state’s regulatory bodies”; the marketing of “South Africa’s well-established infrastructure with regard to research and development, mining equipment and services, finance and technical skills base”; and the development of junior- and medium-sized mining ventures” (DME, 1995: 18). The state also felt it had a role in providing financial assistance to projects “which are considered to be of strategic or social importance but are not economically attractive to private enterprise” (DME, 1995: 18).

While recommendations from industry asked for taxes to be levied at more lenient rates, the DME proposed that part of the “levy on all minerals extracted...be used to fund past environmental rehabilitation and possible mineral promotion organisations” (DME, 1995: 20). Further than this, tax proposals included suggestions of: “the application of a small beneficiation-related levy on all minerals exported”; “extension of formula taxation to all mining” with a view to “encourage [the] development of otherwise uneconomic mineral deposits”; “abolishment (sic) of ring-fencing”; and to “expand the industry tax base by promoting minerals development through encouraging foreign and local investment in exploration” (DME, 1995: 20 – 21). As Kettell (1982: 133) has said so succinctly: Whatever the period of time under consideration, “the South African government has had an obvious interest in extending the lives of the mines to maintain taxation revenues, employment levels and gold’s contribution to the South African balance of payments, and the mines have to conduct their operations to meet these policy objectives.”

Throughout discussions it was acknowledged by all parties that, “in a free market economy, economic efficiency flows from the discipline and flexibility established by effective internal and external competition. [Therefore] the continued well-being and international competitiveness of South Africa’s mineral industry is therefore dependent on productive internal competition in respect of mineral exploitation and

the provision of mining related services” such as electricity, transport and other related trade infrastructure (DME, 1995: 23).

Of particular importance for government, as expressed by Sander (2000: 356 – 358) above, was the awareness that “significant economic control [was] exercised by a small group of shareholders...[who held] an extensive portfolio of industrial interests in an industrial holding company with its own group of financial institutions” (DME, 1995: 24 – 26). The extension of mining companies across such a broad spectrum of economic interests meant that government both valued and feared the mining industry. It was therefore important that the industry leaders were not alienated in the process of renegotiation of the mining rights and title legislation (Ostrom, 2005; Benson, 1994a; 1990; Pejovich, 2001; Jasay, 1994; Bailey, 1992). Government pointed out that the existent structure of the group system resembled that of oligopolistic markets (DME, 1995: 24; Cabral, 2000). The state was concerned that this had effectively shut out new entrants, especially those taken up by junior- or medium-sized entrepreneurs (DME, 1995: 24). The cartel-like system was also commented upon to have resulted in mining companies refraining from competing in some markets but then also involving themselves in markets that were unrelated to the business of mining (DME, 1995: 24 – 25; Yudelman, 1983; Innes, 1984; Sander, 2000).

The DME (1995: 24 – 26) was not specifically criticising the size of the conglomerates but rather that there was a need for “a better spread of ownership [across] natural business activities”. It was adamant that this should not be forced through “government intervention” (DME, 1995: 24), nor should it be achieved through the “nationalisation” of the industry (DME, 1995: 27). It was in fact proposed that this process of the transfer of ownership should be on a voluntary basis and should occur naturally (DME, 1995: 27). Despite this, it was proposed that the “principle of equity...be applied to overcome past discrimination and to realise the optimum potential of all participants in the mineral industry [because] the competitiveness and long-term success of the mineral industry will depend fundamentally on the development of all available human resources” (DME, 1995: 26). In addition it was suggested that “affirmative action programmes” be implemented at each mine with a view to increasing “the proportion of blacks at

senior levels” (DME, 1995: 27). The role of government was merely seen as “a constructive interventionist role in altering the patterns of ownership in the industry and promoting black ownership at all levels” (DME, 1995: 27).

These two concepts seem contradictory. It must be acknowledged, however, that certainly in these early discussions and with these ideological ends in mind, the government’s approach was certainly preservative in focus. To redistribute the wealth, both tax revenues and those earned through employment in the industry, from this industry for the benefit of the new democratic population, was ambitious under the constraints of the macroeconomic hangover from Apartheid and a poorly performing gold industry. Once again, though, as acknowledged by Thabo Mbeki and the ANC in the 1989 discussions (Sander, 2000: 358), the discussions on legislative developments accepted that “measures to increase black participation and ownership require a long-term approach to mobilise the necessary capital and to acquire attractive operations” (DME, 1995: 27).

As discussed in Chapter 3, the majority of mineral rights in South Africa are in the hands of private companies. During these 1995 discussions, it was suggested that these be transferred back to the state, as is the case in most international examples (DME, 1995: 28 – 30). It was, however, argued by companies that given the nature of mineral deposits in South Africa, the private property right structure was probably the most efficient system – and as such was the one that had “naturally” evolved (DME, 1995: 28 – 30). By ensuring security of tenure through private ownership, the state has created an environment of certainty for companies and investors alike (DME, 1995: 30; Rodrik, 2004: 7 – 8). Criticisms of the system of privately held rights include arguments that it has “resulted in the freezing of mineral rights and (served as) barriers to entry of new investors” (DME, 1995:30). Mining companies counter this by expressing that they have an established “track record for the development of complex ore bodies” – which in many instances the state could not have afforded to do under another system of ownership (DME, 1995: 30). The system of property rights distribution is paramount to determining the distribution of wealth (the state’s perspective) but also to the efficiency with which such resources are utilised and turned to economic value (the mining companies’ perspective)

(McChesney, 1990; Benson, 1989; 1990; Epstein, 1994; Pejovich, 2001; Williamson, 1996; Ostrom, 2005).

The government was very much aware of their power in determining the system of property rights that would prevail and therefore was aware that “any change to the existing system of mineral rights should be made with circumspection as [the current system] has served the country well. The freezing or sterilising of mineral resources in areas of privately owned mineral rights should be discouraged and the imposition of a mineral rights tax, deductible against any exploration expenditure, should be considered” (DME, 1995: 31). The state also considered the option of possibly limiting the number of rights that a single company could hold within a district or area (DME, 1995: 31). Above all, though, “the policy shall provide for indisputable security of tenure with regard to mineral rights and prospecting and mining authorisations” (DME, 1995: 32). Given the expense and risk involved in deep-level mining operations, it is important that “certainty of mineral tenure” is maintained as “the individuals and companies committed to exploration and development...[must be confident] that their investment is protected, and that new investment will follow” (DME, 1995: 32). Since the proclamation of the goldfields, it has remained the task of the state to “balance the needs of the mining industry and other stakeholders so that the industry has a high degree of certainty with respect to mineral tenure and governments can continue to develop public policies” (DME, 1995: 32). To this end it was agreed amongst stakeholders that, “cross-cutting legislation which may impact detrimentally on security of tenure must be minimised” (DME, 1995: 33).

It should be noted at this point that the negotiations regarding legislative changes in the mining industry extended beyond the allocation of rights. It took account of the compilation of and access to information regarding mineral deposits; investment promotion; environmental management and rehabilitation; employment and skills development; industrial and trade policy; policy regarding post-closure of mines and the reclamation of land for environmental rehabilitation and community economic expansion; corporate social initiatives and responsibility; venture capital and the encouragement of small-to-medium enterprise development; provision of economic infrastructure for the minerals industry and broader economy (DME, 1995: 34 – 66; CMSA, 2004b: 13 – 33; Baxter, 2005; Graulich, 2005).

In conclusion, the working group (DME, 1995: 44) agreed: “The policy shall ensure equitable and orderly access to and optimal exploitation of the country’s mineral resources. Provided there is effective competition in both producer and end-use markets, expansion of the country’s supply capacity must be approached with circumspection because of the likely damage to price and hence to the ability of existing South African producers to create wealth for the country.” It was also established that “government intervention...should be limited to protecting the national interest” (DME, 1995: 66). This all points to an overview of macroeconomic development and increased participation in the economy by the entire population. At this stage, the state’s intentions for legislative change could be interpreted as being preservative, with a long-term focus on sustainability. Further on in this chapter the implemented outcomes of these negotiations will be discussed and again assessed.

The DME (1995: 73) details the overarching aims of parties following the process of dialogue: “The management and regulatory activities of government will be conducted in a transparent manner and will take into account the views and interest of all the stakeholders in the mineral industry. In order to promote, support and regulate minerals and mining, it is essential that government institutions are competent and efficient. Exploration and mining are high risk businesses and consequently it is important that individuals and companies are confident in their dealings with state institutions and that decisions are made timeously and efficiently...The governance of the mining industry involves a number of players...However, it is the DMEA which has the central role in governance. In order to improve access to and investment in the mineral industry, government institutions should not only assume a regulatory role but should actively pursue a promotional role as well. Sensible regulation requires an understanding of the nature and interrelated technical complexities of mining, making the existence of a single, central regulatory agency highly desirable” (DME, 1995: 73). This all speaks to the importance of communication, cooperation and collaboration between industry and the state (Denzau and North, 1994; 2000; Ostrom, 2005; Hodgeson, 1994).

In March 1998, a green paper on the draft minerals policy was released for comment with the white paper following closely behind it in October 1998 (CMSA, 2004c: 9;

Baxter, 2005). The next milestone in the transformation of legislation on minerals and mining was in September 2001 (CMSA, 2004c: 9). At this point the DME and Chamber of Mines were tasked with presenting their views to the Portfolio Committee on Minerals and Transformation (CMSA, 2004c: 9). On the 18th December 2001, the DME released a draft Minerals Bill in the government gazette (CMSA, 2004c: 9). By 19 April 2002, the DME had released its second draft of the Minerals Bill and the Chamber of Mines had initiated its own “Transformation Charter” (CMSA, 2004c: 9).

4.4.2 Out with the old and in with the new

The Minerals and Petroleum Resource Development Act (MPRDA) was gazetted for public comment in 2000 and represents the umbrella legislation guiding the transformation of the South African mining industry (not only gold mining) (CMSA, 2004b: 2; CMSA, 2004c: 19). The second draft of the MPRDA was published in 2002 and finally in May 2004, the Act was instituted into legislation (CMSA, 2004b: 2 – 3; CMSA, 2004c: 19). The Broad-Based Socio-Economic Empowerment (BEE) Act was passed in 2003 and forms the basis of the industry-specific empowerment charters (CMSA, 2004b: 2). The mining charter aims to increase the level of ownership by previously disadvantaged South African’s in the industry and was the outcome of a long negotiation process between government and other stakeholders (CMSA, 2004b: 2). As the CMSA (2004b: 2) reports: “Government and industry did not always see eye-to-eye on the way in which empowerment should be introduced to mining”.

One of the prominent features of the MPRDA is that it transfers “the country’s mineral rights from private owners to the state” under what is often called the “use-it-or-lose-it clause” (CMSA, 2004b: 3). In other words, government wishes to improve the efficiency of use of mineral rights, and avoid leaving rights in idle hands (CMSA, 2004b: 3). In order to convert rights (from old order rights to new order rights) and retain use of them, government has stipulated that companies engage “in the transformation of the mining industry” (CMSA, 2004b: 3 – 4). Nine key areas are highlighted, which include: taking on black (or previously disadvantaged groups as defined in the BEE legislation) investors at ownership levels and changing the face of

management in mining companies; beneficiating mineral processing operations; improving environmental preservation and corporate social responsibility initiatives; broadening skills and human resource development; royalty taxes, corporate governance and many more (MPRDA, 2002; CMSA, 2004b: 4, 8; Baxter, 2005; Graulich, 2005). All these issues are reiterated and elaborated upon in the Broad-Based Socio-Economic Charter for South Africa's Mining Industry⁴¹ and the Scorecard for the Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry⁴², which are published as annexes to the MPRDA and are there to assist in the interpretation of the Act (Scorecard for the Broad Based Socio Economic Empowerment Charter for the South African Mining Industry, 2002; Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002; MPRDA, 2002; Business Day, 2005b: 15; Business Day, 2006; 1; CMSA, 2002; CMSA, 2004d: 1; CMSA, 2004b: 4, 8, 13; CMSA, 2004e: 3 – 5; CMSA, 2004c: 13). In addition, the charter asks that, “industry agrees to assist historically disadvantaged South African companies in securing finance to fund participation in an amount of R100 billion within five years.” (CMSA, 2004b: 8). This is understood to mean that by 2009, there should have been R100 billion in empowerment transactions in the mining sector (CMSA, 2004b: 8).

The relationship between the state and mining capital has come a long way since July 2002 when a draft version of the mining charter was leaked to the media with damaging consequences for investment and business confidence (CMSA, 2004b: 4).⁴³ This charter envisaged black shareholders “should hold 30 per cent of existing mines and 5 per cent of new mines” (CMSA, 2004b: 4). This forced the groups to go back to the negotiation table and work towards a compromise that accomplished the ideals as laid out in the original charter and the MPRDA, without damaging the industry or investment sentiment (CMSA, 2004b).

The revised charter “stipulates that 15 per cent of mining companies’ South African assets, or equivalent in units of production, have to be held by black partners by 2009

⁴¹ Published in October 2002 (CMSA, 2004b: 8).

⁴² Published in February 2003 (CMSA, 2004b: 8).

⁴³ “In 2002 foreigners sold R4.9 billion more of [South African] shares than they bought, the first time there had been a net outflow of funds since some investment controls were lifted in 1995” (CMSA, 2004b: 4)

and 26 per cent by 2014” (Broad Based Socio Economic Empowerment Charter for the Mining Industry, 2002: 9 – 11; CMSA, 2004b: 4; see also CMSA, 2002: 1; CMSA, 2004e: 2; Business Day, 2005b: 15; CMSA, 2004c: 9, 30; Lilford, 2005; Ritchie 2004: 4). The Chamber of Mines (2004b: 4) has described the MPRDA as “one of the most significant steps taken by government to right the wrongs of the country’s inequitable past” (CMSA, 2004b: 4). Ritchie summarises these changes as “the most important aspect of the MPRDA is that mineral rights cease to be privately owned, with all rights being vested in the state. Tied with this transfer of rights is the requirement of the mining charter” (Ritchie, 2004: 4, 13). If companies fail to meet these criteria, they will not qualify for the conversion of mining titles and therefore lose their rights (Ritchie, 2004: 4).

Of all the legislation promulgated since 1994, the MPRDA is seen to be the most far-reaching and comprehensive in establishing the ideals of transformation in the new democratic South Africa (CMSA, 2004b: 12). In line with international best practice, it seeks to establish greater sovereignty by the state over minerals, and gives more authority than simply the ability to transfer the right to mine (CMSA, 2004b: 204, 13 – 36). In addition it extends opportunities for historically disadvantaged people to enter the mineral industry...encouraging economic growth and mineral development; and promoting employment and social and economic welfare and ecologically sustainable development (Ritchie, 2004; CMSA, 2004b, 2004: 13 – 36; Kaplan, 1985; DME, 1995). One needs to consider whether the state is asking too much of what some have termed a “sunset” industry? These changes are somewhat reminiscent of the Het Volk and PACT Government regimes which initially wanted the gold mines to provide employment, as well as a steady income source (Innes, 1984; Yudelman, 1983; Kaplan, 1985; Feinstein, 2005; Sander, 2000). Dr Fred Cawood from the University of the Witwatersrand School of Mining and Engineering believes that the MPRDA “is a very ambitious piece of legislation” as it attempts to balance the several policy priorities mentioned above, within a single document (CMSA, 2004b: 12 – 13). According to his (Cawood in CMSA, 2004b: 13) knowledge, it is an international first.

An attorney from Werksmans, Hume Scholes, explains how the MPRDA works together with the empowerment charter and scorecard to create comprehensive

guidelines for companies (CMSA, 2004b: 13). “The Act is about social upliftment. The charter is broken up into five components – ownership, procurement, employment, upliftment/social and beneficiation. The Act tells you what is required by legislation, the charter explains how to do it and the scorecard explains how you will be judged” (CMSA, 2004b: 13). Jacinta Rocha (Chief Director of Mining Rights, DME) and Dr. Fred Cawood both believe that even if only slowly, progress has been made and most importantly, an attitudinal adjustment has occurred (CMSA, 2004b: 13). It is precisely because stakeholders have negotiated and agreed to the changes that illustrates the potential success of the regulatory implementation (CMSA, 2004b: 13; Hodgeson, 1994; Ostrom, 2005; Denzau and North 1994; 2000). This, however, as all stakeholders are aware, “does not mean that the process is without difficulties” (CMSA, 2004b: 13). As discussed at length in Chapter 3, one of the major concerns of industry (and possibly government too), is the DME’s ability and capacity “to process applications for conversion from the old order mineral rights to new order mineral rights” (CMSA, 2004b: 13; see also Baxter, 2005; Graulich, 2005). Further clarity on the state’s role and “interventions powers” as custodian of mineral rights is also needed (CMSA, 2004b: 14).

A big question on the industry’s mind, as was discussed in some detail in Chapter 3, is the ability of new and prospective BEE partners to finance the purchase of equity. The mining charter proposes that “the transfer of equity [occurs] at market prices” (Ritchie, 2004: 13). Graulich (2005), Lilford (2005) and several others have also expressed concern about the availability of capital within the market and amongst these prospective HDSA shareholders (Rana in Ritchie, 2004: 14). Ritchie (2004: 14) believes that this issue will be dealt with through a process of learning-by-doing as the DME experiences the implementation process. Some obstacles mentioned by Ritchie (2004: 16) that could prevent the successful implementation of legislation include “scarcity of capable empowerment partners, the lack of administrative resources of the DME, misinterpretation of the legislation and a limited scope of empowerment.” These all echo fears of the industry that were discussed in Chapter 3 (see also Campbell in Ritchie, 2004: 18; Business Day, 2007h: 1). In addition an article in the Business Day (2007h: 2) reported the DME’s concerns about the integrity of BEE partners. The DME appears to be very cautious in accepting

conversion applications from companies on grounds of worries that BEE partners are passive and act only as window-dressing (Business Day, 2007h: 2).

Several articles have noted the “sensitivity of the South African government to public criticism – particularly on the issue of political and investor risk” in the transition from Apartheid to democracy (Financial Mail, 2005a: 45; Financial Mail, 2007; Business Day, 2007h: 1 – 2; Lilford, 2005; Baxter, 2005; Ramos, 2004). According to sources (Financial Mail, 2005a: 45; Financial Mail, 2007; Business Day 2007h: 1 – 2) this is strongly linked to the confidence that the industry has in the DME’s ability to process the conversion of mineral rights and administer the transfer of ownership to BEE partners. All these issues are an indication of the level of trust within the system between these two market participants. As discussed in Chapter 2, the level of trust within a system determines the success of organisation, relationships and changes to the institutional design Ostrom (2005: 249; North, 1990; 2005; Milgrom and Roberts, 1992; Rodrik, 2003; 2004).

In 2004, the then Minister of the Department of Minerals and Energy (DME), Phumzile Mlambo-Nguka, was instrumental in the formulation of the draft legislation and its implementation, believing “there is room for flexibility of interpretation” (CMSA, 2004b: 4). As confirmed by others in the department, the final discretion is left to the department and this (as detailed in Chapter 3) has left a sense of unease amongst mining houses and their investors (CMSA, 2004b: 4). However, whenever there has been confusion amongst industry stakeholders regarding the implementation of legislation and the “way forward”, the DME has typically responded with a similar bewilderment, specifically about the reasons for industry’s confusion (CMSA, 2004b: 14). In the case of industry fears about amendments to BEE quota stipulations, Jacinta Rocha (in CMSA, 2004b: 14) has been quoted as saying: “Companies will not be required to have a larger than 26 per cent black shareholding after 1 May 2005”. In the case of the conversion of mining rights, Sandile Nogxina (Financial Mail, 2007: 36) has expressed his own bafflement at companies concerns about the discretion that lies with the DME in the processing of applications. This lack of understanding could be equally indicated in the Business Times article (Business Times, 2008c: 6) which quoted Minister of Minerals and Energy, Buyelwa Sonjica

questioning “why most mining groups are dragging their feet over converting their rights.”

The department has on several occasions denied any capacity problems that it is perceived to have (Financial Mail, 2005a: 45). Sandile Nogxina, Director-General of the DME, deems delays to be the result of poor interpretation of the legislation by applicants (Financial Mail, 2005a: 45). Consequently, Nogxina, has been quoted more recently (Financial Mail, 2007: 36) that there will be “no more Mr. Nice Guy” and that “[the department has] been very accommodating in the past. If someone submitted an application that was flawed, we would still accept it and work with the applicant to improve it”. It is this “accommodating” approach that has slowed down the DME and in Nogxina’s opinion the department’s reputation has suffered (Financial Mail, 2007: 36 – 37). In addition Nogxina has effectively thrown down the gauntlet for companies to challenge the DME’s final decisions on matters of application (Financial Mail, 2007: 37). His (Nogxina) attitude is that by allowing the “courts to deliver decisions on aspects of the new mining laws” in instances of varying interpretations, a “body of jurisprudence” can be built up (Financial Mail, 2007: 37). The department has to date remained silent on industry’s concerns about the discretionary power granted to the DME within the MPRDA.

One of the key areas of institutional soundness – that of trust, partnership, communication and collaboration – has come under question in the changeover a new legislative framework. Mining Weekly (2005a: 20) quoted Mark Bristow (CEO of Randgold Resources) as saying that it was “essential that mining companies work in partnership with government”. The “poor relationships with the South African government were putting the South African mining industry at risk” (Mining Weekly, 2005a: 20).

As Rustomjee (1992: 42) contends, “the state is not a monolithic entity” and “there are and have been differences at different periods in time that have both influenced and inhibited the development of [the minerals and manufacturing sectors]”. His (Rustomjee, 1992: 42) main criticism is that the state has failed to take an integrated approach between mining and manufacturing (see also Fine and Rustomjee, 1996). They (Fine and Rustomjee, 1996) acknowledge that proposals about beneficiation (not

discussed in depth in this study) are a step in the correct direction, but that the state has failed to acknowledge the links that already exist between these two major industrial sectors of the economy (Rustomjee, 1992: 42 – 48).

Fine and Rustomjee (1996: 3) have been critical of the approach undertaken by the new ANC government following their election in 1994. In Fine and Rustomjee's (1996: 3) opinion, "the collectivist, potentially socialist, content of the Freedom Charter first gave way to the more guarded commitment to a mixed economy" and in turn "eroded" the ANC's "support for public ownership" (see also ANC, 1955). The most concerning of these concessions, Fine and Rustomjee (1996: 3 – 4) believe, are the continuation of the "old guard" in certain seats of power, and its subsequent effect on the "weight of momentum" in moving towards a new policy for South African industry. This has therefore led to a fragmentation between the political transformation and the macroeconomic one (Fine and Rustomjee, 1996: 4). Going back to Sander's (2000: 357 – 358) comments, the ANC was fully aware in its negotiations with industry prior to 1994 that the transitions would not occur overnight. The process would take time, but there were some things that could be changed through government intervention (Sander, 2000; Snowdon *et al.*, 1994; Beenstock, 1980; Froyen, 2005; Krugman, 2008; Levačić, 1976; Himmelweit *et al.*, 2001).

4.5 Conclusion

Several academic studies have researched the development of South Africa's economic and industrial policies (Innes, 1984: 126; Fine and Rustomjee, 1996; Feinstein, 2005; Yudelman, 1983). Duncan Innes' (1984: 126) study shows that the rate and extent of industrial development has been accomplished by the economic policies implemented as far back as the PACT Government in 1924. In addition to the economic policies, government managed the redistribution of extracted surplus value in the mining industry and the successful co-optation of labour (mostly white) and the suppression of wages (mostly black labour) (Innes, 1984: 126). Various scholars have also spoken a lot about the role of British/English capital and Afrikaner Capital and their respective relationships with the state in the industrial development of South

Africa, although this was not specifically covered in any detail in this study (Yudelman, 1983: 7; Fine and Rustomjee, 1996; Feinstein, 2005). Regardless of the extent to which these factions of capital were involved in economic policy, it is unanimous that the relationship between the state and capital was symbiotic and that this was the driving force of economic progression (Yudelman, 1983: 7).

The system of ownership of mining rights and title has moved from a privately allocated right in the early days of the Witwatersrand, to a system of mining leases from 1908, and finally one of state custodianship post-2000 (Kaplan, 1985; Webb, 1981; DME, 1995; CMSA, 1991; Mining Weekly, 2005a: 20; CMSA, 2004b). The changes to this allocation of property rights has largely determined the ability of the mining sector to generate wealth and more importantly, the state's ability to extract wealth from the industry for redistribution (Stahl, 1997; Pejovich, 2001; Posner, 1998; McChesney, 1990; Benson, 1994b; Epstein, 1994). This has also influenced the level of transaction costs faced by the state in processing and administering the mining rights allocation and maintenance (Williamson, 1996; Ostrom, 2005; Pejovich, 2001; Ellickson, 1993).

There is little evidence against the conclusion that the state designed policy that ultimately served its own end and that of its supporters. Robert Kotzé aptly believed that government's policy was the maximisation of revenue and employment opportunities, within the limits of continued growth and Yudelman (1983: 143) thus takes the stance that the state viewed mining as its instrument and not itself as the servant of the gold mining industry (Yudelman, 1983: 143). Following from this, it can be suggested that this approach was probably one on the lynchpins in the success of the relationship and close cooperation between the two entities. This draws on the comments made in the chapter about the extent of power held by market participants as determined by the distribution of property rights (Ostrom, 2005; Bailey, 1992; Benson, 1994a; Hobbes, 1615; Jasay, 1994).

Following from the idea of the state's policy serving its own end, it can be extrapolated that policy design was not always optimal [as per Ostrom's assumption (2005: 238)]. Policy design was sometimes intended to placate the proletariat and secure votes in the lead up to an election (Innes, 1984; Yudelman, 1983). This

translates to the conclusion that given the occasional bias of the state for its voters, policy was not always preservative of the mining industry's future. As discussed in some sections of this chapter, however, the extraction of profits and various other industrial or labour policies adopted by the state could be viewed as preservative to the long-term benefit of the economy and optimal use of the non-renewable and finite resource of gold.

In short there is very little evidence to support the theory that taxation of profits from gold mining were exploitative. This is based on the idea that despite the sometimes high levels of tax exerted on the industry, the industry was able to sustain itself and boast tremendous profits and dividends under certain circumstances (Sander, 2000; Feinstein, 2005; Innes, 1984; De Kock, 1924; Lombard and Stadler, 1980; Moll 1990). The socialists amongst us would use this as an opportunity to argue that perhaps then the design of taxation policy fell short and should have extracted more from the industry for the benefit of the greater public (Fine and Rustomjee, 1996; Rustomjee, 1992; Van Waasdijk, 1964).

For all the criticisms that the system of racial discrimination and Apartheid has received, Fine and Rustomjee (1996: 21) do acknowledge that, "far from holding back the economy, [the] system is perceived positively to have promoted profitability and accumulation by its extreme forms of exploitation" whether through the preferential treatment of certain factions of capital, industry or labour and the biased allocation of property rights within society. They go on to say that the structure of the capital-state relationship dictated that these preferences be determined (Fine and Rustomjee, 1996:120 – 122). "The more surplus that could be generated by mining, the more capital was potentially available for subsidising national capital. Consequently the inter-war development of South African capital is best seen as one in which the strength of mining capital dictated the boundaries within which national capital could be economically, and hence politically, supported. There were then limits on the economic policies of the state, whatever its politically derived objectives, because of its own and the economy's dependence on mining capital" (Fine and Rustomjee, 1996: 122).

In the 1970s however, the Apartheid state seems to have withdrawn from active involvement in industrial policy (Fine and Rustomjee, 1996: 176; Rustomjee, 1992; Feinstein, 2005). This it is believed was partially responsible for the stagnation in development once the “benefits from the gold and energy boom of the 1970s were exhausted” in the 1980s (Fine and Rustomjee, 1996: 196). This overlapped with the “political crises” of the death throes of Apartheid and the debt crisis of 1985 (Fine and Rustomjee, 1996: 196).

The most important issue when examining the involvement of the state is to consider whether the state was able “to resist the immediate, short-term demands of ‘populist’ pressures in order to meet their goals more effectively in the longer term after developmental goals have been realised” (Fine and Rustomjee, 1996: 62). This involves “sequencing of the relationship between economic development and [political] change” (Fine and Rustomjee, 1996: 62).

Chapter 5

Conclusion

This thesis has considered Elinor Ostrom's (2005: 238) assumption in understanding the make up and behaviour of institutional systems governing natural resources. That is: "Resource users are explicitly thought of as rational egoists who plunder local resources so as to maximise their own short-term benefits. Government officials are implicitly depicted, on the other hand, as seeking, the more general public interest, having the relevant information at hand and the capability of designing optimal policies."

In Chapter 2 this assumption was extrapolated and discussed in the context of this particular study. It was assumed that "resource users" were represented by the mining companies, associated mining finance houses and the Chamber of Mines of South Africa. The context of the study was an historical analysis of the deep-level gold mining industry of the Witwatersrand, South Africa, with the main focus of the assessment on the institutions of ownership. More specifically, the development of mining rights and title legislation between 1886 and 2008. In addition to this, areas also considered included government's taxation policy with respect to gold mining and any additional aspects of compliance incorporated within the mining rights and title legislation. This was particularly prominent in the regulatory developments post-1994. The development, implementation and use of the aforementioned legislation was examined from the two perspectives of preserver or exploiter.

In order to examine these themes, the theoretical framework was constructed from four areas of economic thought. These included: the neoclassical and Keynesian schools of macroeconomic thought; industrial organisation and its relevance to the relationship between firms and the market; institutional and new institutional economics; and finally the economics of property rights. In the majority, the thematic chapters drew from property rights theory, new institutional economics and industrial organisation. The theoretical assumption of the neoclassical synthesis and Keynesian

macroeconomic frameworks were mainly identified as a foundation for the issues surrounding state intervention in particular.

The system of ownership of mining rights and title has moved from a privately allocated right in the early days of the Witwatersrand, to a system of mining leases from 1908, and finally one of state custodianship post-2000 (Kaplan, 1985; Webb, 1981; DME, 1995; CMSA, 1991; Mining Weekly, 2005a: 20; CMSA, 2004b). The changes to this allocation of property rights has largely determined the ability of the mining sector to generate wealth and more importantly, the state's ability to extract wealth from the industry for redistribution (Stahl, 1997; Pejovich, 2001; Posner, 1998; McChesney, 1990; Benson, 1994b; Epstein, 1994). This has also influenced the level of transaction costs faced by the state in processing and administering the mining rights allocation and maintenance (Williamson, 1996; Ostrom, 2005; Pejovich, 2001; Ellickson, 1993). In examining the development and implementation of the various gold laws, and more recently the MPRDA, it was the aim of the researcher to consider the state's motivations for design thereof, and the subsequent interpretation by the mining community. The economic incentives arising from the law have thus helped to determine the preservative or exploitative status of each party. On the whole, and broadly speaking, both market participants have oscillated between states of preservation and exploitation through the course of time. Peripheral initiatives by the state and mining houses have therefore been used to assist in determining their status as preserver or exploiter.

Chapter 3 discussed the development of mining rights legislation from the perspective of the resource user. This chapter aimed to test if the mining industry were in fact, "rational egoists", who opportunistically coerced government and the course of legislative developments in order to achieve a short run gain. Alternatively, that they were instead "rational egoists" who recognised future benefit and in essence, extended the life of and future benefit from, a non-renewable resource.

As Ostrom (2005: 238) acknowledges, beyond theoretical applications, the "rational egoist" is not a realistic market participant. In reality, participants represent a mixed bag of individuals coming from a multitude of cultural backgrounds; all shaped by a variety of life experiences (see also North, 1990; 2005). Individuals are assumed to be

“rational egoists” due to the assumptions of the open, competitive market that analysts use in modelling institutions (Ostrom, 2005: 118). These assumptions are in line with the ideas of neoclassical theory, where “humans are...boundedly rational, fallible individuals who pursue multiple goals for themselves and others, adopt contextually relevant norms of behaviour, and can learn better strategies in a particular situation over time” (Ostrom, 2005: 118). Resource users will generally organise themselves according to the perceived costs and benefits of different organisational structures (Ostrom, 2005: 247). These are dependent on the prevailing institutional setting.

Chapter 4 explored whether the state was indeed a rational entity that had access to the correct information and designed optimal policy for the preservation of the gold industry and its impact on the South African economy. As detailed in Chapter 2, Ostrom (2005: 238) expresses the shortcoming of her basic assumption. To assume that government officials are equipped with perfect knowledge and altruistic goals is naïve. “The knowledge base of government officials, may not, in reality, be better than that of local appropriators who have used a particular resource for years and know its characteristics in considerable detail. Even when the knowledge base is similar, no guarantee exists that government officials (or the researchers that advise them) will use available information to make efficient and/or sustainable decisions” Ostrom (2005: 238). The best that government officials can do is to design policy that they believe will change the incentive structure of resource users, with the desired outcomes. Acheson, Wilson and Steneck (1998) go even further to say that public officials are often so limited in their information, that they generally view “resources in a particular sector [as] relatively similar and sufficiently interrelated that they need to be governed by the same set of rules” (in Ostrom, 2005: 239).

On the Witwatersrand, the majority of gold deposits were deep-level and the nature of the ground required heavy capital investment in order to run a profitable operation (Kaplan, 1985; Kettell, 1982; Rosenthal, 1970; Krautkraemer, 1998: 2066 – 2067). This meant that individual diggers were very quickly surpassed by the existent foreign businessmen and large conglomerates in the rush for the goldfields (Sander, 2000; Innes; 1984; Yudelman, 1983). Moxnes (1996) explains, “the presence of reliable indicators about the conditions of a resource affects the capacity of appropriators to adapt relatively soon to changes that could adversely affect their long-term benefit

stream” (in Ostrom, 2005: 247; see also Krautkraemer, 1998: 2066 – 2067). This links with the thoughts of Schalger, Blomquist and Tang (1994) that management of a resource base is easier in circumstances of a well-defined and predictable output flow. It is important to note here that resource users on the Witwatersrand shared a common understanding and goal for systems operations, and this was paramount for sustainability (Ostrom, 2005: 248).

Ostrom (2005: 249) – as do many others (see also North, 1990; 2005; Milgrom and Roberts, 1992) – believes that the success of organisation and change in an institution’s design is largely dependent on the level of trust within the system. Throughout Chapter 3 and 4 this was linked to the interaction between the state and mining capital. It was often used in identifying the success of a change in government policy, the negotiations between the two entities or the influence held by the mining houses in setting policy goals and outcomes. Rodrik (2004:7 – 8), believes that while not specifically related to trust, as long as investors feel safe, the future of a system is secure. The issue of investor confidence can be seen to flow through the history of the Witwatersrand goldmines, from its early stages of development and need for venture capital, through to the present day when it is now needed to finance new mines and sustain declining ones. In addition, the similarity of proposed changes to systems previously experienced by participants, the size of the group experiencing the change and the shared cultural beliefs or reference points of the group all impact upon the success of potential outcomes (Ostrom, 2005: 249 – 251).

Ostrom (2005: 240) explains that each party, namely the resource user/s and government will “use their intuitive understanding of the resource and of one another’s norms and preferences to experiment with different rule changes and assess the effects of rules with which to experiment until they find a combination that seems to work in their setting” (see also Milgrom and Roberts, 1992; Williamson, 1975; 1979; 1985; Ostrom, 2005). This was shown in the context of constant negotiation and communication between entities.

As GSB UCT (2000: 77) expresses, “Given the economic power of the mining houses, as well as their significance as symbolic of the old order, it was inevitable that the political changes of the 1990s would put them under pressure to change

and...accelerate the introduction of black capitalists and managers into [the] industry". As Chapter 3 has indicated, mining companies made plans as early as 1989 and began engaging with the ANC in anticipation of the political changes ahead (Sander, 2000: 356). Mining companies have also become the leading industry in South Africa in terms of BEE transactions (Ritchie, 2004: 2; Business Day, 2006: 1; Sander, 2000: 356). This all shows the pre-emptive nature of the industry and how their perspective on the value of minerals to South Africa has changed since the beginning of the Witwatersrand.

The mining industry is very much aware that this process of change will be an extended and slow process, especially in order to deal with backlogs in skills and education (GSB UCT, 2000: 77; Baxter, 2005). The industry has thus taken a holistic approach to the future of the industry and is making every effort to sustain both the life of mines and the lives of those communities that benefit from mining (Baxter, 2005; GSB UCT, 2000; DME, 1995; Graulich, 2005).

As pointed out by Yudelman (1983: 69 – 70): "The relationship between the gold mines and the state was important enough to necessitate a permanent institutional framework that would survive changes of regimes and the crumbling of friendships." Hence, the continued close interaction and sometimes antagonism between the two parties in designing policy. For the purposes of this chapter however, the focus is on the actions of the mining houses and their relevance for the prospects of the mining industry.

The transformation of the mining industry's institutional framework was both a choice by government as well as that of the firms in the mining industry. Throughout the history of this prominent South African industry, the motivation for action from the industry or government has moved between the two extremes of preserver and exploiter. In drawing from the theoretical framework, this thesis can conclude that both the mining firms and state designed interactions and policy in order to serve their own end. In the case of the mining houses, they behaved in the same fashion as perfectly competitive firms.

In other words, they were motivated to minimise costs and maximise profits. This was required within the context of a constantly changing political and legislative environment. Purely from the viewpoint of maximisation of industry profits, one could argue that the firms had a preservative outlook. That is, they wished to sustain the lifespan of gold deposits on the reef in order to sustain business. In addition, the mining house development around a group system and into associated (and sometimes unrelated) industries was a way in which they preserved their own profit margins and longevity, given the non-renewable nature of their core-business. It is true that in achieving the minimisation of costs, the mining firms undertook exploitative measures – whether through the minimisation of wages, the incorporation of downstream industries as suppliers of inputs into the group system, or the averaging of output and manipulation of ore grades in order to minimise tax payments. It was argued in Chapter 3 that these are all in line with industrial organisation theory. Furthermore, the preservative status of the mining firms can be extended to include the companies' recent developments into areas of corporate social initiatives, environmental rehabilitation and community development. As mentioned in the conclusion of Chapter 3, companies in the South African gold mining industry can only behave in a simplistically, exploitative manner – given the constraints of fixed costs associated with labour, electricity, water and various other inputs and the price of gold set by world markets and subject to a fluctuating Rand/US Dollar exchange rate. As such their behaviour should rather be judged in the amount of benefit they provide the local mining community and greater South African economy – extending beyond the extraction of resources from the ground, to the rehabilitation of the environment and preservation of mining communities still holds.

In the 2004 Chamber of Mines Annual Report – “Preserving the Future” – the mining industry emphasises the preservation of mining and the economy through initiatives such as infrastructure for health care, local community and economic development, “funding business against crime, the business trust and tertiary education” (CMSA, 2004f: 16 – 17; Ritchie, 2004; Graulich, 2005; Baxter, 2005). “The mining industry has been at the forefront of empowerment with 34 deals worth around R16.8 billion being concluded between 2001 and 2003. There has also been progress with employment equity, woman in mining, procurement from HDSA companies and skills development” (CMSA, 2004f: 43; see also CMSA, 2002: 1; Ritchie, 2004: 2;

CMSA, 2004e: 1). As long as conglomerates invest in South Africa it can be seen as preservative. One needs to also take account of the attitude towards the country's development and the types of multiplier and legacy effects their business has.

As a CMSA presentation (2005b: 40) highlighted: "The mining industry is faced with enormous challenges in the 21st century...[requiring] a partnership approach with a view to create synergies in building a conducive environment for a growing and competitive industry in SA." Furthermore, it reiterated the Chamber's commitment to "participate fully in this process to ensure that the mining industry remains a 'sunrise industry' in the domestic and international arena."

Fine and Rustomjee (1996: 51) describe the state as "an integral agency or set of institutions and social structures", thereby defining "its interaction with or relation to the rest of society". Furthermore, "the state must be able to resist the demands of individual sectors in order to be able to promote their short- and long-term common interests, such as setting the appropriate level of protection" (Fine and Rustomjee, 1996: 62). This means that the state will have a strong influence on which capital factions survive and prosper, magnified through interventionist and protectionist policies (Fine and Rustomjee, 1996: 62). Thus, it is important that the state "be able to resist the immediate, short-term demands of 'populist' pressures in order to meet their goals more effectively in the longer term after developmental goals have been realised" (Fine and Rustomjee, 1996: 62).

In Chapter 4, it was concluded that, as with the mining houses the state designed policy that ultimately served its own end and that of its supporters. As Robert Kotzé believed, government's policy was the maximisation of revenue and employment opportunities, within the limits of continued growth. This is true for any government working within a fiscal sustainability framework. As discussed in the chapter too, was Yudelman (1983: 143) understanding that, in pursuit of these ideals, the state therefore viewed mining as its instrument and not itself as an instrument of the gold mining industry (Yudelman, 1983: 143). In debating this point the researcher used the theory of power as determined by the allocation of property rights as discussed in Chapter 2 (Ostrom, 2005; Bailey, 1992; Benson, 1994a; Hobbes, 1615; Jasay, 1994).

Following from the idea of the state's policy serving its own end, it can be extrapolated that policy design was not always optimal [as per Ostrom's assumption (2005: 238)]. Policy design was sometimes to placate the proletariat and secure votes in the lead up to an election (Innes, 1984; Yudelman, 1983). This translates to the conclusion that given the occasional bias of the state for its voters, policy was not always preservative of the mining industry's future. As discussed in some sections of this chapter, however, the extraction of profits and various other industrial or labour policies adopted by the state could be viewed as preservative to the long-term benefit of the economy and optimal use of the non-renewable and finite resource of gold.

Krautkraemer (1998: 2078) notes that "non-renewable resource industries are subject to a variety of taxes in addition to the taxes paid by all firms". The main motivation for taxation is that "non-renewable resources are part of the national heritage and resource rents should accrue to the general welfare" (Krautkraemer, 1998: 2078). As has been commented by several authors (Yudelman, 1983; Innes, 1984; Kaplan, 1985; Sander, 2000; Moll, 1990; Feinstein, 2005), almost regardless of the revenue skimmed off by the state through taxes, the mining industry appeared to have performed well and managed to sustain relatively consistent and meaningful levels of profit and dividends for shareholders. As Kettell (1982: 133) states "The South African government has an obvious interest in extending the lives of the mines to maintain taxation revenues, employment levels and gold's contribution to the [South African] balance of payments, and the mines have to conduct their operations to meet these policy objectives."

In short there is very little evidence to support the theory that taxation of profits from gold mining were exploitative. This is based on the idea that despite the sometimes high levels of tax exerted on the industry, the industry was able to sustain itself and boast tremendous profits and dividends under certain circumstances (Sander, 2000; Feinstein, 2005; Innes, 1984; De Kock, 1924; Lombard and Stadler, 1980; Moll 1990). The socialists amongst us would use this as an opportunity to argue that perhaps then the design of taxation policy fell short and should have extracted more from the industry for the benefit of the greater public (Fine and Rustomjee, 1996; Rustomjee, 1992; Van Waasdijk, 1964).

And as stated in the conclusion of Chapter 4, for all the criticisms that the system of racial discrimination and Apartheid has received, it has been acknowledged that on the whole, state policy was in the best interest of “profitability and accumulation”(p21) and the surplus extracted from mining was used to subsidise national capital (Fine and Rustomjee, 1996: 21, 122). The most important issue when examining the involvement of the state is to consider whether the state was able “to resist the immediate, short-term demands of ‘populist’ pressures in order to meet their goals more effectively in the longer term after developmental goals have been realised” (Fine and Rustomjee, 1996: 62).

It is at this point that a criticism of the state (post-1994) arises. In the discussion in Chapter 4 on transition to a new minerals policy, it was agreed amongst stakeholders that the development of a stable electricity supply, at low –cost, as well as a reliable and modernised system of transport and trade infrastructure (via railways and ports upgrading and development) was needed to spur the mining industry into a sunrise industry again. For several reasons, not covered in this study, these changes have not occurred at the pace anticipated. In addition it is a further criticism that the state has let these fundamental economic infrastructural foundations slide, with a focus on implementing the policy of BEE and affirmative action as well as employment growth. It is understood that all governments pursue multiple policy goals simultaneously. In this instance it is the opinion of the researcher that the ANC has put the proverbial cart before the horse. By improving the economic infrastructure and lowering the costs of doing business, it may have improved economies of scale and the efficiency with which the industry functions. This may have provided a better foundation to the development of an improved spread of ownership and skill-development. If firms are struggling to get their product to a market, it is understandable that goals of increased employment and equity expansion will fall by the way-side.

All this considered, and despite the breakdown in trust between the state and mining industry in recent legislative developments, it is still felt that the industry and state have some semblance of a good relationship and dependency upon each other (Financial Mail, 2007: 38). Both parties acknowledged there is constant discussion over their respective issues and therefore the historical state-capital relationship

remains intact (Financial Mail, 2007: 38). What is important as the industry moves forward, is that the two entities continue to work together in determining the development and future prosperity of the industry. The state must recognise that the mining industry can provide the economy with many things but not everything. The mining industry must similarly understand the many priorities of government that it is attempting to achieve concurrently. The mining industry must continue to be open to negotiation about their role in the process of transformation and on the path of economic growth and expansion.

The Chamber and state alike see the mining industry as a national asset that needs to be utilised optimally (CMSA, 2004e: 1). Thus it has been argued by the Chamber throughout policy and legislation negotiations, that “preservation and sustainable growth of the mining industry” is paramount (CMSA, 2004e: 1 – 5). This will only be achieved through the maintenance of the rule-of-law, assurance of the security of tenure, stable transactions costs and the relative soundness and invariance of institutions (Pejovich, 2000; Hobbes, 1651; Benson, 1994a; Hodgson, 1994; Coase, 1937; 1988a; 1988b; Williamson, 1975; 1979; 1985; 2005; Ostrom, 2005). As stated by Zoli Diliza, then Chief Executive of the Chamber of Mines, in a media release (2004d: 1 – 2): “The critical issue facing the mining industry today is to ensure that the minerals policies spearheaded by South Africa should comply with the highest standards of administrative justice, promote internationally acceptable levels of security of tenure and ultimately promote an environment that would enhance South Africa’s competitiveness as an investment destination.”

One has to wonder though if the ideals of the mining industry and government are in contrast to each other? Is the state looking to the mining industry to solve their issues of unemployment, redistribution of ownership in industry, financing, skills transfer and training, etc – without thinking about the capabilities of the industry and its economic life? This is especially unclear in the nature with which BEE transactions have occurred. As mentioned previously, the transfer of ownership has been far more concentrated than it was possibly anticipated and hoped (GSB UCT, 2000: 81; Business Day, 12 April 2005: 15). By studying the nature of the development of the industry from its inception in the 1880s, one sees that deep-level mining on the Witwatersrand is really only suited to this concentrated conglomeration that has

emerged (Fine, 1992: 14 – 15; DME, 1995; Webb, 1981; Innes, 1984; Yudelman, 1983). It was acknowledged in the early discussion between industry and the ANC that the changes would be slow. The state's recent impatience has meant that their generally preservative status has been tarnished by their intent to gain all policy outcomes of improved foreign direct investment, export-led growth, employment, BEE and skills transfer from this singular industry.

As Ritchie (2004:2) points out, the South African mining industry has been the foundation upon which the South African economy has relied for the better part of the last one hundred years. Mining, being an integral part of our history, has therefore been accused of creating much of the inequality and disadvantaged population of South Africa. It is for these reasons that the South African government wishes to maintain the mining industry as an engine of growth but also as a pioneering industry in reversing and correcting inequalities that previous regimes implemented. It is therefore no surprise that the industry is a leader in terms of BEE deals and provisions for social security setups, skills development and employment equity. Much of the changes needed have been addressed by various legislative implementations and suggestions from the Departments of Mineral and Energy Affairs and National Treasury, respectively. There is however much debate about how well these changes and proposals have been thought out and are to be implemented. According to Roger Baxter (2005), chief economist of the Chamber of Mines South Africa, the government needs to be careful not to force mining companies into compliance. If this happens South Africa may find itself with sterilised deposits and no contribution by mining companies to GDP.

Members of the industry have indicated that mining companies are not opposed to these changes in legislation but rather wish to make the changes in terms of every parties' best interest. The Chamber of Mines and mining houses are not opposing implementation of legislative changes as long as all proposed changes make economic sense for mines, South Africa and it's people. The government needs to ensure that by suggesting changes for the mining industry they do not contradict or block other government goals such as job creation and social welfare programmes. It is clear that the main aim of government is redistribution. The government needs to be more specific about its aims and has already said no to possible conflict with any other

policies already in place and laid out in federal medium- to long-term goals. There is no doubt in the mining community's mind that the proposed changes will take time to implement successfully. It remains unclear how fast the government expects the process to be.

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