# Fiscal Decentralization and Mining Taxation

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**Abstract**

Mineral sector reform efforts have been initiated in many nations during the past decade. These efforts have resulted in new mining regulatory regimes in over 100 nations. As part of the reform process most nations have revisited the subject of mineral sector taxation, and the mix of taxation methods and levels imposed by governments have become more globally uniform. However, fiscal system reform in most nations has focused on tax type and level with less visible attention being given to a sectoral policy on tax distribution, either through redefining the parties that levy and collect the tax or through the budget allocation process. With the growth of interest in sustainable development and an increased awareness of mining impacts on local communities and indigenous peoples, the question of fiscal decentralization has now moved to the forefront of the fiscal reform agenda. This paper examines the types of taxes that are amenable to fiscal decentralization and includes information, for approximately 20 nations, on the types of taxes that are currently collected and the level of government that is granted the authority to collect them. The paper describes ways that governments can directly or indirectly achieve higher levels of fiscal decentralization. The author concludes that the optimal degree of fiscal decentralization that is applied to a nation's mineral sector must take into account the unique political, economic and social circumstances of the nation.

## 1. Introduction

The concepts of "fiscal decentralization" and "revenue sharing" are related but not synonymous. Fiscal decentralization connotes the way in which a nation empowers various parts and levels of its government to impose and collect taxes and fees from the private sector. In contrast, revenue sharing is the budgeting process whereby revenues collected by one or more parts of government is allocated for distribution to other governmental entities or for various investments and expenditures to non-governmental entities. More broadly interpreted revenue sharing can also encompass the division of sales revenues between a mine and stakeholders other than government entities that levy taxes. Here, the sharing can include payments for inputs to the production process such as wages, loans, services and equipment as well as monies, services and facilities provided to local communities and other stakeholders. Both fiscal decentralization and revenue sharing can be used as a means to distribute of mine derived tax revenues. This paper's primary focus is on fiscal decentralization and it does not delve in-depth into revenue sharing mechanisms.

Policy makers are faced with three main tasks when designing fiscal systems. First is the designation of the types of taxes that will be assessed. Second, is to define the level and basis for the calculation of each tax type. Third, and underlying the first two tasks, is the determination of what government entities shall levy, collect and budget the expenditure of each tax. The first two topics have been well researched and related information, analysis and related recommendations on "best mining sector practice" are widely available. However, the third topic is a matter of current discussion, and the issue of fiscal decentralization is increasingly garnering the attention of senior policymakers, mineral sector investors and multilateral institutions. Fiscal decentralization is particularly complex because it is closely linked to the politically sensitive issue of fiscal revenue distribution. This paper describes the historical basis of the fiscal decentralization debate, examines whether there are reasons the mining industry should be treated differently from other taxed sectors with regard to tax decentralization policy, and looks at a variety of tax types and incentives commenting on each from a tax decentralization perspective.

## 2. The Historical Basis of the Debate

The issue of fiscal decentralization is not new; it is an issue that every government is faced with. It goes to the heart of governance. Taxation is a means by which private capital is transformed into public capital for the benefit and use of society. Taxes are collected and then through the budgeting process are disbursed for public purpose. This budgeting process is arguably the most politically sensitive part of governance and is a major factor in the distribution of regulatory power. It can be argued that the entities that control the purse, control the actions of the state. If one accepts this premise, then it follows that policies that define fiscal decentralization also define the distribution of power within the state (or vice-versa). Thus, in most systems of governance the power to levy taxes is approached with great caution and is inextricably linked to the basic structure of government as defined within the national constitution, organic act and similar primary laws.

In a perfectly centralized state all taxes would be paid to the ruler, and he would then decide on how those monies should be disbursed. However, no modern state is perfectly centralized, and in practice, taxing authority is distributed at different levels of government. Major taxes are commonly set by central government and minor taxes by local government within carefully crafted constraints. The extent to which national, provincial, and community government entities may levy taxes defines, in large part, the power structure of the nation. Attempts to change this structure have historically required, or have been prompted by, political will resulting from electorate or special interest pressures or have been a result of revolutionary processes. In many nations, there is a constant friction between central government and provincial government as each seeks to maintain or enhance its power. Likewise, within a regional government structure, local government entities will vie with regional government for taxing power or revenue control. By maintaining control of taxing power, higher levels of government can arguably more effectively impose their policies and objectives on budget dependent lower levels of government. Thus, the degree of local autonomy is related to the issue of fiscal decentralization.

In more recent times, it can be argued that pressures brought to bear by the global community, i.e. international investors, NGOs and multilateral institutions, have also played a role in shaping national fiscal policies. For example, politicians may perceive that it is beneficial to encourage foreign investment and may be influenced by foreign investor views on taxation and by recommendations of multilateral agency tax experts involved in national structural readjustment programs. Additionally, the concepts of stakeholder identification/gratification and sustainable development have become increasingly important and they raise questions about who within government is best positioned to match the fiscal system to investor, stakeholder and sustainable development objectives. Although external parties may influence policies, determination of fiscal decentralization for a nation will ultimately be decided by the politicians through the law-making process that defines the taxation system.

## 3. Fiscal Decentralization in the Mining Sector

Some degree of fiscal decentralization is practiced in all nations. The issue can then be raised whether taxation for mining should be more or less decentralized than for other types of economic activities. In other words, should tax decentralization policy discriminate between mining and other activities. Most nations, but not all, do provide special treatment for the mineral sector with regard to the type and level of taxes and incentives. The reasons for this discrimination provide a useful beginning from which to examine whether special fiscal decentralization is, can or should be part of mineral taxation. The following reasons are often given to justify fiscal discrimination between mining and other sectors:

1) compensation should be paid to the mineral owner;
2) mining is a risky and capital intensive business;
3) because of mining's inherent nature, it is necessary to guide taxpayer behavior.

### 3.1 Compensate Owners

Unlike most other economic activities, mines extract non-renewable resources, and like any other sales transaction, the owner of a good (the mineral resource) expects compensation for the permanent loss of that good. For this reason, mineral owners are often empowered to levy a compensatory royalty.

The ownership of minerals varies from nation to nation. In many nations, the state is the owner of the mineral endowment. In others, the people as a collective whole own the minerals. Typically, the state is legally empowered in the mining law to levy a royalty tax as compensation for the loss of the state's or people's minerals. In other nations, minerals are owned by provincial government. For example, in Malaysia most provinces own the minerals within their borders and the provinces individually levy royalties. In some nations minerals are owned by the landowner, and in others, the private mineral estate may be severed from the private or public surface estate. Private owners of minerals often negotiate a contracted private interest royalty. Thus ownership of the mineral endowment is a central feature that distinguishes mining from other industries, and ownership is and can be used to play a role in fiscal decentralization.

In the past several decades a legal debate has arisen in some nations regarding the ownership of minerals. In nations shaped by the colonization process the issue has emerged whether minerals located in the ancestral lands of indigenous peoples belong to the state as formed under colonial or post-colonial rule, or still belong to indigenous peoples who live or formerly lived there. In other words, did the native people have mineral ownership of the minerals in their lands and if so, has this ownership been legally extinguished by treaty, compensation or other means? All national legal systems provide for a means to transform privately owned goods into public owned goods - most require that the taking be for a legitimate public purpose and require that prompt and adequate compensation be paid to the private party. Where native title mineral rights are an issue, a variety of fiscal means have been used to provide compensation for a taking such as: allowing the native party to negotiate a privately contracted royalty (such as in some Australian states), the state levies a royalty on behalf and for the benefit of the native party (such as in the Philippines and in the USA), the state compensates the native party through a cash settlement, and so forth.

From an owner's perspective, there is strong argument that it as the owner of the mineral should set the level of royalty tax and enjoy the benefit of that levy. Most nations recognize that the ownership issue exists and use this as a basis for a royalty tax that is unique to the industry. In most nations, royalties follow ownership and where the state is not the owner, this results in fiscal decentralization. However, in the vast majority of nations minerals are owned by the state (or the people collectively) and thus it is the national government that in most instances sets and collects mineral royalties.

## 3.2 Mining is a Risky and Capital Intensive Business

Most nations accept the premise that the mineral industry exploration and mining process is inherently more risky and capital intensive than other industries and adjust their fiscal systems to adjust for this, usually by providing tax incentives. Where several levels of government are empowered to levy income taxes, complications can arise where incentive allowances granted by one level of government do not match those allowed by another. Other complications may also occur. Some common tax incentives offered by governments to the mining sector are listed below along with a sampling of the issues that may arise in decentralized taxation situations.

*Exploration expenses*. A lengthy and costly exploration program will precede the start-up of a mine. Exploration expenses are incurred before taxable income is available and thus governments provide special provision for how pre-production (pre-income) exploration expenses are handled for future income tax purposes. Where provincial governments have the power to levy a profit-based tax such as an income tax, such exploration deductions reduce taxable income. This may be an issue where the company has previously explored both inside and outside the province. Should prior and current exploration costs incurred outside the province be deductible against the income generated by a mine within the province? Is it possible to allocate and segregate exploration costs within each internal taxing jurisdiction?

*Mine development*. Mine development is capital intensive and an operation will initially

need to import large quantities of diverse equipment from specialized suppliers. Many governments recognize the capital intensity of the industry and provide various means to accelerate recovery of capital costs once production commences. Where the provincial government is empowered to levy an income tax, to what extent should there be commonality with the national income tax? Should accelerated depreciation deductions allowed at the national level be automatically qualified at the provincial level?

*Equipment imports and local purchases*. With regard to equipment import dependency, governments often provide a mechanism where equipment imported during mine construction is effectively free of duty (zero-rated, exempted, refundable, …). Likewise, most countries provide some sort of relief from value added tax on equipment purchases, particularly if the mine product is destined for export. While import and VAT duties are usually national tax matters, the mine will also purchase some materials locally. Local government, at the provincial or municipal level, may be empowered to levy excise or sales taxes (or VAT) on locally sold products. To what extent should a mining operation be exempt during development from these taxes and what level of government should provide any such exemption?

*Export sales.* Mine products are often destined for highly competitive export markets or for internal markets outside of the local area. Most national governments effectively impose no or low export duties on minerals and provide a means whereby VAT on export sales is either not applied or applied in a way that allows for a refund or credit. Should a province or local government be allowed to impose a tariff on minerals that will exit its jurisdictional boundaries? Should a province be allowed to use tax tools as a means to encourage down-stream processing within its boundaries? Should industrial minerals, such as sand, gravel, and dimension stone for use within the nation be handled differently than other minerals that are bound for national export?

*Commodity price cycles.* Mines produce raw materials that are prone to substantial price changes on a periodic, business cycle related basis. Thus, some countries allow certain types of taxes, usually royalties, to be waived from time-to-time for projects experiencing short-term financial duress by a designated government officer, and provide for the carrying forward of losses. If the law provides for a royalty waiver provision should the waiver be decided by a national authority or by a regional official who is well-acquainted with the project and its importance to the local economy?

*Post production expenses*. After mining ceases and there is no income, a mine will incur significant costs relating to closure and reclamation of the site. There is a trend for governments to require a set-aside of funds or guarantees for closure and reclamation in advance of closure and to provide some sort of deduction for this set-aside against current income tax liability. It is the stakeholders closest to the closed mine that will need to cope with the post-mining problems posed by the site. Should they be involved with determining the level of the fund set-aside and its expenditure?

*Stabilization.* Many mining projects will have a long life span, and companies will attempt to minimize their tax risk exposure by stabilizing some or all of the relevant taxes

for at least part of that life span. Governments provide tax stability through a number of different legislated and negotiated approaches. Where tax stability is provided through a negotiated agreement, should local taxing parties be a party to the agreement, or can national law-making bodies or authorities make binding decisions that affect local taxing authority?

*Negotiated agreements.* When the level of investment is particularly large, a government may enter into a negotiated agreement, including special tax provisions, with the mine that has the effect of supplanting general laws, including laws that address tax matters. To what extent should local taxing authorities be a party to the negotiation of such agreements? Can local government negotiate an agreement with a company within its jurisdiction and if so, what tax matters are within its competence to negotiate?

*Ring fencing.* Most countries allow a company to consolidate books from all operations within the country for determining income tax liability. If a province may impose an income tax, to what extent should losses or profits from operations within the country but outside the province be considered when determining taxable income? Will separate books of account be necessary?

*Tax holidays.* Some nations have given special recognition that mines have significant costs and debt during their development and early years and provide a holiday from one or more types of taxes. Such exemptions are often linked to a negotiated agreement. What agency or agencies of government should decide the nature and duration of such exemptions?

*Special incentives.* Should local taxing authorities be allowed to offer tax incentives with regard to the taxes they are empowered to levy? If so, will this lead to counterproductive competition between different provinces or regions within the country as they each compete to attract mining investment? To what extent should the country try and maintain an internally level fiscal-playing field?

As can be seen from the above examples, mineral sector tax discrimination issues that arise at the national level can also apply to tax levies imposed by lower levels of government. Many of the fiscal tools that national governments use to recognize the risky and capital intensive nature of the mining industry carry with them questions relevant to fiscal decentralization.

### 3.3 Guiding Taxpayer Behavior

The third major reason that nations often treat mining taxation differently than taxation of other sectors is the desire by government to guide or influence taxpayer behavior. Tax methods are available that provide incentives (as above) or penalties for prescribed practices and investments.

Mining often has a more concentrated environmental impact than other industries, and because it is based on an exhausting resource, may result in a boom-bust period in the local economy. It may also lead to significant changes in the local social fabric. For

example, labor may migrate into the area causing a need for additional physical and social infrastructure and raising levels of prostitution, drug-use and alcohol abuse. All of these impacts will require additional expenditures by local government entities as they try to cope. Without adequate taxing authority to raise revenues, local government will be dependent on the budget process of regional or national government to allocate to them needed revenues, or will be dependent on non-tax arrangements with the mining entity. For example, it is not uncommon for a mine to provide impacted communities with support for expanded transportation, educational, medical and sporting facilities.

Because mines are often located in remote regions, or have low population (i.e. electorate) densities, there may be little or no political incentive to direct additional expenditures through the budgeting process to the affected communities and other stakeholders. Additionally, not all stakeholders are necessarily the beneficiaries of even local government. Thus, tax mechanisms that guide taxpayer behavior may be particularly well suited as a means to provide a form of tax discrimination that recognizes the unique impacts that mines cause locally. For example, by allowing companies to take a tax deduction or tax credit for investment in community infrastructure against their national income tax liability encourages companies to make such investments. The questions that then arise are: what and who determines whether a specific expenditure is a qualified deduction/credit, and what upper limits, if any, should be set?

The use of “contracts with the community” is now being experimented with by some mining companies as a means to manage and guide stakeholder expectations and to allocate local expenditure by the mine. Such arrangements can be used as a means to supplement the governmental revenue allocation process. However, the willingness of a profit-motivated company to invest in a contract with the community will almost certainly be affected by how fiscal contributions are viewed within the taxation framework.

## 4. Tax Tools and Fiscal Decentralization

In this section, typical types of taxes and fees that governments impose on mines are examined to determine their relative suitability for use by different levels of government. No two nations' governments are the same and the administrative ability of various levels of government to successfully implement a tax method will depend on many factors. In addition, how one measures "success" is very subjective.

The amount of income that is effectively available for taxing from any one project is finite. The mix of and level of taxes that are imposed must be such that the mine can generate a sufficient level of profits to keep the investor satisfied and to encourage further exploration. [1] Thus, once an optimal "total" tax level is set, the tax decentralization problem is more or less a zero-sum game. If one taxing authority is allowed to increase its take, another must see a decrease unless the total take is to be increased. [2] For example, to a community being negatively impacted by a mine closure a tax that results

[1] Based on the author's prior work and experience, if the net effective tax rate (present value of all amounts paid to government / present value of project before- tax cashflow) exceeds 60%, mining investors will hesitate to invest. See Otto et al (2000) for an analysis of effective tax rates in over 20 nations.

[2] For a breakdown of all major taxes paid by a model copper and a model gold mine in selected nations, see Otto et al (2000).

in funds for impact mitigation would be viewed very positively, but if that tax meant forgoing or reducing another tax that provided funds for the administration of the national health plan, doctors might view it very negatively.

The types of taxes that governments typically impose on mines are listed in Table 1 along with an indication as to whether that type of tax is amenable to being assessed at the national, provincial or local level. This determination is strictly subjective and in assessing the fit in any specific country, the resulting determination might vary considerably depending on factors such as the size and sophistication of various sub-levels of government. A brief rationale for the author's subjective determination is provided in the text following the table.

Table 1. Fiscal Methods and Their Amenability to Fiscal Decentralization

Y - Yes, well suited; P - possibly suited; N - not a good fit

| Tax type | National Govt | Provincial Govt | Local Govt |
|---|---|---|---|
| Income or profits based tax | Y | P | N |
| Import duty | Y | N | N |
| Export duty | Y | N | N |
| Royalty (profit based type) | Y | P | N |
| Royalty (ad valorem type) | Y | Y | P |
| Royalty tax (unit type) | Y | Y | Y |
| Royalty tax collected nationally and % distributed | Y | Y | Y |
| Licensing fees | Y | Y | Y |
| Surface rental or land use fees | Y | Y | Y |
| Withholding taxes on loan interest, dividends, services | Y | N | N |
| VAT on goods and services | Y | P | N |
| Sales & excise tax | Y | P | P |
| Stamp duty | Y | Y | Y |
| Property tax (on book or assessed value) | Y | Y | Y |
| Payroll based taxes | Y | P | N |
| Surtaxes | Y | Y | Y |
| User fees | Y | Y | Y |
| | | | |

### 4.1 Income or profits based tax

In most nations, this is the major form of tax used to generate revenue for the national government. In setting up an income based tax system two elements are involved: setting the tax rate, and setting the rules for determining the taxable income base that will be subject to the rate. This tax is best suited to implementation at the national level because of the complexity in balancing taxable revenues and allowed deductible costs. Some nations have a more-or-less parallel income tax system at a

provincial level (for example Canada, China, United States), and these are usually based in part on the principles established in the national income tax system.

If the income tax is to be used as a means for achieving tax decentralization, it is suggested that any provincial (or local tax) income tax be calculated as either:

1) a set percent times the taxable income reported for national income tax purposes; or
2) a set percent of the tax to be paid to the national government (a surtax).

It is also suggested that an allowance be made available to credit the provincial or local tax income tax against the income tax payable to the national government.

## 4.2 Royalties

Over the past century, there has been a trend to de-emphasize tax systems based on royalties and to instead implement systems that rely mainly on tax mechanisms that are based on “ability to pay”, i.e., profit-based taxes. Some nations have eliminated mineral royalties entirely. While the trend has been to move toward profit-based taxes, many nations still retain royalty taxes. There are many reasons for this but the most important one is probably the issue of ownership (see section above). In most nations minerals belong to the state. If a company extracts the state’s resources, the state may deem it necessary to demonstrate that it has received something in return for its lost minerals. Mining companies do not always generate taxable profits, and thus there is no guarantee that the state will receive any income-based taxes for its lost resources. There are numerous ways to determine a royalty tax and many are fairly straightforward and not complicated. If a nation is looking to decentralize its tax system, a royalty tax is well suited for implementation at a provincial or even local level. More simply, it can be collected at a national level, with a percent designated or reserved for provincial or local government entities or other stakeholders. However, in some nations lower levels of government view such a re-distribution system with some skepticism.

## 4.3 Import and Export Duties

Historically, national governments used import and export duties to achieve a broad range of policy and fiscal objectives. In some instances, the funds raised were set aside for improvement of port facilities and transportation infrastructure, used to provide protection for locally produced goods against cheaper imported goods, used as means to restrict or penalize goods not arriving from a colony's “mother” country, used to encourage down-stream processing, etc. Almost all countries have some sort of trade duty system but in the past decade, import and export duties have had a decreased role as a fiscal tool. With increased global competition, most nations have eliminated or zero-rated both mining equipment import duties and mineral export duties.

There are a number of reasons that make it ill advisable to empower provincial or local authorities to levy import duties. First, a nationally uniform import/export policy will be more attractive to mining invests than having to deal with multiple localized systems (for instance, the imported equipment is landed in province A, is transported by rail to province B, then is trucked to province C for installation - in which provinces are duties payable?). Second, such duties are usually collected at the major ports of entry

where customs offices are established. It is probably not feasible for most provincial or local governments to establish and maintain a separate customs type of bureaucracy.

### 4.4 Application/Issuing/Registration Fees/Stamp Duties

Most governmental entities at all levels of government impose nominal fees for the application and issuance of licensing and other documents. For the mining industry these may include for example exploration licenses, mining leases, equipment licenses, water licenses, and so forth. In most cases, these fees are small, are designated to generate revenue for the administrative agency, and are not particularly useful for broader purposes. These types of fees are usually applied at the place where the particular "document" is being processed and thus by their nature are fiscally decentralized to the extent that the permit, license, lease or other document is processed locally.

### 4.5 Surface Rentals/ Land Use Fees

Many governments levy a fee on economic activities that use land in some way, and in many instances this includes mineral sector activities. The fee's name varies from place to place and common names include: rent, land-use fee, surface rental, occupation fee, etc. Such fees are usually based on land area and are calculated by multiplying some standard rate for that type of activity times the land area being used for that activity. This fee can be assessed fairly easily and efficiently at any level or within any part of government where land use records are kept.

While the tax may be assessed at a local level, it is common for such an assessment to be based on nationally or provincially imposed constraints. Three types of constraints are typical.

- First, what designations of land should rentals apply to? Public lands? Private lands? Offshore areas? Nations differ widely here but most levy a land-use fee for activities on public lands where some sort of approval, such as a lease, has been issued. The rationale is that since the land belongs to the state, then the state should be compensated when its land is used by someone other than the public at large. Where land ownership is in private hands, governments less frequently impose a land area based fee.
- Second, which mineral activities should be charged a surface rental? Here, the main issue is mining phase related. Reconnaissance, exploration and prospecting are terms all used to describe the process of searching for ore. Such activities do not in themselves constitute a land-use (they do not substantially interfere with existing land-uses). Mine development, mining, and processing do constitute a land-use. When mining companies undertake exploration, the project is allocated a sum of funds by the investor. The larger the proportion of those funds that go toward the actual investigation searching for ore, the better the chances that an ore body, and a taxable mine, will be located.
- Thirdly, what rate should be charged? Generally, nations that assess a surface rental do so at a relatively low rate but that rate may vary from place to place. For example, rates in urban areas may be higher than in rural areas. Usually, rates are not set locally.

## 4.6 Withholding Taxes

Many nations impose withholding taxes on payments for foreign services, remitted dividends, and on loan interest paid to foreign banks. The tax can be appreciable with rates up to and exceeding 30 percent. In the author's experience, these taxes are always assessed at the national level.

## 4.7 Value Added Tax

Value Added Tax (VAT) is becoming common worldwide. In nations where VAT is imposed, it is commonly applied to most purchases, both in terms of capital goods as well as services. Because it is a “consumer” tax and export minerals must compete globally, almost all mineral-exporting nations have chosen to negate the impact of the tax on export mineral sales. The means to achieve this negation vary widely and involve differing degrees of complexity and government administration. The simplest form of negation is an outright exemption for qualifying projects or products.

VAT applied to imported equipment and services can be a heavy burden on a capital-intensive mining project. Because export sales may be free of VAT the ability to offset is thus brought into question. Most countries negate VAT on imported goods and services through schemes involving exemption, rebates, crediting, refunds, or deferrals. While many nations exempt or negate the effect of VAT on projects that export, many do apply VAT to mining projects that serve domestic markets-a form of selective discrimination.

The level of government that optimally assesses such a tax for mining should be the taxing authority that assesses VAT for other economic activities. A parallel system for mining would be inefficient and unrealistic. In most nations a national agency takes on this role.

## 4.8 Property Taxes

The most prevalent means of imposing a significant local tax on a mine is through the imposition of a "property tax" based on an annual book or assessed mine value. The annual tax is usually calculated as set percentage times the mine value. Rules governing the assessment valuation are usually set nationally but the actual evaluation is done locally with various protections built in for a taxpayer appeal process.

## 4.9 Surtaxes

Surtaxes are a simple means to determine a tax to be paid locally based on a tax paid to a higher level of government. Up until recently, they were a common feature in most centrally planned economies but were not in extensive use elsewhere. A surtax is usually calculated as a set percentage of another tax. For example, say that a mine generates $1,000,000 in sales revenues and the national government assesses a royalty of 2%. The royalty payable to the national government is then $20,000. A provincial or locally government entity may be authorized to assess a surtax of 10% on the royalty tax

basis: 20,000 x .10 = 2,000 (in effect, 0.02 x 0.10 x 1,000,000). The miner would pay $20,000 nationally and $2,000 locally. There are certain advantages to the surtax type of approach to achieve fiscal decentralization. First it is fairly simple. Second, the local tax is paid locally and is not dependent on a national agency remitting some portion back to local government, as might be the case in a royalty sharing arrangement. Third, a surtax can be based on any form of existing tax including an income tax.

## 4.10 Miscellaneous User Fees

Mining operations will inevitably use local infrastructure of one form or another. This may be in the form of a road, port, airport, power lines, water reservoir etc. and government may charge for that usage. These types of taxes were commonplace in most centrally planed economies (social infrastructure development tax, road maintenance tax, road fund contribution, rail tax) and are also used in many free market economies. Such taxes are usually administered by the level of government responsible for maintaining that specific infrastructure and are set with the objective of maintaining an adequate level of funds for maintenance purposes. These types of taxes can be very effective for achieving their purpose, but unless constraints are in place, can also be abused by local government when rates are set locally without oversight.

## 4.11 Data on Fiscal Decentralization

In a recent study by the author of mining taxation in 23 nations, a survey was used to gather data on fiscal decentralization. Survey respondents identified all major and minor taxes levied on mines and indicated whether such taxes were paid to the national, provincial or local government. Table 2 summarizes the results of the survey.

As can be in the table, developed nations (Australia, Canada, USA) appear more willing to substantially share taxation powers among different levels of government than most surveyed developing nations. Where tax decentralization policy does reach the local level, the most often used mechanisms are a form of property tax and a fee based on land area.

**Table 2. Summary of Taxation Authority for Selected Taxes and Fees**

N- national government; P – provincial government; L – local government

| Country | Corporate income tax | | | Mineral royalty | | | Dividend withholding tax | | | Excise/ sales tax on equip & services | | | VAT on imported equipment | | | Property tax | | | Fee based on land area | | | Stamp tax | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | P | L | N | P | L | N | P | L | N | P | L | N | P | L | N | P | L | N | P | L | N | P | L |
| Argentina | X | | | | X | | X | | | | X | | X | | | | | | | X | | | X | |
| Bolivia | X | | | | X | | X | | | | | | X | | | | | | 1 | 1 | | | | |
| Burkina Faso | X | | | X | | | X | | | | | | X | | | | | | X | | | X | | |
| Canada (Ont.) | X | X | | | | | X | | | | | | X | | | | | | | | | | | |
| Chile | X | | | | | | X | | | X | | | X | | | X | | | X | | | X | | |
| China | X | X | | X | | | | | | | | | | | | | | | X | | | X | | |
| Ghana | X | | | X | | | X | | | X | | | X | | | | | | X | | | X | | |
| Greenland | X | | | | | | X | | | | | | | | | | | | | | | X | | |
| Indonesia (2) | X | | | X | | | X | | | | | | X | | | 3 | | | | | | | | |
| Ivory Coast | X | | | X | | | X | | | | | | X | | | X | | | X | | | X | | |
| Kazakhstan | X | | | X | | | X | | | | | | X | | | | | X | | | X | | | |
| Mexico | X | | | | | | X | | | | | | X | | | 4 | 4 | 4 | 4 | 4 | 4 | | | |
| Papua NG. (5) | X | | | X | | | X | | | X | X | | | | | X | | | X | | | X | | |
| Peru | X | | | | | | X | | | | | | X | | | | | | X | | | | | |
| Philippines | X | | | X | | 6 | X | | | | | | X | | | | | X | | | X | X | | |
| Poland | X | | | 7 | | 7 | X | | | | | | | | X | | | X | | | | | | |
| South Africa | X | | | 8 | | | X | | | X | | | X | | | | | | | | | | | |
| Sweden | X | | | | | | | | | | | | X | | | X | | | X | | | X | | |
| Tanzania | X | | | X | | | X | | | | | | | | | | | X | X | | | X | | |
| USA | X | X | | 9 | 9 | | X | | | | X | X | | | | | | X | | | | | | |
| Uzbekistan | X | | | X | | | X | | | | | | X | | | | | X | | | X | | | |
| West.Australia | X | | | | X | | X | | | X | | | X | | | | X | | | X | | | X | |
| Zimbabwe | X | | | | | | X | | | | | | | | | | | | X | | | X | | |

Notes: where an X is given, the tax exists although a project may sometimes be exempted; where there is a blank the tax does not apply to a typical mine; where a number is given, refer to the attached note with that number. Source: derived from data reported in J. Otto et al (2000), Global Mining Taxation Comparative Study, Golden: Colorado School of Mines.

Notes:

1) Bolivia. 70% to national government, 30% to provincial government.
2) Indonesia. 6th generation contract, taxes under later COWs may differ.
3) Indonesia. Status of property tax is unclear from author's data sources.
4) Mexico: This tax may go to the national, provincial or local government depending on ownership.
5) Papua New Guinea. For larger mines specially negotiated revenue sharing agreements between national, provincial and affected communities (clans) may apply.
6) Philippines. If minerals are located on "ancestral lands", a special royalty is assessed.
7) Poland. If a "basic" mineral, paid to the national government; if a common mineral (industrial mineral), paid to local government.
8) South Africa. A royalty is paid to national government for mineral in federal lands. Most minerals are privately owned.
9) USA. Royalties are not assessed for most minerals unless they are found in special types of lands.

## 5. Conclusion

The current interest in fiscal decentralization in the mineral sector stems at least in part from an interest in matching the impacts of mining on stakeholders and the environment with fiscal resources that will mitigate those impacts within a broader framework of sustainable development. Historically, the main way that governments dealt with the allocation challenge was not through fiscal decentralization, but through the budget process. [3] However, in many nations this process has not been wholly effective in channeling funds to communities, stakeholders and ecologies affected by mining.

There are a number of tools available that can be applied to achieve fiscal decentralization in the mineral sector. First, there are direct taxation tools where one or more taxing powers are granted to provincial or local government, or possibly to a specialized national agency. The subsequent budget allocation of locally paid revenues may be more amenable to local stakeholder input than if those revenues were raised by national government. Royalty and property type taxes are particularly well suited for this as are surtax based methods.

Secondly, fiscal incentives that work to influence private sector expenditure hold much promise. Most large mining companies are today concerned with issues relating to the environment, affected stakeholders and sustainable development. Their willingness to make expenditures that address these issues locally can be influenced by how such costs will be viewed within the fiscal system. Where such costs qualify as a credit or deduction against other tax obligations companies will be more prone to voluntarily incur such costs.

The attempt to define "best practice" with regard fiscal decentralization is a central theme in the study of Political Science. Most practitioners of that science will probably agree that there is no one optimal decentralization system and that each nation must craft their fiscal system in a way that takes into account its unique social, economic and political circumstances.

References and Selected Other Readings:

ABARE (1989). Mineral Taxation and Risk in Australia. Australian Bureau of Agricultural and Resource Economics Discussion Paper 89.8. Canberra: Australian Government Publishing Service.

Blackstone, S. (1980). Mineral Severance Taxes in Western States: Economic, Legal and Policy Considerations. Colorado School of Mines Quarterly 75(3), 1-39.

Brewer, K., Bergevin, G. & Dunlop, R. (1989). International Mining Tax Systems. Mining Policies and Planning in Developing Countries. New York: United Nations DTCD.

Brewer, K. (1997). The Canadian Mining Taxation Regime: A Discussion of Some of its Significant Aspects. Ottawa: Natural Resources Canada.

Bird, R. (1987). A New Look at Indirect Taxation in Developing Countries. World Development 15(9), 1151-1161.

[3] The general exception to this is the fiscal systems that were place in many centrally planned economies. Mines there were often closely linked with local communities through both taxation and budget allocation.

Cawood, F. (1999). Determining the Optimal Rent for South African Mineral Resources. Unpublished PhD thesis. Johannesburg: University of the Witwatersrand.

CIMM & UNDTCD (1991). Proceedings of International Seminar on Mining Taxation, Montreal Sept.30 – Oct. 4, 1991. Montreal: Canadian Institute of Mining and Metallurgy / United Nations DTCD.

Clark, G. (1995). Tax Considerations in Establishing Business in Foreign Locations. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman/Kluwer Academic Publishers.

Conrad, F. & Hool, R. (1980). Taxation of Mineral Resources. Lexington Books.

Cordes, J. (1995). An Introduction to the Taxation of Mineral Rents. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman/Kluwer Academic Publishers.

Cordes, J. (1997b). Mining and Indigenous Peoples. International Resources Law: Today's Oil, Gas and Mining Projects – 9B. Denver: Rocky Mountain Mineral Law Foundation.

Daniel, P. (1994). The Taxation of Mineral Rent Under South Africa's Mining Tax Reforms. IDS Bulletin 25(1), 37-42.

Daniel, P. (1995). Evaluating State Participation in Mineral Projects: Equity, Infrastructure and Taxation. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman/Kluwer Academic Publishers.

Dow, J. (1995). Investment and Tax Issues in the Mining Industry – Indonesia. Indonesian Mining Journal 1(1), 60-69.

Duncan, Allen & Talmage (1990). Comparative Study of the Mineral Laws and Related Investment and Fiscal Laws of Six Selected Countries. Washington DC: World Bank.

Dyack, B. (1986). Value-Added Taxation: Issues and Impact for Canadian Mines. Working Paper No.38. Kingston: Queen's University Centre for Resource Studies.

Emerson, C. (1980). Taxing Natural Resource Projects. Natural Resources Forum 4, 123-145.

Emerson, C. (1984). Mining Taxation in ASEAN, Australia and Papua New Guinea. ASEAN Australia Economic Papers No. 14. Canberra: Australian National University ASEAN-Australia Joint Research Project.

ESCAP (1984). Mining taxation in the ESCAP Region: Review and Proposal for Reform. ESCAP Pub Series B, No.4. Bangkok: United Nations.

Faber, M. (1982). Some Old and New Devices in Mineral Royalties and Taxation. Legal and Institutional Arrangements in Mineral Development. London: Mining Journal Books.

Garnaut, R. & Clunies-Ross, A. (1975). Uncertainty, Risk Aversion and the Taxing of Natural Resources. The Economic Journal 85, p.272-287.

Garnaut, R. & Clunies-Ross, A. (1983). Taxation of Mineral Rents. Oxford: Clarendon Press.

Gemmell, N. (1988). Tax Systems, Tax Revenue and Growth in LDCs: A Review of Empirical Evidence. Intereconomics March/April, 84-90.

Gentry, D. & O'Neil, T. (1984). Mine Investment Analysis. New York. American Institute of Mining.

Gillies, A. (1978). The Impact of Resource Rent Taxation on the Australian Mining Industry. In proceedings of the AusIMM Conference, North Queensland. Melbourne: Australasian Institute of Mining and Metallurgy.

Gillies, A. (1990). Developments in Mining Resource Rent Taxation. In proceedings of the AusImm Pacific Rim 90 Conference. Melbourne: Australasian Institute of Mining and Metallurgy.

Gillis, M. Ed. (1978). Taxation and Mining – Nonfuel Minerals in Bolivia and Other Countries. Cambridge MA: Ballinger Publishing Company.

Gillis, M. (1982). Evolution of Natural Resource Taxation in Developing Countries. Natural Resources Journal 22, 619-647.

Gillis, M. (1985). Micro and Macroeconomics of Tax Reform - Indonesia. Journal of Development Economics 19, 221-254.

Gillis, M. & Beals, R. (1980) Eds. Tax and Investment Policies for Hard Minerals. Cambridge MA: Ballinger Publishing Company.

Gladwin, D., Konda, B., Lauer,R. & Camllacci, D. (1997). A Comparative Analysis of Income Based on Taxes on Mining. CIMM Bulletin 90(1009), 45-48.

Godell, R. & Schlauch, P. (1989). Precious Metals Royalties. 35 Rocky Mountain Mineral Law Institute – 10-1. Denver: Rocky Mountain Mineral law Institute.

Halcon, N. (1995). Mining Tax Compliance in the Philippines. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman/Kluwer Academic Publishers.

Hancock, G. & Gillies, S. (1994). Issues in Australasian Mining Taxation: The Arguments For and Against Resource Rent Taxation. AusIMM Bulletin 4, 11-17.

Hancock, G. (1997). The Influence of Resource Rent Taxation on Mining and Investment Strategies. Proceedings of ESCAP Workshop on Mining Taxation, Bangkok, November 6-7, 1997. Bangkok: UNESCAP.

Harries, K. (1996a). Mining Royalties Between Private Parties. Kingston: Queen's University Centre for Resource Studies.

Harries, K. (1996b). Mining Royalties Agreements Between Private Parties: the Relationship Between Payor and Recipient. Journal of Energy and Natural Resources Law 14(3), 354-381.

Hodson, M. (1984). Government Involvement in the Bauxite Sector: Government Objectives and Industry Problems with Special Reference to the Application of a Resource Rent Tax. In proceedings of Bauxite Symposium, Los Angeles Feb.27-Mar.1, 1984. New York: Society of Mining Engineers.

Hollaway, J. (1991). Small-scale Mining in Africa. In proceedings of International Seminar on Mining Taxation, Montreal Sept.30 – Oct. 4, 1991. Montreal: Canadian Institute of Mining and Metallurgy / United Nations DTCD.

Hotelling, H. (1931). The Economics of Exhaustible Resources. Journal of Political Economy 39, 137-175.

Hughes, H. & Singh, S. (1978). Economic Rent: Incidence in Selected Metals and Minerals. Resources Policy June 1978, p.135-145.

Humphreys, D. (1999). Taxing or Talking: Addressing Environmental Externalities in the Extractive Industries. Minerals and Energy 15(4), 33-40.

IWGMI (1993a). Incentive Regimes for Mineral Exploration. Ottawa: Intergovernmental Working Group on the Mineral Industry - Energy, Mines and Resources Canada.

IWGMI (1993b). International Review of Recent Changes to Taxes and Regulations Applicable to Mining. Ottawa: Intergovernmental Working Group on the Mineral Industry - Energy, Mines and Resources Canada.

IWGMI (1993c). Comparison of Average Effective Tax Rates for Selected Mining Jurisdictions. Ottawa: Intergovernmental Working Group on the Mineral Industry - Energy, Mines and Resources Canada.

IWGMI (1993d). International Tax Reference Charts for the Mining Industry. Ottawa: Intergovernmental Working Group on the Mineral Industry - Energy, Mines and Resources Canada.

Jayawardena, D. (1997). Trends and Issues in Mining Taxation in the Asian-Pacific Region. In proceedings of ESCAP Workshop on Mining Taxation, Bangkok, November 6-7, 1997. Bangkok: UNESCAP.

Kumar, R. & Radetzki, M. (1987). Alternative Fiscal Regimes for Mining in Developing Countries. World Development 15(5), 741-758.

Kumar, R. (1989). Government Fiscal Strategies for Mining to 2000. Natural Resources Forum November 1989, 275-284.

Kumar, R. (1991). Taxation for a Cyclical Industry. Resources Policy 16(2), 133-148.

Kumar, R.(1995). Mine Taxation: The Evolution of Fiscal Regimes. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman/Kluwer Academic Publishers.

Lacy, J. & Lacy, W. (1991). Mining Royalties Revisited: Does the Burden Tarnish the Crown? Mining Agreements III - 8. Denver: Rocky Mountain Mineral Law Foundation.

Laing, G. (1977). Effects of State Taxation on Mining Industry in Rocky Mountain States. Colorado School of Mines Quarterly 72(2) 1-126.

Land, B. (1995). The Rate of Return Approach to Progressive Profit Sharing. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman / Kluwer Academic Publishers.

Lotze, J. (1984). Possible Impacts of Fiscal Policy on Utilization of Bauxite Resources. In proceedings of Bauxite Symposium Los Angeles Feb.27 - Mar.1, 1984. New York: Society of Mining Engineers.

McCarthy. D. (1991). International Taxation Issues for the Mining Practitioner. Denver: Rocky Mountain Mineral Law Foundation.

Mikesell, R. (1986). New Taxation Formulas in Mine Investments: Sharing the Risks and the Rents. AIW Paper No.3. Frankfurt am Main: Institute for Foreign and International Trade Law.

Minnitt, R. & Cawood, F. (1999). Mineral Rights – Information as an Alternative to Taxation. Journal of the South African Institute of Mining and Metallurgy 99(6), 341-350.

NRC (1997). Lessons from Canadian Mineral Taxation – An International Context. Ottawa: Natural Resources Canada.

Ostensson, O. (1997). Global Mining Taxation in Relation to FDI Flows to Developing Countries. Proceedings of ESCAP Workshop on Mining Taxation, Bangkok, November 6-7, 1997. Bangkok: UNESCAP.

Otto, J. (1990). China's Non-Energy Minerals Industry: Taxation and the Distribution of Income. Materials and Society 14(1), 79-101.

Otto, J. (1992) Ed. Mineral Industry Taxation Policies for Asia and the Pacific. New York: UNESCAP.

Otto, J. (1995) Ed. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman / Kluwer Academic Publishers.

Otto, J. (1995). Legal Approaches to Assessing Mineral Royalties. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman / Kluwer Academic Publishers.

Otto, J., Beraun, M. & Cordes, J. (2000) Global Mining Taxation Comparative Study 2nd Ed. Golden: Institute for Global Resources Policy and Management, Colorado School of Mines.

Ricardo, D. (1891). Principles of Political Economy and Taxation. Various editions available.

Robinson, T. J. C. (1989). Economic Theories of Exhaustible Resources. London: Routledge.

RMMLF (1977). Mineral Taxation. Proceedings of special institute. Denver: Rocky Mountain Mineral Law Foundation.

RMMLF (1986). Federal Royalty Revolution. Proceedings of special institute. Denver: Rocky Mountain Mineral Law Foundation.

RMMLF (1988). Royalty Valuation and Management. Proceedings of special institute. Denver: Rocky Mountain Mineral Law Foundation.

Schreiber, H. (1996). Government Take - Total Tax Burden Imposed on Active Mining Operations by Selected Political Entities. International Resources Law II – 6. Denver: Rocky Mountain Mineral Law Foundation.

Scott, A. (1978). Who Should Get Natural Resource Revenues? Vancouver: University of British Columbia Library Box 3-28, no Journal/monograph information. http://www.library.ubc.ca/spcoll/ubc_arch/u_arch/scott.html.

Siegesmund, J. (1988). An Owner's Manual for Exhibit C (Tax Matters) to the Model Form Mining Venture Agreement. 33 Rocky Mountain Mineral Law Institute – 13-1. Denver: Rocky Mountain Mineral law Institute.

Siegesmund, J. (1991). Working with Form 5: A Tax Lawyers Perspective. 37 Rocky Mountain Mineral Law Institute – 10. Denver: Rocky Mountain Mineral law Institute.

Smith, A. (1776). An Inquiry into the Nature and Causes of the Wealth of Nations. Various editions have appeared from 1773.

Smith, D. & Wells, L. (1975). Negotiating Third-World Mineral Agreements. Cambridge: Ballinger Publishing Company.

Steed, V. & Bunt, E. (1995). Some Financial Aspects of the Design of South African Gold Mines. In proceedings of Africa Mining '95. London: Institute of Mining and Metallurgy.

Steele, H. (198?). Natural Resource Taxation: Resource Allocation and Distribution Implications. Extractive Resources and Taxation. Madison: University of Wisconsin.

Stermole, F. & Stermole, J. (2000). Economic Evaluation and Investment Decision Methods, 10th edition. Lakewood Co: Investment Evaluations Corporation.

Swan, P. (1984). Resource Rent Tax: The Issues. Economic Papers 3(3), 1-10.

Trimblay, R. (1997). Taxes and the Structuring of Investments in International Mining Ventures. Mineral Development in Latin America –13. Denver: Rocky Mountain Mineral Law Foundation.

USDOI (1993). Economic Implications of a Royalty System for Hardrock Minerals. Washington DC: US Department of the Interior.

Van Blerck, M. (1992). Mining Tax in South Africa. Rivonia: TaxfaxCC.

Walrond, G. (1989). Small Gold Mines – The Production and Declaration Problem in Guyana. Mining Policies and Planning in Developing Countries. New York: United Nations DTCD.

Westin, R. (1992). Environmental Taxes. Mineral Industry Taxation Policies for Asia and the Pacific. New York: UNESCAP.

Westin, R. (1995). Environmental Taxes. Taxation of Mineral Enterprises. Dordrecht: Graham and Trotman/Kluwer Academic Publishers.