

Undermining mineral rights: An international comparison

by
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Editor's note

FMF *Occasional Papers* are designed to make available to a wider audience essays on particular matters of moment or currency.

Few matters are of greater import to South Africa than mineral rights policy.

South Africa has traditionally prospered as a resource-based economy. Now, however, after a century and a half of economic success, government is considering changing the structure of mineral rights. Moreover it is proposing this be done contrary to global legislative trends – others have successfully emulated South Africa in the last decade. The author suggests such a policy reversal is at best questionable and at worst misguided.

This *Paper* represents the views of the author, and not necessarily those of the Directors, members or staff of the Foundation, which has no corporate view. However, the FMF believes the *Paper* is a relevant input to the current debate. It is a timely and perhaps critical contribution.

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Johan Biermann

Introduction

This *Paper* summarises research undertaken by the author¹ to establish the situation regarding the ownership of mineral rights in various countries.

The study was prompted by the South African government's intended nationalisation of mineral rights and its apparent belief that the private ownership of mineral rights in the country represents an exception rather than the rule when compared with other countries and that state-owned minerals systems are superior to private minerals systems.

It is noted that no comprehensive international survey of mineral rights systems is available at present and that, owing to the differences in, and complexity of, minerals and mining legislation, a detailed assessment of different systems would require an intensive and costly investigation. However, clear trends in the reform of minerals and mining legislation worldwide are evident, which makes possible a comparison between the performance of state-owned minerals systems and private mineral systems.

This *Paper* demonstrates that systems of private ownership of mineral rights in South Africa and the United States, whereby the ownership of minerals is severed from the ownership of the land, are superior to the systems of government ownership of minerals, that exist in many other parts of the world. The private ownership of mineral rights has led to the development of a vibrant and technologically advanced mining sector in South Africa, with mining accounting for a substantial component in South Africa's GNP and foreign exchange earnings, with exports to more than 80 countries.

The superiority of systems based on private minerals ownership is evidenced by the following:

- The common thread in the reform of minerals and mining legislation in many countries during the last two decades of the 20th century is the transformation of state owned and controlled minerals and systems into systems resembling private ownership systems. To this end legislative reform worldwide has improved security of tenure and tradability of minerals and mining concessions and licences granted by governments.
- During the 1990s many developing countries initiated reform of mineral and mining laws, particularly to develop mineral resources and to attract foreign investment. The most successful reform initiatives occurred in Latin America where as a result of legislative reform exploration and mining concessions granted by the state are now treated as real rights in property, and these rights are transferable, saleable, and can be mortgaged. In these countries the mining companies have an exclusive and guaranteed right to mine particular interests in minerals. Exploration rights are granted on a first come, first served basis, with no prior review of the technical and/or financial qualifications of applicants. As a result, because mineral rights are transferable, ultimately the market, not the government, determines who will own particular mineral rights. This has led to the development of a secondary market for exploration and mining rights.
- Following the legislative reforms during the 1990s, Latin America has attracted mining investment at the expense of the traditional mining countries such as USA, Canada, Australia and South Africa. Even after the downturn in worldwide exploration investment since 1997, Latin America accounted for approximately 29% of worldwide investment in minerals exploration in 1999, as opposed to 13% in the 1980s.

- Countries that attract most of the foreign investment and development of mineral resources and mining are those in which mineral agreements and mining concessions and licences afford a large degree of security of tenure.
- Surveys of trans-national mining companies, undertaken by the United Nations, the World Bank and the East-West Centre, clearly established that security of tenure (ownership) of rights to explore and mine minerals is the major consideration driving mining investment.
- While in most countries minerals are state-owned, in South Africa and the USA minerals are privately owned, and in some countries, notably Australia, Canada and New Zealand state ownership systems exist side-by-side with private ownership systems.

The private ownership of mineral rights achieves all goals for minerals and mining development, without the associated government bureaucracy, interference, inefficiency and corruption. Thus, instead of nationalising mineral rights, South Africa should retain its private minerals ownership system. The government, as the major landowner in the country, should open-up state land for prospecting and mining.

The *Paper* is structured into three main sections. Chapter 2 discusses South Africa's private minerals system in the context of government's intention to nationalise minerals. It also deals with the moral and economic arguments advanced in favour of nationalisation. Chapter 3 discusses minerals systems and the worldwide trend in the reform of minerals and mining legislation. Chapter 4 examines private ownership of minerals vs. licences and concessions granted by governments. Chapter 5 presents some conclusions. The Annexure provides the detail on which the discussion in these chapters was based.

¹ *Mineral Rights Ownership Across the World* (2001) Free Market Foundation of Southern Africa, Johannesburg.

Private minerals ownership vs. nationalisation

South Africa's superior system of private mineral rights

The system of private ownership of mineral rights in South Africa, whereby the ownership of minerals is severed from the ownership of the land, is superior to the systems of government ownership of minerals which exist in many parts of the world.

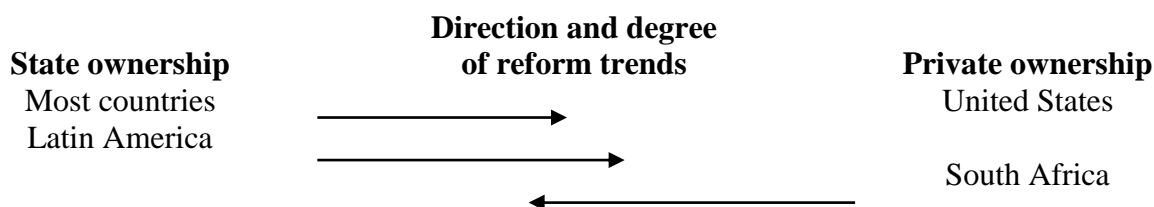
Private ownership of mineral rights has led to the development of a vibrant and technologically advanced minerals and mining sector in South Africa, with mining accounting for a substantial component in South Africa's GNP and foreign exchange earnings, and exports to more than 80 countries.

Surveys conducted by the World Bank¹ and the United Nations² confirmed that security of tenure (ownership of rights) is the overriding consideration when mining companies make decisions about the mining of mineral resources. Private ownership provides the highest level of security of tenure; as a result, South Africa's system of private mineral rights ownership is superior to the systems of state ownership and control found in most countries.

International trend towards security of tenure

The superiority of private minerals systems is supported by the fact that the widespread reforms of minerals and mining legislation in many countries of the world during the last two decades of the 20th century have been aimed at improving security of tenure and tradability of minerals and mining concessions granted by governments. The effect of legislative reforms all over the world has been to transform minerals and mining systems into systems resembling private ownership of mineral rights. Should South Africa nationalise its minerals this would be an anomaly, as demonstrated in Figure 1.

Figure 1: Trends in security of tenure of minerals exploration and mining



Following legislative reforms during the 1990s which dramatically reduced state intervention and greatly improved security of tenure, Latin America has attracted mining investment at the expense of traditional mining countries such as the USA, Canada, Australia and South Africa. Even after the downturn in worldwide exploration investment since 1997, Latin America accounted for approximately 29% of worldwide investment in minerals exploration in 1999, as opposed to 13% in the 1980s.

South Africa a leading producer of minerals

South Africa's mineral resources coupled with its system of private ownership of minerals make the country a leading producer (Table 1) and exporter (Table 2) of minerals.

In 1998 South Africa ranked first in the production of aluminosilicates, chrome ore, ferrochromium, gold, vanadium and vermiculite. In the same year the country ranked first in the export of aluminosilicates, chrome ore, ferrochromium, ferromanganese, manganese ore, vanadium and vermiculite.

Table 1: South Africa's mineral production, 1998³

| Commodity | Unit | Production | World | |
|-----------------------|-------|------------|-------|------|
| | | | % | Rank |
| Aluminium | Kt | 677 | 3,0 | 8 |
| Alumino-silicates | Kt | 233 | 59,3 | 1 |
| Antimony | T | 4 243 | 3,1 | 4 |
| Asbestos | Kt | 28 | 1,5 | 7 |
| Chrome ore | Kt | 6 480 | 47,8 | 1 |
| Coal | Mt | 224,3 | 6,1 | 5 |
| Copper | Kt | 190 | 1,6 | 12 |
| Diamonds | k car | 10 041 | 8,7 | 5 |
| Ferrochromium | Kt | 2 025 | 44,1 | 1 |
| Ferromanganese | Kt | 782 | 11,7 | 3 |
| Ferrosilicon | Kt | 84 | 3,3 | 6 |
| Fluorspar | Kt | 237 | 5,2 | 3 |
| Gold | T | 464,2 | 18,2 | 1 |
| Iron ore | Mt | 32,9 | 3,6 | 8 |
| Lead | Kt | 84 | 2,7 | 8 |
| Manganese ore | Kt | 3 044 | 13,7 | 3 |
| Nickel | Kt | 34,8 | 3,2 | 8 |
| Phosphate rock | Kt | 2 739 | 1,9 | 9 |
| Platinum-group metals | Kg | 200 155 | 43,3 | 2 |
| Silicon metal | Kt | 33 | 3,9 | 7 |
| Silver | T | 144,5 | 0,9 | 15 |
| Titanium minerals | Kt | 1 043 | 22,6 | 2 |
| Uranium | T | 1 123 | 3,1 | 8 |
| Vanadium | Kt | 18,9 | 61,6 | 1 |
| Vermiculite | Kt | 221 | 75,9 | 1 |
| Zinc | Kt | 70 | 0,9 | 18 |
| Zirconium minerals | Kt | 265 | 25,8 | 2 |

In 1998 mining contributed 6,6% to GDP and sales of minerals products accounted for 34,4% of total export revenue. The inclusion of various processed mineral products such as ferro-alloys, aluminium, carbon and stainless steel increased this contribution to more than 50%.⁴

Table 2: South Africa's mineral exports, 1998⁵

| Commodity | Unit | Exports | % | World ranking |
|--------------------|------|---------|------|---------------|
| Alumino-silicates | kt | 144 | 49,8 | 1 |
| Antimony | t | 3 655 | 5,0 | 3 |
| Asbestos | kt | 38 | 4,2 | 6 |
| Chrome ore | kt | 859 | 28,9 | 1 |
| Coal | Mt | 67 | 11,9 | 3 |
| Copper | kt | 86 | 0,9 | 15 |
| Ferrochromium | kt | 1 650 | 50,8 | 1 |
| Ferromanganese | kt | 681 | 27,6 | 1 |
| Ferrosilicon | kt | 37 | 3,3 | 6 |
| Fluorspar | kt | 183 | 8,5 | 3 |
| Iron ore | Mt | 22 | 4,8 | 6 |
| Lead | kt | 77 | 4,6 | 6 |
| Manganese ore | kt | 1 680 | 28,5 | 1 |
| Phosphate rock | kt | 902 | 1,6 | 8 |
| Silicon metal | kt | 39 | 7,3 | 4 |
| Vanadium | kt | 18 | 69,0 | 1 |
| Vermiculite | kt | 223 | 96,5 | 1 |
| Zirconium minerals | kt | 293 | 32,3 | 2 |

Proposed reform of South African minerals legislation

Against the tide

At a time when more than 90 countries⁶ have introduced, or are in the process of introducing, minerals and mining legislation that guarantees mining companies security of tenure in the exploration for and mining of minerals, the South African Government, in its *Minerals and Petroleum Resources Development Bill*, gave notice of its intention to swim against the tide and nationalise the country's mineral resources.

This flies in the face of worldwide trends, which are aimed at reducing or eliminating government control and intervention in the minerals and mining sector to increase and attract local and foreign investment in mining.

Countries that have reduced government control over their minerals and mining sectors have experienced a dramatic increase in mining investment. For example, in 1999 Venezuela introduced a radical new law scrapping all taxes on mining exploration⁷. Only one year later Venezuela boasted an 18% expansion in its mining sector and expected to attract up to \$6bn in new investment by 2004. Venezuela had little choice. Over the previous decade its Latin American neighbours, who had introduced mining reforms that drastically reduced government control over minerals and mining, had seen dramatic increases in mining investment. Venezuela languished because its mineral resources were locked in a death-grip of "peoples' taxes" that had scant regard for the economics of mining, which the private mining companies face every day. The people of Venezuela are begin-

ning to prosper as new mining investment flows into the country, which is rapidly liberalising all sectors of its economy.

SA government vs. the private ownership of minerals

The South African Government rejects the current system of the private ownership of mineral rights based on the following⁸ :

- The system of private mineral rights ownership is a historical legacy bequeathed by both colonialism and apartheid.
- The system limits equal and equitable access to mineral rights.
- It encourages sterilisation of large areas thus preventing the optimal exploitation of the country's natural resources for the benefit of all.
- The prevailing mineral rights regime has excluded black people from participation as equal players with their white counterparts in the economy.
- The introduction of pass laws and other discriminatory pieces of legislation around 1872 effectively removed all mineral rights ownership from the indigenous people and restricted their movement, thus curtailing their economic activity and reducing them to mere purveyors of cheap labour. The Gold Law of the South African Republic provided that “no coloured person defined to mean African, Asiatic, Native or Coloured American, Coolie or Chinaman may be a license holder or in any way be connected with the working of the diggings, but shall be allowed as a workman in the service of whites”.
- The various laws regulating the mining industry were consolidated into the Mining Rights Act of 1976. Section 7(3), which prohibited the issuance of a prospecting permit to “any coloured person or coloured persons holding a controlling interest or any Black person”.
- The injustices of our past still manifest themselves in the ownership patterns of our mining industry.
- The fact that the private holders of mineral rights have no obligation to exploit these rights means that they can hold them in perpetuity without using them.

By nationalising mineral rights government⁹ :

- Aims to bring about equitable access to all South Africa's natural resources.
- Recognises mineral resources as the common heritage of all South Africans and the state as the custodian of the nation's mineral resources. Benefits should accrue directly to the people.
- Will require companies to contribute towards the socio-economic development of the areas they are operating in.
- Commits the state to make use of royalties to promote rural and local economic development in areas affected by mining.
- Commits itself to the transfer of the minerals wealth to the people.

Based on the above government believes that entrusting mineral rights to the state will be a better option. In this government is mistaken. South Africa has a unique system of private mineral rights ownership, which meets all of government's goals for the development of its people and which has made, and continues to make, a substantial contribution to wealth creation in the country.

Nationalisation: A step backwards

Introduction

The international trend in the reform of mining legislation is aimed at improving security of tenure as far as exploration for and mining of minerals are concerned. Clearly, because of South Africa's system of the private ownership of minerals, security of tenure in South Africa is superior to that of other countries. Nationalisation of mineral rights in South Africa will reduce security of tenure and

lead to a dramatic decline in mining investment and productivity with detrimental effects on the economy and all the people of South Africa.

Government's misplaced belief in nationalisation is examined below.

The moral arguments

- **Past injustices**

Government submits that due to colonialism and apartheid the majority of people in the country have been deprived of access to the mineral wealth of the country and that nationalisation is required to ensure access and a share in the country's mineral wealth.

While it is acknowledged that the majority of people were indeed prevented from owning minerals it should be pointed out that this is not a fault of the system of private ownership of mineral rights, but rather of immoral legislation that deprived the majority of people of the right to own property, including minerals.

Government has already removed racially-based legislation from the statute book. It now needs to ensure that property rights, including the right of every citizen to acquire and own minerals, are honoured. Furthermore, to address past injustices, government as a major landowner in the country should embark on a programme of selling all the minerals owned by it as a result of its land ownership. This would create confidence in the mining industry and attract local and foreign investment. By contrast, nationalisation of existing privately-owned mineral rights and the re-allocation of these rights would destroy confidence in the South African mining industry, with disastrous economic consequences.

No matter how honourable a government's intentions are, nationalisation of minerals will create a mechanism whereby rights are allocated based on political expediency. It will empower government officials to advantage some people and disadvantage others. By contrast, in a private minerals system the market 'allocates' minerals ownership to those who are best able to realise the economic potential of a minerals source.

- **Sharing in the mineral wealth**

Those who argue that only governmental direction of mining could distribute the country's mineral wealth among individuals and groups to conform to some preconceived moral standard also demand nationalisation of minerals.

According to Hayek¹⁰ there are two different fundamental and decisive objections to these demands:

- The first is that no agreement exists (or appears even conceivable) about the kind of distribution that is desirable or morally demanded.
- The second is that whatever particular distributive scheme were to be aimed at could in fact be realised only in a strictly totalitarian order in which individuals would not be allowed to use their own knowledge for their own purposes but would have to work under orders on jobs assigned to them for purposes determined by government authority.

Hayek points out that this would result in a disastrous loss of personal freedom.

It should be noted that the notion that state ownership and government planning of the economy could guarantee every citizen a share in the wealth of a country, ensure the optimal exploitation of natural resources, and bring prosperity to all ended with the collapse of the centrally-planned economies of Eastern Europe and the Soviet Union at the end of the 1980s.

Efficiency and knowledge

Government believes that the system of private ownership of mineral rights limits equal and equitable access to mineral rights, and that it encourages sterilisation of large areas, thus preventing the optimal exploitation of the country's natural resources for the benefit of all.

The implication is that government believes that state ownership will ensure the optimal and productive utilisation of the country's mineral resources. The problem with this argument is that it assumes that someone actually knows how to allocate mineral resources in an equitable manner and also what the optimal utilisation of mineral resources is. Such a person or organisation does not exist.

It is today generally recognised that state ownership of resources and businesses and government planning of the economy greatly decreases productivity. Hayek¹¹ points out that "The chief reason why we cannot hope, by central direction, to achieve anything like the efficiency in the use of resources which the market makes possible is that the economic order of any large society rests on the utilisation of the knowledge of particular circumstances widely dispersed among thousands or millions of individuals".

Hayek acknowledges that it is difficult for a businessman to obtain all the facts that he needs in order to make the right decisions. However, when faced with a choice between conveying all the information possessed by millions of individuals to a central authority, or communicating to each individual that information which is relevant to his decisions, "we have discovered a solution for the second task only – the market and the competitive determination of prices have produced the procedure by which it is possible to convey to the individual managers of productive units as much information in condensed form as they need in order to fit their plans into the order of the rest of the system".¹²

"The market and the price mechanism provide in this sense the sort of discovery procedure which makes possible the utilisation of more facts than any other known system and which provides the incentive for constant discovery of new facts which improve adaptation to the ever-changing circumstances of the world in which we live."¹³

The nationalisation of minerals will bring the exploitation of minerals under political and bureaucratic control. No politician or government official knows what the optimal allocation of mineral rights should be. Politicians and bureaucrats are invariably driven by non-economic motives. From an economic point of view, government allocation will clearly be the least efficient method for the allocation of mineral rights. This is well illustrated in the United States by the superiority of private husbandry of forests compared to forests under government control.¹⁴

Complexity

The South African Government clearly has no confidence in the ability of a private minerals system to ensure optimal exploitation of mineral resources.

In this regard it is sometimes argued that, while the market may have been an adequate mechanism of co-ordination under earlier, simpler conditions, in modern times economic systems have become so complex that we can no longer rely on the spontaneous forces of the market for the ordering of economic priorities but must resort instead to central (government) planning or direction. Hayek responds, "Such an argument carries some superficial plausibility but on examination turns out to be particularly silly. In fact of course, the very complexity which the structure of modern economic systems has assumed provides the strongest argument against central planning. It is becoming progressively less and less imaginable that any one mind or planning authority could picture or survey the millions of connections between the ever more numerous interlocking separate activities which have become indispensable for the efficient use of modern technology and even the maintenance of the standard of life Western man has achieved".¹⁵

This is particularly relevant in the context of mineral exploration and mining, which are highly complex fields of endeavour requiring large capital outlays, constant improvement and development in exploration and mining technologies and the like. To this should be added the complexity of considering all the economic factors that determine whether a particular project is viable or not. The notion that state ownership of minerals will immediately lead to the exploitation of minerals which lie unexploited is therefore ludicrous.

“The market system functions because it is able to take account of millions of separate facts and desires, because it reaches with thousands of sensitive feelers into every nook and cranny of the economic world and feeds back the information required in coded form to a “public information board”. What the marketplace and its prices give most particularly is a continuing updating of the ever-changing relative scarcities of different commodities and services. In other words, the complexity of the structure required to produce the real income we are now able to provide for the masses of the Western world ... could develop only because we did not attempt to plan it or subject it to any central direction, but left it to be guided by a spontaneous ordering mechanism.”¹⁶

Forecasting

Implied in the argument for state ownership of minerals is the belief that government would be in a better position to predict the future needs for particular minerals. To do this it would need to know what the future need for particular consumer goods, materials, and equipment of individual firms is. But it is extremely unlikely that some central planning authority “would be more likely to foresee correctly the effects of future changes in the scarcity of the different raw materials, or the amount of some commodity that ought to be produced some years hence, than the producers or professional dealers of those things”.¹⁷ Furthermore it would be highly undesirable “that various companies in an industry all act on the same guess. It is the very rationale of the method of competition that allows those who have shown a greater skill in forecasting to make preparations for the future”.¹⁸

In order for government to determine what the optimal utilisation of mineral resources is, and to allocate minerals in an equitable manner, it would need to know everything about the economy, which is clearly impossible.

“The production of the tens of thousands of different things which are needed to produce a much smaller but still very large number of final products is determined by the market process and is a matter of infinite complexity. Order is brought about by a spontaneous mechanism which we do not fully understand.”¹⁹

Nationalisation: A step backwards

The argument for the state ownership of mineral rights rests on the mistaken idea that the efficient use of resources is determined by technological and not by economic considerations. Thus it does not help to have a team of technical experts such as scientists and engineers as part of government’s planning authority. No matter what expertise government puts in place to ensure that mineral resources are optimally and equitably utilised, it will not be able to achieve the efficiency of resource utilisation that is brought about by a system of private mineral rights ownership. Therefore, government should abandon its plans to nationalise mineral rights.

¹ *Strategy for African Mining*, World Bank Technical Paper No 181, Africa Technical Department Series, Mining Unit, Industry and Energy Division, World Bank, Washington DC, 1992, p.23 (quoted in Dale, 1996).

² Otto, J M, “A Global Survey of Mineral Company Investment Preferences” and “Criteria for Assessing Mineral Investment Conditions” in *Mineral Investment Conditions in Selected Countries of the Asia-Pacific Region*, United Nations ST/ESCAP/1200, New York, 1992 (quoted in Otto 1996 and Dale 1996).

³ South Africa Yearbook 2000/2001, Government Communications and Information System, Pretoria. (<http://www.gov.za/yearbook/mining.htm>)

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⁵ *Ibid.*

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19 See Simon, Julian L, *The Ultimate Resource 2*, Princeton University Press, Princeton New
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Chapter 3

Mineral rights ownership around the world

Mineral rights ownership

Systems of ownership

Systems of mineral rights ownership fall into the following general categories:

- In most countries minerals belong to the state and minerals in the ground cannot be severed from the state. However, the state may grant concessions or licences to private companies or individuals to prospect for and mine a particular minerals interest. The concessions granted vary from country to country and usually stipulate the time for which the concession for exploration and mining is granted.
- In some countries the minerals in the ground belong to the landowner and cannot be severed from the land. The ownership of minerals thus depends on who the owner of the land is. Thus, in the case of state-owned land the state owns the minerals and on privately owned land the landowner owns the minerals.
- Related to the above are systems where the minerals ownership is severed from the ownership of the surface of the land. In this case the mineral rights are privately held and traded. The USA and South Africa are the prime examples. This is the most flexible of the mineral rights systems, making possible the following:
 - State ownership of minerals on state land.
 - Private ownership of minerals on privately owned land.
 - State ownership of minerals on private land, for example where the state sold the surface of the land but retained ownership of the minerals.
 - Private ownership of minerals on state-owned land, for example where the state sold the mineral rights on land owned by it.

Private ownership systems

Only a handful of countries has systems characterised by the private ownership of mineral rights. This includes the USA, South Africa, Finland and Poland. In some other countries, notably Australia, New Zealand and Canada there are examples of private ownership of mineral rights, but these are exceptions rather than the rule. For instance, in Australia and New Zealand mineral rights acquired by means of treaties or purchased before a particular date are in private ownership. However, the private rights form only a small part of the known mineral reserves.

Security of tenure

Although only a few countries have systems in place based on the private ownership of minerals the key to understanding “ownership” of mineral rights is to determine if a real property interest exists, which differs from the ownership of minerals. In most countries ownership of mineral rights is not as simple as who owns the minerals in the ground.

The right to mine minerals is an interest separate from, but related to, the minerals ownership, and in some countries this right is transferable, saleable, and can be mortgaged. Accordingly, in such countries tenure arrangements are such that the right to a particular interest in minerals can be viewed as effective ownership of those minerals, in the sense that the mining company has an exclusive and guaranteed right to mine a particular interest in minerals.

In most countries the right to explore for and to mine minerals is granted by means of exploration and mining concessions. Depending on the country these concessions range in duration from two years to indefinite. Relatively high levels of security of tenure are offered where long concession periods apply, government bureaucratic interference is minimal, and concessions can be transferred, sold and mortgaged.

Clearly, the private ownership of minerals, as in South Africa and the USA, provides the greatest level of security of tenure, which, as will be shown below, is the most important consideration when mining companies make investment decisions.

Mining and mineral law reform

A wave of mining law reform

According to Otto¹ between 1985 and 1995 over 90 countries introduced or commenced working on new or major revisions of their mining legislation. In many cases efforts to reform minerals regulatory systems have been slow to proceed. Otto² points out that two trends have been discerned, one related to developing or centrally-planned economies, and one in industrialised countries.

Reform in developing and centrally-planned economies

The reform emphasis in developing, centrally-planned and transition countries has been to introduce policies and supportive regulatory systems intended to promote Foreign Direct Investment (FDI) in the natural resources sector, to replace out-of-date laws, to improve the efficiency of the administrative process through changes to application/approval procedures, to introduce or improve titles management and record systems, to reduce fiscal levies and to improve security of tenure. This has been associated with an increase in investment in mining.

Reform in industrialised countries

In contrast, in North America and most industrialised European nations, the recent legislative emphasis has been on the introduction of stricter, more costly regulatory and administrative measures (including environmental protection and management schemes). This has led to a decline in mining investment.

Mineral sector regulation in the 1980s

In the early 1980s mineral sector policies varied considerably from country to country, which requires a cautious approach in making generalisations about such policies. However, it is useful to identify some of the policy approaches at that time as they provide a basis for comparison with regulatory and policy trends emerging by the late 1980s. Tables 3 to 5 summarise the generalised state of affairs at the start of the 1980s in developing, centrally-planned and developed nations.

Table 3: Mining and minerals policies in developing nations in the early-1980s³

- Exploration by trans-national companies was possible but security of tenure linking exploration to mining was weak.
- Foreign direct investment (FDI) in mining was possible but often only with mandatory minor or majority participation by either state enterprises or local investors.
- Governments placed restrictions on foreign ownership and control to avoid politically unacceptable exploitation of the national resources endowment by foreign companies.
- It was perceived that there was a political duty to assert national control over natural resources industries.
- Investment terms included means to foster broader goals of national or local development.
- Punitive fiscal measures were designed to encourage upstream and downstream linkages to the national economy (for example: import duties on equipment and export duties on raw ores and concentrates).

- There were relatively high levels of tax.
- Foreign exchange controls were often inflexible and highly risky in inflationary economies.
- Restrictions were placed on the repatriation of profits or high dividend- and interest-withholding taxes were imposed.
- There were minimal environmental obligations.
- Most mining codes dated to colonial times and although amended, were in need of major revisions or replacement.
- Very large mines were regulated, at least in part, by mineral agreements, which supplemented or stood in place of the mining code.

At the start of the 1980s trans-national mining companies (TMCs) were confronted with national policies in the developing and centrally-planned economies that either prohibited or restricted investment. Thus most TMC mineral investment up to about 1990 was focused in developed countries – mainly in Australia, Canada and the United States.

Policy changes in developing nations

Government approaches to foreign investment and mining changed significantly during the late-1980s, which resulted in major changes in mineral sector policies and regulation worldwide.

At the beginning of the 1980s, many developing countries viewed foreign participation in the mineral sector with suspicion and considered such investment as contrary to the national interest. Accordingly policies and laws tended to assert national control over natural resources industries and to further non-commercial social goals through mineral sector development. Where foreign direct investment was allowed, ownership restrictions, high tax rates, limitations on the repatriation of profits and similar factors often acted as indirect barriers precluding major investment by TMCs.

Table 4: Mining and minerals policies in centrally-planned economies in the early-1980s⁴

- Exploration was closed to trans-national mining companies.
- FDI in mining was restricted to investment agencies of other centrally-planned economies.
- The state owned most mines.
- Involvement by trans-national mining companies was restricted to occasional sales of essential technology or equipment or purchases of surplus minerals.
- Investment decisions were based on planned industrial demand, not on profit potential.
- Where fiscal systems applied, they emphasised income distribution in such a way as to remove economic rent.
- There were minimal environmental obligations.

At that time in many developing countries, particularly those with a prior history of commercial-scale mining, policies were in place that restricted exploitation of the resource endowment only to state enterprises and local companies. Toward the end of the 1980s some countries began to reassess their investment in the mining sector and to move toward privatisation or opening up the sector to foreign entrants.

The reasons for the fundamental move to open up the mineral sector to foreign investment varied from country to country. These are summarised in Table 6.

Table 5: Mining and minerals policies in developed nations in the early-1980s⁵

- Exploration was open to all.
- FDI investment was possible although often made through a local subsidiary or branch of a trans-national company or through a joint venture arrangement with a local company; ownership and control could reside with a foreign-controlled company.
- Free-market principles generally applied.
- There were relatively low tax levels.
- Environmental obligations were specified but were moderate.

By the early-1990s policy makers who recognised that their nation must compete with other nations to attract mining industry investment had access to a number of detailed studies, which enabled them to weigh the merits of various regulatory approaches against possible reaction by trans-national mining companies.

Table 6: Reasons for opening minerals sector to foreign investment⁶

- Lack of indigenous exploration and mining expertise and impediments to develop such expertise.
- Inability of the state enterprises to raise needed high-risk exploration and mining capital.
- Declining ore reserves requiring fresh exploration efforts.
- Limited access to foreign exchange and the fact that foreign-exchange servicing of bank loans to state enterprises is generally higher than servicing trans-national investment.
- Declining or negative mine cash-flows requiring state subsidies or cash injections.
- Pressures brought to bear by the international community as a result of the debt crisis.
- An economy-wide move towards a free-market orientation through an expanded private sector.
- Lack of access to technology.
- Increased competition for state investment from more labour-intensive sectors of the economy.

Investment preconditions

In a 1990 survey undertaken by the East-West Centre⁷ of major trans-national mining companies, over half the companies chose five basic investment preconditions. These are listed in Table 7.

Table 7: Investment preconditions – East-West Centre Survey 1990

- Security of tenure
- Right to repatriate profits
- Management control
- Equity control
- Fixed tax terms

Priority investment criteria

Similar findings emanated from a comprehensive United Nations survey⁸ of TMC investment criteria, which was made available to government policymakers and regulators early in 1992. From a list

of over 60 investment decision criteria evaluated in the survey, the 10 listed in Table 8 were ranked as “top priority” by TMCs.

Of the 10 factors that made the top priority list, all but one, geological potential, are in some way related to or affected by the regulatory system. It can be argued that many of the regulatory changes that were implemented by developing nations took into account the five basic investment preconditions listed in Table 7: Security of tenure, right to repatriate profits, management control, equity control, published tax terms.

Table 8: United Nations survey of priority investment criteria

| Decision criteria | Ranking | |
|---|-------------------|--------------|
| | Exploration stage | Mining stage |
| Geological potential of target mineral | 1 | NA |
| Measure of profitability | NA | 3 |
| Security of tenure | 2 | 1 |
| Ability to repatriate profits | 3 | 2 |
| Consistency and constancy of mineral policies | 4 | 9 |
| Company has management control | 5 | 7 |
| Mineral ownership | 6 | 11 |
| Realistic foreign exchange regulations | 7 | 6 |
| Stability of exploration and mining terms | 8 | 4 |
| Ability to predetermine tax-liability | 9 | 5 |
| Ability to predetermine environmental obligations | 10 | 8 |
| Stability of fiscal regime | 11 | 10 |
| Ability to raise external financing | 12 | 14 |

Importance of security of tenure

In an analysis of the above survey it is notable that the importance of security of tenure rated as second during the exploration stage and first during the mining stages of a project. A breakdown of the importance of security of tenure is given in Table 9.

According to Dale⁹ “These surveys led to the conclusion that even geologically favourable countries will not attract investment until they introduce regulatory systems which ensure an acceptable level of security of tenure”.

Table 9: Importance of security of tenure

| | Exploration Stage Responses | Mining Stage Responses |
|--------------------|--------------------------------|---------------------------|
| Very Important | 32 | 34 |
| Important | 6 | 2 |
| Not very important | 0 | 0 |

Reform in mining law in Latin American Countries during the 1990s demonstrated clearly that reform which is based on the introduction of security of tenure leads to dramatic increases in mining investment and development.

Reform in Latin America

Transformation in South America

During the 1990s, a group of Latin American countries emerged from a period of state-owned domination of the resource extraction and processing industries, with very little investment in exploration and modernisation. They entered a new era of extensive investment in minerals exploration,

several major discoveries, modernisation of extraction, hauling and processing techniques and equipment, with related increases in production and productivity, led by the national and international private sector.

This trend began in Chile, with the adoption of its 1983 Mining Code. Since then, Peru, Mexico, Ecuador, Argentina, Bolivia, Brazil and Venezuela have made, or are making, major changes in their mining, tax and investment laws in order to promote the development of their mining sectors.

The results of the transformation in the legal landscape for mining in South America have been dramatic. The region now boasts the world's number one producers of copper and silver, and is a major producer of numerous metallic minerals. Argentina has emerged as a major exploration investment destination and, in Bajo de la Alumbrera, has one of the largest copper and gold mines to come on-line in the region in the last fifteen years.

Overall, Latin America has increased its share of global investment in minerals exploration at the expense of the traditional mining venues of the United States, Canada and Australia. Even after the downturn in worldwide exploration investment since 1997, Latin America accounted for approximately 29% of worldwide investment in minerals exploration in 1999, as opposed to 13% in the 1980s¹⁰. This clearly illustrates that when barriers to entry are removed rapid development takes place.

Latin American Mining Law Model

In 1994, The World Bank undertook a study¹¹ of the changes that were occurring in the Latin American mining sector in order to understand what policies and legal and institutional reforms were working, and why. The study highlighted key features of the legal framework for minerals exploration and mining in the Latin American countries that had achieved the greatest success in promoting investment in, and modernisation of, their mining sectors. The aggregate of those key features is referred to as "the Latin American Mining Law Model".

Key features of the Latin American Mining Law Model

The key features of the Latin American Mining Law Model¹², which are discussed below, are:

- The nature of exploration and mining rights.
- The procedures for access to such rights.
- Security of mining title and tenure.
- Stability of the investment parameters.

The features are closely interrelated and one of the strengths of the Latin American Mining Law Model is that its component parts all reinforce one another.

Nature of exploration and mining rights

Exploration and mining rights in the Latin American Mining Law Model have the following key features¹³:

- They are concessions granted by the state, which are treated as if they were property rights. They are constitutionally protected against taking by the state without due process of law and just compensation.
- They are exclusive as to territory and as to all metallic or non-metallic minerals, depending on the class of targeted minerals.
- They can be used as collateral to secure financing.
- They are freely transferable to another eligible holder without the prior written consent of the granting authority.
- Small- and medium-scale miners are entitled to the same transferable property rights as large-scale mining enterprises.

- State-owned enterprises, if any, operate under the same rules as the private sector with respect to exploration and mining rights and the related obligations.

Procedures for access to rights

The procedures for obtaining mineral rights in the Latin American Mining Law Model are based on non-discriminatory criteria, transparency and efficiency. They have the following key features:¹⁴

- Map-staking has replaced claim-staking. Chile uses the Universal Transverse Mercator Co-ordinate (UTM) system which provides co-ordinates on a worldwide flat grid for easy computation, and Peru and Bolivia use a national grid system located in the offices of the mining cadastre on digitised and computerised maps and in the field by GPS. These have replaced triangulation as the predominant boundary-identification technique and have reduced the number and difficulty of boundary disputes.
- Access procedures are based on a modern mining cadastre and a registry of mining titles showing who owns what and where. They are open to public inspection.
- Although exploration and mining rights are granted by the state, they are not issued by the Head of State or by a Minister of the Government, but rather by a professional administrative or judicial official.
- Exploration rights are granted on a first-come, first-served basis with no prior review of the technical and/or financial qualifications of applicants.
- Because rights are transferable, ultimately the market – not the government or the administration – decides who will own what mineral rights. There is a secondary market for exploration and mining rights.

Security of title and tenure

The Latin American Mining Law Model includes special features that provide security of title and tenure.

- **Security of title**¹⁵
 - No overlapping or superimposed concessions are permitted.
 - Exploration and mining rights are exclusive as to all metallic or non-metallic minerals.
 - Exploration and exploitation rights are maintained by meeting a single annual obligation: timely payment in full of the applicable amount of what is called, in Chile, the “patente”. (The same obligation goes by other names in other countries.)
 - Work requirements have been eliminated (Chile and Bolivia), standardised (Mexico) or subordinated to the annual maintenance payment obligation (Peru).
 - Credible recourse is available to holders of mineral rights before their rights are cancelled.
- **Security of tenure**¹⁶
 - Unified exploration and mining concessions (Peru, Bolivia and Venezuela) or the exclusive right of an exploration concession-holder to obtain a mining concession (Chile, Mexico) provide the security of tenure that encourages investment in high-risk exploration.
 - The applicant for a mining concession is not required to prove the existence of a commercial deposit.
 - No prior review by the state of the applicant’s technical and financial qualifications is required.

*Stability of investment parameters*¹⁷

The term lengths of mining concessions are indefinite or very long (Argentina and Chile grant concessions indefinitely and in Mexico the concession is granted for 100 years).

Conclusion

The Latin American Mining Law Model represents a compromise between the civil-law orientation of the Latin American countries where the attractive mineral resources are located, and the common law orientation of the countries where most of the capital necessary to develop those resources comes from. In the Latin American Mining Law Model, exploration and mining rights are granted based on the initiative of private parties seeking them, without discrimination; they are endowed with certain commercially-attractive qualities (long terms, security of title and tenure, transferability and usefulness as collateral); and they are respected and protected by a combination of laws, procedures and recording mechanisms.

¹ Otto, JM, “A National Mineral Policy as a Regulatory Tool”, in *Resources Policy*, Vol.23, No.1- 2, pp.1-7, 1997.

² Otto, JM, “The Changing Regulatory Framework for Mining Ventures”, in the *Journal of Energy and Natural Resources Law*, Vol.13, pp.251-261, August 1996.

³ *Ibid*, p.253.

⁴ *Ibid*, p.253.

⁵ *Ibid*, p.253.

⁶ *Ibid*, pp.254-255.

⁷ Johnson, C, “Ranking Countries for Mineral Exploration”, *Natural Resources Forum* 14(3) (quoted in Otto, 1997, p.3).

⁸ Otto, JM, “A Global Survey of Mineral Company Investment Preferences” and “Criteria for Assessing Mineral Investment Conditions” in *Mineral Investment Conditions in Selected Countries of the Asia-Pacific Region*, United Nations ST/ESCAP/1200, New York, 1992 (quoted in Otto 1996 and Dale 1996).

⁹ Dale, MO, “Security of Tenure as a Key Issue Facing the International Mining Company”, in *Journal of Energy and Natural Resources Law*, Vol.14, No.3, p.298, 1996.

¹⁰ Williams, John P, “Worldwide Observations on the Latin American Mining Model”, paper read at the Mining 2001 Global Issues in Corporate Mining Strategy and Government Policy Conference, University of Dundee, Scotland, 4-8 June 2001, p.1.

¹¹ World Bank, *A Mining Strategy for Latin America and the Caribbean*, World Bank Technical Paper No.345, World Bank, 1996 (quoted in Williams, 2001).

¹² Williams, John P, “Worldwide Observations on the Latin American Mining Model”, paper read at the Mining 2001 Global Issues in Corporate Mining Strategy and Government Policy Conference, University of Dundee, Scotland, 4-8 June 2001, p.3.

¹³ *Ibid*, p.3.

¹⁴ *Ibid*, p.3.

¹⁵ *Ibid*, p.4.

¹⁶ *Ibid*, p.4.

¹⁷ *Ibid*, p.5.

Private ownership vs. licensing and concessions¹

Meaning of, and key issues relating to, security of tenure

According to Dale², security of tenure has been defined as referring “to the length of time for which the company will have a particular mineral right”.

Several key tenure issues have been identified in mineral operations, namely:

- Duration of, ability to renew, and cancellation of, prospecting rights and whether such renewal is automatic on fulfilment of specified criteria or is discretionary.
- Linkage between the right to prospect and the right thereafter to mine, and whether such linkage is automatic on fulfilment of specified criteria or is discretionary.
- Duration of, ability to renew, and cancellation of, mining rights and whether such renewal is automatic on fulfilment of specified criteria or is discretionary. Related criteria are the right to transfer rights and security against undue expropriation.

The level of state interference, such as requirements involving minimum work commitments, minimum expenditure commitments, obligatory relinquishments, filing of work plans and budgets, and reporting, affects security of tenure. The more onerous these are, the more likely a mining company is to find itself in contravention of licensing conditions, and the greater the chances are of having a mining licence or concession revoked. In this regard the World Bank³ has expressed the view that ministerial discretion must be limited and ministerial decisions must be capable of challenge.

Basis of standard views on security of tenure

The above views are normally expressed in relation to mining-law systems where the minerals or mineral rights vest in the state, which seeks to achieve optimal exploitation of mineral resources by imposing detailed requirements relating to minimum expenditure commitments, minimum work commitments, obligatory relinquishments, the submission of detailed work plans and budgets, and ongoing detailed reporting.

Thus the World Bank pointed out that, aside from the United States of America and a few exceptions elsewhere for specific minerals, most countries assume public ownership over minerals. The Bank further expressed the view that this does not detract from security of tenure held by private entities in respect of mining rights.

However, as discussed below, Dale⁴ submits that private mineral-rights systems offer more secure title than do state mineral-ownership systems. He points out that private systems achieve desirable aims such as facilitation of acquisition of prospecting rights, elimination of corruption in such acquisition, avoidance of discretionary elements in allocation of such rights, security and continuity of tenure tempered by the facility to achieve exploitation with the minimisation of state intervention, and a reduction in reliance on, and streamlining of, administrative procedures.

Methods of achieving security of tenure

Licences and mineral agreements

In countries where mineral rights vest in the state, security of tenure is sought, through mining laws, in the form of licences and mineral agreements.

According to the World Bank, mining codes, which intend to provide a framework for large-scale private investment, should rest on the following:

- The investor should have secure and long-term title to the mining rights.
- The criteria for allocation of rights and for the transition from exploration to mining rights should be specified and not discretionary.

- Rights should be transferable and saleable.
- Since ministerial discretion looms large in these matters, satisfactory dispute-resolution mechanisms either by courts or by arbitration are important. Mining codes should determine dispute-resolution procedures by courts or arbitration. (Recourse to such procedures is unnecessary in private mineral-rights systems.)

Dale⁵ states that as far as mining licences are concerned, the methods of achieving security of tenure, which appear in mining laws, are the obligatory grant and renewal of licences on fulfilment of specified criteria, provision that only the holder of the prospecting licence is a competent applicant for a mining licence, and clearly-specified grounds for termination. He points out that again the World Bank recommends limitation of ministerial discretion, and mechanisms whereby ministerial decisions can be challenged.

The mineral agreement is seen as a risk-reducing mechanism and a vehicle to provide security in relation to duration, extension, conversion, retention, suspension and termination of licences.

Dale⁶ points out that the mining law itself, the licences that flow from it, and even the mineral agreements, are in the first two instances wholly within the realm of administrative law, and in the last-mentioned instance, at least partially in the realm of administrative law and partially in the realm of the law of contract. The difficulty with this is the very fact that administrative decisions are in many jurisdictions capable only of review by, and not of appeal to, the courts.

In the light of the above, the question arises whether a better method of achieving security of tenure can be identified.

Privatisation

If government's principal objectives include the promotion of economic development and the reduction of poverty, an efficient private sector makes essential contributions to the attainment of these goals. Among the means available to promote the development of the private sector is the privatisation of state-owned enterprises. Privatisation fosters efficiency, encourages investment and thus new growth and development, and frees public resources for investment in infrastructure and social programmes.

In a mining context, privatisation taken to its conclusion is privatisation not only of state mines, but also of the mineral rights themselves, to allow for private ownership of mineral rights, rights to prospect, and rights to mine. A privatised mineral-rights system (such as that in South Africa) permits private ownership of mineral rights, which offers greater security and continuity of tenure to investors than state-orientated systems, avoids the problems identified in regard to security and continuity of tenure in such state-orientated systems, and leads to a re-definition of the meaning of security of tenure. In a consideration of such security and continuity of tenure, a clear distinction must be drawn between the acquisition of relevant rights from the private mineral-rights holder, and the acquisition from the state of a licence to exercise the rights so acquired.

Security of tenure offered by private holding of mineral rights or of rights derived from such holding

In privately-orientated systems, mineral rights may be held separately from the ownership of the land. This leads to optimal exploitation of minerals as a mining company can exploit these even if the landowner, who may be a farmer, does not have the interest or ability to do so. The mineral-rights holder may then exercise the right to prospect and mine, grant subordinate rights to an investor to prospect or to mine, or alienate the mineral rights to an investor. The mineral rights or a mineral lease granted by the mineral-rights holder are capable of being bonded by registered mortgage bond as security for loans taken to finance the project.

Accordingly, mineral rights are real rights in property, constituting not merely licences but indeed rights analogous to servitudes or easements, and are freely transferable. Since mineral rights are rights in property, they enjoy the security of tenure accorded to rights in property in bills of rights or constitutions, for example that persons may acquire, hold and dispose of them, persons

holding them can be deprived of them only in accordance with a law, and their expropriation pursuant to such a law can occur only for public purposes and subject to the payment of just and equitable compensation.

In private systems an investor normally acquires from the mineral-rights holder a prospecting contract, which on registration confers a real right in property. Such contract confers on the investor a right to prospect with an option to purchase or lease the mineral rights. The reason for these two elements being found in a prospecting contract is to preserve continuity of tenure from the prospecting phase to the mining phase.

On exercise of the option to purchase the mineral rights, the investor acquires, by taking cession of the mineral rights, the real right in property inherent in such mineral rights, thus enjoying the security of tenure accorded to rights in property by bills of rights and constitutions. By exercise of the option to acquire a mineral lease, the investor on registration of such mineral lease acquires a real right in property binding on third parties, again thus enjoying the security of tenure accorded to real rights in property by constitutional provisions.

In privately-orientated mineral-rights systems, conversion from exploration rights to mining rights occurs purely in a private context. This is done by exercising the option in a prospecting contract granted by a private mineral-rights holder, thereby securing for the investor the mineral rights or a mineral lease conferring the right to mine. In other words, there is no state intervention and no insecurity in regard to continuity of tenure. The decision whether to develop is largely made for economic reasons and exploitation occurs as soon as it becomes economically viable. The timing of the exploitation of a minerals source is thus entirely dependent on economic factors.

Rights acquired in private mineral systems, except in the case of the extraordinary statutory intervention referred to below, cannot be lost because of compulsory relinquishment. In privately-orientated mineral-rights systems there is recognition of the fact that in some instances the holding of private mineral rights or undivided shares in them can lead to investors encountering difficulties in acquiring rights. Mechanisms therefore exist in the South African *Minerals Act*, 1991, to enable investors to overcome such difficulties. Where a person intending to prospect or mine cannot readily acquire the right to prospect or mine because the mineral rights, or an undivided share in them held separately from the land ownership, are held by a holder whose whereabouts cannot readily be traced or because they have vested in a deceased estate for more than two years, the Minister of Mineral and Energy Affairs may grant a consent to prospect or may procure the vesting of the mineral rights or share therein in that person.

Accordingly, common law mineral-rights systems offer investors better security and continuity of tenure than do mining-law systems based on state-orientated mechanisms. Privately-orientated mineral-rights systems are founded in the common law of property in terms of which the holder of mineral rights is at liberty, driven by market forces, to exercise and enjoy them, or to grant rights to prospect or to mine to investors or to alienate and transfer them to investors, as indeed is the case in other sectors such as agriculture, industry, and commerce.

State-orientated mining-law systems in developing countries

The legislation of many developing countries provides a system of prospecting, reconnaissance, retention, and mining licences coupled with the possibility of conclusion of an umbrella mineral agreement which regulates the issue of such licences. Included in this type of legislation and in the resultant licences and agreements are detailed provisions. These provisions generally include minimum expenditure commitments, minimum work commitments, obligatory relinquishments, lodgement of work plans, budget and detailed periodic reports, and provisions relating to payment of consideration to the state including in some cases the possibility of state participation in the venture.

Inherent in state-orientated systems are the following disadvantages:⁷

- These mechanisms, being licensing mechanisms, are firmly embedded in administrative law rather than in the law of property, and involve administrative processes.

- They do not afford the security and continuity of tenure which are afforded by rights granted as rights in property.
- Negotiations for such licences and agreements are costly and time-consuming.
- They allow the possibility of mineral and mining rights being acquired politically. Thus they offer scope for corruption in the acquisition, preservation, and continuity of licences and concessions.
- They do not offer any better fiscal benefit to the state than can be offered by fiscal legislation coupled with a privately-based mineral-rights system.
- They seek by state intervention to regulate aspects of minimum expenditure commitments, minimum work commitments and minimum production requirements. In privately-orientated systems these are driven by the self-regulating economics of the market, which forces the turning to account of rights that have been acquired as soon as the holders thereof decide that exploitation has become economically viable.
- Finally, state-owned minerals systems run counter to the philosophy of privatisation and of reduction of state interference.

Difference between state-owned and privately-owned mineral-rights systems

The difference in regard to security of tenure in state licensing systems as compared to privately-orientated mineral-rights systems is the following:

- The state system is a one-tier system, i.e. of licences only.
- The private system is a two-tier system, postulated on the acquisition of private rights in property coupled with the additional acquisition by the holder of such rights of a mining licence.

It is the holding of the private right which confers security of tenure to a degree not available in a single-tier state system postulated solely on the grant of administrative licences.

In the light of the above it seems to be highly undesirable to vest minerals-ownership in the state.

¹ This section of the report draws heavily on Dale, 1996, pp.298-309.

² Dale, MO, "Security of Tenure as a Key Issue Facing the International Mining Company", in *Journal of Energy and Natural Resources Law*, Vol.14, No.3, p.299, 1996.

³ *Strategy for African Mining*, World Bank Technical Paper No.181, Africa Technical Department Series, Mining Unit, Industry and Energy Division, World Bank, Washington DC, 1992, p.23 (quoted in Dale, 1996, p.299).

⁴ Dale, MO, "Security of Tenure as a Key Issue Facing the International Mining Company", in *Journal of Energy and Natural Resources Law*, Vol.14, No.3, p.299, 1996.

⁵ *Ibid*, p.300.

⁶ *Ibid*, p.300.

⁷ Dale, MO, "Security of Tenure as a Key Issue Facing the International Mining Company", in *Journal of Energy and Natural Resources Law*, Vol.14, No.3, p.307, 1996.

Concluding remarks

In realisation of the clearly-stated investor requirement of security of tenure, it is desirable to move away from state-orientated mining law systems in favour of privatised and privately-orientated mineral-rights systems, and to this end to encourage governments to sell state-held mineral rights to private industry.

Mining-law systems based on privately-owned mineral rights ultimately achieve security of tenure in a manner superior to that of systems based on government ownership, which relies on licences, concessions and mineral agreements.

Compared to state-orientated mining law, private systems achieve desirable aims such as facilitation of acquisition of prospecting rights, elimination of corruption in such acquisition, avoidance of discretionary elements in allocation of such rights, security and continuity of tenure tempered by the facility to achieve exploitation with the minimisation of state intervention, and reduction in reliance on, and streamlining of, administrative procedures.

In those countries, such as the United States of America and South Africa, where the system of private ownership of mineral rights already exists, that system has given rise to vibrant developed mineral economies, which have flourished in reliance on such systems.

There is accordingly every reason for South Africa to retain its system of private mineral rights.

Annexure

The international survey¹

| Region / Country / State | Mining law | Mineral system ² | | Maximum duration ⁴ | | Relinquishment obligation ⁵ | Security of tenure | Concession transferability ⁶ |
|---------------------------------|-----------------------------|-----------------------------|----------------------|-------------------------------|---------------------|--|--------------------|---|
| | | State | Private ³ | Exploration | Mining | | | |
| Africa | | | | | | | | |
| Republic of South Africa | Minerals Act 1991 | - | Yes | - | - | No | Yes | Yes |
| Burkina Faso | Mining Code 1994 | Yes | - | 8 years | 25 years + 10 years | Yes | Yes | Yes |
| Democratic Republic of Congo | Mining Code 1981 | Yes | - | 8 years | 40 years | Voluntary | Yes | - |
| Gabon | Mining Code 1979 | Yes | - | 4 years | 25 years to life | Not stated | Yes | Yes |
| Ghana | Mineral and Mining Act 1994 | Yes | - | 8 years | 60 years | Not stated | Yes | Yes |
| Ivory Coast | Mining Law 1995 | Yes | - | 7 years | Life of mine | Voluntary | Yes | Yes |
| Liberia | Mining Law 1985 | Yes | - | Indefinite | By agreement | Not stated | Yes | Yes |
| Mozambique | Mining Law 1986 | Yes | - | 6 years | 40 + years | Yes | Yes | No |
| Namibia | Minerals Act 1992 | Yes | - | 8 years | 40 + years | Yes | Yes | Yes |
| Sierra Leone | - | Yes | - | 3-5 years | 99 years + 99 years | Yes | Yes | Yes |
| Tanzania | Mining Act 1998 (draft) | Yes | - | 7 years | 50 years | Yes | Yes | Yes |
| Tunisia | Mining Law | Yes | - | 6 + years | 99 + 25 years | Not stated | Yes | Yes |
| Zambia | Mines and Minerals Act 1995 | Yes | - | 6 years | 50 years | Yes | Not stated | Yes |
| Zimbabwe | | Yes | - | | | | | |
| Australia and New Zealand | | | | | | | | |
| Western Australia | | Yes | Yes | 5 years to indefinite | 42 + years | Yes | Yes | Yes |
| New South Wales | | Yes | Yes | | | | | Yes |
| Other Australian States | | Yes | - | | | | | |
| New Zealand | | Yes | Yes | | | | | Yes |
| Asia and Asia Pacific Countries | | | | | | | | |
| Dominican Republic | Mining Law 1971 | Yes | - | 5 years | 75 years | - | Yes | - |
| India | Mineral Policy 1993 | Yes | - | 5 years | 60 years | - | Yes | - |
| Sri Lanka | Mines and Mineral Act, 1992 | Yes | | | | | | |
| Japan | Mining Law 1962 | - | Yes | 6 years | Indefinite | Not stated | Yes | Yes |

| Region / Country / State | Mining law | Mineral system ² | | Maximum duration ⁴ | | Relinquishment obligation ⁵ | Security of tenure | Concession transferability ⁶ |
|----------------------------------|---|-----------------------------|----------------------|-------------------------------|----------------------------|--|--------------------|---|
| | | State | Private ³ | Exploration | Mining | | | |
| Korea | Mining Act 1994 | - | Yes | 6 years | 25 years + 25 years | Not stated | Yes | Yes |
| Papua New Guinea | Mining Act 1992 | Yes | - | 2 to indefinite | 42 years | Yes | - | No |
| People's Republic of China | Mineral Resources Law 1997 | Yes | - | Indefinite | Indefinite | - | Yes | Yes |
| Union of Myanmar | Myanmar Mines Law 1994 | Yes | - | 2 years | 15 years | | | |
| Mongolia | Minerals Law 1997 | Yes | - | 3 years | 60 years + 40 years | | Yes | Yes |
| Malaysia | Mineral Development Act 1994 | Yes | - | 10 years + 2 years | 21 years + 21 years | Voluntary | - | Possible |
| Lao People's Democratic Republic | Mining Law 1997 | Yes | - | 2 years | 10 years + 10 years | | - | Possible |
| Kingdom of Cambodia | Mines Minerals Law | Yes | - | 2 years + 2 years | 30 years + 5 year renewals | | - | Possible |
| Republic of Indonesia | Law on Basic Provision of Mining Law 1967 | Yes | - | 5 years | 30 years + 10 years (x2) | | | Possible |
| Brunei Darussalam | Mining Act 1920 | Yes | - | Indefinite | 10 years + 10 years | | | No |
| Socialist Republic of Vietnam | Mineral Law 1996 | Yes | - | 3 years | 30 years | | | Yes |
| Kingdom of Thailand | Minerals Law 1967 | Yes | - | 5 years | 25 years + 25 years | | | Yes |
| Republic of the Philippines | Philippine Mining Act 1995 | Yes | - | 4 years | 25 years + 25 years | | | Possible |
| Latin America | | | | | | | | |
| Argentina | Mining Code 1886 as amended | Yes | - | Indefinite | Indefinite | Yes | Yes | Yes |
| Brazil | Mining Code 1996 | Yes | - | 3 years (renewable) | By agreement | Yes | Yes | Yes |
| Chile | Mining Code 1982 | Yes | - | 4 years | Indefinite | No | Yes | Yes |
| Cuba | Mining Act 1995 | Yes | - | 5 years | 50 years | Yes | Not specified | No |
| Ecuador | Mining Law 1991 | Yes | - | 6 years | 40 years | No | Yes | Yes |
| Mexico | Mining Law 1992 | Yes | - | 6 years | 100 years | Yes | Yes | Yes |
| Peru | Mining Code 1997 | Yes | - | 8 years | Unlimited | Not clear | Yes | Yes |
| Bolivia | | Yes | - | | | | Yes | |

| Region / Country / State | Mining law | Mineral system ² | | Maximum duration ⁴ | | Relinquishment obligation ⁵ | Security of tenure | Concession transferability ⁶ |
|--------------------------|-------------------------------|-----------------------------|----------------------|-------------------------------|--------------|--|--------------------|---|
| | | State | Private ³ | Exploration | Mining | | | |
| Europe and Scandinavia | | | | | | | | |
| Ireland | Minerals Development Act 1995 | | | 6 + years | Life of mine | Voluntary | Yes | - |
| Finland | | - | Yes | | | | | |
| Slovak Republic | | Yes | Yes | | | | | |
| Poland | | | Yes | | | | Yes | Yes |
| Canada | | | | | | | | |
| Newfoundland | Mineral Act 1996 | Yes | - | 10 years | 30 years | Not required | Yes | Yes |
| Quebec | Mining Act 1995 | Yes | - | 2 years - indefinite | 50 years | Not required | Yes | No |
| British Columbia | | Yes | - | | | | | |
| Saskatchewan | | Yes | Yes | | | | | Yes |
| United States | | | | | | | | |
| Individual States | | - | Yes | | | | Yes | Yes |

Table notes

1. Blank cells in the table indicate that information was not available at the time of compilation of the table. The author would appreciate readers providing him with any information which could improve the accuracy of the table.
2. A country's mineral system is designated as "private" where minerals are privately owned.
3. In private mineral systems the holders of the mineral rights own minerals. There are thus minerals, which are owned by the state, usually through its ownership of the land on which the minerals are located, and minerals, which are privately owned. In South Africa and the United States the ownership of minerals can be severed from the ownership of the land and traded separately.
4. "Maximum duration" refers to the maximum period allowed in the relevant legislation during which a mineral right or concession can be exercised to mine, or to explore.
5. "Relinquishment obligation" refers to any legal obligation which the concessionaire has to fulfil by relinquishing or returning his right to the state.
6. "Concession transferability" indicates whether or not the concessionaire has the legal right to transfer or dispose of his title by sale, or other means, to a third party.

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