# THE TAXATION OF MINERAL RENT UNDER SOUTH AFRICA'S MINING TAX REFORMS

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## 1 INTRODUCTION

In common with many other countries, South Africa operates a special system for the taxation of mining income. Special mining tax systems can include tax rates and devices that are different from those applying to other spheres of business activity, special allowances and deductions, and distinctive accounting rules.

During most of the twentieth century the taxation of mining has provided a substantial proportion of the tax revenue of the South African state. Since 1951 the proportion has been lower than in preceding decades, but has still averaged between one-tenth and one-eighth of total tax revenue in each decade up to 1990. There have been short periods when the revenue share from mining has been much higher: in 1961-66 and, most dramatically, in 1980-82 following the gold price boom of 1979-81. Gold mining alone has yielded some 70-75 per cent of mining tax revenues on average over the period since 1951.

In this article, an outsider to South Africa with experience of mineral tax regimes elsewhere in Africa, and in other parts of the world, briefly outlines the economic ideas underpinning mineral tax systems, some general principles for appropriate systems and then examines the recent reforms in South African taxation of mining against the criteria suggested. In conclusion, a number of questions are posed about the recent reforms - questions which can best be examined by those with more intimate local knowledge and also those with responsibility for advising on the priorities of a future government.

## 2 MINERAL TAXATION AND ECONOMIC PRINCIPLES

There are two main justifications for what, at first sight, might seem like a violation of the economic principle of tax neutrality in the use of special tax systems for mining. Firstly, the scale of investment required in a major mine, before any revenue is generated, may be such that the risks incurred require special measures to accelerate payback (investment recovery) if the level of investment warranted by geological conditions and market demand is to be forthcoming. Secondly, mines are capable of generating rent (in the sense of a surplus over all necessary costs, as defined below); this rent can be taxed by the resource owner (usually the state) without necessarily altering decisions about exploration, investment or production that would be made in the absence of a tax on mineral rent.

Mineral resource rent can be defined as the value of the product of a mineral resource minus all the necessary costs of production, including the minimum returns to capital that are required, prior to the investment decision, to induce investment. It is thus the value of the resource to its owner.

With given mineral prices, the total amount of rent in a mineral deposit will vary according to its technical characteristics (reserves, grades of ore, ease of mining, recovery rates) and other physical factors such as its location (near or far away from ports, power stations and other infrastructure services). The fluctuation of mineral prices will affect the distribution of rents over time. The uncertainty of costs and prices means that rent actually generated may turn out to be much higher or lower than initially expected (and sometimes non-existent). Mines in operation may be generating rent in one period and not in another.

A 'marginal' mine is one that just, but only just, yields the investor's required after-tax rate of return on outlays; a 'profitable' mine is one that yields returns in excess of this requirement. A mine's 'profitability', in this context, thus refers to the extent to which rent is generated, not to the amount of accounting profit yielded.

A satisfactory mineral taxation system will reconcile, as far as possible, the objectives of governments and mining companies. The mining sector in South Africa makes an economic contribution well beyond its fiscal contribution alone, but one of its principal benefits has historically come in the form of a major contribution to government revenue. A South African government, in present circumstances, might

share the following objectives for fiscal policy towards the mining sector in common with governments in other developing countries -

- to minimize its own financial risks and outlays;
- to encourage the maximum flow over time of new investment into the mining sector that is consistent with avoidance of severe macro-economic disruption;
- to obtain as large a share as possible of the rent generated by successful mining operations and thereby secure a valuable flow of foreign exchange earnings and state revenues.

Although governments will frequently have other objectives: employment creation, regional development, or technology transfer, for example, pursuit of such objectives by modification of fiscal policy towards the mining sector, or by direct regulation, may reduce the revenue available. Such objectives are often better pursued by redeployment of mineral revenues, once received, than by imposing restrictions which reduce revenue in the first place.

These government objectives require to be balanced against the likely objectives of companies:-

- to recover exploration and development outlays as quickly as possible, with a reasonable rate of return commensurate with market conditions and the risks taken;
- to dispose freely of profits (including, in the case of foreign companies, the right to retain after-tax profits offshore) and meet all debt service and other current overseas obligations promptly;
- to know in advance the financial terms on which they may develop a mine and to be confident that those terms will not be suddenly changed.

Companies may have other objectives too, some of them only indirectly financial with respect to the project in question: the exclusion of competitors, the protection of exclusive marketing channels or proprietary technology. Where these objectives do not directly contribute to the maximization of revenues from the project itself, a government, as owner of the resource, may need to ensure that the pace of project development and efficient operation are not being sacrificed, but these possible corporate objectives are not directly relevant to the design of the fiscal regime.

These objectives can be reconciled in a tax regime which concentrates the incidence of taxation on realized resource rent. This requires that the regime has in-built flexibility to respond to changes in profitability over mine life. The high risks and special financing needs of the mining industry call for special depreciation arrangements which permit rapid recovery of initial exploration and development expenditures.

The balance of advantage in knowledge about the likely value of a deposit will tend to shift from the mining company to the government as a project proceeds. If, however, governments permit investors access to deposits on generous terms, only to impose onerous variations in taxes when high returns are actually generated, investors will tend to anticipate such changes and increase their risk premia in the face of heightened political risk. Resource rent available to be taxed will thereby be reduced both because the required rate of return is higher and because some potentially economic deposits will not then be developed.

The common sense interpretation of these economic arguments is, first, that a country's tax regime for mining cannot move too far out of line with that prevailing in countries with close substitute deposits, or else investment will be diverted; second, a government that carefully structures its tax system to reduce risks faced by investors (for example the risk that high royalties will cause losses) can in the long run secure both more investment and higher tax revenue over the life of a mine; and, third, that the pursuit of 'tax neutrality' with respect to mining activity is not a simple matter of setting the same overall taxes as are applicable to other sectors.

Government tax policy can influence the pace, intensity and efficiency of mineral development, the magnitude of resource rent and the share which the resource-owning country can obtain. An effective tax package needs to balance two sets of considerations. On the one hand the tax package should minimize the additional risk (beyond any pre-tax risk) to the investor of absolute loss; it should also aim to tax realized rent once it is known rather than a forecast of revenues which may turn out to be wrong and which may imply the taxation of legitimate costs. On the other hand, the package needs to offer the prospect of stability of contract terms; thus it should lower an investor's political risk that the terms will subsequently be altered if a project turns out to be especially profitable.

The balance of these considerations is likely to require: measures (such as accelerated depreciation) to facilitate early payback of initial outlays; the use of specially-tailored devices to ensure that higher rates of taxation only apply to resource rent as defined; the presence of some device providing early revenue to the government, and a payment of some sort whenever production is occurring; and that the proportion of rent eventually taxed is high enough to outweigh any temptation to governments to change the terms, while leaving sufficient incentive for efficient operation.

We now consider South Africa's mining taxation reforms against the criteria offered by these general principles.

## 3 MINING TAXATION IN SOUTH AFRICA

Although the mining industry in South Africa continued to provide a substantial portion of government revenue until the mid-1980s, from 1988 onwards the mining tax contribution to state revenues began to collapse. By 1992 mining contributed only an estimated 2.55 per cent of tax revenues and the outturn for 1993 is expected to be even lower. The principal explanations for this collapse lie in the persistence of relatively low precious metal prices in the period since the boom of the early 1980s and in an acceleration in the rate of real increase in mine working costs throughout the 1980s. The cost increases appear to be mainly explained by the increasing depths at which it is now necessary to work. Substantial depreciation of the rand against trading partner currencies (especially the US dollar) in recent years has provided little relief in the face of a persistently high rate of inflation in domestic costs - partly driven by the rand depreciation itself.

The collapse of mining profits and tax contributions has played an important part in creating conditions of deep recession in the South African economy since 1989. During the recession the government's borrowing requirement has multiplied fifteen fold in nominal terms (R2.1 bn in 1989/90 to R31.7 bn in 1992/93) and risen to 9.5 per cent of GDP; at this level it exceeds government capital expenditure by a substantial margin.

There is evidence, then, of a major fiscal problem to which the collapse of mining revenues has made its own substantial contribution. Since 1988, while these circumstances have been developing, the South African Government has carried out a series of mining-specific and general tax changes which amount to a significant reform of mining taxation. The reform package, in general terms, tends to reduce the overall tax burden on mines and to reduce substantially the element of special taxation of mineral rent that has been a distinctive feature of South African mining taxation for many years.

## 4 GOLD MINING TAXATION UP TO 1993

The old system appears to have been effective in adapting the state's share of revenues to fluctuations in realized profit while leaving distributable profits at an acceptable level and allowing sufficient cash flow retention for capital expenditure. Although not designed as such, the system had features in common with what is known internationally as the Resource Rent Tax (RRT), a tax on discounted cash flows in excess of those needed to yield a pre-agreed (or legislated) rate of return over the life of a mine. The South African system had evolved in isolation from innovations elsewhere in the developing world but incorporated many of the same features.

Capital expenditure is immediately expensed for tax purposes in South Africa so, with the exception of deductions against current income for interest payments (which are not made in conventional computations of net cash flow), profit corresponds to net cash flow. The average effective mining tax rate (including lease payments, see below) on profits so defined has varied between a low point of 29.5 per cent in 1958 and a peak of 61.5 per cent in 1989. Under the formulae discussed below the effective rate dropped sharply from 1990 onwards.

Until the passage of the Minerals Act, 1991, the rights to mine precious metals were vested in the state. Under Roman-Dutch law, the holder of land surface rights also holds rights to minerals in the ground, although the rights are separable; mineral rights in this sense have been privately owned, except where the state acquired them by some means and holds them in the same manner as any private owner. The 'right to mine' precious metals, on the other hand, was separately vested in the state as far back as 1871. The state commonly leased this right to mine to private sector miners in return for a share of revenues from the lease area (known as the 'lease consideration') determined on a profit-related formula. The lease consideration was a deductible expense for income tax purposes, like a royalty, and could be

replaced by a royalty or other consideration. The lease consideration evolved as a case-by-case imposition and could vary significantly from mine to mine. In more recent times it has been set at a standard rate.

The lease formula was:

$$y = a - (ab / x)$$

where -
'y' is the lease rate to be determined
'a' is the marginal lease rate
'b' is the portion of lease free revenue
'x' is the ratio of profit to revenue
(all these items are properly expressed as a percentage but are more conveniently used in the formula as number, thus if the ratio of profit to revenue is 33 per cent 'x' is 33).

In the last three decades the 'a' factor has tended to be set at 15, and the 'b' factor at 8 for post-1966 mines and at 6 for earlier mines. Thus if 'x' is 33 the lease rate is 11.4 per cent for a post-1966 mine; if 'x' falls to 20 the lease rate falls to 9.0 per cent. The effective lease rates for pre-1966 mines are made slightly higher by the different 'b' factor. The determination of 'profit' for the numerator in the calculation of 'x') involves deduction of all working costs and all capital expenditure in the current year and that previously unredeemed. The base on which the lease consideration is levied is also 'profit' less a further deduction of a six per cent allowance in respect of capital expenditure in the current year together with unredeemed prior capital expenditure. The lease consideration is deductible for income tax purposes.

The lease consideration was thus a pre-tax levy on a base that approximated net cash flow with the additional deductions of (a) interest charges and (b) a compounded capital allowance at six per cent per annum. The rate of levy could vary with the ratio of net cash flow to total income.

The South African approach to income tax for gold mining evolved from the lease consideration formula and was thus also profit-related. The income tax formula is -

$$y = a - (ab / x)$$

where -
'y' is the income tax rate to be determined
'a' is the marginal tax rate
'b' is the portion of tax-free revenue
'x' is the ratio of profit to revenue.

Prior to the 1993 Budget, 'a' was 58 and 'b' was 5. Thus with a ratio of profit to revenue ('x') of 33 per cent, the income tax rate would be 49.2 per cent; with 'x' of 20 per cent the income tax rate would fall to 43.5 per cent. However, as recently as the tax year 1988/89 the tax formula (including surcharges) yielded much higher rates of tax: 'a' was 75 and 'b' was 6. Thus with 'x' at 33% the tax rate was 61.4%; with 'x' of 20% the tax rate was 52.5%. The effective rate of normal company tax in the same year was 57.5%.

Capital expenditure can be expensed (with certain exceptions mainly in the area of employee benefit provision) - in other words, 100 per cent can be immediately deducted for tax purposes. There is, however, a degree of 'ring-fencing', i.e., a limitation on the extent to which taxable income from one mine can be reduced by capital expenditure on another mine). In addition, capital expenditure qualifies for a capital allowance, which is now 12 per cent per annum compound for mines constructed after 1990. Thus except for the treatment of interest charges the South African mining income tax operates in a manner very similar to a resource rent tax. The combination with the lease consideration provided two tiers of very progressive taxation, responsive over the life of a mine to the evolution of costs and prices and with the tax rates in any year variable with current profitability.

## 5 REFORMS IN MINING TAXATION

Following partial acceptance by the government of the recommendations of the Marais Committee of 1988, surcharges on mining tax and then the top marginal rates of tax were progressively reduced. The standard rate of company tax in South Africa has also been steadily reduced and the objective appears to have been adopted of taxing mines in 'average' times at approximately the standard rate.

With effect from 31 December, 1993, the system of state lease consideration falls away. This is because the Minerals Act, 1991, repeals previous legislation which vested the right to mine precious metals in the state. There will then be no pre-tax profit-related levy or royalty payment to the state (except in those cases where the state holds the mineral rights and can obtain such a payment in the same way as any private holder).

In the Budget of March, 1993, gold mining companies were offered the option of moving to new parameters in the income tax formula: 'a' would be

set at 49 and 'b' at 5. New mines will have the same options as existing mines. The revisions reduce the applicable rate of tax by just over 15 per cent (e.g., from 49.2 per cent to 41.6 per cent where 'x' is 33). However, gold mines opting for the new system will also have to pay a 15 per cent Secondary Tax on Companies (STC) on distributed profits. This tax is paid at 15% of the amount distributed net of STC (i.e., 15/115 of the gross amount) and dividends received are deducted from distributions in calculating the tax base. The STC is an economy-wide tax, introduced as part of a new dual tax system designed to encourage re-investment, and is only incidental to the mining tax reforms. Dividend remittances to non-residents attract an additional 15 per cent non-resident shareholder tax (dividend withholding tax).

These changes follow others made progressively since 1989 which have had the effect of reducing the maximum marginal tax rate from much higher rates (in excess of 80 per cent including lease consideration) to those described here as the current system: 49 per cent plus STC on distributed profits. The new system is closer to normal company taxation except for the effect of the formula in raising tax in good years while reducing tax in bad years, but will it be as effective as the old system in securing an appropriate share of mineral rent for the state?

In terms of the criteria for mineral taxation suggested here, the old system appears to have performed reasonably well. The old system was attuned to the taxation of mineral rent, although the implied rate of return allowed on new investments before rent taxation was probably too low. The system reduced risk and costs by the absence of any royalty based solely on output or gross revenue, and by the system of immediate expensing of capital outlays. With a mature (and tax-paying) mining industry such as that in South Africa, the absence of royalty and the expensing of capital did not present the cash flow problem for government that would exist in a country at an earlier stage of mining industry development. There was substantial taxation of high rents, imposed in a manner that responded to current levels of profits as well as life-of-mine economics. It could be argued that, by the mid-1980s, the tax and lease formulae produced marginal rates of taxation that were too high for the future growth of the industry; these marginal rates have already been reduced, and the need to reduce marginal rates does not imply rejection of rent taxation additional to normal business taxation.

The reformed system aims to tax mining on average at approximately the standard corporate rate of tax. There will be no special rent taxation, except to the now limited extent that the formula yields a higher rate of income tax in periods of high profits; this is balanced by reduction of taxation in years of low profits and, unless further reforms are made, the expensing of capital items will remain in place. Mining will thus be treated in some respects more generously than other sectors (except where businesses in other sectors receive the special privileges available in economic development areas).

In practice, mining companies in South Africa have tended to distribute most of their profits and to fund major capital expenditure by seeking fresh equity. It is understood that gold mining companies have all elected to remain on the old formula (approximating a standard rate of 49 per cent) since the STC incentive to earnings retention is of little relevance.

The new system may encourage re-investment and new investment, though it is difficult to judge whether it will do so to an extent greater than a well-designed system which continues to tax mineral rent. If industry expansion proves to be profitable, the revenues to the state will be reduced under the new system compared with what might be possible under an appropriate system of rent taxation.

How do the reforms compare with developments in mining taxation elsewhere? Australia moved recently to end a long period of tax exemption for gold mining. Immediate expensing of capital outlays is not available. Australian States (with the exception among states with significant mining industries of Western Australia for gold) have traditionally charged fairly significant royalties (at rates up to 5 per cent of gross revenues.

The 'big three' among developing countries that have recently attracted significant mining investment are Chile, Indonesia and Papua New Guinea - the last of these is now important in international gold supply. None of these countries permits immediate expensing of capital items for income tax purposes, but each of them offers some form of accelerated depreciation alternative. Chile levies no royalty and no direct tax, other than withholding taxes, in addition to normal corporate income tax (which can be fixed by election at 49.5 per cent, or vary with the general corporate rate - currently at an effective level of 35 per cent). In Chile, however, a large portion of

the copper-mining industry remains state-owned within CODELCO and a fixed proportion of gross revenues is assigned for military use; in a sense, therefore, mineral rent across the mining sector as a whole is appropriated for state use by means other than taxation. Indonesia levies modest (1 - 2 per cent) royalties on gross revenues from precious metal mining; the exact levels vary with market prices. Indonesia has moved away from levying additional profits taxes in recent years and operates a marginal rate of income tax of 35 per cent, plus fairly severe withholding taxes. In Indonesia, however, conditions are imposed requiring divestiture of portions of equity to local investors within specified periods of time. Papua New Guinea charges a low royalty (1.25 per cent), income tax at 35 per cent (48 per cent for branches), additional profits tax at 35 per cent after approximately a 20 per cent discounted cash flow rate of return has been earned, and then levies withholding tax at 17 per cent on dividend remittances abroad. Papua New Guinea's regime comes closest in overall effect to the former South African regime, though with much lower top marginal rates of tax..

There is thus a wide range of international practice (and a wide range of practice is evolving among African countries). Much depends on local prospectivity and local priorities for the deployment of any mineral rents. It is not clear that the international environment in the mining industry required South Africa to move as sharply as it has done, by abolition of the lease consideration and reduction in tax rates, to reduce the tax burden on the mining sector and depart from its long-established practices in taxation of mineral rents.

## 6 CONCLUSIONS

The South African reforms prompt an outsider to ask a number of questions.

1 Was the existing system of mining taxation in some way reducing efficiency in production, or deterring exploration and new investment?

2 Are the reforms directed at protecting government revenue-raising capacity from mining in the short or long term? In other words, does the government believe that restructuring and reduction of the tax burden is necessary for the survival of parts of the mining industry and for the stimulation of new investment in the long run?

3 Does the government now believe that the state has no call upon revenues from its mineral resources additional to those yielded by normal business taxation? Does the Government also consider that the mining industry should continue to benefit from immediate expensing of capital items, from additional capital allowances and from a lower-than-normal tax rate in periods of low profitability - in other words that it should be treated more favourably than other sectors?

4 The Minerals Act, 1991, appears to have legislated a major change in property rights by placing the right to mine precious metals and stones back in private hands. Was this done for political or technical reasons, or was it done as a necessary precondition for removing a tier of taxation in the form of the lease consideration?

5 The accumulated changes since the mid-1980s are likely, in times of profitable mining activity, to leave a substantially larger share of mineral revenues in the hands of foreign and domestic mining companies, at the expense of government revenues. Is such a change sustainable when a major alteration in the structure of state power in South Africa is in prospect?

**Note to the reader:** in lieu of detailed footnotes and references, I would like to acknowledge the following sources for material in this article. Much of the factual material on South Africa is drawn from M.C. van Blerck, **Mining Tax in South Africa, second edition**, Taxfax CC, Rivonia, 1992, from the same author's 'Secondary Tax on Companies: a legislative guide' in **SA Tax Review, Vol 6, No 2,** June 1993, 38-50, and from information provided by the South African Chamber of Mines. Some of the economic argument is drawn from an unpublished paper written by the present author as a background paper, entitled 'The Fiscal Framework', for World Bank, **Strategy for African Mining,** World Bank Technical Paper No 181, August 1992, of which I was also part-author. Readers who would like to pursue the economic ideas further are referred to Ross Garnaut and Anthony Clunies Ross, **Taxation of Mineral Rent,** Oxford, 1983, and to Keith Palmer, 'Mineral Taxation Policies in Developing Countries: An Application of Resource Rent Tax', **IMF Staff Papers, 27,** September 1980, 517-542. I am grateful to Marius van Blerck for correcting errors and misconceptions in earlier drafts; those that remain are my responsibility alone.