

Minerals Taxation Regimes

A review of issues and challenges in their design and application

The Challenge of Mineral Wealth:
using resource endowments to foster
sustainable development

February 2009



Analysis and observations

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Preface

This report sets out the findings of a study undertaken by Oxford Policy Management (OPM) to review the issues and challenges in the design and application of minerals taxation regimes.

Project management

The study was overseen and managed by Kathryn McPhail at the ICMM. The study was supported by a minerals taxation advisory group comprising of Philip Daniel (IMF), Thomas W. King (KPMG), Theodore H. Moran (Georgetown University) and James Otto (University of Denver).

The role of the advisory group was to assist in guiding the study to assure greater neutrality, and provide feedback on issue identification and content. The group was consulted throughout the study but had no direct hand in its writing. The advisory group reviewed the Terms of Reference that went out for contractor bidding, and the initial outline. The group also provided source material to the contractor, and gave written comments on the draft version. Each member of the advisory group has provided a perspective on the process and content of the report, which is available on the following pages.

ICMM member companies – including their tax specialists – provided important input into the study by giving their perspectives to the team on the issues under review and by commenting on draft versions of the report. Olle Östensson (UNCTAD) also provided helpful comments.

The written comments on the March 2008 draft version of the report are provided in Annex A. This final report has sought to incorporate all comments received.

Publication collaboration

ICMM approached the Commonwealth Secretariat to co-publish the report. Through its Economic and Legal Section (ELS), the Special Advisory Services Division (SASD) of the Commonwealth Secretariat provides technical assistance to Commonwealth countries concerning the reform of investment frameworks for optimum management and sustainable development of their extractive industries such as the oil, gas, and mining sectors¹. In these industries, the services delivered include the diagnosis of investment barriers and developing suitable legislative, institutional and fiscal reforms based on international best practices.

For the Commonwealth Secretariat's Special Advisory Services Division collaborating with the ICMM on such an initiative was not an obvious decision. However, because of the significance of the report and the ICMM's willingness to present a balanced view, the Secretariat felt that if such an initiative could help bridge the gap between the industry and governments it was a step in the right direction. It was also believed that a report addressing the importance of good fiscal principles such as neutrality and progressivity of mining fiscal regimes could only help set an appropriate background in implementing good fiscal policies.

From the Commonwealth Secretariat, Daniel Dumas, Head of Economic and Legal Section, and Victor Kitange, Economic Adviser, had the opportunity to provide comments on the report, bringing in their experience in advising governments on fiscal issues.

Terms of Reference for the report are available on request from ICMM.

¹ The Economic and Legal Section also provides technical assistance with respect to international trade law issues including compliance with WTO rules, and delimitation of maritime boundaries in accordance with international law.

Notes from Resource Endowment initiative partner organizations

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Olle Östensson

Special Adviser, International Trade and Commodities Division
UNCTAD

ICMM's initiative in publishing this report is highly welcome. The distribution of mining revenues between companies operating mines and the public is often a controversial subject, particularly when international markets are at extreme ends of the price and profitability spectrum. It does ICMM honour that it has produced a balanced and perceptive analysis of what is a very complex subject. The report will certainly be of considerable use to all those who are engaged in efforts to frame an equitable and transparent taxation structure for mining. It will facilitate a constructive exchange of views among professionals concerned with the economic and developmental role of mining.

Somit Varma

Director, Oil, Gas, Mining and Chemicals Department
World Bank Group

The World Bank Group welcomes the publication of this report by the ICMM on mining taxation. Especially at a time of volatile minerals prices, governments and companies can benefit from a shared understanding of approaches to taxation systems for mining development.

Successful resource development is more likely when risk and benefit sharing between investors and governments is fair and reasonable, and is robust to changing circumstances. Creating such structures is not necessarily easy, but this thoughtful and comprehensive publication can make an important contribution to governments as they put taxation frameworks in place. It should also help facilitate productive dialogue between governments and investors.

Minerals taxation advisory group commentaries

The development of this report benefited from close oversight from an advisory group comprising four international experts on minerals taxation. On completion of the report each member of the advisory group was invited to provide a perspective on the process followed by ICMM, as well as on the final content of the report. Their comments are reproduced below.

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Philip Daniel

**Technical Assistance Adviser, Tax Policy,
Fiscal Affairs Department,
International Monetary Fund**

Appropriate development and taxation of natural resource industries is critical to the revenue prospects of many low-income countries. I commend the ICMM for its initiative in commissioning this study of minerals taxation regimes under its Resource Endowment initiative. The report will provide a valuable focus for debate, and for exploring options under which tax arrangements can be made to the mutual benefit of all parties—governments, companies, suppliers and employees, and affected communities.

The recent boom in mineral commodity prices, and its significant reversal since this report was completed, demonstrate yet again the volatility and unpredictability of mineral revenues. These pose serious risks to both companies and governments. The taxation of mineral income bears not only on the distribution of revenues, but also on the distribution of these risks. The report provides a platform of information, and a survey of literature, upon which dialogue can continue about these issues.

Thomas W. King

Partner – Tax, KPMG LLP

I would like to commend the ICMM for commissioning this report which delves into the sensitive topic of issues that should be considered by both governments and the mining industry in determining the appropriate level of taxation of mining ventures in a particular country.

Having dealt with a number of mining companies and governments in comprehending the appropriateness of tax policy over my career, disputes often arise due to the lack of understanding of the two party's philosophies and the reasons therefore. In concluding on the appropriateness of the taxation regime of a particular country, greater weighting needs to be placed on ensuring that all stakeholders entering the discussions have a firm understanding of the risks and rewards of the mining industry and their role on the outcomes.

In considering these objectives and risks, the parties can then have a better appreciation as to what options each has to address the concerns of the other stakeholders, as all parties generally have a vested interest in ensuring the economic potential of a mining discovery is fully optimized.

I believe the information included within this report will prove to be a useful resource in bridging the knowledge gap.

Theodore H. Moran

Marcus Wallenberg Professor of International Business and Finance, Georgetown University; Non-Resident Senior Fellow, Peterson Institute of International Economics

The taxation of mineral resources has at least three dimensions of importance to host countries in the developing world: the level of taxation, the structure of taxation, and the transparency of the resulting revenue streams. The first dimension – level of taxation – is somewhat surprisingly not always the most important subject of discussion.

As this report points out, the structure of taxation (in particular, royalties vs. income taxes) is crucial in attracting investment in the first place, and in sharing the risks and benefits appropriately between investor and host government as conditions fluctuate in international markets. This report also emphasizes the importance of transparency about tax payments so that elected representatives and common citizens can track where revenues go.

I have found that the company representatives and independent experts involved in putting together this report have been remarkably forthright in debating the issues involved, and have produced a product that will provide readers with an accurate and useful understanding of taxation options.

The report rightly observes that developing country authorities and civil society may need externally-funded training and assistance to create and enforce appropriate systems of minerals taxation.

James Otto

Retired professor of law and economics, University of Denver, Colorado School of Mines

Taxation is an emotive subject. From a company perspective it goes straight to the bottom line, and if too onerous, can kill even the best project. For governments, taxation is directly linked to the concept of permanent sovereignty over natural resources and to perceptions of exploitation, revenue generation, and partnering in development.

Ultimately, taxation plays a key role in the industry's ability to obtain and maintain a social licence to operate by in part answering the question: do the benefits of having a mining industry outweigh its costs? Being an emotive subject, it is useful to have available information that can provide companies and governments an informed, balanced look at the key issues. The ICMM set out in this commissioned study to provide a neutral look at mining taxation, and to insure the study's neutrality and competency, its preparation, from the draft terms of reference through to the final report, was reviewed by a small panel of independent mining tax experts.

Most of us sitting on the review panel have years of experience advising governments on tax policy matters, and I personally found the willingness of the ICMM to subject a sensitive topic like this to external guidance and scrutiny, to be indicative of the industry's increased willingness and need to work closely with governments so that mineral investment benefits are perceived as providing a balanced sharing.

The information and observations contained in this study will prove a useful source on mining taxation for government policy makers, the industry, academics, and the broad range of other stakeholders interested in this subject.

Abbreviations

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CEPMLP

Centre for Energy, Petroleum and Mineral Law and Policy

EBIT

Earnings Before Interest and Tax

EITI

Extractive Industries Transparency Initiative

FDI

Foreign Direct Investment

FID

Financial Institutions Duty

GDP

Gross Domestic Product

GST

Goods and Services Tax

ICMM

International Council on Mining and Metals

IMF

International Monetary Fund

MDF

Minerals Development Fund

OPM

Oxford Policy Management

PSA

Production Sharing Agreement

PSC

Production Sharing Contract

PwC

PricewaterhouseCoopers

REi

Resource Endowment initiative

SA

Service Agreement

VAT

Value Added Tax

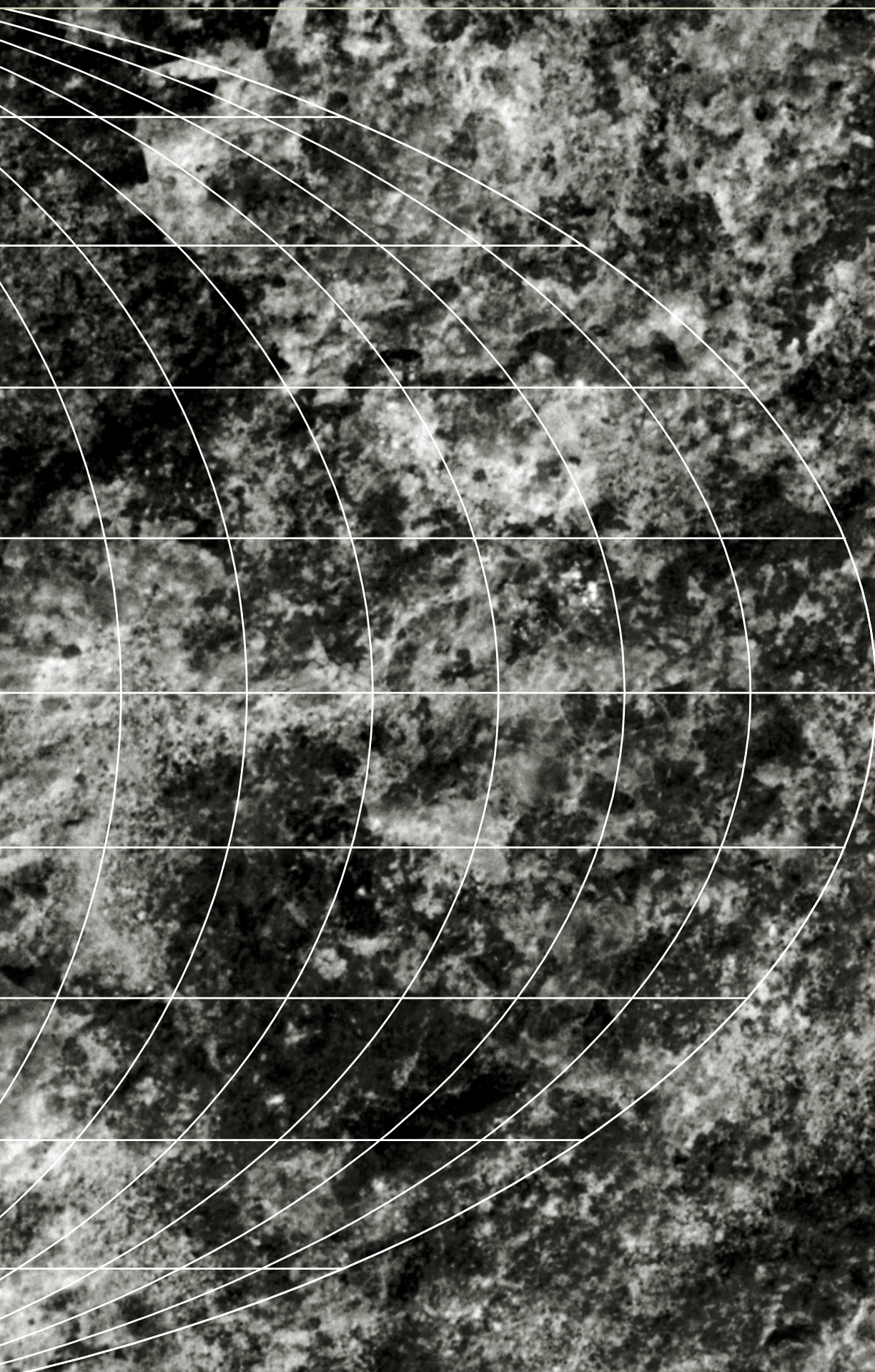
VSF

Voluntary Support Fund

WIP

Working in Partnership

Executive summary



Executive summary

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This study complements previous work for ICMC's Resource Endowment initiative (REi), by reviewing current and past thinking on mining taxation. The REi work emphasized macroeconomic and governance challenges and pointed out that the links between natural resource extraction and development are neither automatic nor direct. The revenue accruing to governments from taxing the sector is a key component of its potential contribution to development. This study considers how the way in which revenue is generated can affect the process of translating mineral wealth into socio-economic development. In designing a minerals fiscal regime, governments face significant trade-offs between various objectives and also need to take account of a combination of economic, socio-political and institutional factors.

Minerals taxation literature

The 'resource rent' principle provides the theoretical underpinning for much of the theoretical mining taxation literature. It supports the argument that taxation should be based on profitability, not on production or sales. One challenge has been that it is easier to describe these rents conceptually than to identify and collect them in practice, not least because many costs are not incurred immediately but arise only later. Another challenge is that this framework assumes governments' discount rates to be lower than those of companies. It is assumed that governments seek to maximize revenue, but are less concerned about *when* exactly this revenue is received. This assumption can be problematic, particularly for countries where natural resource revenues constitute a large and critical share of government revenue². Political pressure and other factors in such cases can easily shift a government's preference for revenue to be received sooner rather than later. Therefore in practice the use of other tax bases and instruments is commonplace in minerals taxation regimes.

The policy-oriented literature of the 1980s and 1990s placed a major emphasis on the international competitiveness of fiscal regimes. However, in practice, this perspective was commonly accepted as providing a basis for the introduction of some form of progressivity and flexibility into fiscal regimes to accommodate evolving changes in global conditions. In addition, static comparisons of fiscal

terms across different countries to find the most 'competitive' tax regime only serve as a very general guide, with the proviso that foreign investors in developing countries inevitably face the challenges of changing global conditions. More specifically, recent global conditions have increased the political risks of mining by strengthening the incentives of, and the pressure on, at least some governments to alter fiscal terms in order to satisfy immediate domestic political pressures.

Where some countries have recently revised their fiscal regimes, these switches of regime have typically not been based on any principled case for reverting back to a dominance of tax instruments that are regressive. Rather, they have been brought about more commonly as a response to the question of whether government and society are receiving sufficient revenue from their natural resource wealth. This present report argues that the theoretical as well as the policy-oriented mining taxation literature is not particularly well-g geared to identifying, defining and addressing governmental incentives for fiscal policy switches in developing countries. The basic assumption that governments seek to maximize revenue over the *long run* is sometimes difficult to attain in a developing country context. However, re-emerging research on the political economy of taxation points out that government preferences for the timing of revenue receipts are likely to be conditioned by its relative bargaining power and its transaction costs. The former are affected by changes in global circumstances, and the latter can only decrease if political and administrative systems become more efficient.

Contrasting the concept of *contractual* versus *coercive* taxation helps to identify the conditions under which there is likely to be an increase in a government's incentives to impose coercive taxes on immobile assets. The political economy of taxation emphasizes the importance of institutionalizing the processes through which governments, businesses and social interest groups can agree on public policies that support broad-based economic activity. It also emphasizes the importance of strategic alliances between those who share an interest in the improvement of a host country's administrative capacity.

² This share can be critical a) for the provision of basic public goods and services but also b) for the maintenance of a given power balance between different domestic interest groups (i.e. for maintaining political stability).

‘The political economy of taxation emphasizes the importance of institutionalizing the processes through which governments, businesses and social interest groups can agree on public policies that support broad-based economic activity.’

Fiscal regime types

In the extractive industries there are broadly two alternative types of fiscal systems – royalty/tax concessions and contractually-based systems. Although common in the oil and gas industry, product sharing contracts (PSCs) are unusual in the mining sector. The practices vary between and within developed and developing countries. However, while in developed countries the fiscal terms applicable to mining investments are usually legislated unilaterally, in many developing countries, where robust legislation has sometimes not been developed, terms are typically set out in project-specific negotiated mining agreements.

Project-specific arrangements can provide governments with the flexibility to take account of particular geographical and other local circumstances, but they can also have a weakening effect on institutional checks and balances. Because agreements are confidential in some countries, they can preclude companies and governments from effectively engaging in transparency initiatives. There is also a question as to whether the use of negotiated agreements in the absence of a more fully developed legal system for the sector might undermine the development of such a system. Negotiated agreements can

certainly create a heavy administrative burden for already capacity-constrained governments.

The experience with mining agreements is not all positive. Where political risks have been perceived to be high, the agreements have often locked in fiscal conditions to safeguard companies from future legislative changes. The application of so-called stability clauses has become somewhat contentious. Such clauses can provide investors with enhanced protection at a time when host countries’ bargaining positions are weak. Recent changes in the balance of power between governments and mining investors and recent high mineral commodity prices have led to renegotiation demands in many countries. Governments have sometimes justified this by questioning the legitimacy of the terms granted by their predecessors. Contract renegotiation poses a great source of uncertainty for the industry.

Minerals taxation instruments

Because of the characteristics of the sector, it has been argued that mining should be taxed differently from other productive economic activities. However, not all countries have opted for special taxation regimes for mining. Subjecting mining to the overall tax system can be simpler for governments. This is a particularly appealing point in cases where public administrations are weak, and where there is a strong need to try to limit the scope and incentives for sector-specific rent-seeking and lobbying activities.

The various mining taxation instruments available are typically distinguished according to two categories: taxes on income, profits or cash flow (*profits-based taxes*), and taxes on inputs and outputs (*production-based taxes*). The former category consists of taxes charged against some definition of revenues accruing to mining companies, net of qualifying costs. These include corporate income tax, profit taxes on dividends, royalties based on profit or income and withholding taxes on remitted dividends. The latter category consists of charges assessed against deposits of production inputs and services. These include sales and excise taxes, unit-based and *ad valorem* royalties, import duties, registration fees etc.

Companies generally prefer *profits-based taxes*. Such taxes serve to delay their tax payments until up-front costs have been partly or fully recovered and so they also reduce companies’ financial risks.

Unfortunately, *profits-based taxes* often lead to a situation where government receive very little revenues for a number of years, a difficult fact to explain to their constituents. *Production-based taxes* have some advantages for governments. For example, such taxes can more easily be earmarked for political purposes and can also be easier to collect. Most importantly, they ensure a minimum flow of revenue to governments from the mining activities. Companies dislike them for the same reasons, that is, because they are payable even in loss-making years. *Production-based taxes* can also have a negative effect on economic cut-off rates. For example, companies particularly dislike *ad valorem* royalties, because these also tend to be regressive.

For governments it is difficult to find the right balance between the different tax instruments. The literature has paid little attention to how governments can in practice achieve improvements to their tax administrations, so as to make possible an eventual shift from reliance on *production-based taxes* to a greater reliance on *profits-based taxes*.

While *individual* types of tax instruments may be geared towards achieving specific objectives, the cumulative impact of a tax regime is also important – progressive direct taxes can be offset by regressive royalties. The literature agrees that ideally the overall effect of a tax system should be neutral with respect to production decisions and that the tax base should be taxed progressively. However, most extractive industry fiscal regimes are not progressive in their overall effect. Many are in fact mildly regressive. One possible explanation is that many fiscal regimes were designed during the 1980s and 1990s when commodity prices were low and countries (often with capacity constraints and weak bargaining power) were competing with one another for investment.

Countries use special provisions as incentives to attract investment and to accommodate the special characteristics of the sector. However, the companies have increasingly come to regard tax incentives as less important than tax disincentives (especially political risk).

‘Transparency is considered another important factor to raise citizens’ awareness of the financial benefits that mining may deliver to a country and its citizens.’

Collection and distribution of mining taxes at the sub-national level

The allocation of mining revenue between different tiers of government is an important aspect of the fiscal system. It is linked to the expectations placed on mining companies with respect to how non-tax contributions should be allocated in order to best meet local communities’ needs. Country practice varies considerably in this area and depends partly on constitutional set-ups. It is also linked to various and often incomplete decentralization processes that many developing countries have been undergoing.

There are two alternative types of arrangements for collecting and distributing mining taxes at the sub-national level. *Fiscal decentralization* affects the way in which a nation empowers various parts and levels of its government to impose and collect taxes from the private sector. It is often argued that greater control by sub-national governments over fiscal policy means that it will be more amenable to local stakeholder input. Others assert that central governments are better able to implement countercyclical fiscal policies. Further, because they will invariably have more diversified revenue bases than sub-national governments, central governments are also better insulated from the effects of mineral revenue volatility.

Revenue sharing describes arrangements whereby minerals taxes are collected by the central government, but with a certain portion of the tax-take being directed back to the sub-national governments in the areas in which mining occurs. It is often argued that this is required to

compensate local communities for the negative side effects associated with mining. However the success of such arrangements is highly dependent on the capacity of sub-national governments to plan and spend effectively. Revenue sharing also brings with it the potential for increased social, economic, political and administrative inequalities between adjacent areas.

The main report provides several country case studies which illustrate the great variance in government legislation and practice in relation to the collection and allocation of mineral revenues. There is no approach that works in all circumstances. Nor can the collection and/or spending of mining revenues at the local level guarantee greater benefits to local communities. The success of increased sub-national spending of mining revenues is dependent fundamentally on the capacities for planning of expenditures, clear accountabilities and a well defined division of responsibilities and mandates between different levels of government. The absence of these conditions will not only limit the effectiveness with which mining revenues are spent, but can also lead to uncertainty and inconsistency for investors.

Company perspectives

The report summarizes company perspectives on the various issues addressed in the study, based on interviews with tax representatives from ICMM member companies. Companies attach increasing emphasis to several aspects of taxation regimes other than the rates and bases of the tax instruments to which they may be subject.

In particular, companies highlight *stability* and *predictability* as the most important aspects of taxation regimes. It seems to be well understood that there is often an inverse relationship between low tax rates and the stability of a tax regime. Uncertainty also tends to be greater where the fiscal regime is not set in statute, but is negotiated bilaterally.

A complex tax regime is more likely to be subject to special negotiation and this makes it more difficult for companies to assess its financial attractiveness. It also increases companies' administrative costs and increases the scope for misinterpretation and therefore disputes with government. Moreover it makes the regime more susceptible to political capture and *ad hoc* amendment.

The efficiency of tax administration, the functioning of the court system whereby tax disputes can be resolved, and the system through which tax refunds are remitted, all have a significant impact on the overall investment climate in a country. Companies are also attaching growing importance to the capacity of host governments to use revenues effectively. It seems to be well understood that where this capacity is strong, companies are less likely to receive pressure from local communities for the provision of services normally provided by the public sector.

Transparency is considered another important factor because it can raise citizens' awareness of the financial benefits that mining may deliver to a country and its citizens.

Observations

It is not the purpose of this review to propose a recommended let alone an ideal tax regime that could apply to a particular mineral producing country. However, the analysis presented in this study does lead to a number of observations.

The tax level

Governments are well-advised to try to maximize their revenues from mining over the *long run*. They should try to design minerals taxation regimes that are both neutral and progressive. Tax regimes should also take into account incentives for encouraging sustained investment in the sector as well as incentivizing the development of new technologies to enable exploration in previously inaccessible places. However these broad objectives may be extremely difficult to achieve in practice. This is partly because they may be in conflict with each other and they therefore involve striking a balance between them. Also, the design of a tax regime and the appropriate level of taxation involve making assumptions about the future that may prove to be incorrect. This supports the argument in favor of a periodic and collaborative re-assessment of those assumptions in order that consent might remain in place over time. This way of addressing the problem shifts the emphasis on to the *process* through which consent is brought about and somewhat away from the *substance*.

Companies can work in partnership with others i) to promote minerals taxation regimes that are both efficient and progressive; and ii) to help institutionalize procedures that achieve and maintain multiparty consent on what constitutes

a balanced level of taxation. For the practical application of any balanced sharing of the resource rents, governments, companies and potentially other stakeholders will need to establish mutually recognized mechanisms for and enter into constructive dialogues. In any such collaboration there is a clear role for broadly respected industry associations.³

The mix of fiscal instruments

The report argues that in lower-income mining countries minerals taxation systems should be less complex, for two reasons: Simplicity in a tax system makes it easier to calculate the amounts of tax that are due and also to audit the amounts paid, whether nationally or with international support (e.g. via EITI-type arrangements). Second, and reinforcing the first point, is the fact that general administrative capacity is often low in low-income mineral-dependent economies.

Simplicity however does not only mean a tax system is easier to administer. Host countries should also reduce reliance on indirect taxes, such as unit or value based royalties and instead increase reliance on *profits-based taxes*. Direct tax instruments, based on profitability or some definition of income, encourage countries to tax citizens and companies more broadly and thus are more likely to contribute to overcoming (at least in the long run) the problem of low administrative capacity.

The challenge is that such improvements do not happen automatically. Governments may lack the incentives or resources to improve capacity. Companies can recognize this challenge upfront and work with others to stimulate capacity-building efforts. This includes collaboration with international and regional multilateral organizations who offer technical assistance to governments on public sector and administrative reform. There is a key role for advisory organizations to help countries manage the greater volatility of direct taxes and to ensure that there is a stable flow of resources to support efficient public sector and administrative reforms⁴. Working with others can also include

forming strategic alliances with domestic constituents with whom a common interest in better public sector performance is shared, either at the central or local level. Identifying organizations with whom to align remains a difficult and context specific question.

Specific tax systems for the minerals sector

Some governments have relied on special arrangements and bilaterally negotiated agreements to secure investments and government revenues. This report summarizes the various arguments and reasons for this, but it concludes that special fiscal terms – beyond the issue of resource rent taxation – are not justified *per se* and that the case for special tax regimes for mining is not clear cut. The proliferation of different tax structures within the same country clearly runs counter to the suggestion to keep systems simple at least in low-capacity countries. Special tax systems that create administrative complexity in countries with limited capacity may result in poor execution, relative to the theoretically ‘correct’ revenue-take. This creates its own problems, including risks to the stability of the special tax regime because of government or other stakeholders’ dissatisfaction with the revenue outcome.

The report argues that it is both feasible and preferable for mining companies to be subject to a country’s general tax system, incorporating a few mining specific features that address some of its special characteristics (e.g. special allowances). Putting taxpayers on equal footings can provide greater certainty and stability and increase the incentives for governments to improve tax administration and fiscal policymaking more generally⁵. Greater commonality across a broader group of taxpayers should also serve to increase opportunities for strategic alliances to support contractual taxation and revenue bargaining for better public services, as well as reducing the pressures for coercive taxation of immobile assets as responses to short term political pressures⁶.

³ This does not render instruments such as stability clauses obsolete, but it would require a change in the shared understanding of the purpose that such instruments serve. Stability of the level of taxation determined at one particular point in time need not be the same as stability in ensuring that fiscal terms support the economically efficient exploitation of resources and a fair sharing of the resource rent.

⁴ Experience with such reforms in the past has shown that volatile revenue flows, including cash budgeting in times of revenue shortages, have very detrimental effects on the success of reform implementation and its long term sustainability.

⁵ The REi case study on Chile supports this point. Chile does generally not treat the mining sector differently, with the exception of its profits-based royalty. However, the mineral industry in Chile is more diversified than in most other countries, with well established integrated downstream processing operations.

⁶ An added advantage would also be that it makes it easier for companies to claim double taxation relief for taxes paid locally, when profits are repatriated offshore and potentially taxed again.

‘The report shows that both the theoretical and the practical evidence is inconclusive as to whether fiscal decentralization improves the benefits of mining to local communities.’

Transparency

The report argues clearly in favor of increasing transparency of the taxation of mineral extraction, as well as increasing transparency of the use of mining revenue to support socio-economic development. Increasing transparency is a necessary step to raise awareness of the financial contributions that the mining sector makes. Transparency alone does not foster consensus on the allocation of revenues, nor does it ensure these are disbursed effectively. However initiatives such as the EITI contribute to laying the groundwork on which effective institutions and processes can be built. The mining industry and others should actively endorse and contribute to these initiatives. They should also emphasize that not only the revenue streams but also the underlying fiscal terms are made public.

Companies and international organizations can support a preference for subjection in principle to a country’s generally applicable tax system with the view to forming strategic alliances to support the development of comprehensive legal, regulatory and fiscal regimes aligned and embedded in a country’s overall public administrative system. There is a key role here for mining industry associations and their collaboration with other business/taxpayer associations⁷.

Benefits for local communities in mining areas

The *allocation* of revenue between different tiers of government is attracting increased international attention. Centralist tendencies are still common in low income mining countries, but there have been various moves towards fiscal decentralization. The report shows that both the theoretical and the practical evidence is inconclusive as to whether fiscal decentralization improves the benefits of mining to local communities. So there is no clear cut recommendation for or against fiscal decentralization and the assignment of mining revenue to sub-national tiers of government. The broad observation is to not overemphasize relations with either national government or sub-national government entities. Improvements in administrative capacity at one level are unlikely to render long term benefits to local communities, if they are not complemented by equal improvements at other levels.

⁷ This includes both actual and potential taxpayers.

Introduction



1. Introduction

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This study comprises a supplementary piece of work for the ICMM's Resource Endowment initiative (REi).⁸ Feedback on previous phases of the REi noted that the issue of taxation had generally been insufficiently highlighted. The earlier work emphasized the macroeconomic and governance challenges associated with managing natural resource revenue. It highlighted evidence that mining can provide an important, and sometimes critical, contribution to economic development and poverty reduction in developing countries. The earlier work also pointed out that this contribution required supportive conditions, namely the need for better governance at national and sub-national levels.⁹

The earlier work did not explicitly consider how the way revenue is generated might affect the process of translating mineral wealth into social-economic development. This study seeks to fill this gap.¹⁰ There are compelling reasons to believe that taxation is important, although the development outcomes from mining are driven by a set of factors much broader than tax levels alone.¹¹ Fiscal terms have recently been the subject of intense debate in a number of host countries¹², while deficiencies of various aspects of governance have received less attention. This study reviews current and past thinking on mining taxation regimes and links this to the findings of the other components of the REi project.^{13, 14}

In most cases states are the owners of non-renewable natural resources. Governments and citizens can therefore reasonably expect that encouraging private sector investment in the exploration and extraction of these resources will contribute to domestic economic development. However, the link between resource extraction and development is neither automatic nor direct,

⁸ For further information on the REi, see www.icmm.com/resource-endowment

⁹ See in particular the ICMM publications Spotlight series 01, 'The Prize' and Spotlight series 02, 'The Challenge'.

¹⁰ The literature on minerals taxation is extensive and reaches back to the 1970s and earlier. A limited amount of time was available to prepare this review, making it impossible to cover every aspect of the debate.

¹¹ See the ICMM publication Spotlight series 10, 'Taxing Challenges'.

¹² Some of the recent revisions to fiscal terms are listed in UNCTAD (2007), *World Investment Report, Part Two – Transnational Corporations, Extractive Industries and Development*, Geneva, released: 17 October 2007. See also Box 5.1 relating to Tanzania.

¹³ It should be noted that the earlier REi work has observed a connection between good governance and mineral based development, but has still left causal question unanswered, in particular the domestic drivers of improvements in governance.

¹⁴ In addition to this main report, a supplement on minerals taxation has been included in the revised version of the Resource Endowment toolkit, published in September 2008. A 'Spotlight' summary note (Spotlight series 13, 'Taxing Challenges II', September 2008) also captures the main essences of this report.

'The tax revenue accruing to governments is an important component of the sector's potential contribution to development. Taxation and revenue management in hydrocarbon and mineral rich economies is not only a technical, but equally a political matter.'

irrespective of whether private or public enterprises undertake the extraction. The tax revenue accruing to governments is an important component of the sector's potential contribution to development. Taxation and revenue management in hydrocarbon and mineral rich economies is not only a technical, but equally a political matter.

Designing a taxation policy usually requires trading off various government objectives. These may include attracting investment, maximizing government revenues, and enhancing the developmental impact of mining. Governments may also seek to influence the behavior of mining companies, for example through the ways in which the tax system affects the implementation of environmental and procurement policies. An even more difficult set of trade offs comes into play, if countries are grappling with the process of state-building and in doing so need to manage social, political and institutional change. The outcome of state-building is an increase in the capacity of a government to pursue public goals and to interact constructively with society and business. This

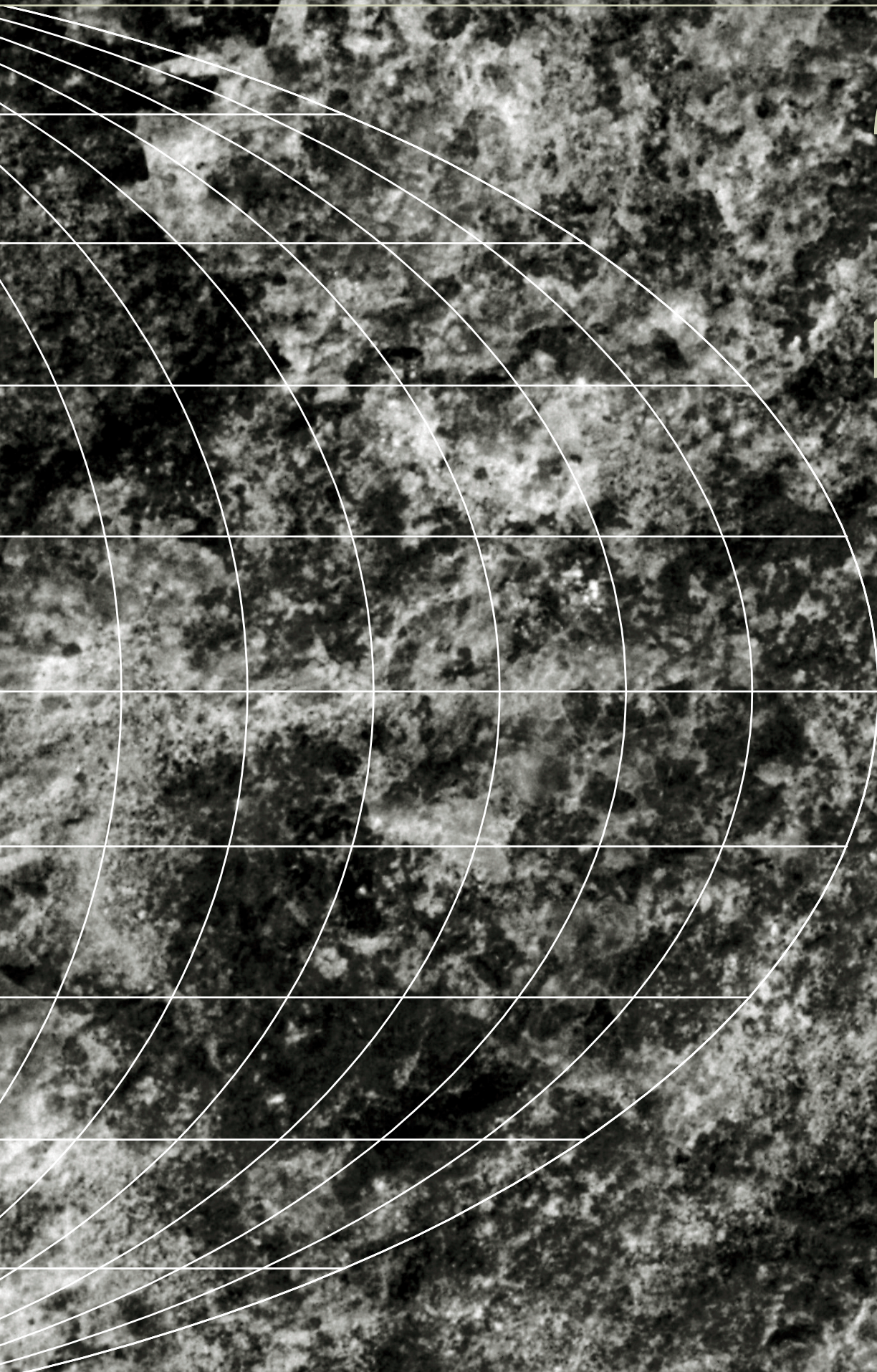
relates directly to better governance at national and sub-national levels, as highlighted by the REi.

The competing objectives of taxation can be assessed from at least *three* different perspectives. These are summarized in the literature review of this report. It includes the theoretical literature emphasizing the taxing of resource rents and maximizing government revenue with a neutral fiscal regime. It also includes the proposition that taxation can be used as a policy instrument to attract foreign direct investment. Lastly there is the proposition that taxation is a key factor in contributing to or undermining state-building and better governance. This third perspective points to political-economic dynamics that are not only particularly challenging to understand, but also to manage. Yet they condition how governments and political elites decide to balance consumption versus investment spending and the value they attach to any revenue generated now against that generated in the future.

This report contributes to investigating the positive and negative links between natural resources, the taxation of their exploitation, and the spending of resource revenue. It is structured as follows:

- Chapter 2 reviews the theoretical and policy oriented mining taxation literature. It draws attention to some issues that the industry is poised to face, in light of concerns about the generation of natural resource revenue and potential negative incentives for state-building and improved governance.
- Chapter 3 gives an overview of the different fiscal systems applied to the extractive industries (oil, gas and mining) and provides an overview of the different tax and non-tax instruments. It also summarizes the arguments for and against taxing the mining sector differently from other economic activities.
- Chapter 4 discusses different approaches to collecting and spending mining taxation at the sub-national level.
- Chapter 5 summarizes the perspectives of mining companies on minerals taxation.
- Chapter 6 reviews the main observations that follow from the analysis.

2



2. Mining taxation literature

20

This chapter reviews the theoretical and policy oriented mining taxation literature. It consists of three parts. Section 2.1 gives an overview of the theoretical underpinning of the mining taxation literature. Section 2.2 summarizes the issues that have guided fiscal reforms in the past two decades. Section 2.3 then draws attention to gaps in the sector specific literature and why these may receive more attention in the future.

2.1 Taxing the ‘resource rent’

Much of the theoretical literature on the taxation of the minerals sector dates back to the 1980s. It emphasizes the distorting effects that some types of taxes have on investment decisions and identifies the measures that could be taken to neutralize or limit such effects¹⁵. A strong case is made for direct taxation to encourage and support the economically efficient exploitation of ore deposits.

Countries rich in mineral deposits had in the past relied more strongly on indirect taxation to generate government revenue, particularly in the developing world. Indirect taxation based on production levels or the value of sales is likely to result in marginal projects not being undertaken and operations being abandoned prematurely. The concept of ‘resource rents’ has provided the theoretical framework for this literature: for example in the ‘*Taxation of Mineral Rents*’ by Garnaut and Clunies Ross (1983). Later work has then built on this.¹⁶

‘Resource rents’ are essentially a sub-group of the broader group of different types of economic rents (Khan, 2000). Economic rents are defined as surpluses or financial returns above the level of return required to motivate an investor to invest (Otto and Cordes, 2002). In some of the minerals taxation literature the terms ‘resource rent’ and economic rents are used interchangeably, but economic rents exist in all sorts of markets. They signal to market participants to adjust supply and demand, and in the process the rents disappear. However, there are a number of conditions under which various different types of rents do not

disappear¹⁷. By way of contrast with, for example, the case of monopoly rents, the existence of such rents cannot be seen as negative *per se*. In fact their existence can be fundamentally important for economic activities to be undertaken in the first place¹⁸.

Resource rents are among these types of rents. Because natural resources already exist the efficient level of output from their exploitation includes a producer surplus to the owner of the asset. This surplus is not eliminated by the interplay of supply and demand. For example, if two mines are extracting the same product but the costs of extraction vary because of differences in geological and geographical disposition, the lower cost mine will generate a higher resource rent than the more marginal mine. When the combined production of the two mines is required to satisfy demand, both mine owners will receive the same price for the metal produced irrespective of the different cost structures¹⁹.

Hence, Land (1995) defines resource rent as ‘*the excess of the total value (gross proceeds) arising from the exploitation of a deposit over the sum of all project costs including the rewards to each of the factors of production*’. He also notes that a ‘*resource rent is most likely to be generated over the life of a project by the exploitation of easily accessed high quality mineral deposits with below average exploitation costs*’ (p. 93).

Significantly for this report, the concept of resource rents implies that these rents can be taxed without altering the asset holders’ current decisions on production and consumption. Even when resource rents are taken away, the producers would still be earning the required rates of return to motivate their investments. An additional and related argument is that natural resources are usually the property of states. States should be compensated for the extraction of this property and also for the opportunity cost associated with the consumption

¹⁵ It argues from a neoclassical perspective and therefore assumes transaction costs to be zero.

¹⁶ For example, Otto (1995), Otto and Cordes (2002) and Otto et al (2006).

¹⁷ Resource rents are not the only rents that are not eliminated through competitive supply and demand adjustments. For example, public policies and institutions create rents for which there is no market mechanism to eliminate them. Examples include prime property locations resulting from surrounding development of key infrastructure, city centers etc. Khan (2000) identifies at least six different types of rents which can have an overall positive impact on economic activity.

¹⁸ For a review of different types of rents and a crucial discussion under what conditions rents (and indeed rent-seeking) contribute to economic development see Khan (2000).

¹⁹ The same resource rent applies to farming. Two farmers, one with high yielding and the other with less fertile land, receive the same price for the same produce. The first farmer gets a higher resource rent than the latter.

of the resource today rather than at some point in the future. A third fiscal implication of the resource rent principle is associated with investors' perceptions of risk. If fiscal policies are stable and predictable, investors reduce the risk-premium incorporated in the required return on capital. By lowering this cost element the remaining resource rent increases. There is more left to be taxed (Land, 1995).

The challenge for the literature is that it has been easier to describe these ideas about resource rents theoretically than to identify, measure, and collect them in practice (Land, 1995)²⁰. This can be illustrated by considering different time-related components of an overall resource rent. These are described below.²¹

- Some rents may exist only in the short term. These rents are referred to as **quasi rents**. If, for example, prices were to fall in the short term to a level where an operation was no longer able to cover its average production costs, the operation would be unlikely to be shut down, at least as long as the returns remained above average variable costs. However firms would need to be able to keep the **quasi rents** that exist in high price periods in order to fully recover production costs in the long term. By implication, rents that exist above an operation's average variable costs in the short term should in principle not be taxed.
- There are also **other rents** which should equally not be taxed. These **other rents** lie above an operation's full production costs. They are associated, for example, with the costs of the volatility of product prices or other cyclical factors. A period of high prices can also create this additional rent in the short run, but in the long run it would be offset by periods of depressed prices.²²
- What is left after considering **quasi** and **other rents** is the **pure rent**. Traditional resource rent theorists have argued that if governments kept only the **pure rent** as tax, it should not lead to the closure of any operation even in the long run.

²⁰ Neoclassical economics assumes of course that there are no transaction costs or information asymmetries associated with establishing what the resource rent is.

²¹ For more discussions on resource rent see Otto and Cordes, [2002], Otto et al [2006], Cordes (1995).

²² This point is reflected operationally in the 'hedging' practices of some mining companies. A realised 'hedged' price for gold could be far below the prevailing world price. This can be a source of much confusion if local constituencies expect some pay-off based on a reported high price.

'The challenge for the literature is that it has been easier to describe these ideas about resource rents theoretically than to identify, measure, and collect them in practice'

Some critics have countered this conclusion. They argue that if there were no prospects for keeping at least a share of the **pure rent** explorers would have too few incentives to search for deposits in the first place. There would also be no incentives to develop new technologies to enable exploration in previously inaccessible places. So the conclusion is that if a government were to tax away the full **pure rent**, this would undermine the long-term viability of a country's mineral sector.

The policy conclusion of the theoretical literature on minerals taxation is that 'fair sharing' of revenue between government and companies ought to focus on sharing the **pure rent**. If a country is interested in the long term viability of its mineral sector, it should leave a sufficient share of the **pure rent** to companies in order to retain their interest in the continued development of the country's mineral sector.

In terms of the practical design of fiscal policies, there are at least two challenges that emerge from this approach: 1) how to identify the pure rent of a particular project and 2) how to take into consideration that the pure rent will vary across different projects, and its incidence will vary over time.

Both considerations support the conclusion that taxation should be based on profitability. This assumes the use of neutral fiscal regimes and the use of direct tax instruments based on some definition of profit or income.²³ Discussions on

²³ i.e. the marginal tax rate should remain stable.

different types of tax instruments have underlined the negative incentives resulting from taxes based on units of production or sales. Most reform proposals have supported the move away from regressive fiscal instruments towards greater reliance on profit or income based direct tax instruments.²⁴

Associated with the conclusion to share the resource rent and to devise a neutral tax regime is a further assumption. A government's discount rate is assumed to be lower than that of companies, i.e. governments can wait longer until they receive their share of the pure rent. This assumption implies that governments seek to maximize revenue, but that they are less concerned as to when this revenue is received.

This assumption can be problematic, in particular for countries where natural resource revenues constitute a large and important share of government revenue²⁵. Political pressure and other factors can easily shift a government's preference for revenue to be received sooner rather than later. This is also a finding supported by the country case studies of the Resource Endowment initiative.

The recent minerals taxation literature concedes that the ultimate objective of minerals taxation may not be to capture rents, but to promote social welfare (Otto et al, 2006, p. 30). It has also noted that for achieving this purpose the optimal tax rate may not be closely tied to the capture of the theoretical resource rent. Whichever way the objective of promoting social welfare may be defined in a mining country's particular domestic political context, however, remains wholly outside of the focus of the minerals taxation literature. Section 2.3 discusses further this gap in the literature.

2.2 Enhancing international competitiveness

Low commodity prices in the mid 1980s and the 1990s have shaped significantly the discussion on minerals taxation during those two decades. The policy-oriented literature of these two decades placed emphasis on the international competitiveness of fiscal regimes (Johnson, 1990s; Hull et al, 1995; van Blerck, 1994).

Following economic crises many developing countries re-opened their natural resources sectors to foreign investment. They needed to attract foreign companies in order to generate foreign exchange earnings and government revenue. To achieve this objective competitive fiscal terms were considered to be essential. Many countries reformed and updated their mining codes with the explicit focus on promoting foreign investment, supported with assistance from international organizations (World Bank, 1996).

Annual comparative assessments of the global competitiveness of fiscal and other aspects have also been developed during this period, including for example the *Fraser Institute's Annual Survey of Mining Companies*. The survey continues to disseminate what would appear to be a common understanding of 'best practice' fiscal regimes²⁶.

Phase 2 of the Resource Endowment initiative has emphasized that, for countries emerging from economic crises, developing the natural resources sector is one of few possibilities (and sometimes the only possibility) for jump-starting growth. Their characteristics enable the extractive industries to survive in environments where few other formal private economic activities could thrive. Embracing this opportunity has implied a fundamental change in attitudes and institutions for many countries, requiring a process of 'opening up from abroad' (Otto and Cordes, 2002).

Less attention has been paid to the actual processes through which the policy reforms of the 1990s were achieved. The reform literature of the early 1990s suggested that because countries emerged from economic crisis, there was an

²⁴ Proposals for tax instruments that seek to approximate the taxation of the resource rent include the Resource Rent Tax (RRT) and the Brown tax (Garnaut and Ross, 1983; Fraser and Kingwell, 1997).

²⁵ This share can be critical a) for the provision of basic public goods and services but also b) for the maintenance of a given power balance between different domestic interest groups (i.e. for maintaining political stability).

²⁶ This survey was launched in 1997 for the purpose of examining which jurisdictions are providing the most favorable business climates for the industry, and in which areas certain jurisdictions need improving. The annual survey document does not give a clear definition what a best practice fiscal regime actually means. The survey seems to be based on enquiries with industry experts about how they perceive a country compared to what they perceive to be best practice. This perception could be subject to change and therefore it is not entirely clear what is actually measured.

‘Some authors now argue that the policy discussions of the 1990s over-emphasized the importance of internationally competitive fiscal terms to attract foreign investment.’

opportunity to introduce sweeping policy changes that would otherwise face domestic political resistance at other times. In a number of countries, including Peru, legislative changes were introduced under the authority of executive decree (ICMM, 2007). Concerns have been raised that this type of stimulus for the reform process can exert a negative impact on the sustainability of reform outcomes (Eggertsson, 2005).

Opening up to foreign investment has been associated with the expectation that there would be both positive static and dynamic gains. Static gains would accrue in the form of early increases in rates of capital accumulation and foreign exchange earnings. Dynamic gains would unfold through various types of linkages, such as the local production of inputs and local value-added processing, government revenue generation and spill-over effects from technological advances, human capital development, institution building and infrastructure development. An important emphasis of the earlier phases of the Resource Endowment initiative has been to stress that such dynamic gains are neither automatic nor direct. They have much to do with complementary reform processes that improve institutions and governance arrangements more generally.

Some authors now argue that the policy discussions of the 1990s over-emphasized the importance of internationally competitive fiscal terms to attract foreign investment. Van Meurs (1997) noted that tax competition matters regionally more so than globally.

Otto and Cordes (2002) have raised concerns that the promotion of investment-friendly conditions has meant that the promotion of mechanisms that support economic development have been overlooked. Crowson (1997) cautioned that in many countries, the reforms of the mining sector in the 1990s have swung the pendulum too far in favor of foreign investors. This has overshadowed the question of how countries might best tackle social and environmental issues and the impact of mining on local communities. The process of bidding for scarce FDI may in some instances also have reduced government shares of revenues to excessively low levels.

Andrews-Speed and Rogers (1999) have further queried whether the fiscal regimes of the late 1980s and the 1990s were designed with sufficient flexibility to accommodate potential changes in global conditions²⁷. Land (2007) has similarly argued that the competitive pressure between countries emphasized during the 1990s may have biased the tax debate away from the fuller consideration of the case for some form of tax progression. Land finds that most fiscal systems tend to be slightly regressive, despite an array of fiscal and quasi-fiscal instruments that could be used for achieving progressive taxation systems.

In addition to simply not considering progressive taxation, Land also notes a lack of capacity of governments in developing countries to negotiate more effectively with international companies²⁸. Lack of capacity and poor coordination among different government entities are common sources of incoherence in fiscal and other sector relevant policies. Regressive fiscal systems may also be dominant in practice, because they guarantee host governments revenue early in the mineral production cycle, as well as relatively stable revenue streams. These are preferable if government discount rates are not as low as assumed by much of the theoretical minerals taxation literature.

²⁷ One of the reasons why some governments appear to have re-introduced royalties is that stability clauses have prevented them from changing fiscal regimes in other ways. Governments have argued that royalties and the purpose for which they are levied remain unaffected by such clauses. An alternative to circumventing such clauses has been to negotiate with companies some form of ‘voluntary contribution’, as in the case of Peru’s *Aporte Voluntario* and recent concessions made by companies operating in Tanzania. Both examples are described elsewhere in this report.

²⁸ Radon (2007) makes a similar argument for oil dependent economies.

The challenges faced in a high price/high demand era are twofold. In pursuit of a larger amount of natural resource revenue and/or a domestically driven change in the government discount rate (i.e. a politically motivated time preference for receiving revenue now rather than later), countries may favor re-introducing regressive tax instruments²⁹. This could easily undermine the viability of the sector when prices and demand turn in the opposite direction. It may also result in inefficient exploitation of deposits and the early abandonment of established capacities³⁰.

The second challenge is that a high price/high demand era may increase political risk if domestic political constituents mismanage the significantly increased revenue flows. Certain social groups may feel and become relatively more disadvantaged. This can then feed into a vicious political cycle. The incentives for governments increase to exercise coercive taxation, and this has a particularly negative effect on the owners of immobile assets. By altering fiscal terms *ex post*, countries that have offered attractive fiscal regimes because of higher perceived political risks are further increasing these risks.

The drawback of the policy-oriented literature is its static comparison of the international competitiveness of fiscal terms. This does not allow for any mechanism to pre-empt the potential challenges that arise for foreign investors in developing countries when global circumstances change, and provide flexibility about how to respond to these. As previously mentioned in this report, companies now see tax incentives offered to attract foreign investors as less critical to investment decisions than tax disincentives, especially political risks.

2.3 Gaps in the literature

The recent switches of attitudes towards fiscal policy have not made a principled case for reverting back to a dominance of regressive tax instruments. Rather, they have been brought about by domestic debates over whether government and society are receiving adequate levels of revenue from their natural resource wealth. Political pressures to collect more sector revenue have been nurtured by the expectation that the recent rise in global demand for minerals and metals and the associated price hikes should feature more immediately in visible benefits for the host country.

The previous two sections have identified that both the theoretical minerals taxation literature and the more policy-oriented literature of the 1980s and 1990s have largely failed to provide a framework for predicting fiscal policy switches and alerting participants in the markets to changes in the political risk exposure of companies. The capacities of host governments to implement new legal and regulatory frameworks, as opposed to their design and approval, have also remained inadequately assessed. The challenges that arise from this have not been much addressed. These issues and gaps also feature in the concerns raised by companies, as summarized in Chapter 5.

Some advisors involved in the 1990s reforms had drawn attention to the need to strengthen public financial management capacities at various tiers of government in order to cope with potential increases in revenue from mining (Ahmad and Garcia-Escribano, 2006). However this additional dimension of sector reforms has often been ignored. Where administrative capacity is low, higher levels of revenue can easily over-challenge public financial management systems and so increase wasteful spending, with associated negative developmental and political-economic consequences.

There appears to be a growing awareness of the links between natural resource revenue and fiscal institutions more generally (IMF, 2007). The earlier focus on specific institutional arrangements such as special savings and stabilization funds (Davis et al, 2003) no longer seems sufficient (Humphreys and Sandbu, 2007). Instead, emphasis is increasingly placed on the overall fiscal responsibilities of governments, budget and expenditure management systems and the associated administrative capacities. This includes issues surrounding fiscal

²⁹ Among the countries that have recently revised their fiscal regimes are Chile and Peru. Both had abolished royalties for a few years, but have introduced these again in 2004 and 2005, respectively. Other examples of recent revisions are discussed elsewhere in this report (e.g. Tanzania in Section 5.1).

³⁰ Otto et al (2006) demonstrate this with their comparative assessment of different types of royalties.

decentralization and revenue sharing mechanisms (Otto, 2001). Recent empirical work stresses the importance of an institutionalized system of checks and balances (Collier and Hoeffler, 2006) and the institutional capacity of states to monitor and regulate a complex global industry (Radon, 2007).

A widely supported and related suggestion is that greater transparency could help to achieve a more efficient utilization of revenue³¹. There are reasons to suggest that while perhaps necessary, transparency may not be a sufficient condition for delivering on development and also ensuring a more equitable provision of public goods and services (Ahmad and Mottu, 2003). Additional concerns include whether fiscal regimes might be geared better towards mitigating the socio-environmental impact of mining on local communities, whether financial arrangements are adequate to cover the costs of rehabilitations and reclamations, and what role tax instruments could play in ensuring that adequate provisions are put in place (Andrews-Speed and Rogers, 1999; Khan et al, 2001; Stoianoff and Kaidonis, 2005).

The 'resource curse' debate has also queried whether sufficient emphasis has been placed on promoting mechanisms that can support the economic development potential of the extractive industries, including mining. More recently it has emphasized the importance of the quality of institutions and governance. The debate however is ambiguous with respect to the 'desirable' fiscal policies of a potentially resource-cursed country. On one hand, it is critical of extractive industry companies perhaps not paying enough revenue. On the other hand, the debate does not come out clearly in favor of governments earning more revenue in light of poor experience elsewhere in the management of such revenue. There are in particular concerns about the potentially negative impact of natural resource revenues on political behavior and the absorptive capacity of domestic institutions to put revenue to good use³².

The earlier REi work also pointed to the quality of institutions and governance as key elements to achieving positive outcomes³³. A major challenge for this emphasis however arises from the question

'A widely supported and related suggestion is that greater transparency could help to achieve a more efficient utilization of revenue.'

as to the conditions under which mining countries can improve the quality of their institutions and governance arrangements. Some guidance is provided by emerging research on the political economy of taxation and state-building in developing countries (Braeutigam et al, 2008; DiJohn, 2006). This work draws inspiration from historical experiences and theoretical propositions that emphasize the importance of revenue bargaining between rulers and taxpayers for the formation of nation-states and effective public administration (Tilly, 1992; Levi, 1988).

A central argument of this literature is that broad-based taxation can benefit the quality of institutions and governance because the imperative to raise revenue provides a critical stimulus for building state capacity. There are two sides to this positive relationship. A government that depends on broad-based taxation needs to bargain with taxpayers and exchange institutionalized influence over public policies for quasi-voluntary tax compliance. This is the familiar 'no taxation without representation' argument. At the same time broad-based taxation requires an effective bureaucracy. This is the less familiar 'no taxation without state capacity' argument. Both are important in this context.

The historical narrative emphasizes *contractual taxation* and contrasts with *coercive taxation*. The dominance of the taxation of natural resources as opposed to broad-based taxation of mobile assets can be argued to increase the incentives for governments to engage in *coercive taxation*. Coercive taxation features in the absence of the representation of taxpayers in fiscal policy decisions and underdeveloped public administrative capacity (Moore, 2008). Resource rents are

³¹ Examples include Publish-What-you-Pay Initiative, EITI, IMF revised Guide on Natural Resource Revenue Transparency (2007) etc.

³² For recent overviews see Rosser (2006), Humphreys et al (2006) and Lederman and Maloney (2007).

³³ This is supported by cross-country comparative work on natural resource-rich developing countries.

generated on the basis of land, an immobile asset. This makes 'exit' to avoid coercive taxation an expensive or impossible option³⁴. Thus, the literature on the political economy of taxation generally offers a rather bleak outlook for mining countries. It suggests that the dominance of natural resource revenues is likely to undermine a country's motivation for establishing administrative systems capable of enforcing broad-based taxation. (Braeutigam, 2008).

The juxtaposition of *contractual* and *coercive* taxation also provides a useful concept for looking at recent fiscal policy switches. It contrasts with the theoretical and the policy-oriented minerals taxation literature which both assume that fiscal terms constitute a contractual agreement between a government and its investors, irrespective of whether they are negotiated bilaterally or unilaterally. This assumption is closely related to that discussed in the previous two sub-sections. Governments are generally assumed to have a lower discount rate than that of the companies. This assumption ignores conditions that could trigger a change in government interests over time³⁵.

If, however, government discount rates are not assumed *ex ante* but are considered to be the outcome of domestic politics, conditions can be identified under which natural resource countries may switch from *contractual* to *coercive taxation*. Levi (1988) points out two conditioning factors for governments' ability to maximize revenue over the long run. First, governments are limited by their weak bargaining power over those who control the resources required to pursue government objectives. Second, governments are also limited by transaction costs when negotiating and measuring revenue sources and in monitoring and enforcing compliance. Both factors affect the government discount rate.

³⁴ This is the 'obsolete bargaining' argument.

³⁵ Garnaut and Clunies Ross (1983) assume for reasons of simplicity that the overriding objective of government is to maximize revenue, while that of companies was to maximize profits and that the discount rate of the former is lower than that of the latter. Others have stressed that the interests of a government are more complex and that in reality the trade-offs in the design of fiscal regimes are very difficult. Kumar (1991) discussed the design of hybrid fiscal regimes that include elements supporting both company and multiple government interests. He identified which type of tax instrument would satisfy each party's respective objectives and emphasizes that the various tax incentives, i.e. allowances, loss carry-forward arrangements etc. would most meet the interests of the industry by catering to the cyclical nature of the industry. They make marginal projects feasible and promote exploration activities. However, these instruments would also delay revenue flows to governments. He recommended that fiscal regimes should include elements that satisfied both parties' concerns.

'While there is a clear argument for countries with weak administrative capacity to focus on production-based tax instruments, rather than the more difficult to administer *profits-based taxes*, the political economy of taxation does not support this conclusion.'

The application of this framework leads to a reinterpretation of the recent fiscal policy switches that we have seen. Emerging from economic crises in the 1980s and 1990s, mineral rich countries pursued regulatory and fiscal reforms to increase their perceived competitiveness, because their bargaining power vis-à-vis potential investors was low. Given the absence of other realistic options to kick-start their ailing economies their bargaining power vis-à-vis domestic constituencies opposing reforms was at the same time high. With little state capacity to address their problems, they also faced high transaction costs in negotiating and measuring the value of their unexploited resources in the ground. Both factors translated into low government discount rates. Prospective mineral revenue in the future provided a better option than none in sight from the other 'alternatives'.

However, given the recent changes in international circumstances the distribution of bargaining power has changed. Governments have gained the upper hand vis-à-vis the holders of immobile assets who, if foreign, have little or no domestic political representation. At the same time government bargaining power has decreased vis-à-vis domestic constituencies who now demand to see immediate benefits from the natural resource sector. Where there have been no improvements in state capacity,

the transaction costs have remained high both for assessing the potential negative effects of changes to tax policies as well as for addressing in any other ways the demands of domestic constituencies. The likely effect overall on government discount rates is to increase the preference for revenue to be received *now* rather than in the future. It is predictable that the next fiscal policy changes will be targeted to do just that, and that production-based taxation instruments may also become more favored³⁶.

There is, however, some ground for a more positive outlook. There is evidence from historical cases where revenue bargaining around natural resource taxation has had *positive* effects on state capacity building (Braeutigam, 2008b, Gallo, 2008). They point to political and social factors supporting revenue bargaining processes that increase state capacity. This in turn lowers transaction costs for assessing policy implications and addressing domestic political needs. Where this happens, changes in bargaining power no longer need to negatively affect government discount rates.

While there is a clear argument for countries with weak administrative capacity to focus on production-based tax instruments, rather than the more difficult to administer *profits-based taxes*, the political economy of taxation does not support this conclusion. The capacity-building imperative of profits-based tax instruments tends to be greater, provided that the taxed have some political voice. There is support however for simplicity in the mix of different tax instruments and for the general applicability of a fiscal regime.

There are two strategic implications resulting from the political economy of taxation. The first is to focus on the institutionalization of the processes through which governments, business representatives and social interest groups achieve consent on public policies that support broad-based economic activity. The second is to form strategic alliances with those who share an interest in providing positive incentives for state capacity building. The specific strategic partners would differ across countries. However, in general terms

they would include holders of mobile assets who would benefit from a more capable state that is better equipped to provide solutions to collective action problems and thereby to increase the profitability of their assets³⁷. These solutions might include for example measures to increase the linkages between different economic sectors. Another group of strategic partners would include those who escape coercive taxation at the lower income scale, but who would prefer to become taxpayers in exchange for benefiting from the improved provision of basic public goods and services. This includes the rural and urban informal economic sector³⁸. The least beneficial for reducing political risks are alliances with those who presently benefit from the mining sector and its revenue, but have no discernible interests in improved state capacity.

³⁶ The difference between this interpretation and 'obsolete bargaining' lies in the consideration of the effect of transaction costs. Neoclassical economics assumes transaction costs to be zero. More recent economic perspectives no longer make this assumption, but assume transaction costs to be positive. Institutions affect transaction costs and therefore can potentially lower them. The subsequent argument emphasizing administrative capacity assumes that this will decrease transaction costs.

³⁷ Mobile asset holders – particularly if domestic – need not be actual taxpayers. They include potential taxpayers at the higher income end presently able to escape coercive taxation. Their trade-off would be greater economic opportunities in exchange for tax payments.

³⁸ Their proxy representatives at the national level are often civil society organizations.

**Regime types and
taxation instruments**

3

3. Regime types and taxation instruments

30

Countries use a variety of fiscal regimes to levy charges on their extractive industries. The literature on the taxation of non-renewable natural resources (oil, gas and mining/metals) distinguishes between two different types of fiscal systems (i.e. royalty/tax concessions and contractual-based systems) and between a series of different tax and non-tax instruments (Baunsgaard, 2001). This chapter provides an overview of these two basic systems.

3.1 Fiscal regime types

Overviews on extractive industry fiscal regimes mostly focus either on the petroleum sector (e.g. Johnston, 1994; Johnston, 2007) or the mining sector (e.g. Otto et al, 2000; Otto and Cordes, 2002; Otto et al, 2006). Sub-section 3.1.1 sketches out the two types of fiscal regimes generally applicable to the extractive industry. Sub-section 3.1.2 summarizes the experience and lessons learned with mineral agreements³⁹.

3.1.1 Royalty/tax concessions and contractual-based fiscal regimes

Focusing on the petroleum industry, Johnston (2007) distinguishes between two broad families of fiscal systems: *royalty/tax concessions* and *contractual-based systems*. The differences between these two types of systems are similar across both the petroleum and the mining sectors⁴⁰. The main difference between royalty/tax concessions and contractual-based systems lies in the control over the resource extraction process and the ownership over the production outcome.

Royalty/tax concessions allow companies to take full control of the entire production process. Resource owners (typically governments, but sometimes private owners) grant companies a concession and in exchange they receive a monetary return. This is why royalty/tax based systems are also referred to as concessions (Kumar, 1995).

Royalty/tax concessions are typically found in developed countries, where statutory legislation spells out the tax policy applicable to the entire sector across a country. They can also be found in

‘Negotiated mining agreements appear to have been most strongly relied upon in countries where the mining code or other sector legislation has remained inadequate.’

developing countries. In developing countries the fiscal terms applicable to specific investment projects are in many cases set out in negotiated contractual agreements between the state and private companies⁴¹.

In contractual-based systems, the government retains the right to at least a proportion of the physical output. Companies carry out the extractive activity and in return receive a remuneration or reimbursement. This is paid either as a share of production or in cash. Such systems are the negotiated outcome between a government (often represented by a national oil company) and a private sector company. They include *production sharing contracts* (PSCs) and *service agreements* (SAs)⁴².

PSC/PSAs vary across countries and projects. They set out the terms according to which production is shared, after deduction of (some or all) production costs. Service agreements are commonly divided into pure service and risk service agreements⁴³. They remunerate companies in cash⁴⁴.

³⁹ While the main focus of this report is on minerals taxation regimes, the Terms of Reference for the assignment ask for a review of the fiscal regimes applicable to both the minerals and the oil and gas sectors.

⁴⁰ Baunsgaard (2001) draws a distinction between i) concession agreements, ii) production sharing contracts and iii) risk service contracts.

⁴¹ In many developing countries state owned enterprises are also heavily involved in undertaking the extraction. This applies in particular to the petroleum industry and to a much lesser extent to the mining industry. See UNCTAD (2007).

⁴² In some jurisdictions PSCs are also referred to as Production Sharing Agreements (PSAs).

⁴³ A brief description of petroleum fiscal regimes is included in Blake and Roberts (2006). These authors keep separate from the family of royalty/tax based systems a third category, namely ROR Tax or Resource Rent Tax systems.

⁴⁴ Service agreements are common where state owned enterprises (national oil companies) undertake the extraction but buy in technological support and other services.

In the petroleum industry more than half of the fiscal systems are based on PSC/PSAs and service agreements⁴⁵. Radon (2007) alludes to the reasons for this dominance of contractual based systems in the petroleum industry. Because PSC/PSAs recognize that the ownership of the resource rests with the state and its citizens and not with private companies, they were originally perceived as a nationalistic response to the concessions that were common during the colonial era.

In the mining sector there are very few PSC/PSA type agreements⁴⁶. Royalty/tax concessions are the norm. One reason for this is that production sharing contracts tend to set annual limits on the amount of production that can be allocated to recover costs⁴⁷. The underlying assumption - that there is a sufficient margin for allocation between the contractor company and the government - does not hold for the mining industry, because the costs of mineral projects are more front-loaded and higher (as a proportion of annual revenues) than in the petroleum sector (Land, 1994). Mining also requires capital investments throughout a mine's life because the resources become less accessible and more difficult to extract. Another limitation lies with the marketability of mineral products. Production sharing requires that governments can quite easily sell products domestically or on the international market. For mineral products, such marketing is more difficult.

Service agreements have been used in the mining industry. They emerged after the nationalization of the previously foreign-held private mining industry in the post-colonial era. When lacking the practical knowledge needed to run mining operations, governments or nationally-owned public or private mining companies have contracted foreign companies to provide various types of industry services. Service agreements have become less common since the 1990s re-privatizations of the industry in many countries⁴⁸.

Most developed countries unilaterally legislate the fiscal terms applicable to mining investments. These terms are included either in a mining code or in other appropriate legislation. In contrast, in many developing countries the specifics of the royalty/tax regime are often not included in the mining code or other legislation. Instead, they are set out in project-specific negotiated mining agreements (see section 3.1.2)⁴⁹. Such agreements are found in some countries in Sub-Saharan Africa, but they also exist in other regions.

Negotiated mining agreements appear to have been most strongly relied upon in countries where the mining code or other sector legislation has remained inadequate. Where negotiated mining agreements prevail, the terms applied across a country's sector can vary significantly. Negotiated agreements with special tax provisions may also be used for very large projects in countries where general and tax laws also exist. Such agreements may supplant other laws or complement provisions in a principal legislation. To signal political support, mining agreements may be passed as laws by a country's legislature.

Johnston (2007) argues for the petroleum sector that in achieving financial objectives, the type of fiscal system does not matter much⁵⁰, and that the details of the design of each particular arrangement are more important. These details include the timing of payments made to governments, the incentives that entice companies to keep costs down and the provisions that affect company accounting. Many of the petroleum production sharing agreements found across the globe also incorporate concessionary elements, for example applying a royalty and/or an income tax in addition to the production sharing.

While the type of system does not matter for achieving purely financial objectives, they may very well matter with respect to the political-economy of spending decisions and public sector oversight mechanisms. Governance and institutional checks and balances are strongest where royalty/tax concessions are set out unilaterally. In such systems political risks also tend to be low. Bilaterally negotiated fiscal terms, including PSC/PSAs and respective provisions in mining

⁴⁵ Johnston (2007) states that around 2001 about 48% of all systems were based on production sharing contracts, 8% on service agreements and about 44% on concessionary systems.

⁴⁶ A few countries with experience in the petroleum sector have in the past applied production sharing to mining products, but only for coal (Indonesia, Egypt, Poland) and tin (Indonesia).

⁴⁷ The reason for this is to guarantee the host government some share of the production each year.

⁴⁸ *Contract of Work* agreements take service agreements a step further. Under such agreements, the contracted company works independently rather than under the control of the contracting entity (Otto and Cordes, 2002).

⁴⁹ Barberis (1998) explains mineral codes and mineral agreements.

⁵⁰ Daniel (1995) notes that *'the economic effect of production sharing is the same as that of a company income tax with progressive rates for higher bands of profit.'* (p. 179)

agreements, involve a number of different public and quasi-public entities. This can give rise to multiple principal-agent problems⁵¹. Such problems are particularly difficult to deal with in national contexts where central government capacity to govern inter-agency relations effectively may be weak⁵². Similar capacity constraints also affect the quality of public financial management and meaningful legislative oversight.

Where contracts and agreements are negotiated in private and are not passed by the legislature, governments often make it explicitly clear that they do not want the terms of the contracts made public⁵³. They argue that this enhances a government's negotiating power with different companies. However, apart from offering opportunities for the discretionary use of revenue by governments, secret contracts have also meant that companies have been unable to supply detailed information on their revenue payments. This precludes them from effectively engaging in transparency initiatives such as the Extractive Industries Transparency Initiative (EITI). In addition, there is no objective way of verifying that a country and its citizens are getting a balanced share of the economic rent of commercially viable projects.

Others argue that negotiated agreements can provide a flexible tool for adjusting the fiscal terms to suit a particular project without the need to change overarching fiscal frameworks (Baunsgaard, 2001). For example, petroleum countries often use a country-specific model contract with a series of variables that are then subjected to negotiations between the government and each private sector company. The negotiated terms are typically retained for the life of an investment project. Negotiated mining agreements provide similar flexible terms across different projects and make it possible to take into account specific geographical and temporal contexts.

More recently it has been pointed out that negotiated terms can be compromised by information asymmetries (Stiglitz, 2007). Those who raise such concerns suggest that host countries should consider different ways of retaining the flexibility to respond to contextual

requirements (both project specific and time-related), but at the same time aim to reduce the information asymmetries that may otherwise work in favor of private sector corporations.

3.1.2 The experience with mineral agreements

Different types of contractually defined agreements are used throughout the various stages of the resource exploration and exploitation process. Mining agreements between states and mining companies are the top tier of these different types of agreements (Otto and Cordes, 2002).

The use of mining agreements has undergone some changes over the decades. In the 1970s and 1980s private companies entered into *mineral development agreements* with countries that were keen to develop new mines for which the service contract approach was not suitable⁵⁴. Mineral development agreements typically required that companies develop upstream and downstream linkages to the local economy. For example, they imposed requirements or preferences for the procurement of local materials, goods and services and also investment in human capital by employing percentage quotas of national supply⁵⁵. Agreements also included provisions for government involvement, either through ownership or control⁵⁶.

Mineral development agreements were also framed in the context of post-independence constitutional and statutory provisions and established national and permanent sovereignty over natural resources. The mineral development agreements of the 1970s and 1980s were challenged and often compromised by the threefold role that they assigned to states and their governments: they simultaneously acted as shareholders, tax collectors and regulators. There were obvious conflicts of interest between these three roles. Many newly independent countries had not (and still have not) developed the necessary political-administrative systems to address these conflicts with appropriate internal checks and balances⁵⁷.

⁵⁴ At the time, mines were often operated by state owned enterprises or nationalized companies.

⁵⁵ A similar debate is re-emerging, but with the difference that proponents now realise that the institutional environment in the host countries supporting backward and forward linkages is key to the success of such an approach.

⁵⁶ State participation and equity came in different forms and shapes. More detail on state participation is provided in Chapter 3.

⁵⁷ We note that in developed countries different institutional forms are delivering this function.

⁵¹ Johnston compares fiscal regimes from a neo-classical economic perspective, ignoring information asymmetries and transaction costs.

⁵² The Nigerian EITI audit provides an illustrative example.

⁵³ In some civil law countries administratively negotiated agreements are guarded as secrets.

In the 1990s, many mineral development agreements were replaced by *investment promotion agreements*. These changes coincided with the period of the so-called Washington Consensus when the earlier state-led approach to economic policies and public sector management was under heavy criticism. Legislative reforms in the mining sector were often part and parcel of fundamental (structural) economic reforms in the aftermaths of the economic crises of the 1970s and 1980s⁵⁸. Otto and Cordes (2002) describe *investment promotion agreements* as ‘gap fillers’ between, on the one hand reformed sector legislation and, on the other hand, investment promotion objectives. Investment promotion objectives were motivated by the global competition for foreign direct investment in the context of low commodity prices.

In some countries, investment promotion agreements have superseded general law, while in others they have been supplementary. Supplementary agreements include provisions that limit the discretionary powers of government officers granted under statutory law. Superseding agreements stabilize agreements as a whole or some parts of them against future legislative changes. This includes freezing the fiscal terms and other regulatory aspects that could be subject to future legislative changes. In Peru and Chile, for example, agreements have supplemented statutory laws⁵⁹. This has allowed certain terms to be ‘frozen’. This practice is referred to as fiscal stabilization; its instruments are stability or stabilization clauses (see Box 3.1).

Otto and Cordes (2002) summarize that the general trend has been to regulate investment under a general mining law rather than by using *ad hoc* arrangements. However negotiated mining agreements have remained in many cases, and for two main reasons. First, they are in common use in countries where legal systems are not (yet) comprehensively developed. This implies that as a country’s legal and administrative system will eventually mature, the need for negotiated mining agreements will decrease as the country develops a more sophisticated set of rules and regulations governing the sector.

Box 3.1 Stability/stabilization clauses and renegotiations

Mining agreements have often locked in fiscal conditions to safeguard companies from future (arbitrary) legislative changes. These clauses have become a contentious issue. Some argue that investors were provided with enhanced protection at a time when the bargaining position of countries was particularly weak (UNCTAD, 2007). As the tables have been turned, this has given rise to renegotiation demands. Some argue that renegotiations are not in the long-term interest of developing countries and thus should only be pursued in exceptional circumstances. Others are more accommodating under the belief that a significant change in external factors may substantially modify the economics of a project or that the project’s initial terms were too unfavorable for the government. They distinguish between countries that may have good reasons to seek renegotiations and those that do not. They also take a closer look at whether the original deals should be considered legitimate or not. Considerations often related to the political or legislative processes and the circumstances under which agreements have come about.

Second, negotiated mining agreements are used when the extraordinary scale of an operation calls for special treatment. It is argued that negotiated mining agreements provide a means to set up a special regulatory system for exceptional projects even in cases where a country has a more comprehensive mining law. In such cases negotiated mining agreements may enable governments to ‘step out of the constraints of the statutory ‘straightjacket’ and to cross ministerial and central-local government jurisdictional boundaries in order to establish a more optimal *ad hoc* system of terms and conditions’ (Otto and Cordes, 2002, page 4-3).

The contents of negotiated agreements vary considerably, depending not least on the way in which they interact with or supersede statutory law. We have not found any recent studies that investigate the variance in *outcomes* across negotiated agreements between governments and companies, putting explanatory emphasis on the type of law in place, the specific jurisdictions and other political-administrative variables that impact the negotiation process. However it seems that there are fundamental differences of *practice* between different types of jurisdictions. For example, where an agreement negotiated with a sector ministry establishes a lower income tax rate than the general income tax rate, a *common law* country would require that the agreement is passed as a law by parliament. However, in a *civil law* country,

⁵⁸ See also ICMM (2006) and UNCTAD (2007).

⁵⁹ The difference between the stability assurances of Peru and Chile are that the former offer wide stabilization of the legal framework, while the latter offers a fixed income tax rate for a period of years.

the respective ministry may be authorized by a provision in other legislation to negotiate a different rate.

Such differences may impact not only on the *ex post* legitimacy and thus stability of negotiated agreements but also the distribution and the politics of property rights as they are set by those agreements. At least the recent property rights literature would hint at such a connection (Acemoglu and Johnson, 2005; Eggertsson, 2005). Jurisdictional and political-administrative variables may well matter when political regimes change or in the context of fundamental changes to the global outlook. Such changes affect the relative bargaining position of governments vis-à-vis both domestic interest groups and transnational holders of immobile assets.

Recent experiences with negotiated agreements in the mining sector and their equivalents in the petroleum industry (PSC/PSA) have in fact not all been positive. New governments have on occasions questioned the legitimacy of the terms granted by their predecessors⁶⁰. This is a source of uncertainty for the industry, raising perceived and real political risks. Another question is whether the use of negotiated agreements in the absence of a more fully developed legal system for the sector undermines the development of such a system. From a theoretical perspective it is entirely possible to question the assumptions that underlie the case in favor of negotiated agreements. Information asymmetries, agency problems and high enforcement costs are particularly prevalent in countries where negotiated agreements are most commonly used.

There are some lessons from the oil industry⁶¹. Radon (2007) points out the inverse relationship between the complexity of PSAs and the solidity and reliability of a nation's legal infrastructure. He argues that the geographical distribution of PSAs indicates that they are most common in countries where legal systems and the overall framework for governing the sector are both weak. Where approved by the country's legislative body, PSAs effectively become laws unto themselves.

Because some regulatory aspects are also a part of the contractual provisions, some public administrative prerogatives may be transferred to companies (e.g. some environmental supervisory duties). This provides host countries with a ready excuse for regulatory inaction and the abnegation of fundamental public responsibilities. Modern contractual arrangements seek to clarify and assign more clearly the rights and obligations of companies versus those of a host country's government.

Radon (2007) also stresses that the existence and practice of negotiating PSAs can undermine a country's broader attempts to develop a functioning legal system, including coherent treatment across sectors and the development of the general public administrative and financial management system. PSAs can put a government in conflict with itself in similar ways to the old mineral development agreements: it takes an interest in profit-making while at the same time being responsible for the enforcement of environmental and other legislation which may negatively affect profits⁶². While these consequences could be viewed as beneficial for a company in the short run, they also introduce additional political risks. Furthermore, such risks are bound to be greater in countries where social cohesion is already low, dissatisfaction with central government is high, and – not least – where citizens have some means to organize politically.

For countries with weak institutions, the administrative complexity associated with the negotiating and signing of PSCs/PSAs and negotiated mineral agreements poses an additional challenge⁶³. The emphasis is placed on negotiations and thus skilled negotiators (Radon, 2007). Companies' ready availability of resources and better information can favor them over governments⁶⁴. Even if host governments are able to buy in independent expert negotiators, they still need their own capacity to comprehensively brief

⁶⁰ Among recent cases are Tanzania's assignment of a special committee to review existing mining contracts (November 2007) and the renegotiated Mittal Steel/Liberia Mineral Development Agreement (October 2006).

⁶¹ Of course there are not only similarities but also important differences between the oil and gas and the mining industry (Land, 1994).

⁶² A similar conflict of interest arises in mining countries where the same ministry is responsible for investment promotion and the enforcement of environmental standards.

⁶³ Different government entities are party to PSA/PSCs. In countries with weak institutions their diverging interests are governed by weak systems of internal and external checks and balances. Raj Kumar in 1989 emphasized the necessity to devise unilateral fiscal regime structured so that they can be applied to a variety of projects and circumstances without wasting time and resources on devising unique regimes for each project.

⁶⁴ For a further critical discussion on PSA see Behn (2007). For a series of articles on the opportunities of PSA and a revision of experiences see OGEL (2005).

‘For countries with weak institutions, the administrative complexity associated with the negotiating and signing of PSCs/PSAs and negotiated mineral agreements poses an additional challenge’

them on their multiple and potentially conflicting objectives. Asymmetries in knowledge and information also challenge the relationships between different public and quasi-public sector entities, for example between ministries of finance, sector ministries, central banks and national oil companies⁶⁵.

3.2 Tax instruments

The following sub-sections summarize the arguments for and against special tax treatments for the mining sector (3.2.1) and provide an overview of the various tax and non-tax instruments applied to the sector (3.2.2 to 3.2.5).

3.2.1 Special tax regimes

There are a number of reasons why mining activities may be taxed differently than, and in addition to, other productive economic activities. From an economic point of view, the main reason is that the extraction of minerals may generate resource rents, where the value of the mineral extracted is higher than the sum of all the costs to produce it, including a profit that reflects the cost of the risk that the investment has borne (see Section 2.1). On this basis it is argued that the owner of the resource, i.e. a government, should apply some special form of taxation in order to capture some of this rent.

Another argument for a special tax regime is based on the relative importance of the sector. Where the mining sector generates a large share of a country's foreign exchange earnings and perhaps government revenue, governments may want to rely on special arrangements and agreements to secure investments⁶⁶. The reasons brought forward for the sector's differential tax treatment are associated with its specific characteristics, including:

- The exploration phases preceding start-up and production are lengthy and costly, and there is no income during these phases.
- The development of a mine is very capital intensive and typically requires the import of specialist equipment and skills.
- The capital invested in a mine is immobile and thus captive.
- The investors are often foreign or transnational corporations.
- A mining project typically has a long life and therefore may be subjected to changes in the political regime or domestic circumstances.
- International circumstances keep changing and commodity prices take larger cyclical swings than most other economic sectors.
- The scale of operations can be very large, but also very small within the same country (i.e. small and artisanal miners)
- Mine closure and reclamation incur large costs after income has ceased.
- Mining activities generally get more costly as a project matures because the resource becomes less accessible (i.e. lies deeper in the ground).

Variations of these characteristics are repeated in the mining taxation literature. The literature also identifies which tax instruments could be used to address these different characteristics (Otto et al, 2000; Otto and Cordes, 2002; Otto et al, 2006). Besides the question of resource rents, it can also be argued that the sector is not only unique vis-à-vis other sectors, but that the characteristics of different products and projects are also case specific (Otto et al, 2006).

Not all countries have opted for special taxation regimes. Arguments against them include avoiding additional procedures and control systems to collect the taxes. Complex tax administrations involve costs and are a challenge even in developed

⁶⁵ The public policy literature recognizes well such problems of *horizontal accountability*.

⁶⁶ Special arrangements are most pronounced in countries where only one or very few mining companies have been active in specific sub-sectors, e.g. diamonds in Botswana.

countries. They can pose an even greater challenge to many developing countries.

Where public administration functions poorly, there is often a lack of articulation and institutionalized coordination between different government entities. In this context a special taxation mechanism could provide additional opportunities for fiscal leakage. It is quite common for some or all of the tax revenues levied on the natural resource sector *not* to be paid directly into Ministry of Finance accounts (ideally a single treasury account)⁶⁷. Instead, they may be kept in off-budget funds. It is common also that off-budget funds remain insufficiently disclosed or completely undisclosed – not only to the public and the legislature, but also to the ministry of finance and other ministries or departments. These factors are known to undermine efficient and effective public expenditure management.

Another argument for non-discrimination is that greater conformity and the unilateral definition of standard fiscal terms undermines potential lobbying activities for privileged fiscal treatment of particular groups or for particular activities. In the absence of a multitude of special tax arrangements, it may also be easier to strengthen administrative capacity. Countries could in principle use uniform tax instruments but apply different rates and special provisions to alter the tax base in order to accommodate the specifics of any one sector including mining⁶⁸.

Radon (2007) stresses that although greater simplicity would serve the interests of less developed countries, companies may prefer more complex tax regimes. However, this argument is not entirely clear. Chapter 5 makes the point that it can also serve companies' interests, if a tax system is simple but stable⁶⁹.

⁶⁷ Where public administration is weak there is also greater scope for companies to get away with not paying, or only partially paying the taxes owed, irrespective of whether the country applies a specific tax system or not.

⁶⁸ A further argument in favor of universal treatment is that efficient implementation of sector taxation requires sector-specific knowledge, not least to assess appropriate tax bases.

⁶⁹ Simplicity does not necessarily relate to dominant use of particular tax instruments, e.g. indirect taxation.

3.2.2 Classifications of tax instruments

While the general tax literature commonly distinguishes between direct and indirect taxes and quasi-taxes, for a discussion of different types of minerals taxation instruments it makes sense to distinguish between *profits-based taxes* and *production-based taxes*⁷⁰. *Profits-based taxes* are charges against some definition of revenues accruing to mining companies, less qualifying costs. *Production-based taxes* are charges that are assessed against deposits or against production inputs and services. There is a close but inexact overlap between *profits-based taxes* and direct taxes and between *production-based taxes* and indirect taxes. The main types of *profits-based taxes* and *production-based taxes* are shown in Table 3.1.

Detailed descriptions and comprehensive reviews of the various types and combinations of taxes found in different systems across the globe have been provided by Otto (2000), Otto et al (2000), Otto and Cordes (2002), Sharma and Naresh (2001), Kumar (1995) and others. It should be noted that taxes with identical names can sometimes mean quite different things in different countries.

The trade-off between *production-based taxes* and *profits-based taxes* relates in particular to the choice and the balance found in the use of royalties and income taxes. The general assumption is that companies prefer *profits-based taxes*. Depending on country specific tax and accounting rules, *profits-based taxes* can delay tax payments until up-front costs have been partly or fully recovered.

Governments in turn like to include at least some *production-based tax* components in their mining tax regime. These provide early (and possibly more stable) tax payments which help to finance public sector recurrent expenditure. *Production-based taxes* can also be more easily earmarked for political purposes. Their downside is that they are regressive. They can raise companies' financial risks and require tax payments to be made in years when a mining project could be suffering losses. They can also entice investors to cut back production first and largest at sites that have higher per unit costs.

⁷⁰ For these two categories the legal literature on minerals taxation sometimes uses the terms *in personam* and *in rem* taxes (Otto and Cordes, 2002; Otto et al, 2006). These legalistic Latin terms stand for: *in personam*, 'directed towards a particular person', and *in rem*, 'against or about a thing', i.e. a legal action directed towards property.

Table 3.1 Main tax types

<i>Profits-based taxes</i>	<i>Production-based taxes</i>
Corporate income tax	Royalty; unit based and value based ⁷¹
Profit tax on dividends	Sales and excise tax
Royalty based on profit/income measure	Payroll tax
Withholding tax on remitted dividends	Export duty
Resource rent tax	Import duty
	VAT
	Application/issuing/registration fees and stamp duty
	Land rents
	Withholding tax on loan interests and services
	Property tax

Tax rates on mining activities were relatively low until the 1960s, but rose substantially in the 1970s. Income tax rates fell in the 1980s and 1990s and have not increased since. Global conditions and poor economic performance in the 1980s and 1990s established a trend in mining countries to move away from *production-based taxes* towards greater reliance on *profits-based taxes* (Otto et al, 2006; Kumar, 1995). This corresponds to the general trend in the global tax agenda (Fjeldstad and Moore, 2008).

Import and export duties are less often used today⁷². For VAT, which many developing countries have only recently introduced, there are often exemptions or credits. More recently some countries have imposed higher or new royalties, including a few countries that had previously abolished royalties altogether. This development has been driven by the strong global demand for minerals and metals that has been experienced in recent years. It should be kept in mind however that without including an assessment of the tax *bases* any narrow comparison of statutory tax *rates* provides little useful evaluative information⁷³.

3.2.3 Issues of tax administration

Profits-based taxes can be more difficult to collect and require that countries possess a higher level of administrative capacity. Unfortunately, such capacity is often not present in countries that have sought to attract foreign direct investment for the very reason that they have lacked alternative options to stimulate the economy and generate revenue and foreign exchange. Most types of *production-based taxes* are easy and cost efficient to administer. This applies not only to some varieties of royalties, but also for example to payroll taxes where the burden of administration is passed on to companies.

The mining sector policy literature has discussed differences in the administrative costs associated with different types of tax instruments, as well as the complexity of audit processes (Otto et al 2006). Less attention has so far been paid to how countries build administrative and institutional capacity, if such capacity is low at the time when revenue collection begins. It is not clear how, over time, countries can move from using a less efficient but administratively simpler system to one that may in theory be more efficient but more difficult to administer. More recent debates in the development policy community and the literature on taxation and state-building in developing countries emphasize that state capacity-building is not only a technical exercise, but is also associated with complex political and social processes. This perspective, as discussed in Chapter 2, has to date not found significant application in the mineral and petroleum taxation literature.

⁷¹ Unit based and *ad valorem* royalty taxes have a different effect on a company's behaviour. With a unit based royalty, companies will tend to decrease current output levels during periods of low prices, whereas with an *ad valorem* royalty, companies may tend to extract less in high price years when prices are expected to decline.

⁷² Import duties on processed forms of minerals and metals can still be significant, serving the objective to protect domestic industries.

⁷³ This report does not cover the important subject of debt versus equity financing. Corporate income tax can distort companies' choices over different forms of financing for the purpose of reducing the tax base.

Balancing the economic efficiency of a system in terms of potential revenue collected with the enforcement costs associated with actually collecting this revenue is a difficult design question. Usually companies first calculate and pay the amount of taxes due. Tax authorities are then meant to check and audit these calculations and, if necessary, make adjustments. It should generally hold that the simpler the system the easier the verification process and the less room for disagreement over the correct amount of taxes due⁷⁴. Some of the practical problems that can arise in the revenue collection process are described in a commentary on Ghana's First Report on the Aggregation/Reconciliation of Mining Benefits (Murphy, 2007). This commentary points out that it can be extremely difficult to obtain information about the bases on which tax computations have been conducted (e.g. information on shipments, assessments of the quality of the ore). This poses a challenge for the verification of the accuracy of the actual tax payments made.

The problem of transfer pricing has led some host governments to shy away from using income taxes. Transfer pricing refers to instances where prices for project inputs and outputs are expressed in ways that minimize a company's tax liabilities. Governments seek to protect the tax base against aggressive tax planning by companies. For example, transfer pricing can take place via inflating the reported costs of tax deductible inputs purchased from overseas affiliates, or by reporting sales values to overseas affiliates at a lower level than would be expected given global market conditions. Governments have feared that they are defenceless against the different opportunities that international companies have for misstating values and prices and thus using transfer pricing to their advantage. Some observers have pointed out that there are a number of mechanisms that countries can employ to address this problem, although these do require specialized skills which tax administrators in developing countries may not possess⁷⁵. The scope of this report is too limited to deal with these mechanisms in a comprehensive manner.

'Balancing the economic efficiency of a system in terms of potential revenue collected with the enforcement costs associated with actually collecting this revenue is a difficult design question.'

3.2.4 Trends in the use of tax instruments

Recently countries have been moving towards more progressive tax instruments. Thus, there has been a move away from indirect regressive taxes, such as most forms of royalties, towards greater use of progressive direct taxes, in particular income and profit based taxes.

Most governments however continue to impose some form of a royalty tax on mineral production (Otto et al, 2006). Royalty payments have been the traditional form of taxing non-renewable natural resource exploitation. Their justification is either that they compensate countries for the permanent loss of a non-renewable resource, or that they constitute revenue in return for the permission to mine. Importantly, they can also ensure governments a relatively stable minimum revenue stream.

⁷⁴ Some countries, for example Angola, have tried to overcome government capacity constraints by contracting out tax auditing to professional audit firms.

⁷⁵ Recommended reference guides are the OECD's *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations* and a PwC manual (2006) on International Transfer Pricing.

Otto et al (2006) have compared different forms of mining royalties and how these may affect the decision-making of stakeholders, in particular companies. The three types of royalties used are:

- *Unit-based royalties*, which are assessed either on volume or on weight and measured at a specified point, for example the mine mouth.
- *Value-based royalties*, where the value of the product assessed can be specified in many different ways and at different stages of the production process. Value-based royalties are the most commonly used form of royalty tax.
- *Profits-based or income-based royalties*, which, like income tax, bear some relation to the concept of economic rent, and thus the profitability of a project.

Each type of royalty has advantages and disadvantages. Within these three broad groups, actual royalty instruments can differ quite substantially, and the general advantages and disadvantage of each group apply to varying extents.

Unit-based royalties, for example, are well suited to discriminating between different scales of operations. Value-based royalties can be applied at different stages of the production process. In addition 'value' can be defined in many ways and this allows for several possible variants. Thus value-based royalties vary by much more than the other systems of royalties across different countries. Some countries, for example, would allow for the deduction of certain costs from the assessed value, while others do not. Transfer pricing, and the techniques used by countries to control and monitor this risk, also poses a challenge here⁷⁶.

Besides pressurizing investors to cut back production first and most significantly at sites that have higher per unit costs, there is another disadvantage of unit and value based royalties. Investors have an incentive to concentrate on the richest deposits and leave the lower grade minerals in place, even though these deposits

would also be commercially recoverable. This can mean that foreign companies with the best technology focus on the best deposits, and the remainder is left, possibly to technologically less advanced domestic producers, or simply left undeveloped.

The tax rates applicable to unit and value based royalties may be uniform or follow a sliding scale. There may for example be lower rates for small or marginal projects. The bases on which profits-based royalties are levied are often not the same as for other profit based taxes. Most common are systems that calculate sales revenue less some allowable costs (Otto et al., 2006). Some countries have combined the features of more than one group. For example Ghana uses a value-based royalty as a minimum payment, but companies may in principle also have to pay a profits-based royalty⁷⁷.

A quantitative analysis has been undertaken by Otto et al (2006) to assess the effect that different royalty schemes may have on project economics. It compares nine different royalty regimes (one unit-based, five value-based and three profits-based) on three different mineral commodities (gold, copper and bauxite) and three different profit scenarios. This analysis has demonstrated that the choice over a royalty can have a dramatic impact on the return of a project, the risk sharing between the investor and the government, and the economic cut-off point following by the closure of a mine⁷⁸.

Some believe that, in principle, companies prefer no royalties. From an economic efficiency perspective, profit or income based royalties are favored over production and value based royalty assessments. Profit or income based royalties allow for early recovery of capital and responsiveness to downturns in market prices. They also pose higher risks for governments.

Revenue flows are bound to be more volatile, there is more scope for disagreements and administration is more complex. Notably, profit or income based royalties are mainly used by developed countries.

⁷⁶ One way to deal with transfer pricing is to resort to a recognized price quotation. However hedging operations can invalidate attempts at valuing revenue flows because they complicate profit assessments. The transfer pricing problem may be more pronounced for inputs than for outputs.

⁷⁷ It would appear that in practice this additional royalty has not yet been invoked, although this was recently under active review in Ghana in the light of the very high price of gold on world markets.

⁷⁸ Note that a generic comparison of such models faces limits compared to the application of different fiscal regime to actual projects, where physical and economic conditions can vary tremendously.

Some believe that where a royalty is assigned to sub-national government entities, this may help to avert negative local reactions against the industry. For example, a low rate *ad valorem* royalty assigned directly to local government entities may serve the interests of both national governments and companies. However the empirical evidence for this conjecture is inconclusive. It is also not proven that such arrangements better support positive developmental outcomes at the sub-national level. An entirely plausible argument is that a positive impact is only likely if sub-national government entities are also (or will become) equipped with the necessary authority and the technical skills to translate directly assigned revenue into a reliable and effective provision of public goods and services. Chapter 4 discusses further the collection and distribution of mining revenues at the sub-national level⁷⁹.

Regressive and progressive taxes can in theory be linked. Some countries allow regressive indirect taxes to be deducted against progressive direct taxes, with annual losses carried forward. This can reduce the potentially negative impact of regressive taxes on the long-term recovery of deposits. In countries with federal or decentralized political and administrative systems, it may also be possible to offset sub-nationally collected taxes against national level tax liabilities. This is the case in Canada. Tax instruments that are often collected at the sub-national level include property taxes and/or royalties. However, companies point out that while in theory the tax legislation provides for such deductions, inefficient local tax administrations can make it impossible to achieve them in practice.

While individual types of tax instruments may be particularly well geared towards achieving specific objectives, the cumulative impact of a tax regime is of key importance (Otto et al, 2006). Unit and value based royalties are typically regressive⁸⁰, but this effect can be offset in combination with other progressive tax instruments. Likewise, regressive royalties can also offset the progressive effect of the other tax instruments, depending on how the rates are set and the tax bases are defined.

Investors generally dislike overall regressive tax systems (i.e. where the marginal tax rate decreases proportionally with income) and they prefer overall progressive systems (i.e. where the marginal tax rate increases proportionally with income). Progressive systems are particularly acceptable if the increasing marginal tax rate is offset by an assured *de facto* stability of the tax regime. Least preferable is a situation where during a period of rising profitability, an already regressive fiscal regime is altered by imposing an additional regressive tax instrument to capture a higher share of the profit.

Land (2007) finds that there are relatively few progressive fiscal regimes in the extractive industries. Many systems are in fact mildly regressive⁸¹. Therefore in times of rising profitability the effective tax rate does not increase and thus the government's share of profits falls. It is somewhat puzzling that there are few progressive fiscal regimes as there is no shortage of instruments to achieve tax progression. These include progressive profit taxes, price based windfall taxes and sliding scale royalties. One possible explanation is that many fiscal regimes were designed at a time when commodity prices were low and countries (often with capacity constraints and weak bargaining power) were competing with one another for investment⁸².

In addition to royalties, two other types of tax instruments have also received particular attention. These are withholding taxes and excess profit taxes.

Withholding taxes often make up the second largest share of companies' tax payments, following income tax. Table 3.1 includes the different types, i.e. withholding taxes on remitted dividends and profits and withholding taxes on remitted loan interest and on imported services. Withholding taxes are usually part of income tax legislation and may be used as a substitute for levying income tax on the basis of an assessment of income. Withholding taxes can encourage the use of local inputs (services, financing) and the retention of capital. They may also be used to offset transfer pricing. Double taxation treaties mitigate

⁷⁹ See Ahmad and Garcia-Escribano (2006) for a discussion that relates to the case of Peru.

⁸⁰ Sliding scale royalties are an exception.

⁸¹ The latter would be the case if a fiscal regime includes neutral direct taxes and one regressive component, such as, for example, the case of Tanzania, where a value-based royalty rate is combined with a neutral income tax.

⁸² See also UNCTAD, 2007.

‘there are relatively few progressive fiscal regimes in the extractive industries. Many systems are in fact mildly regressive.’

the fiscal burden of paying withholding taxes (Otto and Cordes, 2002).

The recent rises in global demand and prices for minerals and metals revived interest in excess profit taxes⁸³. An excess profit tax is in principle one of the best ways to capture higher profits, because this is a progressive tax instrument. However, this tax is more difficult to assess and administer than for example a value-based royalty. This being said, for a government that is already in a position to properly administer and collect income tax, the extra effort required to implement an additional profits tax system is small.

3.2.5 Quasi-taxes

In addition to the tax categories described above, companies may have to bear other costs referred to as quasi-taxes. These typically include charges arising from foreign exchange regulations and stipulations requiring state participation on concessional terms.

State participation, perceived as a cost, has received particular attention. Daniel (1995) has assessed different forms of state participation by comparing their impact to that of different types of tax instruments. He distinguishes between the conditions under which state participation might reduce or alternatively augment the revenue that a government can receive from mineral investments. He argues that rather than impose a form of state participation, governments could achieve the same fiscal outcomes by applying an alternative tax instrument. Thus state participation requirements only make sense if they support additional non-financial objectives.

Where such non-financial objectives exist, the key determinant for choosing between different options is the extent of the associated risks to government. A distinction can be drawn between two forms of state participation: first, where the state contributes to some of the project costs of mining and second, where it shares in the project benefits. Both options bring consequences for investment decisions, production efficiency and a government's net financial position.

The first type of state participation includes at least seven different forms, including on one side of the spectrum, governments receiving equity for cash on private investor terms (here, risks are shared) to ‘free’ equity⁸⁴. Other forms include paid equity on concessional terms, carried interest with repayments, tax swapped for equity or equity in exchange for non-cash contributions.

The second type of state participation includes those cases where the state provides infrastructure without taking any automatic claim on the subsequent project assets or cash flow. Mechanisms for this type of state participation include lump sum subsidies, the provision of infrastructure at the cost of funds or a discounted cash flow return. Where the cost of borrowing for a country is high, this form of state involvement typically does not occur.

In recent years, state participation has regained importance. The reasons underlying this trend go beyond fiscal and financial aspects and include arguments related to the transfer of technology, the prevention of transfer pricing, the need for skills training and employment, and a range of additional political-economic considerations. The literature on minerals taxation regimes has not explored such considerations in either a theoretical or an empirical way. Therefore little is known about the conditions and arrangements under which state participation contributes to achieving non-financial objectives.

In addition to state participation, another important category of quasi-taxes relates to financial measures to ensure that environmental rehabilitation and reclamation expenses are covered at the end of a project. These can take the form of performance bonds and levies for an

⁸³ Often referred to as ‘Additional-Profits Tax (APT)’ or ‘Resource-Rent Tax (RRT)’.

⁸⁴ It is argued that such equity is not really ‘free’, because its cost to the investor is taken into account in one way or another.

environmental fund. In Brazil it has been discussed whether federal states can levy environmental charges in addition to the fiscal regime imposed by the national government.

Other quasi-taxes include compensation payments to local communities and the costs of involvement in community development programs. Such payments have been increasing in recent years and have sometimes been referred to as 'voluntary contributions'. Such forms of quasi-taxes have been introduced for example in Peru (see Chapter 5). Voluntary contributions of whatever type (including the form described in Box 5.1 on Tanzania) appear to be a means to relieve political pressures to increase taxation on the sector, whilst at the same time avoiding a default on a stability clause. Some countries allow such expenditures to be deducted from revenue as operating or development costs (see Box 3.2).

3.2.6 Tax incentives and disincentives

The rates associated with the different types of taxes listed above represent one aspect of a company's tax burden. Even more important can be the bases upon which direct taxes are levied. Countries use special provisions as incentives for attracting investment and to accommodate the specific characteristics of the sector, or particular projects. The literature lists the following groups of tax incentives (Otto and Cordes, 2002) as shown in Table 3.2.

There is considerable variation in the types of costs that governments will allow companies to offset. In general, countries provide tax relief for project-related expenditure and capital allowances and sometimes moderated tax rates in the early phases of a project. Many countries allow accelerated depreciations for mining equipment. Exploration and pre-production expenses can often be capitalized and deducted from taxable income instalments. Some countries allow deductions for the costs of unsuccessful efforts elsewhere in the country.

Accelerated depreciation rates and the ability to carry forward losses have the effect of postponing taxes to later years and for companies to recover costs more quickly. Some countries allow losses to be carried forward indefinitely. Other limited loss carry forwards to a couple of years.

Box 3.2 Taxation treatment of social investment and community spending

In many countries, the tax treatment of social investments and community spending by mining companies is covered under general tax legislation covering company spending for charitable purposes. Such legislation is often imprecise, meaning that there is an annual negotiation between tax authorities and mining companies over which expenditures can be considered to be tax deductible. For example, in Brazil companies have to prove a social benefit from their expenditures, which results in additional administrative costs. Often tax laws also distinguish between capital investments (such as building schools), which will often be considered as tax deductibles and recurrent expenditures (such as teachers' salaries), which are generally not.

In Peru, the deduction of expenditures for local communities is only allowed if the expenditure is formally approved. Companies have found it extremely difficult to get such approval from the relevant ministries (Otto 2002).

In Papua New Guinea the Canadian major, Placer, developed a scheme in consultation with the central and provincial governments and the indigenous land-owner communities. Under this scheme, a proportion of the gross taxable income of the mining project would be paid to community infrastructure projects such as roads, bridges, and education and health facilities, chosen by the community in consultation with the mining company and subject to approval from the relevant government agencies. The amount thus spent is credited against corporate income tax.

In South Africa, mining capital expenditure includes the costs of all mine equipment, shaft sinking and other development work, pre-production administration and management costs, as well as infrastructure costs. The latter can include costs incurred for the benefit of staff (such as employee housing, hospitals, schools, and recreational facilities) and for systems for transporting the mine's output to existing public transport systems or outlets (Deloitte Touche Tohmatsu, 2004). Companies can also claim for community investments, but they are limited to 5% of taxable income.

In addition to the tax incentives summarized in Table 3.2, there are other measures that reduce the tax base for direct taxes. In federal or decentralized systems, taxes paid at the sub-national level may be tax deductible at the national level.

As previously mentioned, some countries do allow quasi-taxes to be considered as tax-deductible costs, for example social investment and community spending. Other countries prohibit or restrict these types of deductions. Some examples are provided in Box 3.2.

The tax base is furthermore affected by whether or not a government requires that a company *ring-fence* its different projects within the country. A ring-fence defines the physical area and/or the range of activities across which costs can be recovered from revenues for tax purposes and it can be applied to a number of tax instruments. With a ring-fence, governments prevent companies from off-setting revenue from profitable projects against the costs of less profitable or unprofitable projects.

Professionals in the mining industry emphasize that they are more concerned with tax disincentives than tax incentives. Tax incentives may not decisively convince a company to undertake a particular project, but may merely help to tip the balance between two otherwise competing projects. However, tax disincentives are clear deterrents to positive investment decisions (see also Chapter 5).

Tax disincentives include political risks and tax uncertainty. For globally operating companies, unfavorable treatment of cross-border transactions can also pose tax disincentives, for example, with respect to withholding taxes on dividends and interest. In assessing projects, global companies will look at how a project will affect its globally

consolidated bottom line. Where double taxation treaties exist it is possible to offset taxes paid in a host country, such as withholding taxes, against tax liabilities in the home country.

An additional factor which may influence global mining companies' investment decisions is the extent to which the benefits of local tax incentives will flow through to the parent group's tax charge. For example, if the effect of an incentive is to produce a loss for tax purposes, it is unlikely that this can be offset against the tax charge in the home country (nor against the tax charge of other foreign operations). For the purposes of company reporting, accounting conventions are cautious on recognising 'tax assets', which may result from the potential to recoup tax losses against future tax charges.

The interaction between home and foreign tax is very complex and will vary between jurisdictions and also according to double taxation treaties. Variations affect financing costs and withholding and other taxes on remittances paid to the parent company, and the extent to which they can be recouped against the parent's tax charge. Unfortunately, the scope of this review is too limited to address the important subject of international taxation in greater detail.

Table 3.2 Tax incentives

Tax Incentive	Description
Accelerated capital cost allowances	Allows accelerated payback; allows firms a higher level of real discounted profits after tax; shifts risks to governments; could be trade off with higher tax rate.
Resource depletion allowances and general and reinvestment tax credits	Based on annual extraction rates, tax revenues are reduced by production rather than increased; may be based on cost or volume; sometimes used when exploration allowances are not deductible from revenues in defining the income tax base. Tax credits sometimes used to encourage local reinvestments of earnings.
Tax holidays	Moratorium on income tax and other payments for a set number of years; a sort of negative royalty.
Interest deduction rules*	Considers debt service as operating expenses and thus accommodates debt servicing in the early years of production, reducing the income tax base.
Loss carry forward*	Reallocates risks to governments and shifts tax incidents, same effect as accelerated write-offs but at a later date, important instrument of flexibility.
Loss carry back provisions*	Difficult to administer, not found in many developing countries.

* There is disagreement over whether these last three categories should be considered tax incentives. They could also be seen as normal provisions included in most tax legislations in most countries simply allowing companies to offset their costs of doing business.

**Collection and distribution
of mining taxes at the
sub-national level**

4

4. Collection and distribution of mining taxes at the sub-national level

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Mining's contribution to the total tax-take is one important dimension of a country's benefits from resource extraction. The allocation of revenue between different government entities and different tiers of government attracts as much if not more attention. Moreover, important linkages are increasingly being drawn between the minerals taxation and the revenue redistribution system, and the expectations placed on mining companies by both local communities and governments over how companies allocate and spend their non-tax contributions to local communities' needs (including infrastructure and social services).

The manner in which mining revenues are charged and distributed between the national, regional and local levels varies considerably across different countries and depends also on different constitutional set-ups. For instance, some countries take an approach which includes only one level of payment, whilst others may levy the same tax at different levels of government. This has important implications for the way in which citizens can benefit from mining tax revenues. It is in part also linked to the various and often incomplete decentralization processes that many developing countries are undergoing.

Countries take different views on how to strike the right balance between utilizing benefits for the *whole country* and for *specifically affected communities*. Arrangements have been categorized according to two criteria (Otto 2001):

- The extent to which there is *fiscal decentralization*, affecting 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.
- The degree of *revenue sharing*, which describes the budgeting process. Revenues collected by one or more parts of government can be allocated for distribution to other governmental entities or for various investments and expenditures to non-governmental entities.

Both fiscal decentralization and revenue sharing can be used as a means to distribute mining tax revenues. This chapter considers the general literature and specific examples in a selection of countries to illustrate the variety of approaches around the world.

4.1 General literature

The general literature cautions against both fiscal decentralization and the sharing of mineral revenues (Ross, 2007). There are several drawbacks with both fiscal decentralization and the sharing of minerals revenues (Brosio, 2006; Ahmad and Mottu, 2003). Central governments are generally better able to implement countercyclical fiscal policies and deal with resource revenue volatility, since they tend to have more diversified revenue bases than sub-national governments. Also fiscal decentralization and revenue sharing can complicate central government macroeconomic planning, especially in countries that are highly dependent on mineral revenues.

4.1.1 Fiscal decentralization

Ideally, governments should use budget processes to ensure that the fiscal framework adequately serves local communities affected by mining. However, in many countries, existing budget processes have not been wholly effective in channelling funds to those affected by mining. Fiscal decentralization has sometimes been seen as an alternative way of addressing this challenge. Where some taxing powers are granted to provincial or local government, it is often argued that 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.

The widespread adoption of fiscal decentralization during the past 25 years can be mostly attributed to the belief that it can lead to better governance and a more efficient allocation of public resources (Bahl & Wallace, 2005). However the specific motivations and outcomes vary considerably between states and depend on country-specific economic, political, social and management variables. There is still no consensus on what sub-national taxation works and what does not, and where (Bahl and Bird, 2008).

It is sometimes argued that mining taxation should be more decentralized than other types of economic activities in order to compensate mineral owners - because mining extracts non-renewable resources, the owner of the mineral resource generally expects compensation for the permanent loss of that good. However, where the state is the owner of the mineral endowment, whether

minerals are owned by the nation as a whole, or a region within that nation, is often determined according to country-specific historical circumstances. Lower levels of government also tend to have less capacity to draft and implement appropriate fiscal regulations and they also have less bargaining clout (and power) than large companies.

4.1.2 Revenue sharing

Revenue sharing describes arrangements where minerals taxes are collected by the central government, but a certain portion is directed back to the regional and local governments in which mining occurs. There is often strong political pressure for such arrangements, and it is argued also that this is necessary to ensure that the local communities affected by mining are able to benefit from its existence.

Local communities may also expect to receive additional public expenditure in order to account for mining's negative side effects. An example would be the need to provide housing and basic infrastructure services for new populations that enter the mining region but who are not the direct responsibility of the mining companies. It is often argued that an absence of such arrangements, and associated uncertainty about how local communities will directly benefit from mining, can have a negative impact on a mine's 'social licence to operate' in a region.

The success of revenue sharing arrangements is highly dependent on the capacity of sub-national governments to plan and spend effectively. Other challenges associated with revenue sharing relate to the timing of the flow of funds and inequalities in the distribution of revenues.

Timing

A fundamental difficulty with sharing mineral revenues in most countries is that the timing of the flow of funds to sub-national governments is often exactly opposite to the timing of its actual need. This is particularly the case with respect to new resource development projects, which often involve a large and relatively early influx of people to a remote area. The norm is that the level of mineral revenue receipts increases over time as the mine's development proceeds and as initial capital costs for the project are depreciated. As a result, actual

'A fundamental difficulty with sharing mineral revenues in most countries is that the timing of the flow of funds to sub-national governments is often exactly opposite to the timing of its actual need.'

revenue receipts may be delayed for several years. This problem can be exacerbated if governments have granted tax holidays⁸⁵.

Inequalities

Almost invariably, revenue sharing brings with it the potential for increased social, economic, political and administrative inequalities between adjacent areas. The physical location of a mineral resource within a province, municipality or district often has an important bearing on how revenue is shared. However, due to local historical circumstances, local administrative borders tend to have quite arbitrary geographical boundaries, which very rarely coincide with the location of ore bodies.

A compromise lies in making financial resources available to the entire and broadly-defined region affected by resource development, rather than just to the administrative district where the mineral resource happens to be located. Compromises are always necessary, because there are no good solutions to the problem of how to define affected communities in terms of administrative boundaries.

⁸⁵ Few governments give tax holidays. Many allow accelerated depreciation, which also results in a delay before taxes are paid. However, while a tax holiday creates an incentive to exploit the deposit before the holiday runs out, accelerated depreciation does not affect the timing of mining operations.

4.2 Country case studies

Government legislation and practice for the collection and allocation of minerals revenues vary considerably across countries. This variance is conditioned by countries' constitutional models. This chapter provides examples of four different approaches; no re-distribution (4.2.1), revenue sharing (4.2.2), fiscal decentralization (4.2.3), and direct contributions (4.2.4).

4.2.1 No redistribution: Chile and Tanzania

In some countries all taxes are paid to the central government and none of this revenue is earmarked for redistribution back to mining regions and mining communities. Examples include Chile⁸⁶ and Tanzania, where in both cases all government spending of mining revenues is subject to the central government's general resource allocation strategies and public financial management principles. Thus, mineral revenues reach mining regions and mining communities only via general expenditure allocations approved in the annual budget process. The general literature (see 4.1) views this as the best way of dealing with the redistribution of minerals revenues.

The Chile case was reviewed as part of the Resource Endowment Phase 2 country case studies. This case demonstrates that local benefits from mining do not necessarily require revenue redistribution. Driven by rapid mining expansion, Chile's main mining area (Region II) has experienced faster economic growth and poverty reduction than has Chile as a whole.

The economic benefits from mining are partly explained by relatively strong public financial management, which means that mineral tax revenues have been effectively channelled into social development. In addition to, and apart from public minerals revenues, the mining sector – supported by government policies – has stimulated a range of other economic activities. Chile has developed unusually strong linkages between the mining industry and other sectors of the local economy.

In Tanzania, the government treats all its mineral revenues as part of the national resource endowment. The majority of all mining revenue comes from just six out of a total of 117 local

'a mining community may constitute an important new pole for development that could justify some explicit help with development planning and new projects to enhance mining companies' efforts.'

districts. Seven of the main eight operating mines in Tanzania are located narrowly in these districts.

As described in the Phase 2 case study for Tanzania, since there are many other regions far poorer than those in which mining takes place, the Tanzanian authorities take the view that the country's expenditure needs ought to be assessed against this national background. The assumption behind this is that such regions will, if anything, enjoy higher levels of incomes than other regions. So there is no real basis to establish special mining compensation or development funds in addition to the mainstream central to local transfers from which all Tanzanian local authorities can expect some benefit.

The present policy does however create certain difficulties for the partnership arrangements between mining companies and local authorities. This is because, as highlighted previously, additional public expenditures may be necessary to compensate local communities for damage and disruption, including population expansion, that go beyond any likely commitments of the mining companies in their formal license agreements. Additionally, a mining community may constitute an important new pole for development that could justify some explicit help with development planning and new projects to enhance mining companies' efforts.

⁸⁶ The only exception in Chile is the mining patent, an annual fee that has to be paid to protect the mining title, which is paid to the region.

The Tanzanian approach implicitly assumes that these issues will be addressed without any policy of reallocation. This view is not always realistic in practice. The very low elasticity of the local authorities' tax bases – based on property taxes and product cesses – means that rising local prosperity (based on mining) will fail to deliver proportionate increases in revenues to local authorities. Furthermore, the public financial management system does not appear to be sufficiently effective to ensure that adequate flows of funds are allocated to sub-national entities that have to deal with the particular issues at stake.

4.2.2 Revenue sharing: Indonesia, Peru and Ghana: resource transfers to the sub-national level

Indonesia, Peru and Ghana arrange resource transfers to the sub-national level via different kinds of resource revenue sharing mechanisms. In both Indonesia and Peru recent changes in revenue sharing formulae, compounded by increases in world metals prices, have led to significant increases in the transfers of minerals revenues to the sub-national level. The following three sub-sections explain each case in some detail.

Indonesia

In recent years the Indonesian government has embarked on a significant program of administrative decentralization, which has had an impact on mining revenue collection. A law was introduced in 1999 stipulating that 20% of royalties should go to the central government and 80% to the region (the latter to be split into 64% to the regencies and 16% to the provincial government). This was designed to address – among other issues – the prevalent view among people in mining areas that the previous fiscal framework was inadequate to meet their needs.

The following concerns have been raised in relation to the new mining revenue law:

- Since only eight out of 26 provinces are rich in minerals, there is a risk that in the long-run, this could result in politically unacceptable wealth differentials among different parts of Indonesia, particularly given that inter-governmental grants of transfers are the main source of local government financing in Indonesia (Ahmad et al 2002).
- The international banking community, and in particular the IMF, have in the past shown concern that revenue sharing will reduce the nation's capacity for debt repayment. However, recent developments suggest that this concern

may be unfounded given that Indonesia's bond ratings have recently been raised, partly as a result of a record of steady debt repayment.

- There is concern that sub-national governments do not have the capacity to effectively absorb the large increase in revenue flows.

Peru⁸⁷

Peru has recently seen dramatic increases in the annual revenue generated by the mining sector. Exceptionally high mineral and metals prices have coincided with the commencement of production of large mining projects initiated in the 1990s.

Canon Minero

The most significant mining revenues in Peru flow from corporate income taxes, which are collected at the central government level. Through the '*Canon Minero*' mechanism, part of this revenue is directly redistributed to sub-national governments. The rules governing this mechanism have been subject to change in recent years. This has been partly in reaction to efforts to push for greater government decentralization, and partly to demonstrate to sub-national governments the virtues of accepting mining operations in their jurisdictions. In 2001, the government increased the proportion of corporate income tax paid by mining companies to be redistributed through the *Canon Minero* to sub-national government entities from 20% to 50%.

Partly as a consequence of these changes, transfers through the *Canon Minero* have increased dramatically: from US\$25 million in 2001 to an estimated US\$1,209 million in 2007. In some regions the *Canon Minero* has increased to representing up to 90% of the total investment budget. However the efficient spending of mining revenues collected by government is hampered by weak administrative and public financial management capacity at the regional and local level. Incomplete decentralization processes have blurred the responsibilities between central government agencies, and in particular, between sector ministries and regional government. In addition, a lack of clarity about the underlying principles of *Canon Minero* transfers means that there is potential for a continuous renegotiation of commitments, and for political demands that target additional taxes on mining activities.

⁸⁷ This subsection builds on information gathered and reports compiled for the ICMM Peru Phase 3 country visits conducted in July and August 2007.

Additionally, the flows through the *Canon Minero* are highly unpredictable. In the context of weak public financial management capacities, the potential year-on-year volatility of *Canon Minero* receipts poses a major challenge.

Royalty tax

A royalty tax was introduced in 2005 which accrues to those sub-national entities in whose jurisdictions mining activities take place. The rate payable is graduated based on annual cumulative sales, commencing at 1% and rising to a high of 3%. Royalties are distributed in the areas where extraction takes place as follows: 20% to the district municipalities (of which 50% is given to the communities); 20% to the provincial municipalities; 15% to the regional government; and 5% to the national universities of the region. The remaining 40% is distributed to the district and provincial municipalities of the departments where exploration has taken place (Otto, 2006).

However, the majority of large mining companies operating in Peru signed legal stability contracts under President Alberto Fujimori (1990-2000), aimed at promoting private investment. As a result, only two of Peru's 27 largest mining companies currently pay royalties. The contracts lock in each firm's tax status, in some cases until 2018.

Voluntary Support Fund

To address this, a 'Voluntary Support Fund' (VSF) was negotiated with the mining industry following the elections in 2006. The VSF was based on the idea that mining companies should provide additional resources for social development programs in those communities where mining is located. These contributions are considered to be voluntary, extraordinary and temporary (five years). Of the total commitment, as per the VSF agreement, 30% is to be allocated to a number of specified spending priorities⁸⁸ (the remaining 70% is unallocated). Participating companies are expected to contribute 3.75% of after-tax profits. Most mining companies had signed up to establishing a VSF (including all ICMM member companies operating in Peru).

⁸⁸ Priority areas for VSF spending have been stated to include a) the nutrition of minors and pregnant women, b) elementary and technical training, c) health, d) development and strengthening of public management capacities e) supporting backward and forward linkages that develop productive chains and/or sustainable development projects that outlive the lifetime of a mine, f) basic infrastructure and utilities, and g) use of the local labor force for building work which are considered to benefit health and living condition.

Views about the VSF differ. Some see it as a compromise between government and mining companies to maintain the substance of stability clauses but also to provide additional resources to mining-affected areas over and above corporate income tax and royalty payments. Leaving the management of these additional resources to mining companies circumvents the constraints faced by national and sub-national government entities in identifying viable projects that meet the stipulations set out for the use of *Canon Minero* transfers. However at the same time, the VSF may have undermined incentives and pressure to remove these constraints. Another position sees the compromise as a bargaining outcome that favors mining companies' discretion in sharing windfalls generated by the currently high minerals and metals prices.

There is a risk that the introduction of the VSF as a means by which mining companies' contributions to community development can be increased without affecting stability clauses will accentuate expectations of local communities about the role and responsibilities of mining companies in providing public services. There is also a risk that substantial increases in revenue transfers to sub-national governments could lead to a 'local resource curse'. This is a particular risk when local public financial management capacity is weak and the delineation of administrative responsibilities and the strategic revisions of sector policies in a decentralized government system are unclear. Overall, the Peru case shows that there are no guarantees that higher amounts of public money provided locally will automatically result in sustainable improvements in living conditions for local communities.

Ghana⁸⁹

Mining's contribution to government revenues in Ghana mainly comprises corporate tax, royalties, and income tax. During the period 1993-2002, mining accounted on average for around 10% of tax revenues, but the figure went as high as 17% in some years. However, there has been some political disquiet because royalty payments have shown no elasticity in response to the extremely high price for gold, especially during 2006. Over half of all mining revenue is derived from a total of two out of the 160 districts that existed in 2004.

⁸⁹ This case study is largely drawn from the Resource Endowment Phase 2 work.

‘although the royalties that are reallocated to mining localities are significant, it is the performance of the general system of public financial management that will have the most significant impact’

These are Wassa District West and the Obuasi Municipality, although relatively new mines being opened by Newmont Ghana have extended this to the Ahafo region.

All mining revenues are collected at the central government level. 20% of royalties (and almost none of the other taxes) are earmarked to help the mining regions. The balance is paid to a Consolidated Fund that is available for general public expenditures. Therefore, although the royalties that are reallocated to mining localities are significant, it is the performance of the general system of public financial management that will have the most significant impact on the contribution that mining revenues have on improved living standards both locally and nationally.

The earmarked royalties are directed into a national fund, the Minerals Development Fund (MDF). The explicit mandate of this fund is ‘to compensate for any detrimental effects mining might have in their areas of operation and to support development in the local communities’. Funds are shared between various national regulatory and oversight bodies, the local government authorities (district and municipal assemblies), the traditional land-owning authorities and other communities which are affected adversely by the mining activity.

The purpose of the fund is twofold:

1. To support sector institutions, including the department of mines, the geological survey department and the minerals commission, through the funding of special projects. Half of the MDF is used for this purpose. There is little certainty in the amounts received by the recipient agencies. The disbursements from the MDF are paid on a quarterly basis, but payments are typically around six months late.
2. The other half of the MDF is transferred on a quarterly basis to the administrator of stool lands for onward distribution to the various local levels of government to compensate for any detrimental effects mining might have in their areas of operation and to support development in the local communities. Although it is not explicit, it is assumed that ‘compensation’ here refers to expenditures to deal with the particular problems of mining areas over and above those that involve any direct damage that the mining companies themselves contract to address (e.g. restoring mining land to its original state following mine closure).

An analysis of the local authority beneficiaries of the MDF undertaken during Phase 2 of the Resource Endowment initiative shows that far from providing a steady flow of funding on a year-to-year basis, the MDF payments fluctuate dramatically from year to year. This greatly complicates the tasks faced by district and municipal governments in planning, budgeting, and expenditure management. This volatility is far greater than the volatility of aggregate mineral revenues received by the central government from the companies. Compounded by frequent late payments, these various shortcomings greatly undermine the usefulness of revenues to the beneficiary authorities.

These problems are amplified as a consequence of the mechanisms for allocating payments to the stools and traditional councils. The concessions enjoyed by these traditional bodies may cut across district lines since the traditional authority boundaries do not coincide with district boundaries. Consequently the allocation of such funds is very complex and far from predictable.

There is also quite strong evidence that the payments that remain in the hands of the traditional councils and stools tend to finance expenditures other than those that benefit the local

communities involved (e.g. some part of the expenditures are used to support the lifestyle and trappings associated with the traditional offices). This is associated with some genuine uncertainty as to the 'appropriate purpose' of this share of the funds, and also with a very weak degree of real financial accountability.

The MDF appears to work far less well than intended. It may have even created its own problems, by raising expectations in local communities that have subsequently not been met. The 2003 report by the World Bank's Operations Evaluation Department (OED)⁹⁰ stresses that MDF inadequacies have led to serious failures to address a variety of local problems, including for example the absence of practical mechanisms to create alternative job opportunities for unemployed or displaced workers.

The MDF's failure to deliver appropriately to the affected areas creates a shortfall in the provision of services that the companies then feel obligated to help fill through additional but discretionary contributions (to schools, hospitals etc). This arrangement seems to have inverted roles and responsibilities quite fundamentally.

The Ghanaian experience shows that even where mining revenue is earmarked to directly mitigate the negative effects of mining, such hypothecation does not work if administrative systems do not support the efficient and effective use of the directed funds. This system is now under active review in Ghana as one part of a systematic re-think of the Ghanaian system of local finances. A detailed discussion document on the subject was released by the authorities in March 2007⁹¹.

4.2.3 Fiscal decentralization of mining revenues: Canada and Australia

Canada and Australia represent two developed countries where a system of fiscal decentralization is in place for mining revenues. For the purpose of illustration, the systems of these two countries are described below. In both countries sub-national governments are empowered to raise mining taxes themselves as part of the federalist political-administrative set up of these two countries. There are also developing country examples where a federal system of government is in place allocating mining taxation powers between state

and federal government, for example Malaysia and Pakistan. As discussed in 4.1.1, the background to and the effectiveness of decentralized systems varies.

Australia

In Australia the federal government holds overall powers to tax income and consumption. Minerals are not owned by the federal government, but by the states and territories⁹². Consistent with their mineral ownership rights, each state and territory has its own mining acts and regulations to govern the exploration for, and the extraction of minerals on public and private lands. The states' and territories' mining legislations cover leases, licences and permits for prospecting, exploration and mining. In addition state governments have the power to tax transactions, properties and licences, and they manage and allocate mineral property rights and land administration. They also regulate operations and collect mining royalties.

State governments levy the following taxes:

- Land taxes, which are imposed by all states and the Australian Capital Territory (but not the Northern Territory) as an annual tax on the unimproved value of land held in the state/territory. Rates are progressive, but vary from state to state.
- Royalties, which all state governments have the power to levy, as a purchase price for minerals extracted by mining companies.
- Transaction taxes, including stamp duties, registration fees, Financial Institutions Duty, debit tax and Money Market Rates of Duty.
- Other charges on mining business, including payroll tax which states and territories impose on wages and salaries for work performed within their particular jurisdiction.

The Australian government and industry participants have recognized in recent years that resource taxation arrangements throughout the country are very diverse. These arrangements can vary within a jurisdiction for different mineral resources as well as between jurisdictions for the same mineral resource. A mineral resource may even be subject to different arrangements within one jurisdiction.

⁹⁰ Now known as the Independent Evaluation Group (IEG).

⁹¹ See *Government of Ghana: Draft Comprehensive Decentralization Policy Framework* (March 2007) Ghanaian Ministry of Local Government.

⁹² The Northern Territory is an exception. Here the Australian government retains the property rights for uranium.

The Australian public finance system does not include a mechanism for returning minerals revenues to mining communities. In general, mines do not pay rates to the local government body, although in some instances there have been negotiations along those lines when mines have become reluctant to 'run' local towns. There are also some special government programs and initiatives, such as the indigenous communities/mining industry regional partnership program, which is known as Working in Partnership (WIP). WIPs have been established in 2001 and are managed by the Department of Industry, Tourism and Resources. They aim to support and encourage cultural change taking place in relations between indigenous communities and the mining industry. Their aim is also to promote long-term effective partnerships that benefit all stakeholders.

Canada⁹³

The federal political-administrative structure of the Canadian government allows for mining taxes to be levied at federal government level, and at provincial and territorial government level. Since January 2007, mining taxes and royalties paid to provincial or territorial governments with respect to income from a mineral resource are fully deductible for establishing the tax base on which federal income tax is due. In earlier years it was only possible to deduct a resource allowance in compensation for the non-deductibility of non-federal royalties and mining taxes.

The federal government imposes the following mining taxes:

- Corporate income taxes.
- A capital tax (the Large Corporations Tax).
- The GST (Goods and Services Tax), a value-added tax that applies to virtually all goods and services purchased (but GST paid on business input is refunded) and sold (but exported products and services are zero-rated).
- Payroll levies, property taxes, and indirect taxes, such as sales.
- Excise taxes – of limited application to mining, but are levied on selective business inputs such as fuel and diamonds – the tax can either be a specific tax or an ad valorem tax.
- Custom duties.

'Where mining revenues are collected and/or spending decisions are taken at the local level, this has not guaranteed greater benefits to local communities.'

Provincial and territorial governments have the power to impose direct taxes, such as corporate income and sales taxes and impose the following taxes on the mining sector:

- Corporate income taxes (in all provinces and territories).
- Capital taxes (in some provinces and territories).
- Mining and royalty taxes related to the exploitation of natural resources (on their territory as well as offshore).
- Payroll levies – health and/or post-secondary education taxes (in some provinces and territories) and workers' compensation (in all provinces and territories).
- Value-added taxes (in some provinces and territories).
- Excise taxes (particularly on fuel) and sales taxes (in some provinces and territories).

4.2.4 Direct contributions to communities: Papua New Guinea

In Papua New Guinea, the Canadian major Placer developed a scheme in consultation with the central and provincial governments and the indigenous land-owner communities, which allows affected communities to be directly involved in spending decisions over mining revenues. Under this scheme a proportion of the gross taxable income of the mining project is paid to community infrastructure projects such as roads, bridges, and education and health facilities. The projects are chosen by the community in consultation with the mining company and subject to approval from the relevant government agencies. The amounts thus spent are credited against corporate income tax. The advantages of this particular mechanism are

⁹³ Source: NRCAN website: www.nrcan.gc.ca/miningtax

that: a share of the public wealth generated by the mine is channelled directly to those affected by the mining; the mining company itself can see the impact of the funds it provides on the local people's lives; and the mining company is largely removed from 'running' the local administration.

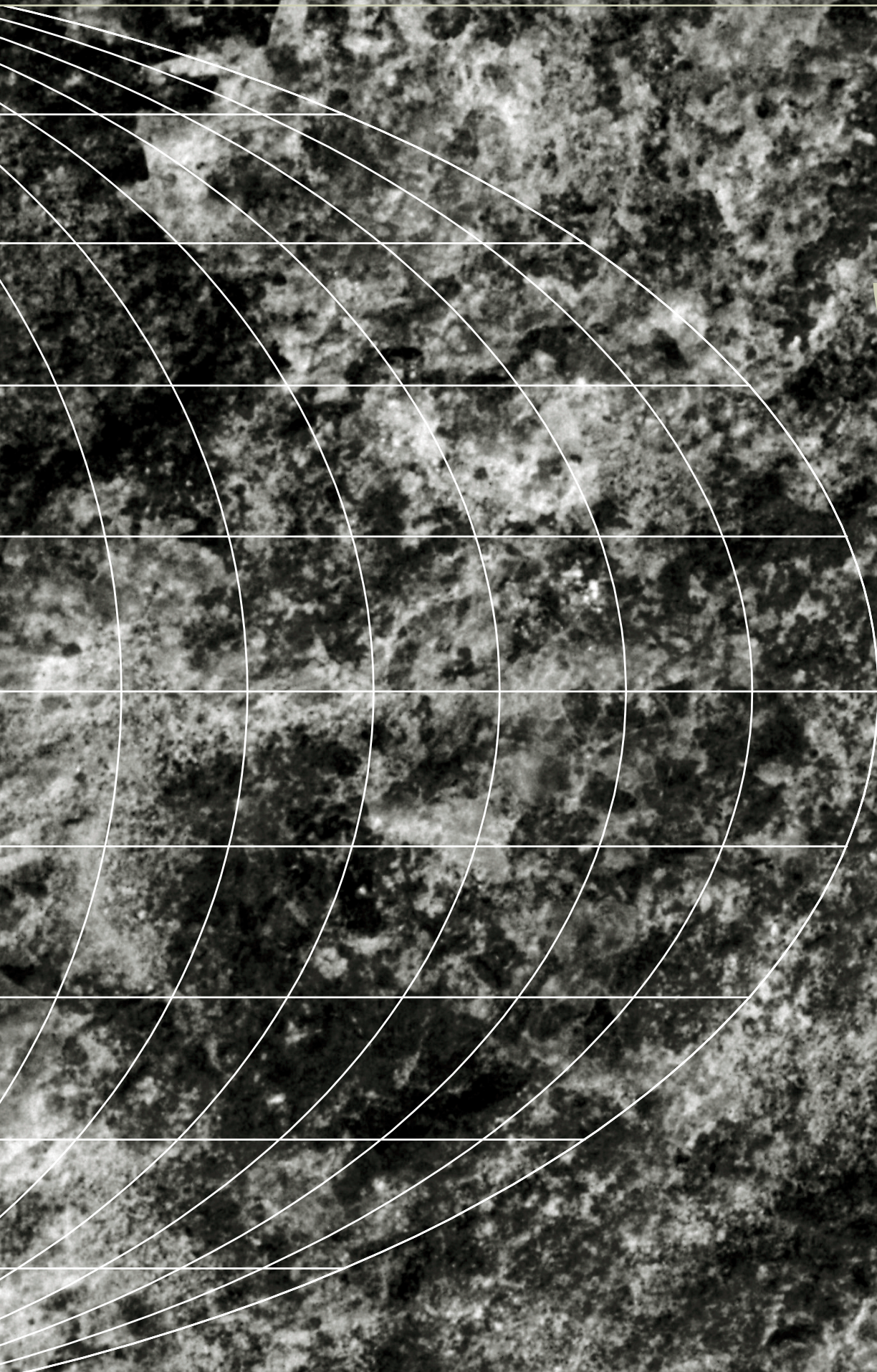
4.3 Summary

The examples described in this chapter demonstrate the wide range of approaches taken by governments to the distribution of mining revenues to the sub-national levels. This underlines that there is neither an empirical nor a theoretical consensus on an approach that works in all circumstances. Where mining revenues are collected and/or spending decisions are taken at the local level, this has not guaranteed greater benefits to local communities. Central governments often face strong pressures to develop such mechanisms, although the academic literature has not been able to establish supportive evidence that points to this as an optimal approach.

Although there are good arguments why a region in which mining occurs should be compensated for the disruption and additional costs that this can involve, there is no *a priori* reason why such costs cannot be accounted for through sub-national reallocation via the normal budget process. In practice it would appear that where public financial management is poor at the national level it is often also poor at the sub-national level.

The success of introducing increased sub-national spending of mining revenues is dependent on capacities for the effective planning of expenditures, clear accountabilities and a well-defined division of responsibilities and mandates between different levels of government. Experience has shown that an absence of these conditions may not only limit the effectiveness with which mining revenues are spent, but can also lead to uncertainty and inconsistency for investors.

5



5. Company perspectives

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This chapter summarizes the perspectives of mining companies on various topics covered by this report. The findings are based on interviews with tax representatives from ICMM member companies⁹⁴.

While mining companies are concerned about tax rates and tax bases, they are increasingly looking at a number of additional aspects that can impact on the profitability of their operations, as well as how they are perceived by host governments and citizens. Important issues include fiscal stability and political risks, the simplicity and consistency of a regime, the effectiveness of tax administration, transparency, the capacity of government to spend mineral tax revenues effectively, and accounting conventions (Sections 5.1 to 5.6).

Some, but not all ICMM members undertake regular general rankings of mining taxation regimes across the world. In the context of evaluating a possible investment opportunity, a project-specific reassessment of a country's fiscal regime is always undertaken.

5.1 Stability and political risks

Companies highlighted *stability* and *predictability* as probably the most important aspects of taxation regimes. Companies recognize that governments that provide generous tax incentives to attract mining investment often face political pressure to revisit fiscal terms after production has begun. Tax regimes can also be affected by changes in political leadership. Companies are conscious that this is a particularly significant topic in the context of high commodity prices, where in many countries governments have embarked on reviewing minerals legislation and have sought to increase royalty and tax rates in order to reap greater financial returns from the minerals price rises (for an example, see box 5.1). Companies are particularly concerned about changes applied to royalties, because of their tendency to be regressive.

Companies note that uncertainty tends to be greater where a fiscal regime is not set in statute, but has been negotiated bilaterally. This seems to increase the scope for political capture. Thus, companies are most likely to require stability clauses in cases where the legislative framework

Box 5.1 Changes to Tanzania's fiscal regime for mining

Over the past decade Tanzania has offered generous incentives to attract major gold companies. These have included capital allowances that defer tax liability until companies costs are recouped – a tax holiday that could have lasted up to 20 years. In response to political pressure to revisit these incentives, Jakaya Kikwete's victorious 2005 presidential campaign included a pledge to secure a 'fairer' distribution of mineral revenues.

In September 2007, AngloGold Ashanti, Barrick and Resolute agreed to waive tax breaks and pay levies on their mining operations in Tanzania. They will pay annual levies of US\$200,000 directly to local authorities on each of their Tanzanian gold mines and pass up a 15% tax allowance on unredeemed capital, bringing forward the time that they will begin to pay the 30% national corporate tax. The 3% royalty rate will be unchanged.

Barrick will also make voluntary contributions of US\$7 million a year to the Tanzanian government for five years. The renegotiated agreement means that AngloGold estimates that it will start paying corporate tax on its US\$500 million Geita operation east Africa's biggest gold mine by 2011, four years earlier than initially planned.

Source: Financial Times (30 September 2007)

for mining investment is not well established. In helping to ensure that stability clauses are enforceable, companies are attracted by investor protection schemes, such as bilateral investment treaties with their home country.

In practice, stability agreements do not always guarantee fiscal stability. Alterations to fiscal conditions can take various forms. Where a government faces strong political pressure to increase the fiscal burden on mining companies, there has been increasing pressure on companies to make 'voluntary' contributions towards what would normally be considered as public expenditures. This has recently taken place in Tanzania (see box 5.1) and Peru (see section 4.3.2). Although such voluntary contributions increase costs for mining companies, they tend to be preferred to less predictable legislative changes to tax or royalty rates, not least because of their temporary nature.

⁹⁴ The interviews were undertaken as part of this study and took place in September/October 2007.

Recent experiences have taught that there tends to be an inverse relationship between the generous fiscal incentives offered to investors and the stability of the fiscal regime. Where low tax rates are offered to attract investment, it tends to be more likely that subsequent political pressure will result in a realignment of fiscal regimes in later years, when mining operations become productive. This has led to many companies emphasizing that from their perspective, the *optimal* level of taxes does not equate to the *minimum* level. They would prefer to operate in a country where the fiscal regime is broadly considered to be balanced, rather than in one where tax rates are minimal.

Political risks are an important component of uncertainty. If the risks are perceived to be high, companies are enticed to look for incentives that shorten the payback period and provide higher rates of return over the short run. Such incentives in turn put strains on host governments that must wait longer before receiving tax revenue. However, companies are also aware that if governments have to wait for tax revenue, this can further increase political risks. This is particularly the case where domestic expectations have been raised that the mining sector will immediately and visibly contribute to economic development.

5.2 Simplicity and consistency

Mining companies have to consider a plethora of taxes and incentives when they assess the competitiveness of different mining tax regimes. To assess the financial attractiveness of a taxation regime in comparison to others is difficult if a regime is more complex, and also if it is to a greater extent subject to special negotiations.

A minerals tax regime that is simple and clearly set out in the legislative system is generally preferred. This makes it easier for companies to assess fiscal liabilities. It also reduces administrative costs and the scope for misinterpretation. Companies generally consider that where a regime is consistent across the industry, it tends to be more stable, and less susceptible to political capture and *ad hoc* amendments. It is a major challenge for companies to find ways to encourage the movement away from bilaterally negotiated contractual arrangements towards a law-based tax regime.

5.3 Tax administration

The manner in which taxes are administered is an often-overlooked aspect in the comparison of minerals taxation regimes, but it can have a significant impact on the attractiveness of investment destinations and the financial returns to investors. Companies consider the following aspects of tax administration to be important: efficient tax authorities apply laws and agreements consistently; a fair court system can easily resolve tax disputes; and there is a system through which tax refunds are remitted to companies in a timely manner (delays can have a major impact on project cash flow).

5.4 Transparency

Mining's greatest benefit to a country can be the financial resources that it provides. Companies emphasize transparency-related issues in relation to ensuring that citizens are made aware of this fiscal contribution, and how revenue is spent. Companies are increasingly reporting publicly on the amount of tax that they pay.

The EITI has made a significant contribution to enhanced transparency in the use of extractive industry revenues in many countries. However, implementation of the EITI has tended to be slower in the mining sector than in the oil and gas sector (Avanzar, undated). The implementation of the EITI is also more difficult in practice. A recent review of Ghana's first EITI report has noted a list of issues that have remained unsolved in the guidance provided to governments, companies and other stakeholders regarding EITI implementation (Murphy, 2007).

It has also been pointed out that the disclosure of payments made by companies and receipts of payments by governments is only the first step towards promoting sound fiscal management to support sustainable development (ICMM, 2003). An additional necessary next step is to look at policies and procedures to ensure that these revenues are disbursed appropriately and spent effectively.

5.5 Capacity to spend mineral tax revenues effectively

Companies attach increasing importance to the capacity of governments to use mineral revenues effectively. The use of mineral revenues has an impact on the way in which companies are perceived, depending on whether or not citizens in mining countries and areas see benefits from extraction. Where public revenues from mining are spent effectively, companies are less likely to receive pressure from local communities for them to provide infrastructure and services normally provided by the public sector.

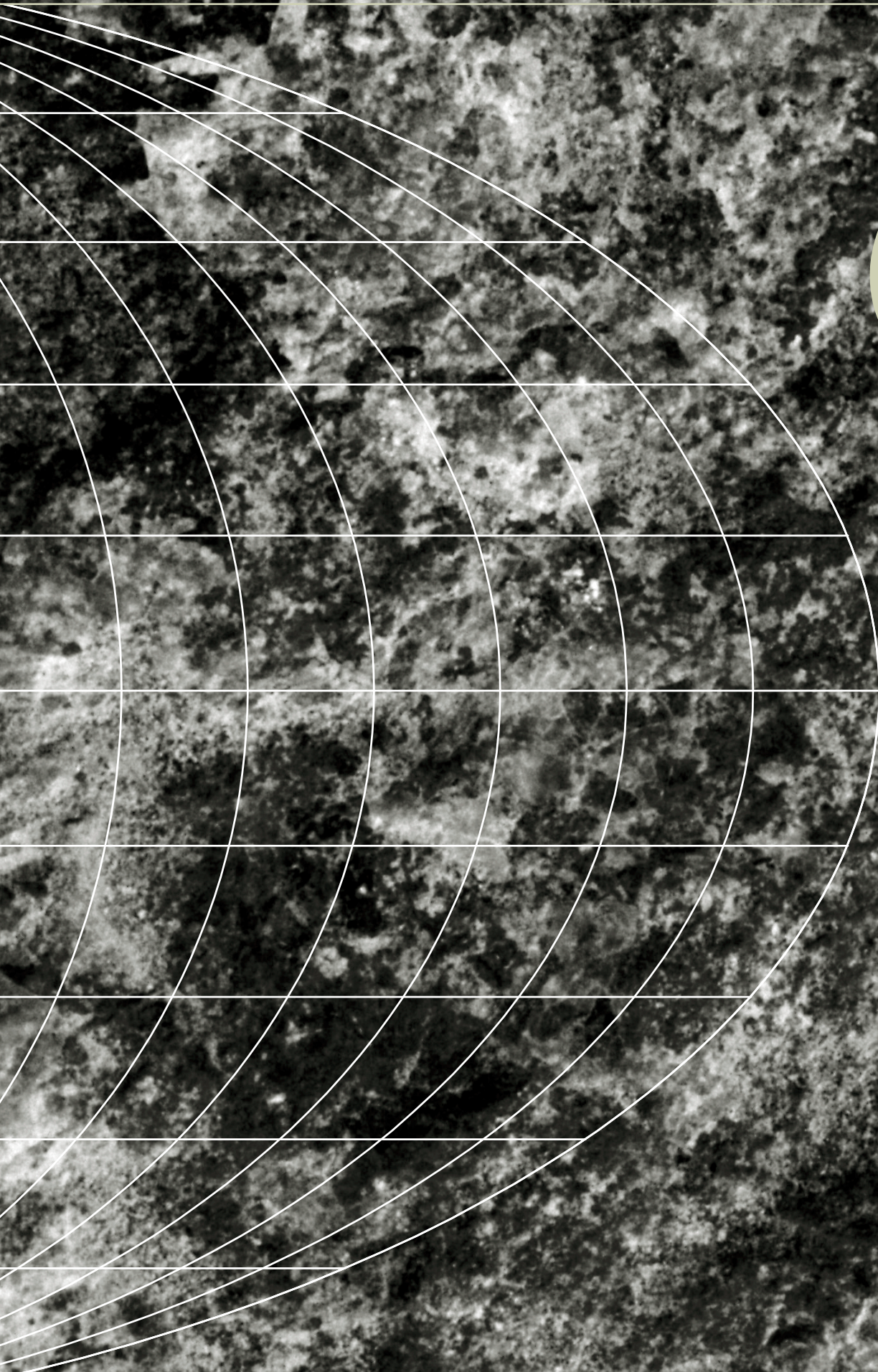
5.6 Accounting conventions

Other factors being equal, the closer a country's taxation accounting conventions are to international accounting standards the better, from the perspective of mining companies. Companies want to minimize situations where costs reflected in company accounts will only become recognized for tax purposes at a later stage.

Another situation to avoid is differences in the recognition of tax payments in company's accounts. This is because capital market valuations depend on various sorts of earning ratios. The definitions of these ratios include the complications that some tax payments are deducted in their calculation (typically *production-based taxes*) while others (typically *profits-based taxes*) are still included, such as the EBIT (earnings before interest and tax) indicator.

Observations

6



6. Observations

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The purpose of this study has not been to propose a recommended, let alone an ideal tax regime that could be applied in all mineral-producing countries. Neither has its purpose been to engage with the debates now raging in many countries as to whether mining companies pay too little or too much tax to governments.

It is doubtful whether there is a single *correct* tax regime, or a single definition of bases and set of tax rates that could apply in all circumstances and that could adequately balance all legitimate interests at all times. The objective of the study has rather been to review the factors that matter in designing good tax systems for mineral development, and thereby indicate the broad directions towards which reforms and reform approaches are progressing.

The following observations are intended to provide some initial guidance to direct more in-depth assessment in particular countries. The focus is mainly on the challenges companies face when operating in lower income mining countries.

Companies are, and other stakeholders should be, interested in the economically efficient exploitation of mineral resources. This objective should clearly feature in host country's fiscal regimes. Companies should also acknowledge that the economic, political and social trade-offs of host countries are complex, and that government objectives may change over time. Equally, companies require stable and predictable fiscal regimes. Both these requirements are closely related to political risks.

The unresolved dilemma for balancing diverse interests in the design of a mineral taxation regime is ensuring that changes in global and domestic circumstances do not evoke an adverse change in host governments' time preferences for the receipt of revenue, nor a major break between their short and long term interests. This means that mineral tax regimes need to accommodate flexibility to adapt to changing global circumstances, but they also need to support the stability of host country's time preferences and take into consideration that domestic political interests may change over time. Flexibility can be addressed through design, e.g. by ensuring that in total mineral taxation regimes are not regressive but progressive. The stability of host country's time preferences and the risk of changing domestic political interests would appear to be

conditioned by the extent to which sector policy making is embedded in the wider domestic political process and thus perceived as legitimate.

In reviewing the minerals taxation literature this report has found that the issue of flexibility has been addressed in the theoretical minerals taxation literature, but has found less application in practice. The issue of stability in host country's revenue time preferences and interests has largely been ignored. Conventional perspectives have not considered the possible implications of changing circumstances on stability in different country contexts. This leaves a gap in policy recommendations on how to respond in such circumstances.

6.1 The level of taxation

The policy-oriented reform literature of the 1980s and 1990s suggested that investors prefer a competitive fiscal regime with low rates of tax and favorable tax incentives. Company experience does not entirely confirm this view. Low tax levels can undermine stability, while fiscal regimes that are broadly considered to be balanced tend to be more stable.

From an economic perspective, governments would be well-advised to try to maximize revenue from mining over the *long run*. Theory advises that minerals taxation regimes should be neutral with respect to production decisions and that the tax base should be taxed progressively. In practice determining this level *ex ante* over the entire life of a project can be extremely difficult. It involves making assumptions about the future that may not hold in practice. Therefore there should be periodic and collaborative re-assessment of those assumptions in order to maintain consent. This shifts the emphasis onto the *process* through which consent is brought about and somewhat away from the *substance*.

The observations that follow from the above are that i) companies and governments need to work in partnership with others to promote overall progressive minerals taxation regimes; and ii) companies and governments should seek to work with others towards establishing institutionalized procedures that achieve and maintain multiparty consent on what constitutes a balanced level of taxation. For the practical application of any balanced sharing of the resource rent governments, companies and potentially other

‘For the practical application of any balanced sharing of the resource rent governments, companies and potentially other stakeholders need to enter into a constructive dialogue on information about past, present and projected future performance of the sector.’

stakeholders need to enter into a constructive dialogue about past, present and projected future performance of the sector. In such collaboration there is a clear role for broadly respected industry associations.

The suggestion to identify ways to institutionalize a continuous process of reaching and maintaining consent does not render instruments such as stability clauses completely obsolete. Nevertheless it would require a change in the shared understanding of the purpose that such instruments serve. Stability of the level of taxation determined at one particular point in time need not be the same as stability in ensuring that fiscal terms support the economically efficient exploitation of resources and a balanced sharing of the resource rent. Again this reinforces the idea of formalizing and institutionalizing collaboration that maintains mutual agreement on accommodating changing circumstances and balancing stakeholders’ interests.

6.2 The mix of fiscal instruments

The report underlines the proposition that in lower-income mining countries, minerals taxation systems should be less complex. This means that a country’s fiscal policy objectives are met with a minimum number of a mix of fiscal instruments. Two reasons support this proposition: first, simplicity in a tax system may have its own merits since this will make it easier both to calculate the amounts of tax that are due and also to audit the amounts paid, whether nationally or with international support (e.g. via EITI-type arrangements). Second, and reinforcing the first point, is the fact that a standard problem in low-income mineral-dependent economies is that general administrative capacity is often low.

Simplicity however does not only imply taxes that are easier to administer (typically indirect taxes or taxes where the administrative burden can be shifted on to companies). Host countries should reduce reliance on indirect taxes, such as unit or value based royalties and instead focus on income taxes. This being said, it has to be recognized that tax instruments such as royalties, even when regressive, do play a role in ensuring that countries receive a minimum revenue flow. The political economy of taxation supports the argument that direct tax instruments, based on profitability or some definition of income, carry a greater revenue imperative. They are more likely to overcome (at least in the long run) the problem of low administrative capacity.

The challenge is that such improvements do not happen automatically. Governments may lack incentives or resources to improve capacity. Companies can recognize this challenge upfront and work with others to stimulate such improvements. This includes collaboration with international and regional multilateral organizations that advise on and technically support governments in public sector and administrative reforms. There is a key role for advisory organizations to help countries manage the greater volatility of direct taxes and to ensure that there is a stable flow of resources to support efficient public sector and administrative reforms⁹⁵.

⁹⁵ Experience with such reforms in the past has shown that volatile revenue flows, including cash budgeting in times of revenue shortages, have very detrimental effects on the success of reform implementation and its long term sustainability.

Working with others also includes forming strategic alliances with domestic constituents with whom a common interest in better public sector performance is shared, either at the central or local level. Identifying organizations with which to align is a difficult and context specific question, and suggestions that can be generalized across a number of countries are yet to be developed by research on the political economy of taxation in natural resource rich countries.

6.3 Special tax regimes for mining?

Some governments have in practice tended to rely on special arrangements and bilaterally negotiated agreements to secure investment and government revenue. This includes countries where the legal and regulatory framework for the sector is not fully developed and countries where mining revenues constitute a large share of total government revenue and foreign exchange earning. The mining sector has a number of characteristics for which special fiscal terms can be devised.

These sector-specific characteristics, however, do not *per se* justify special fiscal terms and so the case for special tax regimes for mining is not clear-cut, at least beyond the issue of resource rent taxation. Where administrative capacity is weak, the proliferation of different tax structures within the same country clearly runs counter to the argument to keep systems simple (as suggested in point 6.2). Special tax systems that create administrative multiplicity in countries with limited capacity may result in poor execution, relative to the theoretically 'correct' revenue-take. This creates its own problems, including risks to the stability of the special tax regime because of government or other stakeholders' dissatisfaction with the revenue outcome. Civil society acceptance of mining also seems likely to be higher where mining companies are not seen to be treated differently from other sectors.

It is both feasible and preferable for mining companies to be subject to a country's general tax system, incorporating a few mining specific features that address some of its special characteristics and the resource rent element (e.g. special allowances). Putting taxpayers on equal footings can provide greater certainty and stability and increase the incentives for government to improve tax administration and fiscal policymaking

'The report argues clearly in favour of increasing transparency around the taxation of mineral extraction and the use of mining revenue to support socio-economic development.'

more generally⁹⁶. In line with the reasoning of the political economy of taxation, greater commonality across a broader group of taxpayers should also increase opportunities for strategic alliances to support contractual taxation and revenue bargaining for better public services. Greater commonality should also reduce the pressures for coercive taxation of immobile assets as a response to short term political pressures. An added advantage would be that companies can more easily claim double taxation relief for taxes paid locally, when profits are repatriated offshore and potentially taxed again.

There is a role here for mining industry associations and their collaboration with other business/taxpayer associations⁹⁷. Companies can support participation in a country's generally applicable tax system, with the view to forming strategic alliances. International and regional organizations should discourage governments from engaging in bilaterally negotiated agreements and support the development of comprehensive legal, regulatory and fiscal regimes aligned with a country's overall public administrative system.

⁹⁶ The REi case study on Chile supports this point. Chile generally does not treat the mining sector differently, with the exception of its profits-based royalty.

⁹⁷ This includes both actual and potential taxpayers.

6.4 Improving the benefits to local communities

Although mining's contribution to the total national tax-take is one important dimension of a country's benefits from resource extraction, the *allocation* of revenue between different tiers of government is attracting increased attention. While centralist tendencies still seem to be more common in low-income mining countries, there have been various moves towards fiscal decentralization.

Evidence for whether or not fiscal decentralization improves the benefits of mining to local communities is inconclusive. In fact, the evidence is also inconclusive as to whether reforms seeking to achieve fiscal decentralization more generally have been beneficial. The literature on public administration reforms would contend that positive examples of developed countries with a decentralized set-up that have built state capacity from below are incomparable with developing countries that have generally been more centralist and now seek to decentralize from above. The literature on the political economy of taxation furthermore points out that countries that have traditionally been centralist in approach and are rapidly moving towards greater decentralization are inclined to increase coercive taxation, particularly if fiscal and other administrative capacities have not been developed to a reasonable standard *before* new responsibilities and funds are reassigned to the local level.

In some cases reviewed for this study, regional, district and municipal authorities have certain designated responsibilities that are *not* matched by either the funds or the human and technical capacity to do full justice to these responsibilities. Hence when mining companies arrive they are likely to become the target for additional revenue extraction. Where fiscal decentralization is introduced as a political strategy to divert attention from the failures of a central government, there is also the danger that the mining sector's fiscal contributions and its fiscal burden across the different tiers of government will be overlooked. The impact on the long-term sustainability of the sector may also remain inadequately assessed. If companies demonstrate their willingness to help with local social and economic development agendas, they furthermore risk the danger of becoming a *de facto* parallel local government. This is uncomfortable for the companies concerned and is often deeply resented by the *de jure* local

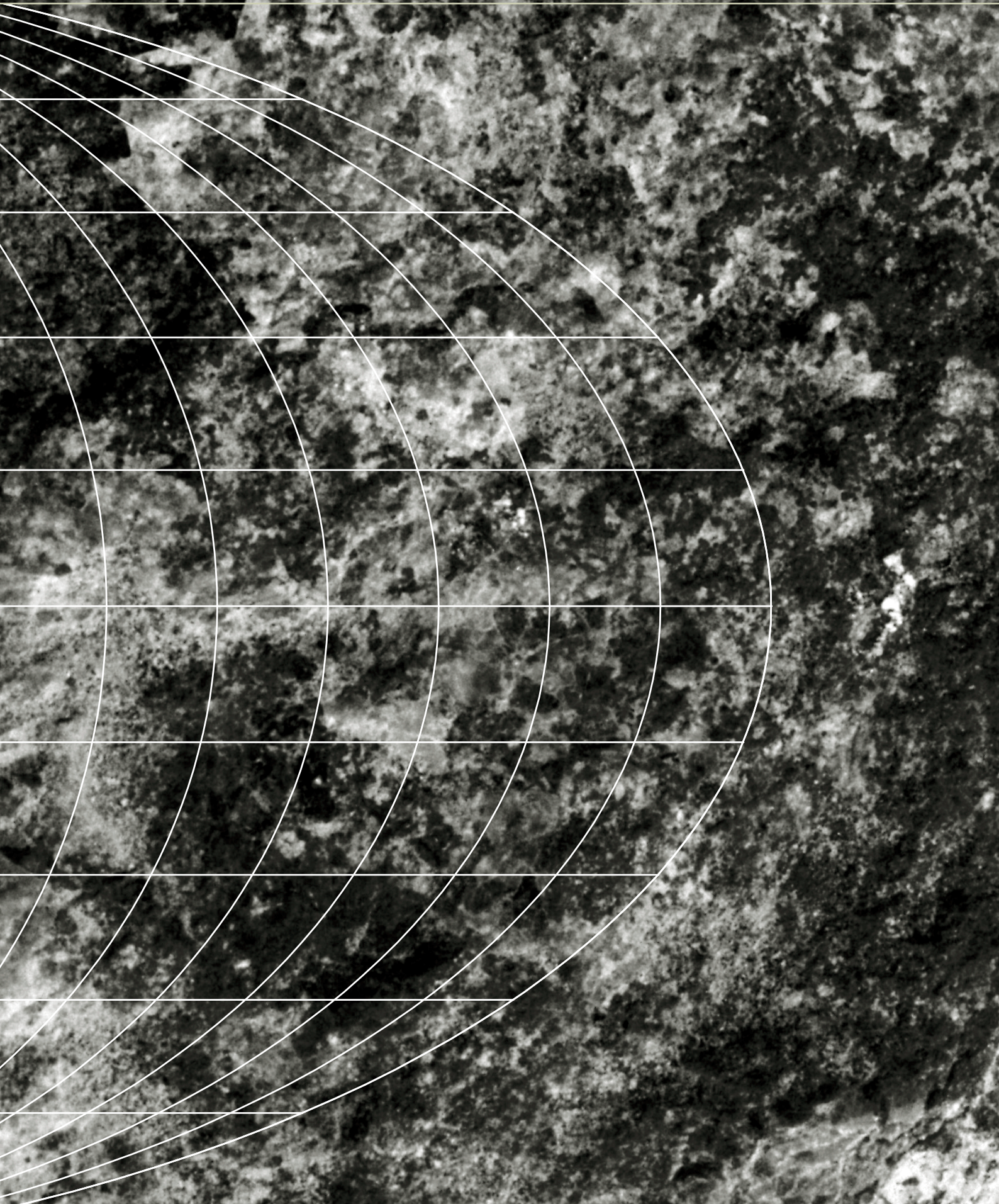
governments who see their positions as partly or wholly usurped.

There is no clear evidence for or against fiscal decentralization and the assignment of mining revenue to sub-national tiers of government. Practical experiences, as well as theoretical arguments, remain inconclusive. The broad observation is to not overemphasize relations with either national government or sub-national government entities. Improvements in administrative capacity at one level are unlikely to render long term benefits to local communities if they are not complemented by equal improvements at the other level. For example, improved revenue management at the central level does not automatically improve the efficiency of public spending and public service provision at the local level. Likewise immediate improvements to the living conditions of local communities do not automatically integrate local economic activities into national and international markets. Judgements on these matters invariably require familiarity and understanding of the overall institutional structure and its potential bottlenecks.

6.5 Encouraging transparency

The report argues clearly in favor of increasing transparency around the taxation of mineral extraction and the use of mining revenue to support socio-economic development. Increasing transparency is a necessary step to raise awareness of the financial contributions that the mining sector makes. However, transparency alone does not foster consensus on the allocation of revenues, nor does it ensure that revenues are disbursed effectively. Initiatives such as the EITI contribute to laying the groundwork on which institutions and processes that can achieve effective spending can be built. The mining industry and others should actively endorse and contribute to these efforts. They should also emphasize that not only the revenue streams but also the underlying fiscal terms are made public.

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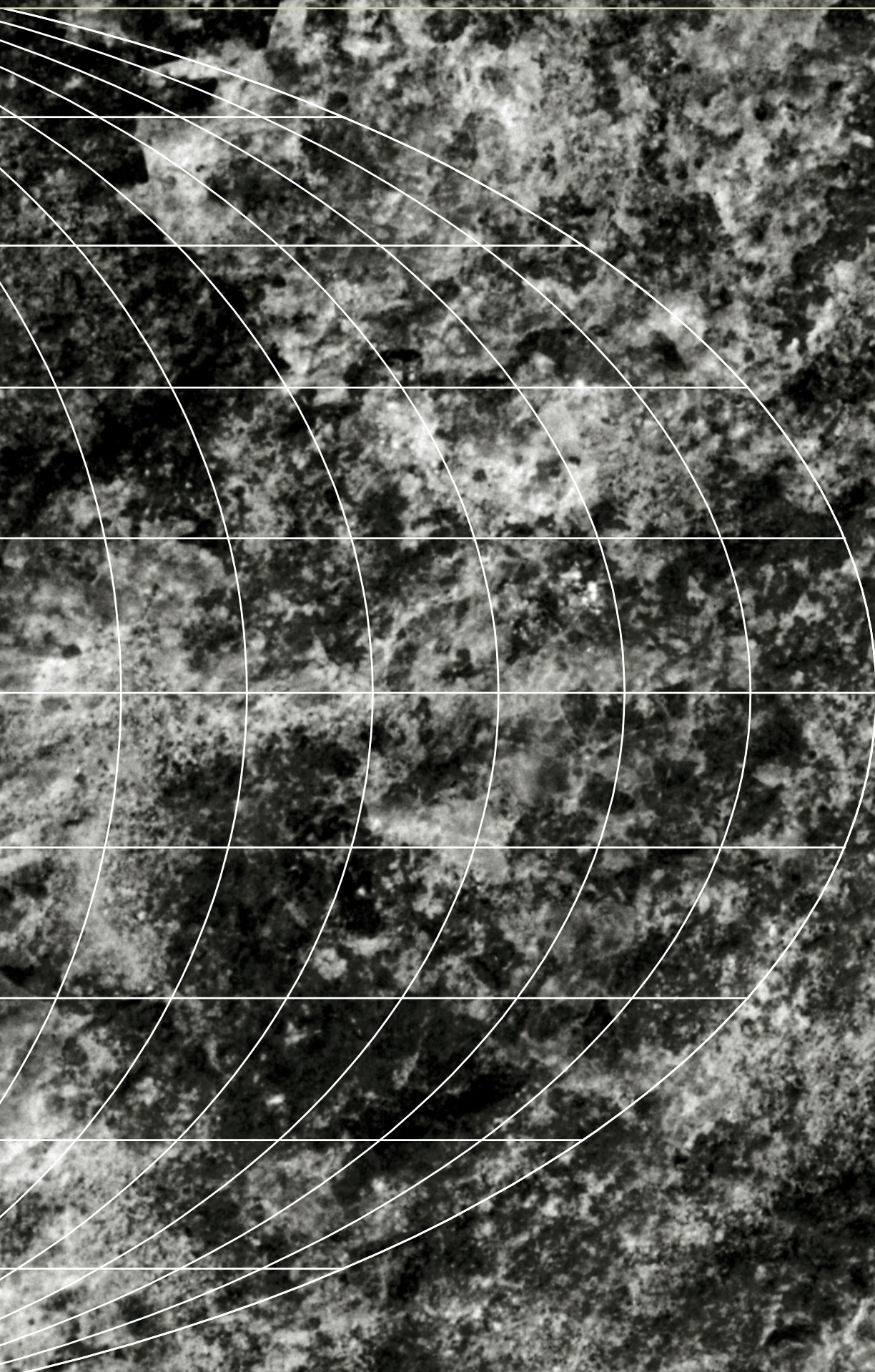
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Annex A



Annex A

Written comments on draft report

This annex provides written feedback on a draft of the report. The comments are provided in the following order: Philip Daniel, IMF-Fiscal Affairs Department; Theodore H. Moran, Georgetown University; Olle Östensson, UNCTAD, Geneva. Nearly all of these comments have been addressed in this final version of the report.

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From Philip Daniel
Fiscal Affairs Department,
International Monetary Fund
March 25, 2008

This is a valuable report for which a large amount of work has been done in a short time. The argument could be tightened to reach clear conclusions. Section 3 and Section 2 should probably be reversed. The early subsections in section 2 require some significant reworking for clarity, and for correction of a few mistakes. The discussion in Section 3 is very interesting, and could be expanded into space created by tightening Section 2 and deleting much of the PFM and resource curse discussion on pages 28 and 29. Detailed comments on Sections 2, 3 and 6 follow.

Section 2.1 on *Fiscal Regime Types* reaches the right conclusion by a difficult route. The main message appears to be that the value to host governments of case-by-case negotiations (especially over fiscal terms) is often exaggerated, relative to that of generally applicable terms enshrined in legislation.

The argument, however, confuses case-by-case negotiations with contracts or agreements. Case-by-case negotiations often lead to general legislation, whereas model agreements can contain standard and non-negotiable terms. Moreover, governments are often specifically enabled to make agreements by law, and agreements are not necessarily most prominent 'where the mining code or other sector legislation has remained insufficient' (p.5).

Some of the legal discussion could be made clearer. The opening paragraphs of 2.1.1 are open to misconstruction¹. The type of fiscal system used does not necessarily imply a different legal status for ownership of a resource in the ground, for eventual output, or for 'control' of operations. In most jurisdictions (there are exceptions), the doctrine of permanent sovereignty over natural resources has been incorporated in law so that a sovereign state always retains ownership of resources in the ground. A state may then grant a right to exploit the resource, which could be a license or concession, or a contract. An investor receives title to product only upon extraction (and usually at some defined location). The key

difference with a production sharing contract is that the state (or the state company) retains the right to a portion of physical production, unless it elects to have the company market the product. Even under tax and royalty systems, the state often retains an election take product in kind.

The second sentence of the third paragraph on page 5 is also strange. If 'administratively negotiated agreement supersedes statutory law', why is it necessary to pass the agreement as a law? In practice, I am not aware of common law jurisdictions where administratively negotiated agreements supersede statutory law, unless the law specifically provides that they may².

Section 2.2 on *Tax Instruments* begins with a section on *Special Tax Regimes*. Both here and in the counterpart section in the conclusion, I was left unclear at some points as to whether the authors favor a fiscal regime generally applicable to the mining sector (i.e., not negotiated case-by-case) or wish to go further and apply only the general direct and indirect tax regime applicable to all business activities. I think the last sentence of the fourth full paragraph on page 11 says the former, but the argument could be clearer.

Are the reasons for differential tax regimes in this section the views of the authors or gleaned from the opinions of others that they may not share? What is cited as the 'key reason' in the first paragraph (relative size of the sector) does not seem very convincing. Among the bullets in the second paragraph, the first, third, and fourth do have force, but all the others could be cited as characteristics of other industries. (We seem also to have lost oil in this section, though it features in the previous one.)

The third full paragraph on page 11 conveys the view that it is common for natural resource revenues not to be paid to 'Ministry of Finance accounts' (presumably meaning the consolidated fund or treasury single account). What is the extent of evidence for this? Even Angola has a revenue law of 2004 that requires all petroleum revenues to be paid to the treasury, apart from specified amounts that Sonangol retains. It is common for license fees to remain with mines ministries, but both receipts and expenditures of this kind are budgeted.

¹ Especially the third sentence of the first paragraph of the subsection, and the first sentence of the third paragraph.

² As occurred for example, with amendments made to the *Zambian Mines and Minerals Act* in 2000.

The next section on *Classifications of tax instruments* is hard to follow and requires editing. I think the problem starts with the use of the *in personam* and *in rem* distinction. I know it is sometimes used, but it is not very common in tax policy discussion, and it causes confusion because it does not align precisely with direct and indirect tax classifications. By choice, I would (for mining) classify by: 1) taxes on inputs; 2) taxes on outputs; and 3) taxes on income, profits or cash flow.

Why (in para. 2) do sales and excise taxes affect variable costs, while import duties and VAT affect fixed costs?³ Surely all these taxes can have an impact on both types of cost. More importantly, fixed and variable costs are current operating cost concepts; nothing is said here about the differential incidence of taxes on capital and operating costs, and thus on decisions at the margins of investment or production.

If VAT is properly administered under the destination principle (used in most of the world), it will have no impact on a mining project for export: exports will be zero-rated (exempt with credit is an alternative term), while VAT on any imports or local supplies will be refunded immediately. There are problems only when the refund system does not work. Thus the description of VAT in Table 2.1 is odd: zero-rating of VAT on exports is normal, it is not 'negated or exempted'. VAT on *imports* for mining and petroleum is sometimes exempted where the refund system does not work.

The discussion of a 'neutral' tax system does not employ this term in its normal public finance sense. In subsection 2.2.3 'neutral' seems to mean something between progressive and regressive; on page 17 (4th full para.) it is said to mean that the marginal tax rate remains stable. 'Neutrality' normally means that a tax does not disturb decisions with respect to investment, production or trade that would be made in the absence of tax. In the presence of rent, a constant marginal tax rate would not be neutral in this sense.

Withholding taxes are usually part of income tax legislation, and they are a substitute for income tax levied by assessment. The second full paragraph on page 18 implies that withholding taxes are used for protection of domestic industry. I'm not sure that this is either the aim or the effect.

The asterisked comment in Table 2.2 is correct. These are not incentives but, in some form or another, a usual part of standard corporate income tax rules. There is no discussion here of the important issues that make the standard corporate income tax distorting (interest deduction distorts financing, depreciation rules create a wedge between pre and post tax rates of return), or of the arguments for and against cash flow taxes.

International tax issues receive a mention in paragraph 3 on page 21. Double taxation treaties offer one way to achieve a home country tax credit, but more important is the unilateral relief granted by countries such as the US and the UK that operate worldwide income taxation systems. The discussion is very light on transfer pricing matters, and what might be done about them.

Section 3 on *Mining taxation literature* is much clearer. It perhaps belongs before section 2, so that the economics precedes the tax detail.

The point about tax 'neutrality' remains. The concept is used in the first sentence of the second full paragraph on page 24, but is not termed 'neutrality'. The link between taxation of rent and tax neutrality could usefully be brought out. The incorrect use appears again in the last paragraph on page 25 and again in the next paragraph on page 28.

The point about time preference in the middle of the same paragraph needs qualification. If natural resource revenues are a large share of total revenues, then the country's portfolio of projects may be large. In that event, the government (unless it is heavily indebted as well) should prefer to optimize revenue from a new project, rather than bring this revenue forward in time at the cost of lower revenue over the life cycle of the project. The last paragraph of this subsection is not easy to understand. By way of counter example, Garnaut and Clunies Ross (1983) offer a substantial discussion of the social welfare function of a mineral producing country.

Subsection 3.3 contains initial material on public financial management and the resource curse that sits uneasily and could be dropped. On page 30 we resume discussion of taxation, with interesting ideas that deserve more space. But when we come to end of this section on page 31, have we moved beyond the 'obsolescing bargain' idea of the 1970s? If a government has made a contract at one point,

³ The description in Table 2.1 is different.

and outside circumstances then change or its knowledge improves, it will seek to change this contract or will be pressed to do so by other domestic interest groups.

The overall conclusion here, and at the end, that progressive taxation is likely to be more stable in the long run is surely right. But this point was made in much of the literature from the 1970s and 1980s, not least by Garnaut and Clunies Ross.

[Section 4 covers a topic on which I don't have any special knowledge. It is informative, and I do not make comments]

Section 6 on *Recommendations*: to repeat, I don't think the 'main unresolved dilemma' (para. 4, page 45) is new. It is rather that solutions devised in previous decades fell out of favor in the 90s and are now being rediscovered.

What is actually being recommended? The first three full paragraphs on page 46 seem to be suggesting a built in process of review of agreements or tax regimes, but I'm not sure. These three paragraphs are very difficult to construe. Again, is the report recommending a progressive tax system or not? And is it recommending a uniform system for mining, or application of the general business taxation system alone (fourth full paragraph, page 47)?

Small details:

Box 2.1 is not really about stability clauses, it is about renegotiation.

Stability assurances in Peru and Chile are different; Peru offers wide stabilization of the legal framework, while Chile offers a fixed income tax rate for a period of years.

(Second para. p.9) In the last sentence, I think 'abnegation' is meant, not 'abolition'.

There are a couple of enigmatic references to literature on 'multiple principal-agent problems' (p.5 last para.) and 'property rights literature' (p.8, third para). These are not explained.

Box 2.1, Papua New Guinea, I think this scheme is part of general legislation, not specifically developed by Placer Dome (now Barrick).

Page 23: the book reference should read - Garnaut and Clunies Ross (1983).

Page 29: the Davis et. al (2003) reference contains material skeptical of savings and stabilization funds, stressing overall macrofiscal management instead.

Page 28 and 45: the expression 'left afore' appears; is this a special Scottish usage?

Page 25 and elsewhere: the term 'rentability' appears. I've not heard this before, but it may be a direct translation from the French, *rentabilité*, which means profitability and so is redundant.

From Theodore H. Moran

Marcus Wallenberg Professor of International Business and Finance, Georgetown University
March 17, 2008

This Review is a sophisticated survey of a quite difficult literature. I salute the treatment of many tricky and sensitive topics. There are three areas where I have reservations serious enough that our group will want to reconsider how they are handled.

Greater precision and accuracy in the depiction of royalties

Contrary to the assertion on pages vi and 12, royalties (unit-based or revenue-based royalties) do NOT assure 'steady payments' to the host government because investors may cut back production first and largest at sites that have higher per unit costs (some of which may be due to royalties). 'Steady payments' thus is more than a poor choice of words; this kind of assertion, widely heard in discussions with host authorities, leads the latter to make a disadvantageous choice in tax strategy because they make mistaken assumptions about constant volume of output. The report also ignores another adverse consequence of relying on unit-based or revenue-based royalties. Besides priority cutbacks in production and premature closings (p. 16), another disadvantage of royalties that raise per unit cost is the distortionary impact on the engineering of exploitation in which the investor is incentivized to concentrate on the richest deposits while leaving the lower grade minerals in place even though these lower grade deposits are commercially recoverable (thus ensuring developing countries' worst nightmare: 'the foreign companies take the good stuff and leave us the rest').

Addition of transfer pricing to the discussion of income taxes

This Review provides a careful and balanced treatment of incomes taxes, except for the issue of transfer pricing (as far as I can see transfer pricing is only mentioned in a footnote on p. 16 without reference to income taxes). In my experience with FIAS and the IFC, worry about transfer pricing emerges as the boogeyman in the mind of host authorities that scares them away from use of income taxes because they conclude they will be defenseless against the machinations of international investors. This concern is real enough (ask Lou Wells about the renegotiation of the Mittal contract in Liberia). And, to be sure, dealing with transfer pricing in income tax regimes introduces complexity and requires capacity-building within host agencies (or provision of outside consultants). But this report should point out to host authorities that there are straightforward mechanisms to address transfer pricing (burden on foreign investor to demonstrate that intra-affiliate transactions exhibit no more than minor deviation from arms-length principle, with spot checks by internal or international auditors).

Objective of this Review

Perhaps ICMM has already decided that the purpose of this exercise is not to seek or propose a 'recommended' or an 'ideal' tax regime (pp. ix, 45). But I hope ICMM will not miss the opportunity to highlight in this Review what I believe is the overwhelming consensus of the analytic community, and the practitioner community – host country developmental interests are best served by a taxation structure that keeps reliance on royalties (unit-based or revenue-based royalties) as minimal as politically feasible and reliance upon income taxes as preponderant as possible. There are intimations of this perspective (p. 46), but the message should – in my view – be stated directly and explicitly in this Review – and subsequently incorporated in the Resources Endowment Toolbox. Please note that the starting point for this assertion is not simply what international investors desire, or what makes international markets function most efficiently, but what will best serve the development goals of the hosts themselves. The clear articulation of this point of view will help reinforce multilateral initiatives already underway to build capacity within host agencies to manage mineral tax assessment and collection appropriately.

From Olle Östensson

**Chief, Diversification and Natural Resources
Section Commodities Branch, UNCTAD
March 27, 2008**

Dear Evelyn,

I read the taxation report more thoroughly over Easter. As I said earlier, I think it is an excellent report, balanced and thoughtful. My comments are all minor ones that have to do more with presentation than substance.

You say in the introduction that the study is intended to fill the gap left by previous RE work, which did not consider how the way that revenue is generated affects the process of translating mineral wealth into social-economic development. This is true, and the report does indeed fill a gap. However, there is still a gap left. Nowhere in the RE project have we really explained exactly how good governance makes development based on mining happen. We have established a correlation, but we have not explained causality. I think the report should make it clear that we still don't have the recipe for mineral based development.

On page 8 onwards, you use the terms 'common law' and 'civil law' in a way that was not immediately obvious to me. You may want to explain this and possibly even provide a definition of the terms as some readers may not be familiar with them.

On page 15, first paragraph, you refer to 'duties' in the sense of taxes. It is true that duties are less often used today as a means of collecting revenue. However, import duties on processed forms of minerals and metals can still be quite significant, and there, the objective is of course to protect domestic industry.

Page 16 and footnote 39: I agree with the comment concerning transfer pricing (was it Ted Moran?). However, there is a further twist. Normally, one would try to deal with transfer pricing by resorting to a recognized price quotation. But as you imply elsewhere, hedging operations can invalidate attempts at valuing revenue flows. It may be worth mentioning that hedging operations can complicate profit assessments. Moreover, transfer pricing may be a bigger problem when it comes to inputs than outputs.

Page 17, first paragraph: I don't understand why 'profit and income based royalties are also less amenable to redistribution to sub-national government entities.'

Page 18, third paragraph: One objective of withholding taxes is to offset transfer pricing, broadly defined, for instance, through high interest loans to subsidiaries.

Page 22: You may want to mention double taxation treaties here as well (in addition to page 18).

Page 24 onwards: I wonder if all readers are as interested in the concept of rent as I am. You may want to shorten the section.

Page 24, second bullet point: I'm not sure if the example of Anglo Gold Ashanti is a good one, since it was Ashanti's failed hedging operations that caused the losses that eventually led to Anglo Gold taking over.

Page 25: I think the figure is unnecessarily complicated.

Page 26, second paragraph: I think it is an exaggeration to say that governments are 'indifferent' to when revenue is received. According to the theory, their time preference is low, but still positive. You are right to question the rather simplistic acceptance of the hypothesis that governments have a low time preference. There is a crucial difference between 'society' and 'government' that I think has often been missed. The arguments for the lower time preference actually relate to society as the collective of individuals rather than to government in the sense of a group of people that want to be re-elected.

Footnote 56: You are right to criticise the Fraser Institute. I think its surveys are given much too large importance.

Page 28–31: This is an interesting and important section, but very difficult. If possible, I think you should try to simplify it a little.

Page 32–33: You may want to mention in your discussion of fiscal decentralization that lower level governments may have less capacity to draft appropriate fiscal regulations and less bargaining clout with large companies. They may also be easier for unprincipled companies to subvert.

Page 33, 'Timing': Only a few governments actually grant tax holidays. Many allow accelerated depreciation, which also results in a delay before taxes are paid. However, while a tax holiday creates an incentive to exploit the deposit before the holiday runs out, accelerated depreciation does not affect the timing of mining operations.

Page 34, second paragraph: I think it is fair to say that there are no good solutions to the problem of how to define the afflicted in terms of administrative boundaries, compromises are always necessary.

I hope this is of some use.

Best regards,

Olle

Notes

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Acknowledgements

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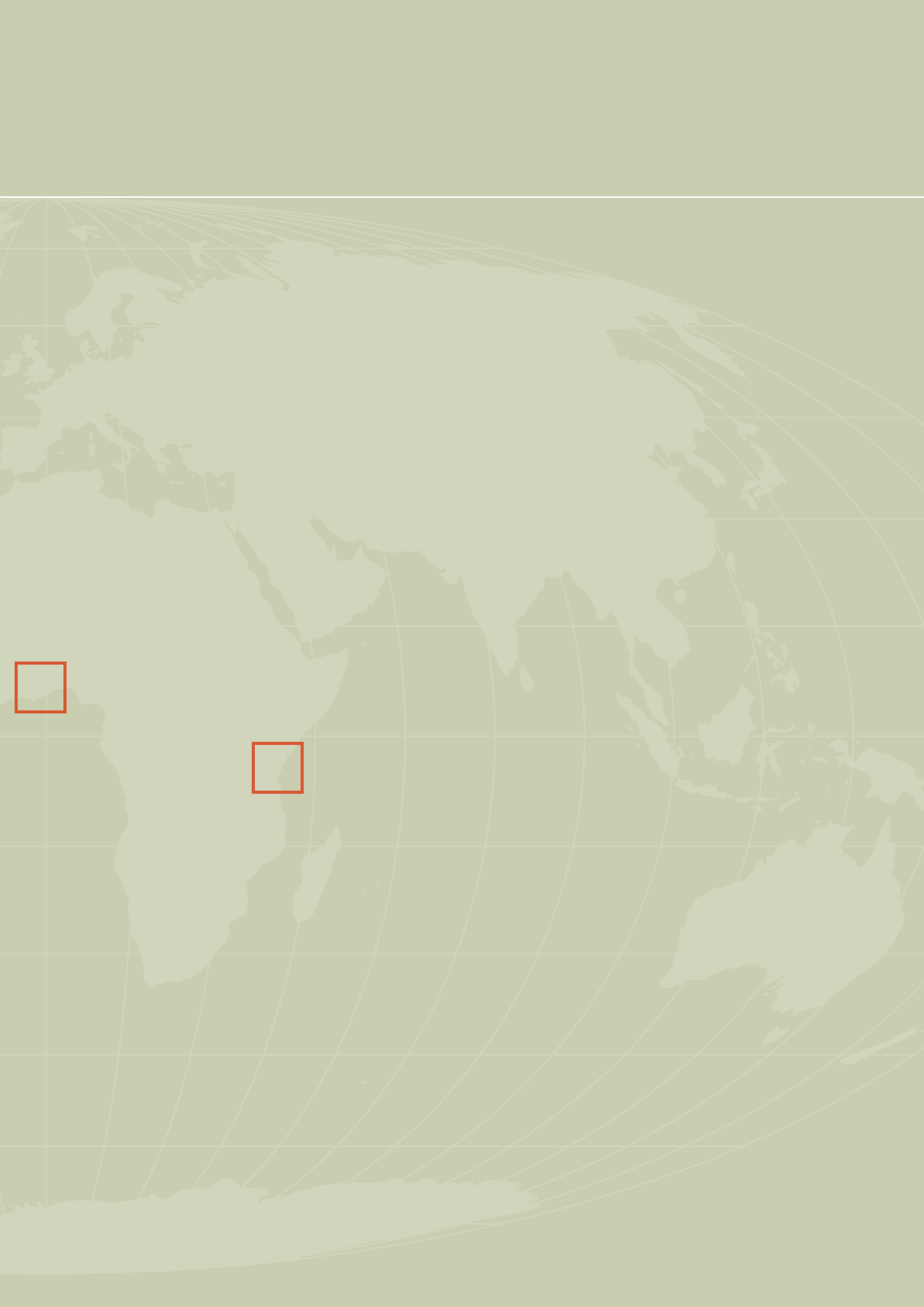
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