An analysis of potential benefits to the State of realistic adjustments to the mining tax structure

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SYNOPSIS

By use of models based on the South African gold-mining industry, analyses are made of the effects of changes in the mining tax structure on the State's tax income from potential new mines; also on the percentage of such mines likely to be proceeded with. This percentage is affected by the correlation between changes in taxation and in the flotation pay limits for new mines. It is shown that the State stands to gain both directly and indirectly from raising the level of the capital allowance and from its extension to all mines; and that the reduced taxation resulting from a lowering of the discriminatory high tax formula for the gold mines, would, in respect of potential new mines, be compensated for by a significant increase in the percentage of such mines that would be proceeded with.

SAMEVATTING

Die uitwerking van veranderinge in die mynbelastingstruktuur op die Staat se belastinginkomste uit moontlike nuwe myne en op die persentasie sodanige myne waarmee daar waarskynlik voortgegaan sal word, word ontleed met behulp van modelle wat op die Suid-Afrikaanse goudmynbedryf gegrond is. Hierdie persentasie word geraak deur die korrelasie tussen veranderinge in die belasting en in die rendeergrense vir die oprigting van nuwe myne. Daar word getoon dat die Staat sowel regstreeks as onregstreeks sal baat by 'n verhoging van die peil van die kapitaaltoelae en die uitbreiding daarvan na alle myne; en dat daar vir die laer belasting wat sal volg op 'n verlaging van die diskriminerende hoë goudmynbelastingformule vir moontlike nuwe myne, vergoed sal word deur 'n beduidende toename in die persentasie van sodanige myne waarmee daar voortgegaan sal word.

1. Introduction

In the best long-term interests of a country, particularly a country with a significant mineral potential such as South Africa, it is imperative that the State should implement a tax structure that will assist in developing this potential to its maximum. Realization of this potential will ensure that the maximum number of economic mines will be opened up. From this will flow the associated benefits of employment, stimulation of secondary industries, opening up of underdeveloped areas, earning of foreign exchange from the minerals exported, etc. These benefits have, naturally, to be measured against the effects, if any, on the total tax that could be expected from such potential new mines.

The tax structure plays an important role in the stimulation or discouragement of new mining investments. It determines the net balance of the profits remaining for the investor after the State has exacted tax and other payments. Such payments are particularly significant for potential mines in the marginal category. In that category, the critical grade — or revenue potential — at which the mine will only just yield the minimum return required on the capital to be invested could be significantly raised by the taxes payable. The decision on investment could then change from positive to negative. By lowering the taxes payable, the critical grade (or flotation pay limit) will be lowered and additional mines will be started.

Various measures have been introduced from time to time in the South African mining tax structure to stimulate new investments. Of these the most significant are

(i) the immediate redemption of capital expenditure, exclusive only of the cost of acquisition of the mining title;

(ii) a capital allowance for new (post-1973) gold mines, now at 10 per cent p.a.; this is equivalent to the addition annually of 10 per cent compound interest to the unredeemed balance of capital expenditure until this balance including all the capitalized 'interest' is redeemed;

(iii) a lower-than-normal tax formula applicable to new gold mines to be established — now $60–480/x$ as compared with $60–360/x$ for old gold mines; the formula determines the percentage rate of tax, and x is the percentage ratio of taxable income to revenue.

Other positive features of the South African tax system, such as the gold mines' assistance scheme and the effective lowering of the operating gold pay limit via the formula, are not specifically aimed at stimulating new investments; these will, therefore, not be discussed.

In considering any further stimulatory measures, the State is faced with the problem of judging the negative effects, if any, of new tax measures on the total potential tax income from new mines. However, this has to be weighed against the benefits of the associated increase in the potential mining activity from a larger number of mines to be opened up.

2. Logical Basis for the State's Judgement

Such a judgement, to have a reasonably logical basis, would require

(i) an estimate of the *nature* of the remaining mineral potential in the country, i.e. the postulation of a population of undiscovered mines and their relative grades (or revenue potentials), as well as their likely ranges of unit costs, metal prices, and other relevant parameters (an estimate of the total *volume* of the potential, i.e. the number of mines remaining to be discovered, is not required);

(ii) an estimate of the degree of uncertainty or risk

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associated with such individual potential mines at the stage when the critical decisions to invest or abandon are to be taken, i.e. mainly the uncertainty of grade;

(iii) from (i) and (ii) above, an estimate, for various tax structures, of the following:

(a) the relative flotation pay limits, and hence the percentage and actual grades, of potential mines to be floated, and

(b) the percentage of these mines that would become liable for taxation, and the total amount to be paid over their productive lives.

Decisions based on a simulation of what might reasonably be expected to materialize in future, no matter how subjective, must have more appeal than decisions taken on a purely arbitrary basis. An attempt will therefore be made to develop, for South African conditions, the approach outlined above and to draw conclusions regarding the 'best' tax structure to be implemented.

3. Population of Potential New Mines

South Africa is in the fortunate position of having a large existing mining industry including a population of some 36 producing gold mines. These gold mines can be well represented, as far as their recovery grades are concerned, by a lognormal frequency distribution with a mean grade of about $8\frac{1}{2}$ g/t and a spread equivalent to a logarithmic variance of 0,3. The distribution of the 36 grades for 1977 and the fitted model are shown in Fig. 1.

It can be assumed that the remaining undiscovered gold mines will have the same average potential as the existing mines, i.e. $8\frac{1}{2}$ g/t, and the same relative variability. Whilst the latter assumption is logical, it seems more likely that the undiscovered mines will have a lower average grade potential; hence the analyses have been effected on two average grade levels: $8\frac{1}{2}$ g/t and 6 g/t.

Similar statistics are not readily available for base-metal and other non-gold mines but their average potential — measured by the relative profitabilities equivalent to the suggested gold grades of $8\frac{1}{2}$ and 6 g/t — as well as the variability of the individual potentials, could without stretching the imagination be accepted as of similar orders.

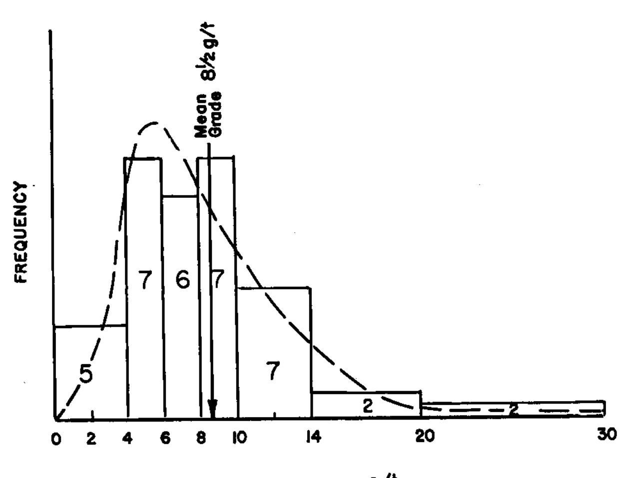

Fig. 1—Grade distribution for 36 producing gold mines for 1977

4. Uncertainties Faced by Investors

At the stage when a decision has to be taken to go ahead with a new mining proposition, limited information is available on the grade prospects. In many cases, such as for deep gold mines, only a relatively small number of boreholes will have been drilled. A grade estimate based on such evidence will naturally be subject to wide limits of error or uncertainty. Based on experience gained from such gold mines, the uncertainty for a potential new mine has been accepted as being represented by a lognormal probability distribution with a logarithmic variance of 0,2.

The other uncertainties involved at that stage, e.g. estimates of working and capital costs, and of metal prices, etc., have been accepted at the levels detailed in Addendum 1.

5. Range of Tax Structures Analysed

The following tax structures have been analysed:

Gold-type formulae, where y is the percentage rate of tax and x is the percentage ratio of taxable income to revenue:

(i) $y=64{,}5-516/x$ — present formula for new mines including the $7\frac{1}{2}$ per cent surcharge

(ii) $y=50-400/x$

(iii) $y=45-360/x$

(iv) $y=60-1200/x$.

Formulae (i) to (iv) are of the general type $a-\frac{ab}{x}$ with a b factor of 6 for (i) as for existing old mines, 8 for (ii) and (iii) as at present for new mines, and 20 for (iv). The a factors have been varied as shown in order to cover, together with the changes in b factor, the range of formulae that could be considered in an endeavour to reduce gold-mining taxes to more reasonable levels. This general formula can also be expressed in a simple form as follows:

Amount of tax $=a$ per cent (taxable income $-b$ per cent of revenue)

i.e. a is the rate of tax after a deduction — equivalent to the depletion allowance in the U.S.A. — of b per cent of the revenue has first been made.

Company tax

(v) 40 per cent flat — exclusive of the present surcharge.

All the above tax levels have been analysed with capital allowances varying from

(1) zero, as applicable to all new non-gold mines, through

(2) 10 per cent p.a. as applicable at present to new gold mines, to

(3) 15 per cent p.a., and

(4) 20 per cent p.a.

Capital allowances are calculated on the unredeemed balances of capital expenditure in a form equivalent to compound interest on such balances and capitilized for tax purposes.

6. Calculations

A total of 270 individual cases were simulated for ranges of gold grades, gold prices, costs, inflation and escalation rates, byproduct uranium grades and prices, tax structures, etc. using a general risk analysis program developed for the Anglovaal Group. The results were used to estimate

(i) the expected total tax payable by a new mine given any actual grade, as well as the uncertainty level of this tax resulting from all the other variables such as costs, prices, etc.;

(ii) the expected rate of return on the capital investment measured in real terms by discounting real cash flows (i.e. the *D.C.F. rate of return* — also known as the *internal rate of return* or *I.R.R.*) given any actual grade, as well as the associated uncertainty; and

(iii) the flotation pay limits (at a 10 per cent p.a. real D.C.F. rate) for any given grade and corresponding to each of the 20 tax-capital allowance combinations mentioned in Section 5. For the cases handled, a real D.C.F. rate of 10 per cent p.a. corresponded generally to a risk of some 10 per cent, i.e. one chance in ten of not achieving the payback of the investment in real terms.

These results were then integrated with the models postulated under Sections 3 and 4 to provide estimates of the percentage of mines that would be proceeded with under each tax structure, their actual grades, and the corresponding total relative tax potential of these mines. The results are summarized in Fig. 2 and Table I. The technical details of the procedures followed are recorded in Addendum 2.

7. Capital Allowance

The trends in Fig. 2 show clearly that, regardless of the tax formula applied (or the flat 40 per cent rate) and of the average potential of new mines ($8\frac{1}{2}$ or 6 g/t), *the total tax potential of mines proceeded with will in fact increase as the capital allowance rate is introduced and increased* until it reaches a level generally in the range between 15 and 20 per cent p.a. This is due to tax from the additional mines opened up (following the lowering of the flotation pay limit as the capital allowance is increased) more than compensating for the reduction in taxes to be paid by the more profitable mines, which would in any case have been proceeded with. This

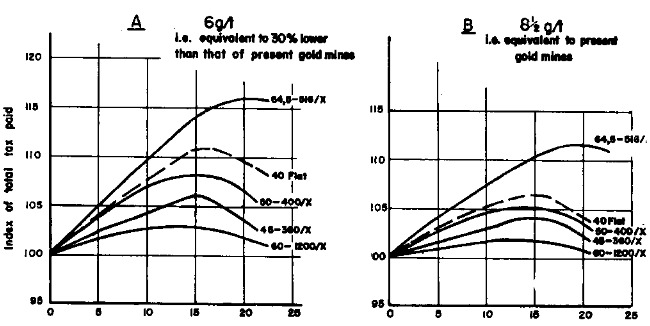

Fig. 2—Effects of capital allowance rate per annum on the total potential taxes to be paid by a potential population of new mines averaging 6 g/t and $8\frac{1}{2}$ g/t

TABLE I

RELATIVE EFFECTS OF VARIOUS TAX STRUCTURES, ALL WITH A CAPITAL ALLOWANCE RATE OF 15 PER CENT

Tax formula	Index of total tax potential	Index of total activity potential
. Average grade of potential population of new mines = $8\frac{1}{2}$ g/t		
64,5—516/x	100,0	100,0
50 —400/x	85,6	108,7
45 —360/x	78,4	111,5
60 —1200/x	79,6	112,6
40 flat	80,2	109,7
B. Average grade = 6 g/t		
64,5—516/x	100,0	100,0
50 —400/x	89,2	111,8
45 —360/x	82,2	115,8
60 —1200/x	81,9	117,2
40 flat	85,8	113,2

feature was referred to by the author in an earlier paper[1]. It should be stressed that this conclusion also applies for the flat rate tax of 40 per cent applicable to base-metal mines, and that *there is therefore a strong case for extending the capital allowance (at an increased level) to all mines.*

The effective average longterm inflation rate used was about 7 per cent p.a. and, when this is superimposed on a minimum return of 10 per cent p.a. in *real* terms, the effective minimum return required in *current* terms is about $17\frac{1}{2}$ per cent p.a. If the capital allowance were raised to this level, tax would not affect individual flotation decisions, and such an allowance should therefore logically correspond to or be close to the optimum level as confirmed by Fig. 2.

In practice, therefore, the 'optimum' capital allowance should be about 10 per cent p.a. in *real* terms, i.e. it should ideally be set at, say, the ruling inflation rate plus 10 per cent p.a. or appropriately linked to, say, the Reserve Bank rate in order to effectively result in such an allowance level.

It should also be stressed that, apart from ensuring the maximum total taxes to be paid to the State, the total percentage of mines to be opened up would also increase as the capital allowance rate is raised. An increase from 10 to 15 per cent p.a. in the capital allowance rate should, for example, increase the number of such mines by some 12 per cent at the present tax level.

In principle, these conclusions regarding the capital allowance for tax purposes are not peculiar to South Africa and should be of general application in all mining countries.

8. Tax Formula or Level

Table I summarizes for a capital allowance of 15 per cent p.a. the 'trade-off' between the decrease in the expected total taxes to be received by the State and the increase in the expected total mining activity. Both factors are indexed to 100 at the present tax level of 64,5–516/x inclusive of the surcharge. This formula level is unrealistically high and should not be accepted as the criterion against which the effects of tax adjustments can be measured. Nevertheless, for the more likely case of a lower average potential for new mines (6 g/t, B in Table I), the State's potential reduction in total taxes on moving to any one of the other formulae shown, or the company rate, is virtually matched percentage-wise by the increase in mining activity.

The conclusion to be drawn, therefore, is that, unless the direct benefits from mining taxation are regarded as outweighing all the indirect benefits of an increase in mining activity in the form of employment, stimulation of other industries, foreign exchange earnings etc., *the State on balance stands to gain in the longterm from a realistic lowering of the discriminatory high level of the present gold-mining taxation.*

If the flat company rate (at present 40 per cent) is accepted as the logical level for *all* mines, then Table IB shows on interpolation that, from the State's point of view, the same total potential tax could be expected from new gold mines with tax formulae of 63—1260/x (b factor=20) or 47—376/x (b factor=8), but that, if the total activity potential is also taken into account, the preferential rating will be

(i) $63-1260/x$, i.e. a high b factor,

(ii) $47-376/x$, i.e. a low a factor,

(iii) 40 per cent flat, i.e. the present company rate,

although the differences indicated are relatively small.

If, therefore, the State can be prevailed upon to eliminate the discrimination inherent in the present gold formula, it should aim at a tax level in the range defined by (i) to (iii) above. Although this would reduce the potential total tax revenue from new mines, there should be a corresponding and balancing increase in the indirect benefits from such mines.

9. Conclusion

The South African mining tax structure is known worldwide in mining circles for its enlightened features such as the immediate redemption of capital expenditure and the capital allowance for new gold mines. These features have no doubt contributed to the growth of the South African mining industry to its present level.

The above analysis shows that a bold extension of the capital allowance, preferably at a higher level than the present 10 per cent p.a., to *all* mines and a realistic downward adjustment of the gold mines' formula should provide the additional stimulation needed at this stage for the establishment of new gold and other mines at little or no net cost to the State.

Addendum 1: Basic Assumptions

The following are the basic assumptions for the investment analyses of typical new large gold mines in South Africa. The cases were run on the general risk-analysis program developed for the Anglovaal Group. For the risk variables, the likely figures are shown together with the 90 per cent confidence limits in brackets.

Mill tonnage: 50 million (±25%)

Average head grades:

Gold: 10 g/t (−71%,+132%)

Uranium: 0,14 (kg U_3O_8)/t (−57%,+88%)

(Correlation level: 60%)

Metal recoveries: Gold: 95%

Uranium: 85%

Inflation:	1st year:	10%	(±25%)
	2nd year:	8%	(±15%)
	3rd year onwards:	6% p.a.	(±5%)

Metal prices (at inception):

Gold: R6 000/kg (−43%,+58%)

Uranium: R80/kg U_3O_8 (−43%,+58%)

(Correlation level: 40%)

Taxation: Mining: $64{,}5-516/x$ and other formulae, capital allowance 0% to 20% p.a.

Nonmining: 42%

Lease consideration: $15-120/x$, capital allowance 6% p.a.

Capitalization: Equity: R220 million

Loans: R4 million at 11% p.a.

Preproduction period:

Duration: 4 years

Capital expenditure (6 years):

R217 million (±30%)

Milling rate (final after 6 years): 200 000 t/m

Costs during production:

R25 per ton milled (±20%) at full production

plus R200 million (±20%) 'overheads' spread over life

plus R5 million (±30%) p.a. current capital expenditure.

Cost escalations:

Working costs: Year 1: inflation rate +2% p.a.

Year 2: inflation rate +1% p.a.

Year 3 onwards: inflation rate only.

Capital expenditure: Year 1: inflation rate +4% p.a.

Year 2: inflation rate +2% p.a.

Year 3 onwards: inflation rate only.

Addendum 2: Models and Procedures

Details are given of the models and procedures used to estimate the effects of various tax structures for new mines on the likely total taxes to be paid and on the overall level of mining activity to be achieved.

1. *Percentages and Grades of Mines*

The total population of potential mines is accepted as distributed lognormally with a mean of either 8½ g/t

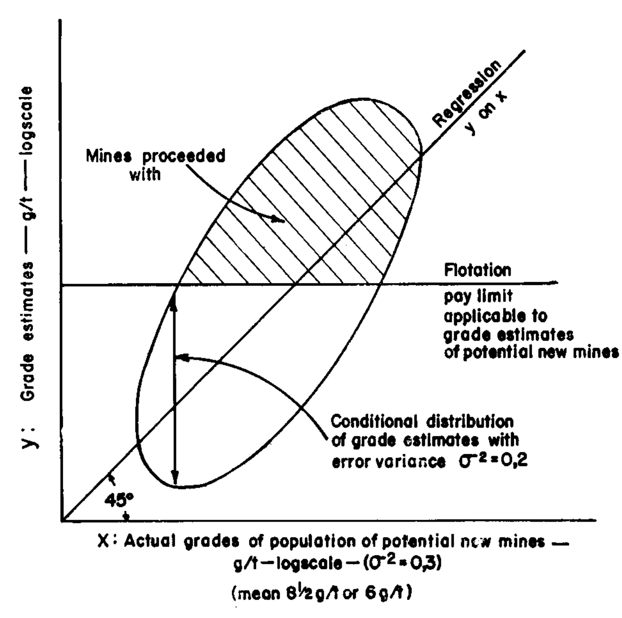

Fig. 3—Model used for the estimation of relative frequencies and grades of mines proceeded with for a given flotation pay limit

or 6 g/t, and a logarithmic variance of 0,3. The sampling distribution for the grade estimate of a single mine is accepted as lognormal with log-variance of 0,2, and the correlation of actual and estimated grades will therefore be as shown in Fig. 3.

Any decision to invest must be taken on the evidence of the *estimated* grade (shown along the y-axis), and for this purpose the appropriate flotation pay limit is applied as a horizontal cut across the bivariate distribution in Fig. 3. Mines falling above this cut will be opened up, and the relative frequencies of these corresponding to specified categories of actual grades (on the x-axis) can be calculated given the average of the actual grade distribution, the conditional variance in the columns (i.e. 0,2), and the cut-off limit (i.e. the flotation pay limit).

2. *Trend of Real D.C.F. Rate on Grade*

For a specific tax structure, the results obtained from a risk analysis with 30 iterations were analysed by correlating the 30 real D.C.F. rates obtained with the corresponding 30 grades as selected for the analysis. For this purpose, the D.C.F. rates were accepted as normally distributed, and cases with no D.C.F. rates (net operating losses) were omitted. The calculated regression of D.C.F. rate on grade will provide the appropriate estimates of D.C.F. rates for specified *actual* grades.

As the probability distribution for a grade estimate is accepted as lognormal with log-variance of 0,2, the grade corresponding to a limiting real D.C.F. rate of say 10 per cent p.a. will correspond to the geometric mean of the grade probability distribution, and the required arithmetic mean of *flotation pay limit* will be 1,105, i.e. $e^{\frac{1}{2}(0,2)}$ times this geometric mean.

3. *Total Taxes Paid*

As for the real D.C.F. rate above, the total taxes paid in individual cases are correlated with the corresponding 30 grades and the regression of tax on grade established. Total taxes also follow a normal distribution pattern, and as taxes cannot be negative, all cases with zero tax are omitted in the analysis. (Ideally the taxes for such cases should be accepted as theoretically negative without specifying their levels and the appropriate bivariate model fitted as a 'censored' version.)

Having established the regressed trend of tax on grade and the conditional tax variance, the average tax level (and its distribution) for mines in the various actual grade categories assumed (see Section 1 above) can be calculated, as well as the percentage of each conditional tax distribution (corresponding to a specific grade category) falling above a zero value, together with the average tax level for these tax-paying mines. Thus, having determined the percentages of mines in each grade category that will be proceeded with, as well as the percentages of these in turn that will be tax-paying and their average tax levels, it is possible to arrive finally at the overall percentage of potential mines that will be opened up and will pay tax, and the total taxes expected from such mines.

4. *Specimen Calculations*

(a) Population of potential mines (Table A1):
Average grade = 6 g/t
Logarithmic variance = 0,3.

(b) Regression of real D.C.F. on grade:
Tax structure: $64{,}5-516/x$, capital allowance = 10 per cent p.a.
Regression: Expected real D.C.F. rate = 11,85 log (grade g/t) − 15,61
For an expected D.C.F. rate of 10 per cent, the corresponding grade is 8,685 g/t. This will correspond to the geometric mean of the probability distribution for the grade estimate of a single mine with log-variance (σ^2) of 0,2 and hence to a likely grade[2]
= geometric mean $\times\ e^{\frac{1}{2}\sigma^2}$
$= 8{,}68 \times 1{,}105 = 9{,}60$ g/t
= *flotation pay limit*

(c) Mines to be proceeded with:
For the lognormal correlation model of actual versus estimated grades (see Fig. 3), the conditional distributions in the columns corresponding to the grade categories accepted in (a) above will have the same means as the category averages (regressions of estimates on real grades = 45° line) and log-variances of 0,2. The application of the flotation pay limit of 9,60 g/t to each such conditional distribution will yield the percentages of mines above the flotation pay limit[3] shown in Table A2.

TABLE A1

RELATIVE FREQUENCIES OF MINES IN GRADE CATEGORIES

Category limits, g/t	0–2	2–3	3–4	4–5	5–6	6–8	8–10	10–12	12–
Av. cat. grade, g/t	1,666	2,545	3,495	4,489	5,488	6,914	8,875	10,883	15,588
% in category	4,2	11,9	15,9	15,6	13,2	18,0	9,8	5,2	6,2

TABLE A2

MINES ABOVE THE FLOTATION PAY LIMIT

Average cat. grade, g/t	1,666	2,545	3,495	4,489	5,488	6,914	8,875	10,883	15,588
% in cat. above P.L.	0	0,07	0,65	2,73	7,03	16,93	34,51	52,29	80,52
Overall % proceeded with	0	0,01	0,10	0,43	0,93	3,05	3,38	2,72	4,99*
							Total in last line=		15,61%

*4,99% overall = 80,52% of conditional distribution × 6,2% (% of total in grade category — see (a) above).

TABLE A3

TAX LEVELS

Grade, g/t	1,666	2,545	3,495	4,489	5,488	6,914	8,875	10,883	15,588
Mines proceeded with, %	0,00	0,01	0,10	0,43	0,93	3,05	3,38	2,72	4,99
Average tax level	—	−2814	−1387	−262	642	1680	2803	3720	5336*
% paying tax	—	6,52	24,96	44,92	62,28	79,35	91,40	96,51	99,53*
Tax level for these	—	940	1223	1546	1894	2418	3155	3884	5364*
Tax payers as % of all potential mines	—	—	0,03	0,19	0,58	2,42	3,09	2,63	4,97*

Taxpayers: Total % =13,90% (total last line)*
Total tax =538,6†

*On regression formula for grade of 15,588, tax expected =5336
For a conditional distribution with this mean and S.D. =2052,
99,53 per cent will be above a value of zero, and will average 5364. These taxpayers as a percentage of all potential mines=99,53×4,99=4,97 per cent, and over all grade categories the total will be 13,90 per cent.

†538,6=(0,03%×1223)+(0,19%×1546)+(0,58%×1894)+(2,42%×2418)+(3,09%×3155)+(2,62%×3884)+(4,97%×5364)
=relative measure of total taxes to be paid if potential number of mines=1, and hence if a theoretical 0,139 of a mine is proceeded with.

Therefore, under these conditions 15,61 per cent of all the potential mines will be proceeded with.

(d) Regression of total tax paid on grade:
For the above tax structure,
expected total tax paid over life (R million)
=4496 log (grade, g/t) − 7014 with a
conditional standard deviation=2052.
For the above grade categories, the values shown in Table A3 will be the expected average tax levels, the percentages of mines above a zero tax level, and the expected average tax levels of these tax-paying mines.

When the above procedures were repeated for the various tax structures and for populations of potential mines with mean grades of 6 g/t and 8½ g/t, the results summarized in Fig. 2 and Table I were obtained.

Acknowledgement

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3. *Ibid.*, Fig. 4.

Postscript

After this paper had been presented at the SAIMM Mining Colloquium on 4th May, 1979, the author obtained a copy of the work by Mackenzie and Bilodeau (1979) just published and covering the same field of interest but in a Canadian context. The author's main conclusions are fully and independently supported as the following brief summary of their work will confirm.

(1) If the mining tax rate is excessive and is lowered to a rate — estimated at 58 per cent of profits for Canada — the State will actually *increase* its total mining tax receipts. (In South Africa the gold mining tax rate plus mining lease payments at present exceed this rate.)

(2) The potential net value to society of mining discoveries is affected very substantially by the tax system — a revenue tax is the worst form, profit taxes better, and a sliding scale related to return on investment the best. (The last-mentioned is similar to our gold formula tax with return on investment replacing the profit/revenue (x) ratio, and effectively incorporates a capital allowance in *real* terms taken at 8 per cent p.a., i.e. 15 *per cent in current terms* at a longterm 6 per cent to 7 per cent inflation rate.)

(3) Under inflationary conditions the State obtains an increased and unfair share of the net real receipts at the expense of the investor. (This is because inflation accounting does not apply for tax purposes.)

(4) The hurdle rate for new investments (c.f. flotation pay limit) can be accepted at 8 per cent p.a. in real terms — it consists of a 3 per cent p.a. basic cost of riskless capital plus a 5 per cent mining risk premium.

(5) The actual discoveries made in Canada during 1951 to 1974 show an average return to the investor and State combined of 16,2 per cent p.a. in real terms. The trend over time was downwards starting at 20 per cent (1951/8) and reducing to 15,2 per cent (1967/74).

An aspect not covered by Mackenzie and Bilodeau that strengthens the conclusion under (1) above (at a lower critical tax rate) is that stressed by the author, viz that the decision to float a new mine is taken under risk conditions; some propositions assessed as marginal will in fact turn out as good investments and high tax payers. By lowering the tax rate and the hurdle rate for investments via a suitable capital allowance, the State can therefore on balance *increase* its potential tax receipts and stimulate the growth of the mining sector.

Reference

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