PART 5 TAXATION OF THE MINING SECTOR

Summary of key points

- The mining sector has the capacity to contribute more to domestic revenues than its current level.
- Like any other large and specialized operations, mining operations are very complex and provides taxation challenges.
- Lately, there has been a lot of debate on the appropriate tax instrument and policy to use for the mining sector.
- In the current circumstances, the use of variable profit taxation is administratively consistent with the current practices within the ZRA and is highly recommended by this study.
- There is need to deal with the loopholes in the mining tax system presented by hedging. The study recommends that income from hedging should be treated separately from normal business income. Hedging losses should not be allowed as a deduction in the computation of taxable income.
- There is need to improve the capacity of ZRA to deal with the complex issues of mining taxation. This can be in form of increased funding to the Authority so that it can train its staff in key areas of mining audit.
- There is also need to seek external assistance in form of technical assistance from countries that have dealt with mining taxation.

5.1 INTRODUCTION

Mineral extraction has many unique characteristics that set it aside from other industries. This means that a standard tax system that applies to the rest of the economy may not necessarily be appropriate for the mining industry. Almost all countries impose a separate tax system on their mineral industries. While each tax system differs in some way, the basic tenets describing an optimal tax system are well understood and almost all experts agree on these fundamental principles. Despite this general agreement, there is a great debate in Zambia on whether our current tax regime for the mining sector is optimal. Part 5 discusses mining sector taxation by evaluating performance, available options for mineral taxation and challenges.

5.2 THE PERFORMANCE OF THE MINING SECTOR

Table 5.1 shows the performance of mining taxes over the period 2006 to 2009. Excluding PAYE, which is paid by employees, the contribution of the mining sector taxes has averaged 7 percent during the period under consideration.

Table 5.1 Performance of mining taxes

Mining taxes (K'bn)	2006	2007	2008	2009
Company Tax	160	603	464	401
Withholding Tax	-	-	-	-
Mineral Royalty	59	68	238	235
Export Duty	-	-	178	15
Windfall	-	-	126	-
PAYE	290	436	596	582
Mining Revenue Total (K'bn)	509	1,107	1,602	1,232
Total tax revenue (K' bn)	6,329	8,194	9,670	9,660
As % of total revenues	8%	14%	17%	13%
Total revenues less PAYE	219	671	1,006	651
As % of total revenues less PAYE	3%	8%	10%	7%

Source: ZRA

The increase in tax revenue is mainly a result of high mineral prices, increased output, and an increase in the mineral royalty rate following policy changes in 2008. Much of the industry is still recouping investment costs and when these losses are finally recouped, there is expectation of a much larger share of revenue collection. Given that world demand for commodities is unlikely to fall substantially in the medium term, the expectations are that the mining sector will contribute around 30 percent of total revenues by 2013 (MTEF, 2010 -2013).

Like any other large and specialized operations, mining operations are very complex and provides taxation challenges. In the current tax regime there has been a lot of debate on the appropriate tax instrument to use for the mining sector. ZRA recognises this and now has established a dedicated Mining Tax Unit (MTU) to ensure efficient and effective taxation of the mining sector. There is need for continued support both financial and human resource capacity to enable the tax authority to keep pace with the complexities associated with mining taxation, such as counteracting transfer pricing and tax avoidances by mining firms.

5.3 THE OPTIMAL STRUCTURE OF A MINING TAX SYSTEM

The objective of mining tax policy is to raise the maximum amount of tax revenue for the Government. This seems obvious, but it is debated for two reasons:

- The maximum amount of revenue relates to both revenue collected now and in the future, the importance attached to each objective depends on a large

number to factors. For instance, in general, developing country governments need money sooner rather than later compared to developed countries.

- There are other benefits to mining other than just revenue maximization (employment is cited the most). Often, a policy that tries to maximise tax revenue may decrease these other benefits. The mining industry in Zambia contributes no more than 8 percent of total formal employment[42]. While this is important, the potential contribution to tax revenues is far higher. However, for Zambia, protecting mining employment at the expense of tax revenue is not advisable. The mining tax revenues can be used to spur more economic growth and may create higher levels of employment.

In balancing near- and far-term revenues, there is need to protect investment prospects to ensure there actually will be revenue to collect in the future. To do this while maximising revenue collection, tax policy must meet the following criteria:

1. **Have a competitive tax regime**. The tax burden in the mining sector should be comparable to other copper producing countries, after accounting for differences in other investment factors like political stability;

2. **Reduce opportunities for tax avoidance and evasion.** The tax regime should balance the need for optimal tax policies with the need to minimise the costs and technical challenges associated with tax administration efforts;

3. **Give a 'fair' share of returns to both firm and government.** The tax regime should allow firms enough return to remain viable when mineral prices are low, but allow Government to obtain a fair share of returns when prices are high;

4. **Tax according to the ability for firms to pay.** The tax regime should adhere to the 'ability to pay' principle. The tax burden for low cost firms should be higher than for high cost firms insofar as the cost difference relates to factors other than differences in operational efficiency.

5.4 A SIMPLE GUIDE TO MINERAL POLICY FORMATION IN ZAMBIA

Here the basic methodology of mining tax policy is outlined. It involves choices that depend on certain variables, as described above. A developing country like Zambia should concentrate on maximising tax revenues. There may be other benefits, like employment, but, due to the capital-intensive nature of mining, these will not be large. The country should avoid policies that maximise these secondary benefits at the expense of the primary benefit, which is tax revenue.

[42] CSO labour Survey of 2007

- Tax revenues should be maximised over the entire course of mineral extraction. In other words, this means extracting the most tax revenue in the present period without overly harming investment prospects that will yield revenue in the future. But this is a difficult balancing act because countries may play it too safe and safeguard investment prospects at the cost of lower tax revenues today.

- Additionally, revenues today are worth more than revenues in the future. Governments can use cash today to investment in the economy to yield greater growth in the future. However, this preference for revenues sooner rather than later can go against the ability of mining companies to pay taxes today without damaging their financial positions.

- Taxes that keep the incentives for production in place are best in a perfect world. The theoretically best tax type is a 'resource rent tax'. This type of tax allows a firm just enough to pay its costs and its investors, and taxes any surplus profit. Zambia's variable profit tax is an approximation of this sort of tax. This tax type can be applied to whole mining industries where costs structures are very different without hurting some mines over others. However, there are some problems cited as an argument against such taxes. Typical problems that might move a country away from adopting such a tax are: the preference for revenues sooner rather than later; particularly high risks and costs faced by companies; and the inability of tax authorities to audit companies properly. The answer can be to design tax structures that simulate some of the characteristics of a resource rent tax while addressing some of these issues.

5.5 DESCRIPTION OF CURRENT AND PAST REGIMES

This section describes the current mining tax regime, possible modifications and assess these according to the criteria above (Section 5.4). The study will not, however, assess the previous regimes in detail (the Development Agreements (DA) or the 2008 regime). Table 5.2 compares these three recent tax systems according to the main elements of each system.

This study argues that none of these three regimes are close to optimal, although the current regime is most likely the best out of the three. The following reasons support the argument:

- The terms of the Development Agreements may well have been too generous towards mining firms. The regime also failed to capture benefits for the Government when commodity prices rose from 2005 to 2008.

- The 2008 regime swung too far the other way. It led to a comparatively high average effective tax rate and resulted in high burdens at high prices. In particular, it was poorly designed and implemented. For instance, the windfall tax was not made deductable against company income tax payments, which greatly increased the burden of taxation.

- The current regime has an effective tax rate that is between the two previous regimes and generally comparable with regimes elsewhere in the world. It also removed the highly debated windfall tax.

Table 5.2 Outline of tax regimes for 'large-scale license holders'

Tax regime	DA	2008 Reforms	Existing Regime
Income tax types			
Company Income Tax	25%	30%	30%
Variable Profit Tax	No	Yes	Yes
Withholding Tax	No	Yes	Yes
Mineral Royalty	0.6%	3.0%	3.0%
Mineral Royalty based on official prices	No	Yes	Yes
Trade and domestic tax types			
Export duty on copper ore and concentrate	None	15%	15%*
Import duty, Excise duty on inputs	Yes	Yes	Yes
Tax exemptions			
Loss carry-forward[43] (in years)	15 to 20	10	10
Capital Depreciation Allowance[44]	100%	25%	100%

Notes: * The regime has significant waivers each year.
Source: Authors

Without providing any robust analysis of this, the opinion of the study is that the current regime is superior to both of the previous systems. It therefore, may not be correct to revert to either of these previous regimes.

5.6 THE CURRENT REGIME IN DETAIL AND ALTERNATIVE MODIFICATIONS

The current mining tax regime in detail

The current regime has three main tax types: Mineral Royalty (MR); Variable Profit Tax (VPT) and mining Company Income Tax (CIT).

Variable profit tax

The VPT is well designed to achieve a 'fair' share of returns to both firm and Government. When a firm is making a loss or when its profits are low, the VPT

[43] A carry forward, or tax loss carry forward is a provision that allows an individual or a business to use a net operating loss in one year to offset a profit in one or more future years. This provision is also called a tax loss carry forward.

[44] Spreading out of the original cost over the estimated life of the fixed assets such as plant and equipment. Depreciation reduces taxable income

burden is zero. This allows the firm to make a sufficient profit to continue business operations and satisfy investors with a basic return on their money. However, when profits are high, the VPT burden increases, such that it captures the windfall profits.

VPT also adheres to the criterion on the ability of the firm to pay. Since VPT is based on profits, a high-cost firm will pay less tax than a low-cost firm, everything else being equal will. A low-cost firm will pay more, but then its ability to pay is higher. While very small modifications might be made to the rates of the VPT, in general, it is the best tax to have. There are, however, some potential problems with its use. A VPT will not produce sufficient tax revenues in the early part of a mining project. This is because mines tend to have lower profits in the early years because of their high start-up costs. There is a high risk that firms will try to mask their profits so that, even in the mature stage of their operations, they may continue to pay little or no VPT. The tax authority therefore needs to develop the capacity to audit such mines and ascertain accurately the levels of profitability.

Mineral Royalty

The problem of the VPT is fixed, to some extent, by also levying the Mineral Royalty tax. As this is based on the amount of sales revenue, rather than profit, that a mine earns, the MR will always provide the Government with at least some revenue. However, the MR fails against the desirable criterion of achieving a 'fair' share of returns to both firm and Government and adherence to the ability of the firm to pay. Firms have to pay the MR even if they do not make a profit, nor is it able to capture very high profits. As such, it is not advisable for a tax regime to rely too heavily on MR alone.

Mining Company Income Tax

The CIT is, in almost every way, an inferior tax to the VPT. It has the same defects as the VPT, but does not even meet the criteria on achieving a 'fair' share of returns to both firm and government as effectively. However, it is still used extensively because of the principle of 'double taxation', which is explained in the Box 5.1 below. VPT is not applicable to the 'double taxation' principle so it is not advisable to rely solely on this tax.

Box 5.1 The 'global income principle' or 'double taxation'

Most developed countries apply the 'global income principle' for the calculation of corporate income taxes of multinational companies. This principle states that the equivalent tax payment in Zambia (i.e. company income tax) can be used as credit by the parent company to deduct from its own income tax payments. For instance, a Zambian mining subsidiary earns income and is taxed 30 percent. The remaining profit is transferred to the parent company where the tax rate might be 35 percent, but since tax has already been paid in Zambia, the remaining income is taxed only at 5 percent. This is useful to know since Zambia can increase its tax rate up to 35 percent without harming the multinational in any way – overall tax paid is the same. The only difference is that now all tax is paid in Zambia and none overseas. However, this system of tax credits only works if the subsidiary and the parent pay similar taxes. If Zambia only levies a mineral royalty and the UK, for instance, only levies a CIT then MR payments will not be credited against payments in the UK.

Proposed modifications to the current tax regime

The study has demonstrated that the current regime fails in one important respect. By using the VPT there is a great risk that firms mask their profits and pay little or no VPT if the tax authority does not have sufficient capacity. Measuring the capacity of a tax authority to administer the VPT requires more analysis outside the scope of this study, and is essentially a value judgement that will have to be made by policy makers.

Meanwhile, the study makes it clear that a return to the 2008 style windfall tax is not advisable because of the following flaws:

- Windfall tax was not made deductable against other taxes, meaning, the amount that firms would have to pay in windfall tax was not deducted from the taxable profit used to calculate company income tax. This would have led to very large tax payments for mining firms. This meant that the tax drastically failed and violated the criterion of achieving a 'fair' share of returns to both firm and government and adherence to the ability of the firm to pay. These left otherwise highly profitable firms with losses or insufficient returns for their investors. In this situation, high-cost firms were particularly damaged.

- Windfall tax was not indexed to any form of inflation measure. While this problem did not become apparent straight away, if left, it would have meant that the windfall tax becoming increasingly regressive over time.

Scope for modifications

The name of a policy is often as important as the details. It might be the case that the name 'windfall tax' has negative connotations given these critical flaws in the windfall tax that was actually levied in 2008. Any suggestion of introducing a windfall tax might now be associated with this past tax. However, there are many variants of this tax that might be more acceptable to both Government and industry. While this study does not support a return to the old windfall tax, there might be scope for alternatives. This choice depends on the capacity of the tax authority. Capacity is principally determined by two variables that are in the control of policy makers:

- **Internal processes of the tax authority**. The quality of staff, the use of ICT in a correct and appropriate manner, the audit processes, the use of appropriate skills (accountants and engineers), etc all determine capacity to audit mining firms. These are themselves determined by the level of funding, technical assistance, and a proper incentive scheme.

- **Loopholes in the tax regime**. As with all processes, tax administration is likely to exhibit declining marginal productivity. In other words, simply throwing money at the tax authority may not be enough. There are many incidences in the current tax regime in which firms can avoid taxes that a tax authority cannot easily stop. Closing these loopholes does two things:

it reduces tax leakage so more revenue is collected; and it reduces the difficulties faced by the authority so less extra funding is needed. The Government wins on both counts.

The optimal tax regime

The study argues that the variable profit tax is probably the optimal tax regime given strong tax authority capacity. The necessary action for such a regime to work as expected is to strengthen the capacity of the revenue authority. However, since increasing capacity cannot be done instantaneously, in the short to medium term, the Government may consider the following options:

Option 1 Modified full windfall tax with progression to variable profit tax in the future

A tax based on the sales revenue of a firm rather than its profits (windfall tax) is not consistent with the desire to capturing tax when prices are high, and not discriminating against high-cost firm. The windfall tax uses the mineral price as a proxy for the profitability, however, higher prices cause higher tax rates. With the use of proxies, the actual profitability of the firm may be over stated.

Meanwhile, the variable profit tax rate changes with the profitability of the firm, so it almost directly satisfies criteria of capturing tax when prices are high. In support of VPT, all firms face the same mineral price so a high-cost firm will make fewer profits than a low-cost firm will. This will mean that it will pay a different amount of variable profit tax, because the VPT is MTEF based on profits. Under the windfall tax however, both high- and low-cost firms will pay the same amount of tax, despite the low-cost firm making more profits, which creates inequality and is against the principle of taxation.

As the capacity of the revenue authority is being built or for some reason the windfall is re-introduced, it could be modified further to limit some inbuilt deficiencies. The study proposes three ways:

1. **Change the number of price thresholds at which the tax rate changes.** The 2008 windfall tax design had three price thresholds. A way to make the tax burden more graduated might be to add additional price thresholds with different rates.
2. **Change the level of each threshold or the corresponding rate.** The price thresholds used in the 2008 regime could be changed to better reflect profitability of firms. If the industry can successfully argue that the windfall tax is too burdensome, then these thresholds might be increased, or the corresponding rates reduced.
3. **Levy different rates for 'high-cost firms' and 'low-costs firms' according to some proxy.** Alberta, one of the major mining provinces of

Canada, levies a variable rate royalty.[45] This is similar to the Zambia's Windfall tax in that it is based on sales revenue rather than profits so there is less risk of tax avoidance, but it does a better job of dealing with high- and low-costs firms. Alberta has a large range of different mine types such as natural gas, crude oil, oil sands, etc. which all have different costs structures. This is similar to Zambia which has both open-pit and underground mines which have different cost structures. Alberta defines each mining company according to some overall type of mining activity and then charges it a different variable rate royalty. Another issue, particularly, relevant to Zambia is that there is a greater risk of firms lobbying for new classes to be created with preferential tax rates. However, this may still be an improvement upon a uniform windfall tax rate across the whole industry.

Option 2 Keep Variable Profit tax and add a 'safety-valve'

An alternative modification is to maintain the variable profit tax but add a 'safety valve' mechanism. This would be similar to having just the top-tier of a windfall tax, eliminating the two lower tiers (the 25% and 50% tiers). Again, the threshold of this highest tier could be increased or decreased after detailed technical analysis.

This proposal would allow Zambia to keep the benefits of the variable profit, while the top tier of the windfall tax allows the country to benefit from very high prices. Without the lower tiers, firms can still expect to earn sufficient returns at medium or low prices, whatever their cost structure. Figure 5.1 shows the occasion during the past 3 years when this top tier would have been applicable. It shows that the very high prices that we witnessed in 2008 and the price we see at the end of 2010 would be captured by such a tax.

Figure 5.1 Illustration of use of threshold limits for a modified windfall tax

Notes: The threshold shown here is just an example. The actual threshold could be lower or higher than this.

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[45] Our Fair Share - Report of the Alberta Royalty Review Panel, (www.albertaroyaltyreview.ca/panel/final_report.pdf)

The use of one threshold, acts as a "safety-valve" since at times of very high prices, there are increased demands from the population to change the tax regime. It is the view of this study that tax regime changes should be avoided as it creates uncertainty for investors, which will contribute to a fall in investment.

5.7 TAX LOOPHOLES IN MINING TAXATION

Among various types of loopholes in taxation, the hedging loophole is very common in mining taxation. Hedging relates to the practice of buying and selling derivatives like options and futures to protect a business from volatile prices and costs. It is considered a legitimate and very useful operation. However, firms can use the same practice of buying and selling derivatives as a loophole to reduce a company's tax payments. The procedure is complex but relates to the idea of shifting income from a subsidiary in Zambia to a subsidiary in a low tax country like Switzerland, in the same manner as transfer pricing in other operations. The company deliberately makes a loss on derivative trading in Zambia and a profit in the Swiss subsidiary. The loss in Zambia reduces the taxable profits, while the extra profit in Switzerland is not taxed. For the multinational company as a whole, the amount of tax it has to pay has fallen.

This practice only works if the losses from hedging or derivative trading are allowed to offset profit from the rest of the firm's operations. By making a law to separate the two incomes (income from hedging and income from the rest of the business), this tax loophole is closed. Now the firm can make losses on hedging, but it will still have to pay tax on its profits from the rest of the business. Such a law will not offer any disadvantages because the firm can still continue hedging normally if it wants, and any profit from hedging will still be taxed as normal. The 2008 tax regime recognised the problem and closed the loophole, but the current regime still contains this tax loophole, allowing hedging losses to be used against normal business income. While it is very difficult to estimate how much money Zambia is losing from this loophole, the study speculates that this is sufficiently high.

5.8 REFORMING TAX MINING REGIMES

In deciding what policies are appropriate, it is very important for the Government to maintain a strong dialogue with both the mining industry and other stakeholders – the people. Policies affect both parties and if one of them is not comfortable with a decision, it may lead to instability in the future. Such instability is detrimental to everyone concerned. Meanwhile, investors need to be assured of stable taxes in the future before they decide to invest, without this investment does not occur and the industry declines.

Other countries have shown that a strong reform process can be maintained. Alberta has recently reformed its' variable rate royalty with strong consultation from the industry and other stakeholders, while offering incumbent firms a

graduated reform process lasting several years from one regime to the next.[46] Chile has also introduced a type of variable rate royalty.[47] It kept stability agreements (like the Development Agreements), and has offered the same reform process for the industry so that firms would not feel aggrieved from Chile breaking these agreements.

5.9 RECOMMENDATIONS

1. There is need to **improve the capacity of ZRA** to deal with the complex issues of mining taxation. There is need to increase funding to the Authority so that it can train its staff in key areas of mining audit. There is also need to seek external assistance in form of technical assistance from countries that have dealt with this problem.

2. There is need to **introduce an equitable, efficient and robust form of Windfall Tax** on the mining sector. As shown above the old windfall tax did not meet the main tenets of taxation. Thus, there is need to consult other countries were mineral taxation on windfall earnings has been introduced such as Chile and Australia. However, a return to the old tax regime is not advisable. This is because the optimal policy choice depends on a judgement over the capacity of the tax authority. The study therefore recommends the following guide based on the capacity of the revenue authority.

   a) As a very high capacity tax authority, maintain a variable profit tax and close all tax loopholes;

   b) As a moderate to high capacity tax authority, maintain variable profit tax, add top-tier 'safety-valve' mechanism, and close all loopholes:

   c) As a low capacity authority, use a modified windfall tax (variable royalty) with well analysed thresholds, indexation and deductibility.

   In the current circumstances, the use of variable profit taxation is administratively consistent with the current practices within the ZRA and is highly recommended by this study.

3. Lastly there is need to **deal with the loopholes in the mining tax system** presented by hedging. This will help to address the problem in the tax administration where it has become difficult to separate genuine hedging or illegal hedging. Thus, the study recommends that income from hedging be treated separately from normal business income. Hedging losses should not be allowed as a deductable in the computation of taxable income.

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[46] Our Fair Share - Report of the Alberta Royalty Review Panel, (www.albertaroyaltyreview.ca/panel/final_report.pdf)

[47] It levies a rate between 4 percent and 9 percent of sales revenue depending on the price of copper.