

# Precept 4. Fiscal regimes and contract terms

## *Technical Guide*

### **1. Introduction<sup>1</sup>**

Fiscal regimes and their implementation are critical to the overall strength of the resource sector decision chain. The effectiveness of a regime will depend on clarity with respect to its objectives, the instruments chosen to meet those objectives and their administration, relative to the economic situation in the country.<sup>2</sup> These themes and related fiscal issues are discussed here.

This Precept first provides a high level outline of the objectives, trade-offs and guiding principles that can help governments manage their extractive fiscal systems. It then describes the three main types of fiscal regimes: tax-royalty, production sharing and service contracts; and the individual fiscal instruments that are incorporated in each. The Precept also discusses the importance of having a set of stable fiscal terms, mechanisms to ensure this stability, and, when necessary, how to renegotiate terms. The Precept concludes with a discussion of tax administration issues. This Precept focuses on the *instruments* of fiscal policy and administration. A discussion of the *actors* is provided in Precept 3.

#### ***Resource Sector Characteristics***

An appreciation of relevant resource sector characteristics is an essential prerequisite to success in this area. As such, this Precept begins by detailing the main characteristics of extractive industries in low-income countries that are relevant to the task of fiscal policy formation.

The oil, gas and mining sectors have a number of features which, while bearing on all links in the resource sector decision chain, present particular challenges to the

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<sup>1</sup> This Precept is applicable principally to the treatment of non-state owned extractive companies. The advice in this Precept is also useful where the government has decided to undertake arms-length treatment of its nationally-owned resource company (NORC) – essentially treating the NORC in the same manner as a non-state owned company.

<sup>2</sup> Fiscal provisions may be found in legislation (e.g., corporate income tax or royalties), or in contractual agreements (e.g., bonuses, profit oil shares). Wherever they are found, taken together they constitute the “fiscal regime”. Contractual forms as distinct from fiscal instruments are discussed in Precept 3.

design and implementation of fiscal regimes. These features are not unique to the resource sectors, but their prevalence in the resource sector gives them added importance there. These characteristics are summarized below, together with a brief discussion of their implications for fiscal design, administration and incentives to investment<sup>3</sup>.

***Long and costly exploration and development.*** The costs of finding and developing petroleum and mineral resources can be enormous - in the hundreds of millions or billions of dollars. To meet looked-for target returns on investment, investors will be attracted to fiscal regimes that provide for early pay-back of these up-front costs. The premium placed on early pay-back may also reflect a concern that governments may be tempted to renege on initial terms once sunk costs have been incurred, leaving the investor with little choice but to continue operations as long as any adverse revision to terms still allows at least for the recovery of the costs of continued operations.<sup>4</sup>

***High geological and technical risk.*** Resource projects are subject to considerable risks – geological risks at the exploration stage, technical and financial risks during development and continuing risks during production. Theoretically, large investors may be able to reduce risks through diversification of their project portfolios; yet it remains a well-known phenomenon that terms sought by investors and offered by governments are frequently correlated with perceived risks. The higher the risks, the more favourable the terms. This is readily observable both across countries and over time. The fiscal design challenge relates to achieving the right risk-reward balance.

***Volatility and uncertainty of prices.*** The volatility and uncertainty of resource prices are notorious, and constitute additional risks. These risks are systemic and not easily diversifiable within a resource project portfolio and may be even more significant for governments heavily dependent upon one or more resource and without an otherwise diversified economy. The fiscal regime will determine how price volatility risks and associated fluctuations in profit are shared between investors and their host governments.

***Resource exhaustion.*** Petroleum and mineral resources are non-renewable. New discoveries and new technologies may expand the reserves base, or the extent of the reserve base may be so great that its exhaustion may not be of immediate concern, but the fact remains that production today means less potential

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<sup>3</sup> See Boadway and Keen (2010) for a discussion of these and other resource features relevant to tax design.

<sup>4</sup> Investors can, and typically do, seek other forms of protection against such risks, e.g., stability clauses in contracts. See discussion under Section 6 below.

production in the future. Fiscal regimes should ensure appropriate compensation to governments for the loss of reserves.

***Difficulty in acquiring information and expertise on the extractive industry.***

Investors, in many countries, are better informed with respect to geological and technical risks, than their government counterparts. They also possess greater analytical capacity and negotiating skills. While efforts to improve capacity are useful, fiscal design can also mitigate government's disadvantages in these areas.

***Significant environmental and social impacts.*** Resource projects may have important adverse impacts on the environment and local populations. Precept 5 discusses the legislative measures required to prevent or mitigate these impacts; at the same time, the fiscal regime should provide for the recovery of associated investments and expenses.

***Prominent political profile.*** The political profile of the resource sectors is typically very high in countries with a heavy dependence on resource revenues. This may affect fiscal design in a number of ways. For example, it may place a premium on flexible fiscal regimes that adjust automatically to changed circumstances, simultaneously reducing popular pressure on government to renegotiate and investor concerns over renegotiation. It may lead to expectations that resource investors should take on responsibilities outside the resource sector, contributing to social and physical infrastructure. If so, these additional commitments should be recognized in the cost recovery provisions of the tax regime.

## **2. Objectives, Trade-offs and General Principles**

### **Objectives**

The principal objective of fiscal policy is to ensure that the country gets the full benefit from the resource, subject to attracting the investment necessary to realize that benefit.

In choosing the fiscal system that allocates resource revenue between the company and the government, the policy maker faces a dilemma. Investment is required to allow the government to benefit at all from the country's oil, gas or mineral wealth, so the fiscal system must provide the investor enough revenue to encourage investors. On the other hand, too generous a share of the proceeds from extraction will mean the country is not getting the full benefit from its resources. The fiscal system should balance these two concerns.

The full benefit of a country's resource includes sources other than the pure government revenue that a company pays. When designing the fiscal system consideration of these other benefits is necessary. Precept 5 discusses these other social, environment and economic costs and benefits.

## **Trade-offs**

Attaining this seemingly simple objective involves the policy maker facing a set of important trade-offs.

### ***Allocating risk: government versus resource company.***

As shown in the introduction above, revenue from the extractive industry is likely to be volatile, primarily as a result of the inherently volatility of commodity prices. Where resource revenues normally make up a large proportion of the state revenues, the government will be keen to manage this volatility. This can be done by choosing instruments that engineer a more stable revenue stream for the government, with the remaining, more volatile portion allocated to the company. These instruments are detailed in section 4 below.

Designing a fiscal system that exposes the extraction company to greater risk involves a trade-off however. Companies would also prefer to earn as stable a revenue stream as possible, so investors may demand some compensation (in the form of reduces tax rates, etc.) if the fiscal system makes their after-tax income more volatile.

This is not a simple trade-off between risk exposure and compensation. Often the resource company will hold a diversified portfolio of extraction projects (or the investors themselves will hold a diversified set of assets) so a greater degree of volatility can be faced by the company, without a necessary compensatory payment. On the other hand, in cases where the government does not depend on resource revenues, greater exposure to the revenue volatility may be more beneficial.

### ***Resource revenue timing: Now or later***

The typical time profile of revenue from an extraction project is humped shaped. The first years in the life of the project are spent developing the extraction site. Once this stage ends production typically increases and revenue can be earned. This last until the resource is close to depletion after which production typically falls to zero.

Within these physically constraints, the structure of the fiscal system can determine, to some degree, the periods in which government receives its share of the resource revenue (section 4 describes the instruments that do this). This can

help governments that may be capital constrained, for instance, by allowing them to receive their share of resource revenue early on in the project lifespan.

This engineering of the time-profile of revenues comes with trade-offs. Firstly, since the expected value of the stock of the resource is fixed, taking more of the revenue now leaves less for later. Less obviously, the introduction explained that investors would also prefer to receive their share of the revenues as soon as possible, government must provide some form of compensation.

### ***Efficiency versus administrative simplicity***

Section 6 explains that government can often suffer from a lack of expertise and information necessary to administer the fiscal system. This can result in a '*tax gap*' between the amount of revenue that the industry should pay to government, and the amount government actual receives.

Controlling this tax gap depends on two elements:

- The capacity of the tax authority/other institutions;
- The '*simplicity*' of the fiscal system, i.e. the amount of information required by the regulating institution to effectively administer the fiscal system.

The guiding principles below argue that improving the first element is generally always a good strategy. With regards to the second element, however, making the fiscal system simpler creates a trade-off. In essence, the fiscal instruments that are the easiest to administer, i.e. those that require the least amount of information to calculate correctly, generally have properties that conflict with the desire for governments to allocate an appropriate degree of risk with investors, control the timing of revenue payments, as well as other objectives of the fiscal system.

### ***Political risk***

There are a number of risks that make the resource revenue volatile; changes to prices, costs and geological uncertainty being prime examples. These risks affect the value of the resource and the total income from the extraction process. However, there can also be uncertainty over the fiscal system itself which acts to divide the resource income between government and the investor. This uncertainty, called '*political risk*', stems from the fact that the government often has an incentive to alter the fiscal terms after investment has been undertaken.

The larger the share of resource revenue going to the investor, the larger the incentive for the government to alter fiscal terms to expropriate more of this revenue for itself. In addition, as the introduction explains, since the extractives industry is often relative large in low-income economies, it attracts a prominent political profile. Governments can therefore face popular pressure to change fiscal

terms as well. This makes the relative shares of resource revenue important, not just from the perspective of achieving the main objective in this precept, but also influencing the stability of the fiscal system.

Section five explains the main instruments used to help reduce the incentive to change fiscal terms, and how these conflict with other trade-offs that government must consider.

## Guiding Principles

Meeting the objective set forth in this Precept while managing the trade-offs is a difficult task. This section provides a set of guiding principles that can help navigate these difficulties.

**Tax competition.** In setting the terms of the fiscal system, governments will consider how to attract investment in the face of competing uses of investors' funds. It is important to ensure, however, that the fiscal system is not the only factor that is included in this calculation. In countries with good investment environment, such as high value natural resources reserves, government should be prepared to adopt regimes that allow them to capture a substantial portion of that value and should not be deterred by the fact that countries with less valuable resources provide more favorable tax regimes.

**Generally applicable law.** Governments sometimes engage in one-off contract negotiations for particular projects (see Precept 4 for a discussion of the related issues). Where on-off contract negotiations are chosen, it is strongly recommended that they follow the generally applicable fiscal regime, except perhaps where the known value of the resource is very high and existing instruments will not adequately capture an appropriate share of that value for the government. In that case, the regime may be *supplemented* by additional charges or development requirements. On the other hand, if a project is not profitable under a well-designed resource regime, then it is doubtful that it should be undertaken at all – one-off contracts providing further tax deductions are not recommended. One-off contracts also raise transparency and accountability issues<sup>5</sup> and can increase the complexity of fiscal administration.

**Political risk and stability.** Governments with reasonably stable regimes and robust institutions are likely to be able to earn more from their resources. Resource projects typically have long lifespans, and once the investment is in place it for the most part cannot be moved. If the political and fiscal environment is uncertain, in particular, if there is a risk of expropriation of assets, investors will

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<sup>5</sup> See Precept 2 for a discussion on accountability issues.

normally demand a greater share of the resource revenues in compensation for facing such risks. Stability may also permit project development and operations to take place in a more efficient and socially responsible manner. Governments with effective institutions and a reputation for acting reasonably are more likely to attract investment and should be able to extract more value from their resources. This is not to say that the regime should be absolutely fixed. Both fiscal and contractual regimes need to be subject to modification and have built-in flexibility to reflect changing and uncertain circumstances.

**Public perceptions.** Another consideration in designing a fiscal regime, that relates to the stability of the system, is the public perception of who is gaining from resource revenues. There are numerous aspects to this. Some fiscal regimes offer a more visible indication of national share or ‘ownership’ than others. Regimes that offer returns to foreign shareholders before returns to domestic citizens may be unpalatable. While a country may want to reduce the volatility of revenue flows, a regime in which the country appears not to benefit from a commodity price boom may prove politically problematic. In this regard, much depends upon the strength of political institutions and public understanding of the nature and volatility of resource prices.

**Robustness to changing conditions.** A key component to avoid instability is to ensure resource regimes are robust to any changes in conditions on the ground. Fiscal systems must accommodate a range of projects that may be exploiting resources of quite different value. At the time the government is allocating rights to extract the resource or licensing an investor, the government may have limited information about the size of the resource or its projected value. Tax and fiscal regimes should seek to be robust to changing circumstances. This implies balancing both some kind of payment linked to production and some kind of payment linked to profitability. This can help ensure a revenue stream that rises with increased rents or world prices, but that does not excessively distort investment decisions during low prices.

**Appropriate incentives.** As well as inducing initial participation, the contractual and fiscal regime also has to provide the framework in which companies make appropriate operating decisions, from the perspective of the country. Some fiscal instruments may create incentives to deplete the resource faster than is efficient, or to leave reserves in the ground that could otherwise be extracted efficiently. The regime has to contain incentives for efficient depletion (perhaps by providing the right price signal or determining the rate of extraction) and also for appropriate risk management and environmental good practice.

**Administrative capacity.** Another factor that may be important is the administrative capacity of the government. While complex and sector-specific regimes may offer advantages in principle, if they are hard to administer these

benefits may be not achieved and, worse, they may create opportunities for discretionary and potentially corrupt practices. This can not only cost the country income, but also damaged public perceptions of the extractives industry. The rules should be consistent with the level of administrative capacity with planning for the system's evolution as institutions and capacity develops. Where capacity is limited, e.g., compliance auditing, the government should obtain expert assistance.

***Clarity and avoidance of discretion.*** The rules should be clear to both government and investor (and the public) and rely on objective elements that may be observed and verified. Rules and contracts should avoid discretionary elements in interpretation on the part of government or the investor. The rules of the fiscal regime should be established in law and readily available to investors and the public.

### **3. Special topics on resource taxation**

This section explains three concepts that underpin much of the thinking behind fiscal design:

- Tax neutrality;
- Compensating the resource owner via fiscal instruments; and
- The taxation of transfers of resource interests

#### **Tax Neutrality**

Taxes are considered more “neutral” to the extent that they do not result in different orderings of investment and operating choices associated with resource extraction. This means that the tax itself, or a change in the tax, does not alter the order in which projects are undertaken and in principle would not alter other decision regarding reinvestment and the speed of extraction<sup>6</sup>.

A more expansive definition of tax neutrality might imply that a neutral tax should not result in different investment and operating decisions post-tax from pre-tax. In practice this ignores the fact that some payments (such as ad valorem royalties) reflect the opportunity cost of holding resources in the ground, and therefore reflect the inter-temporal tradeoffs of extraction timing. A royalty may therefore delay extraction, however if correctly priced, this would reflect inter-temporal optimality on the part of the resource owner.

In practice no observed taxes are fully neutral. Moreover, choosing investments on the basis of pre tax profitability may not in fact be efficient if there are large

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<sup>6</sup> This definition is followed by *Philip Daniel, p. 1990, Taxation of Petroleum*



externalities for which the investor is not responsible, e.g, environmental liabilities.

Neutrality may be desirable from a fiscal point of view in that it maximizes the government's tax base, i.e., the starting point for revenue maximization. In practice, neutrality is a matter of degree. Virtually all observed taxes are less than fully neutral

### **Compensating the owner of the resource<sup>7</sup>**

A country's natural resource reserves underground have value. The owner of the resource, which is often the state, should be paid compensation for allowing them to be extracted.

One way to think of this is it to consider the resource reserves as an input used by the extraction company in the same way in which productive capital and labor are inputs. The extraction company pays the owners of the productive capital (machines, oil rigs, etc) and labor (the miners, geologists, etc) a price, in the form of interest payments and wages. In the same manner, the extraction company should pay a price to the owners for the resource reserves it uses.

Thinking about resource reserves as one of the factors of production distinguishes resource taxation from most other industries, since, in other industries, the state is not supplying businesses with a factor of production. For resource taxation, charging an appropriate price for the use of the resource reserve ensures that it is used efficiently. The fiscal regime has to *change the behavior* of the company in a way that makes it use the resource reserve efficiently. Crucially, this differs from the notion of a fiscal system being *neutral* (see note on tax neutrality).

If the state's resource reserves should be priced in this manner, what price is appropriate? As with any other input into a business, the price should be equal to the *opportunity cost* of using that input. The opportunity cost of extracting the resource is the benefit the owner could have got from not extracting it. What benefit might this be? Firstly, not extracting the resource *now* means the resource can still be extracted in the *future* – so if extraction costs fall, or the price of the refined mineral increases, the owner stands to benefit. Secondly, not extracting the resource now benefits the owner from avoiding the costly effects of Dutch Disease (see Precept 7), environment/social costs (see Precept 5), as well as the potential degradation of the country's governance.

What does this imply for the appropriate fiscal system design? Ensuring that the fiscal system pays the resource owner the correct compensation for extraction can

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<sup>7</sup> This note draws on the work of Conrad and Grosav (2009), and Conrad (2012).

result in a different fiscal system that is designed to merely capture the *economic rent* from extraction.

The *economic rent* of a project is the total value of revenue from the sale of the resource, less all the costs of exploration, development of the extraction site, and the extraction itself. Importantly, the cost of capital invested in the project should also be included, but not the cost of the resource reserve. Essentially, economic rent is the extra profit made on the project.

A fiscal regime that merely captures economic rent, say by using a *resource rent tax* (see main text), does not affect the behavior of the extraction company – it is said to be *tax neutral*. In the taxation of standard industries this can be an appropriate objective as it ensures that factors are used as efficiently as possible. However, in the case of resource extraction the tax regime has to play a secondary role of charging the company for the use of the resource reserves. In this case, we *want* the tax system to change the behavior of the company so as to use the resource reserves efficiently.

### **Income and other Taxes on Transfers of Natural Resource Interests**

*Gains realized by taxpayers on transfers of natural resource interests can be substantial and are appropriate subjects for taxation.*

Investors holding resource interests may sell or transfer natural resource interests for many different business reasons. The gains from such transfers can be large.<sup>8</sup> Their taxation offers a number of advantages. First, the gain is “economic” income and taxation of the gain assures country participation in an element of natural resource wealth that might otherwise escape taxation entirely. Secondly, even if there is a subsequent offset,<sup>9</sup> taxation of the gain accelerates revenue. This is especially important where large resources are newly discovered or are in development and significant tax revenue will otherwise be postponed until well into the operational stage and will even then depend upon the country’s ability to successfully manage the income tax. Third, computation of the gain is

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<sup>8</sup> See footnote 3 and Myers, *Selling Oil Assets in Uganda and Ghana*, (Revenue Watch, 2010), for a listing of other large gain transactions in the oil industry.

<sup>9</sup> In some systems and for some types of gains, taxation of the gain can result in reducing the taxpayer’s future taxable income. In many cases, however, there is no offset. For instance, in the United States taxation of the gain on the sale of an interest in a non-pass through entity does not affect the “inside” basis or future tax liability of the entity. But even where there is an later offset, deferral itself represents a significant potential loss to a country as noted above.

relatively simple compared to the complexities in computing taxable income, a computation affected by interest, transfer pricing and other difficult matters.<sup>10</sup> Fourth, in the case of large projects it provides an important political matching in which the country sees a benefit from the resource at the same time as the original developer. Indeed, the possibility that such gains may escape taxation has been a subject of considerable political controversy.

When the transferor or seller is a domestic entity in the source country, any gain is subject to taxation by the source country in accordance with its normal tax rules, e.g., taxed as ordinary income, taxed as a “capital” gain subject to special rates, or [not taxed at all]. Transfers can take many forms<sup>11</sup>, and under domestic law some transfers may be taxable events, e.g., sale of an interest, and some may not, e.g., a farm-out.<sup>12</sup> The amount of gain, when it is realized, and the adjustments to affecting future tax liabilities are all determined according to domestic law.<sup>13</sup> Certainly where other gains are taxed those related to natural resources should be taxed as well. Indeed, even when other gains are not taxed or taxed at preferred rates, governments may wish to tax gains from natural resources for the reasons given above.

For those countries where domestic gains would be taxed (most countries), the difficult policy issue is whether gains recognized by non-residents should also be taxed when the gains are attributable to the value of the source country’s natural resources. Not taxing the gain discriminates against domestic investors and can result in the loss of significant tax revenue, losses which may be felt both politically and economically because of their visibility.

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<sup>10</sup> Cross reference discussion of the income tax.

<sup>11</sup> Examples of transfers: the sale of an interest in a license itself (an asset transfer), a sale of an interest in an entity or upstream entity indirectly holding a license, the grant of an overriding royalty, a “farm out” (a transfer by a lease holder, the “farmer” of an interest in a lease to another party in exchange for the other party, the “farmee” assuming certain of the work obligations of the farmer), or the sale of new shares in an entity holding directly or indirectly an interest. See, e.g., Sunley, supra.

<sup>12</sup> Administrative reasons often counsel not taxing gains currently when cash consideration does not pass.

<sup>13</sup> See Myers, supra, for a general review of domestic practices in taxing gains.

In spite of these considerations, historically the gains by non-resident taxpayers have often escaped taxation by the source country.<sup>14</sup> This is the result in large part of the difficulty of exercising jurisdiction over non-resident entities, in some cases buttressed by older double taxation agreements.<sup>15</sup> Practice and thinking are shifting. The OECD Model Tax Treaty now recognizes the right of the source country to tax gains attributable to “immovable property” in the source country. Immovable property should include natural resources or rights with respect to such resources.

Even when the right of the source country to tax the gain is recognized, taxation of non-residents raises many practical problems in enforcement and administration. The taxing authority needs to establish rules which allow it to tax where there is a significant potential liability but without asserting jurisdiction or involving itself in transactions remote from the core interest of retaining a fair share of the value of its natural resources or which would overload already limited administrative capacity with little return. A focused approach further minimizes potential disputes with other taxing jurisdictions which may also have claims against the gain.

A number of distinct cases arise where the source country may want to assert jurisdiction. Among the most important are:

1. A transfer or sale by a non-resident of (a) source country assets, e.g., lease rights, real property interests, or (b) shares in a source country legal entity. Taxing the gain in such cases would treat both domestic (source country) investors and foreign investors alike. The rule could be limited to real property and natural resource asset transfers or to share transfers of entities holding such assets, but there is no necessary reason for doing so.<sup>16</sup>

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<sup>14</sup> The gains may be taxed by the taxpayer’s resident country but through structuring and the use of holding companies in “tax-haven” countries, the gains are frequently not taxed at all.

<sup>15</sup> Some have argued that not taxing gains by non-residents is merely a timing issue since taxing the gain now results in a reduction of taxable income later. In fact significant losses can be still incurred.

<sup>16</sup> In asserting jurisdiction, a country must take account of any double tax treaties it may have as some treaties based on OECD models would exempt the non-resident from taxation in this regard. The UN model double tax treaty leaves this issue open for negotiation. This is a reminder of the need to carefully consider whether such treaties are consistent with the government’s interests. See Part [Cross reference discussion of tax treaties].

2. A transfer or sale by a non-resident of interests in a non-resident entity the value of which is principally attributable to real property or natural resource interests in the source country (an “indirect” transfer). This is the typical high profile case where an investor sells an interest in an off-shore holding company with the result or intent of avoiding source country taxation. The limitation to natural resources and real property interests is intended to restrict the assertion of jurisdiction to the core interest of the source country and where the claim to tax is strongest.

Any taxation of indirect transfers by non-residents requires certain limiting rules. To facilitate administration and keep the assertion of jurisdiction within the bounds of practice elsewhere, the government needs to focus on significant transactions. This can be done in a number of ways. One method is to use a series of percentage tests with respect to (i) the size of the interest in the non-resident company being sold, (ii) the size of the indirect holding in the source country being transferred measured either by value or the percentage of shares in the source country entity, and (iii) the nature of the assets in the source country being indirectly transferred.

For example, taxation might be limited to instances where (i) the non-resident is selling 10 percent or more of the stock of the non-resident company and (ii) the non-resident company holds directly or indirectly either 10 percent or more of the shares or shares valued at \$10 million or more in the source country entity.<sup>17</sup> Further, taxation could only apply where the source country entity holds some percentage by value, e.g., 50 percent, of source country real property or interests in real property including any natural resource interests or concession interests related to natural resources. Where the value of the interest sold is attributable to both source country property and non-source property, the taxable gain in the source country would need to be allocated in proportion to value of the source country and non-source country property.<sup>18</sup> Legislative or regulatory language

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<sup>17</sup> The application of the rule requires going through the chain of ownership. To illustrate, if Y owned 50 percent of non-source country entity Z, and Z owned 30 percent of source country entity X, Y would be deemed to own indirectly 15 percent of X, and a sale of 10 percent or more of the shares in Y would be subject to tax by the source country. Constructive ownership rules would attribute interests owned by related persons to the seller so that shifting of ownership within the corporate group could not be used to circumvent the tax.

<sup>18</sup> The burden of proof on the allocation should be on the taxpayer which has superior access to information.

would need to include general anti-avoidance rules if they do not already exist and would also need to address step transactions,<sup>19</sup> the use of groups, and other avoidance devices. Any tax on the gain of the seller or transferor could be backed up by a withholding obligation on the buyer or transferee.

Any tax on non-residents and indirect transfers requires the taxing authority to have notice of the transaction and relevant information. This may be accomplished by requiring any domestic company, or more restrictively any domestic company holding real property or natural resource related rights, to maintain and provide to the tax authorities information on any holder of a beneficial interest (direct or indirect) in the entity exceeding some percentage, e.g., 10 percent, and to require notification of any changes in ownership.<sup>20</sup>

Because the taxpayer, a non-resident entity, and the transferred property, e.g., shares in a non-resident company, are outside of the domestic jurisdiction of the source country, enforcement requires the government to have some mechanism operating on that which it can reach – the property within its jurisdiction. One such mechanism is to deem the interest within the country to be held in trust for the source government until the tax is paid allowing the tax authorities if necessary to seize or attach such interest to assure payment.

In addition within resource contracts themselves the government can require notification of direct and indirect transfers and make such transfers subject to the payment of the applicable taxes (as well as other appropriate requirements, e.g., eligibility to hold the interest). Failure to report and have the tax paid would be a breach of the concession agreement itself.

#### **4. Fiscal Regimes**

Governments face choices regarding the overall fiscal regime. The choice of fiscal regime will be determined by the objective of the government. Once the choice of fiscal regime is determined, the mix of instruments within that regime should be considered. Various instruments can be tailored to achieve equivalent aims and

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<sup>19</sup> For instance, in determining the trigger under item (i), sales should be accumulated over some period, e.g., 5 years.

<sup>20</sup> Information on upstream ownership has other benefits in promoting integrity in the natural resource sector and policing holdings by “prohibited” persons or other undesirable interests.

various instruments can be applied across different fiscal regimes. We discuss individual instruments in section 4.

There are three main types of fiscal regimes: *Tax-Royalty*, *Production Sharing* or *Service Contracts*. However, particular elements of each may be common to all. Further, the objectives motivating the choice of a particular type of fiscal regime may be achievable under the alternatives, given the right mix and configuration of instruments. Thus, it is important to recognize that the fiscal regimes, and the mix of instruments within those regimes, can be structured to be equivalent in fiscal terms – what matters is their detailed content, not the label attached.

Further details of these three types of fiscal regimes are provided in Precept 3.

### **Tax-Royalty Regime (Concessionary System)**

*Government levies a combination of taxes and royalties on the natural resource company.*

Tax-Royalty regimes, also known as Concessionary regimes, usually involve a combination of a corporate profits tax, a royalty, and, increasingly often, some type of Excess Profits tax. In addition, a resource company is likely to face the range of taxes that other businesses in the economy face such as withholding taxes and VAT. Further tax deductions and allowances, such as accelerated depreciation rates and carry forward of loss provisions, can also be applied. Each of these instruments are described section 4.

Different combinations and designs of these taxes can produce a large range of different fiscal regime characteristics. This can be engineered to attain different objectives, for instance, by managing the extent to which the investor can recover its costs, or the extent to which the government is subject to revenue volatility.

### **Production Sharing Regime**

*Payment of a share or the value of a share of production to government or its agency after allocation of a fixed share of production to the investor to recover costs.*

Production sharing has been used principally in the petroleum sector although recently attention has been given to its use in the mineral sector as well. Under a Production Sharing Agreement (PSA) a fixed maximum percentage of production (known as ‘*cost recovery*’ or ‘*cost oil*’) is allocated to the contractor/investor for recovery of costs in any one period, typically in the range of 40 to 60 percent<sup>21</sup>,

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21 See Nakhle (2010). p99 to 101.

and the production remaining after cost recovery (known as ‘*profit oil*’) is shared between government, usually represented by its national oil company, and the contractor on an agreed percentage basis.<sup>22</sup> Production sharing thus has many of the same features as a profits tax. The percentage limit on production allocated to cost recovery, however, guarantees government an early and dependable revenue stream much as a royalty would (see Section 4 for an explanation of Royalties). Finally, the share of profit oil going to the government often increases as production or some other measure of profitability increases, adding to production sharing the central features of a windfall or resource rent tax (described below). Under most PSAs, the contractor is still subject to the standard profits tax which other businesses in the economy face.

## **Service Contract**

*Payments by government to a contractor to perform a specific task or provide specific services.*

Service contracts in a sense are the reverse of fiscal charges in that they involve payments by government to the contractor rather than the reverse. In so doing, however, they simultaneously define payment to the government – the residual after the payment to the contractor.

The simplest form of service contracts is either a flat payment or fixed fee on top of cost recovery. The appeal to government of this type of fee, aside from any sovereignty or nationalist motive, lies in the fact that it leaves all potential profit upside to government; the drawback is that it also leaves all the risk with government. The service contracts awarded by Mexico’s Pemex are classic examples.

Where risks are in fact shared between government and the contractor, as they typically are for larger projects, the service fee is structured to be responsive to contractor performance (production, cost control etc.) and exogenous risks (price) or achieved profitability. All rights to production and associated revenues are retained by government, but risks are effectively shared. Fee structures of this type are characteristic of the so-called risk-service contract.<sup>23</sup>

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22 The intent here is only to describe the fiscal content or implications of a PSA. PSAs as legal/contractual systems are considered in detail in Precept 3.

23 The fiscal provisions of contracts often account for the labels assigned to them, e.g., tax-royalty, PSA or risk service. For a broader discussion of contract forms see Precept 4.



It should also be noted that, in addition to the service fee, contractors can still be liable for income tax and other taxes such as royalties.

## 5. Fiscal Instruments

Described below are a number of commonly found petroleum and mining sector fiscal instruments and the principal considerations in their application.<sup>24</sup> While the instruments and their pros and cons are discussed individually, it is important to keep in mind that the performance of any fiscal regime depends on the combination of all the instruments that it contains.

### Principal Instruments

#### *Royalty*

*A payment usually made in proportion to the value of the resource extracted or more rarely on a per unit basis. Royalty rates may be variable, where, for example, the royalty rate is linked to changes in world prices of the resource.*

There are three main types of royalties. The main factor of differentiation is the degree to which the burden of tax varies with the value of resource extraction:

- *Fixed-rate (ad-valorum) royalties* charge a fixed percentage of the value of extracted resource, or the value less some allowable costs.
- *Variable-rate (ad-valorum) royalties* charge a rate that varies according to some defined factor, usually the market price of the commodity. This rate is applied to the value of extracted resource, or the value *less* some allowable costs (these can also be characterized as progressive tax instruments, as described below).
- *Per-unit royalties* charge a fixed fee for each unit of production (for instance, five dollars for every barrel of oil). This type of royalty is less common than ad-valorum royalties.

The actual tax base of the ad-valorum royalties can be purely the value of the extraction, or may allow some cost deductions such as transport, insurance and, sometimes, processing costs. Such deductions can have significant effects on the amount of revenue that is collected, and care should be taken when comparing different royalties. Essentially, the greater the types of costs that are included in this way, the closer the characteristics of the royalty are to a profit-based tax.

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<sup>24</sup> Recommended surveys of fiscal instruments include Tordo (2007), Baunsgaard (2001), Otto (2006), Oxford Policy Management (2008)

Royalties involve both costs and benefits, a trade-off which must be managed. They ensure that the government directly captures the value of its resource endowments throughout the extraction profile. They also ensure some minimum flow of revenue according to production and price levels. In addition to ensuring that some payment is received for the resource, royalties have three significant advantages over profit instruments discussed below. The first is that a properly designed royalty system, based on readily observed elements (price, production) is relatively easy to monitor and administer. The second advantage is that revenue flow will come quite early in the lifetime of an investment (as soon as production takes place), rather than being postponed, as in profit systems, until capital charges or loss allowances are met. A third advantage of royalties is that the payments are more stable in response to revenue fluctuations than payments resulting from profit taxes.

The disadvantage of royalties is that they are insensitive to profit. This entails greater financial risk for the company as the royalty payments are made even when the operation is making a loss. There is also concern that royalties can induce inefficient investment, depletion and operation strategies. A high royalty rate linked to output, for example, may cause premature suspension or abandonment of production as a result of its insensitivity to the declining profit margins typical late in the life of an oil field or mine.<sup>25</sup> Even if this is so, government may be better off by having enjoyed a higher royalty over the course of earlier production. If such problems arise and are documented adequately, there can be provision for adjustment on a case-by-case basis. As always, however, in any grant of discretion, there is the possibility for abuse or corruption. Governments without strong administrative systems may be better advised not to grant such discretion.

A further point to note is that royalty payments by companies are often treated as recoverable costs for profits tax purposes in most jurisdictions. This means that an increase in revenue from a rise in royalty rates can be offset, to an extent, by a fall in revenue from an accompanying profits tax, providing positive profits are made in the first place.

### ***Profits taxes***

*A tax on income measured as the difference between gross revenue and allowable expenses including capital cost recovery.*

Profits taxes are typical of almost all petroleum and mining fiscal regimes. They may be specific to the resource sectors, but in most countries they are taxes of

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<sup>25</sup> Premature in the sense that potentially taxable income from production that is still profitable pre-royalty is lost along with the suspended or abandoned production.

general application and provide the background to other aspects of the resource sector fiscal regime.

The principal advantage of profits taxes over revenue-based taxes like Royalties (see above) is that they allow cost deductions<sup>26</sup>; since they are charged only on some definition of profit. (See below for further details on cost recovery/deductions). This gives profits taxes two advantages:

- Firstly, a company only pays tax when it is earning profits; a royalty has to be paid even when the company is not profitable, potentially putting the company under financial strain.
- Secondly, a profits tax always provides an incentive for the company to increase their profits by either increasing its production, reducing its costs or a mixture of the two. Since some of this extra profit is also taxed, it benefits the host country too.

From government's perspective, the possibly increased complexity of their administration relative to royalties, largely due to the need to monitor taxpayer costs. Although a profits tax is more difficult to administer than a well-designed royalty, the problems are not unique to the resource sectors, and a country with a well-developed corporate tax system should be able to apply it to the resource sector without any greater difficulty than experienced in other sectors. However, for countries with less developed systems and less experience in dealing with large international investors, the challenges can be significant. The increased government revenue volatility associated with profits taxes is seen by governments as an additional disadvantage of this fiscal instrument.

Although not an inherent characteristic, profit taxes, in practice, are often accompanied by capital cost allowances. This has the potential to defer revenues while upfront costs are recovered by the investor. These instruments are discussed in the next section.

At normal corporate levels, e.g., generally applicable corporate income tax rates, which for most regimes fall in the range of 30 to 35 percent, profits taxes may leave a significant portion of resource rents with the investor. It explains why in some instances the rate of the profits tax on resource extraction is higher than the generally applicable profits tax rate, e.g., in Angola and Nigeria where the company profits tax on oil is 50 percent.

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26 Technically, some royalties also allow costs, but it is a matter of degree: Profits taxes allow more cost items to be deducted against taxable income than royalties.

### ***Cost recovery***

*Provisions which determine the extent and pace of investor recovery of costs under profits taxes or production sharing*

Cost recovery provisions should be viewed as fiscal instruments in their own right. They are critical to the assessment of any fiscal regime and include, among other things, definition of recoverable costs, allowable amortization or depreciation rates, limits on loss-carry-forwards, cost oil limits in the case of production sharing, and capital allowances. The definition of recoverable costs has its main impact on the size of government revenues, while expensing and depreciation rules, and cost oil limits have significant implications for their timing. Selected cost recovery provisions featured in petroleum and mining fiscal regimes are discussed below under the section 'Fiscal allowances, deductions and special topics'.

### ***Progressive tax instruments: Excess profit, resource rent and windfall profit taxes***

*Progressive tax instruments designed to maximize, to the furthest extent possible, state capture of resource rents or windfall profits by adjusting automatically to some measure of expected or actually achieved profitability*

Progressive fiscal instruments are intended to increase government's share of project profits or rents as underlying profitability increases. They are now widely applied in the petroleum industry and, following on the boom in mineral prices, increasingly found in the mining industry. They usually come in the form of additions to other base-line fiscal instruments. While the actual names of these taxes differ from country-to-country, they usually are expressed as:

- sliding royalty scales (royalty rates escalating as a function of price, sometimes production, or mine size, and often with location);
- payments linked to sliding production scales (escalating in government's favor with cumulative or daily production, as in production sharing); or
- additional/windfall profits or rent taxes (linked to absolute profit levels or profitability indicators).

While the emphasis and political motivation in introducing progressive tax instruments has been on capturing upside revenue or profit potential, they are also expected to bring fiscal flexibility or robustness to the overall fiscal regime, i.e., automatic adjustment to changing circumstances - low government take when profitability is low, high take when profitability is high.

The effectiveness of progressive tax instruments depends on their detailed specification. The difficulty with most mechanisms is that the proxy for

profitability to which the additional tax or payment is linked is faulty or incomplete and, as a result, the intended objective is not achieved. For example: prices are incomplete indicators of profitability because they ignore the influence of production and costs; production ignores prices and costs; and both miss the impact of timing on profitability. Location is at best a flawed indicator, ignoring prices, production and cost. Table 1 below illustrates the failure of most proxies to fully reflect the key dimensions of profitability. Some fiscal regimes have attempted to address these failings by using multiple indicators – price, production, location etc.<sup>27</sup> Doing so, however, greatly increases the complexity and burden of negotiations (to the extent they are used as criteria in license awards) and fiscal administration.

The most accurate mechanisms are those which are based on actually achieved investor profitability measured by the *rate of return* of the extraction project. In this way, all influences on profitability are then included in a single measure. If accuracy is the advantage of the this approach, its most often cited disadvantage is its perceived administrative complexity, but in fact administration of the tax depends solely upon ascertaining the correctness of the same items of deduction and income as required by the profits tax. Other less accurate mechanisms – price, production, etc. are more easily observed and monitored. This is another example of the trade-offs faced in designing a fiscal regime for the resource sectors.<sup>28</sup>

**Table 1 Responsiveness of Profitability Proxies to Dimensions of Profitability**

Proxy	Dimensions of Profitability				
	Reserves/ production	Price change	Costs	Timing of cash flows	Cost of capital
Production (daily or cumulative)	Yes	No	No	Partly	No

<sup>27</sup> Yemen, and early Trinidad and Tobago and Angolan regimes provide good examples of this behavior.

<sup>28</sup> For detailed discussions of resource rent taxes, their IRR formulation and comparisons to other fiscal instruments, together with numerical examples of their calculation see Land (2010) and McPherson and Palmer (1984). Boadway and Keen (2010) provide an excellent theoretical basis for resource rent taxes. Examples of legislative or contractual language can be found in the Liberian Revenue Code or the Angolan Model Petroleum Contract.

Price (price caps or base prices)	No	Yes	No	Partly	No
Revenue (price and production)	Yes	Yes	No	Partly	No
Simple indicators (location, vintage, and so forth)	Partly	Partly	Partly	No	No
Rate of return	Yes	Yes	Yes	Yes	Yes

Source: McPherson and Palmer (1984)

### ***One-off payments***

*Payments made in connection with a particular event such as contract signature or award, declaration of commerciality or attainment of a specified level of cumulative or daily production. One-off payments may also be associated with meeting a commitment to community support or provision of specified infrastructure*

The most common form of one-off payment is the bonus, paid on contract signature, commercial discovery or at specified levels of production. Bonuses may be bid, negotiated or fixed. Signature bonuses, especially when competitively bid in the context of a licensing round, can be quite large. They are attractive to government because they are made up front and boost government fiscal take where there is a concern that the combination of other fiscal terms will collect less than the investor is willing to pay. Competitive bonus bidding is also an important way to offset the asymmetry in information and negotiating skills available to government, as noted above.<sup>29</sup> Bonuses may be less attractive to investors however, causing investors to be wary of sizeable upfront payments. If bonuses are followed by a compensating reduction in taxes then there may be a greater incentive to raise taxes after investment has been undertaken. This is particularly the case where the host government's track record in honoring fiscal terms over time is questionable and there are not sufficient checks on the government. Investors in this situation therefore balance the benefits of an upfront payment against the increased uncertainty of the fiscal regime in the future.

This in addition to other uncertainties at the time of bidding may cause investors to highly discount expected returns and correspondingly reduce bid bonuses. For this reason, most governments depend mainly on fiscal instruments that are contingent on results, while including bonuses in the fiscal mix as useful

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<sup>29</sup> See also discussion under Allocation of Licenses, Precept 3.

complements to those instruments. Other positive features of signature bonuses include neutrality (as sunk costs they cannot distort future investment decisions) and administrative simplicity.

The cost recovery treatment of bonuses is variable – they are often recoverable for income or profits tax purposes, but not treated as recoverable costs under production sharing. Although, as noted above, there is no technical reason preventing either regime type allowing or disallowing this.

One-off payments may also be associated with meeting a commitment to community support or provision of specified infrastructure.

### ***State equity participation***

*State equity participation in resource sector operations through acquisition of an equity interest in an incorporated joint enterprise or a share in an unincorporated joint venture with the intent of obtaining a fiscal benefit.*

States frequently require investors to give the government a participating interest in the entity or joint venture developing the resource. State participation may be motivated primarily by non-fiscal objectives, as discussed under Precept 6, but, as typically structured, it has a financial or fiscal dimension as well. The participating interest may be held either directly or through a government holding company or Nationally-owned Resource Company. It may be an interest in either an incorporated joint enterprise (common in mining) or a share in an unincorporated joint venture (common in petroleum).

Equity participating interests can take several forms:

An interest can be “*free*” in the sense that government does not pay for the interest nor does it have the responsibility of making contributions if additional capital is required. Of course, this is not actually free, but must be paid for in other ways - requiring a “free” interest may involve the government giving up other fiscal benefits if it wants to attract the desired level of investment. Depending on the legal status of the state’s participation (joint enterprise participation or joint venture) free participation is equivalent to either a dividends tax or a cash flow or profits tax. State participation through production sharing is fiscally and financially similar to free participation; it differs in that it involves the state in the conduct of operations (see Precept 6).

An equity interest can also be “*carried*.” In a carried interest the investor makes the capital contributions on behalf of government and then recoups them, usually with interest, from future dividends (the incorporated joint enterprise case) or project cash flow (the joint venture case) to which government is entitled by virtue of its interest. The carry may be confined to exploration expenditures or it may extend through the more expensive development phase. Ordinarily, the investor

has no direct recourse to government other than the dividends or cash flow from the project, in other words the investor is providing project finance. The value of a carried interest is very much affected by the interest or “uplift” rate on the carry. The greater the interest rate the longer the period before the government will see any dividends and the lesser the burden on the investor. Structured in this way, carried interest participation is equivalent to the rate-of-return-based resource rent tax described above.

It should also be noted, that interests can be mixed: part of the interest can be ‘free’ while the other part can be ‘carried’.

An interest can also be ‘paid’; in which there are two types of ‘paid interest’. The government can acquire the interest a market price, which essentially is equivalent to a normal purchase of assets on the open market. Alternatively, the interest can be acquired at some agreed cost of the assets, which is likely to be lower than the market price. In the case of a paid interest, government remains liable for capital calls like other shareholders. In some instances the government may hold an option to acquire a paid interest, the option having value as the government can look at the value to see whether it is a benefit at the time that it is required to exercise the option. Any net benefit realized through the option is effectively a loss of value to the investor.

Although participation may provide the government some additional non-fiscal benefits or rights, at the economic level, the different forms of participation are equivalent to taxes. Government will want to consider whether an efficient tax may better in some circumstances.

### ***Choosing the right mix***

Table 2 matches the several fiscal instruments discussed above with policy choice, as outlined in the objectives, trade-offs and guiding principles at the beginning of this Precept.

***Table 2 Fiscal Objectives and Fiscal Instruments***

<b>Fiscal Objective</b>	<b>Preferred Instruments</b>
Rent capture/progressivity	Progressive taxes or production shares, ideally rate of return-based. Service fees.
Neutrality/broad-based development	Profits-based taxes
Robustness/adaptability	Progressive taxes or production shares, ideally rate of return-based



Early, dependable revenue	Royalties. Setting minimum percentage of profit oil, i.e., limiting annual share devoted to cost recovery
Limited risk exposure	Royalties
International competitiveness	Impact of overall mix of instruments is critical
Simplicity	Royalty. Taxes or shares linked to easily observed indicators

Given the multiple objectives of fiscal design, and the fact that no one instrument can meet all objectives, fiscal regimes invariably are constructed as packages, including several elements.<sup>30</sup> The variety of practices available underscores the importance of looking at the impact of the entire fiscal package before forming a judgment on its merits. The value of economic modeling and international comparisons in coming to a decision on a fiscal regime and appropriate parameters is discussed in Section 5 below under Fiscal Models. Considerations other than purely fiscal ones, will also be important in assessing fiscal regimes - e.g., their effectiveness in avoiding or mitigating adverse social and environmental impacts. These are discussed in Section 5 and under Precept 5 below.

## Other Fiscal Instruments

### *Capital gains taxes*

*Taxes on gains from the sale of license or concession interests. A capital gain is defined as part of economic income. The government has a choice whether to tax them on an accrual or realization basis*

The sale of license or concession interests is common in both the petroleum and mining industries. The sales option is generally regarded as beneficial in that it makes possible the transfer of resource development opportunities to those best suited to exploit them. Typical transactions involve sales by smaller risk-taking explorers to larger corporations with the financial and technical resources required to develop what has been found.

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<sup>30</sup> Theoretically a single tax could be designed to meet all the objectives, although the design would have to incorporate a number of complex elements. In practice, policy makers use a combination of tax types which can be designed to be equivalent.

Gains by sellers can be quite large and many consider a large part of these gains to be rent. Depending on how the transaction is structured, however, the gains may escape taxation altogether. In recent years, however, the gains or premiums achieved on the sale of license interests, largely as a result of dramatic increases in oil and minerals prices, have been so substantial as to provoke a re-examination of their fiscal treatment.

Two issues arise. One is the design of an appropriate tax. The second is compliance. Three design options are shown in Box 1: ignore capital gains; tax seller gains but allow buyer deduction; and asymmetrical treatment of buyer and seller.<sup>31</sup> The preferred option will depend on policy. The first option is likely to prove politically unpopular in many, if not most, developing countries. The third will certainly have a negative impact on investor interest. The second option may represent a reasonable compromise.

Compliance becomes an issue where transfers are effected offshore through affiliated companies and outside the host country taxing jurisdiction. In such cases the beneficial interest in the resource can be transferred without requiring any transfer of the underlying interest in the license. To reach transfers of this nature, governments may have to impose special tax provisions, enforced by subjecting both direct and indirect transfers to government approval, such approval being contingent upon evidence of the appropriate tax having been paid.<sup>32</sup>

It should be noted that imposing a capital gains tax does not solve the problem faced by government. Assets can be transferred and the seller can retain an economic interest by being compensated with an overriding royalty payment from the buyer. In this case it is important that the royalty can be defined as domestic source income and taxes (perhaps via withholding) and the buyer allowed a deduction.

***Box 1. Taxation of Capital Gains on the Sale of License Interests***

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31 The treatment of capital gains on interest transfers is frequently much more complicated than even Box 1 might suggest. See Myers (2010).

32 It should be noted that having a capital gains tax on transfers does not always address the problem. For example, sellers can be compensated for transfer of an asset by assignment of an overriding royalty. In this case it is important that the royalty be defined as domestic source income and taxed as such, and that the buyer be allowed a deduction.

Three possible approaches to the taxation of gains on license transfers are commonly discussed and exist in practice:

*Ignore capital gains in taxing both the seller and the buyer.* This approach is administratively convenient and has the advantage of not discouraging transfers of properties to buyers who are better placed to develop them efficiently. Its principal drawback may be the perceived political cost involved in allowing possibly very large sums, attributable to the country's resources, to go untaxed. Norway has adopted this approach, however.

*Tax gains by seller and allow buyer a corresponding deduction.* This approach, applied in Angola, is neutral from a tax paid standpoint. It can, however, produce a significant cash flow timing advantage to the government since the seller's gain is taxed immediately but the buyer's deduction, if by way of depreciation allowances, is spread over several years. This cash flow advantage to the government represents a loss to the buyer and seller together and could deter transactions meant to rationalize license interests.

*Asymmetrical treatment of seller and buyer.* Under this approach the seller's gains are taxed but the buyer's rights to deduct the cost of the acquisition are either restricted or denied. UK practice provides an example. This effectively gives government a further tax slice of the revenues generated by the project.

### ***Withholding taxes***

*Host country taxes on dividends, interest and subcontractor payments for services provided to domestic operations by non-residents.*

Border withholding is a tax imposed on non-residents' domestic-source income in lieu of the generally applicable income tax. Such payments represent a "final" tax on an implied profit or income that the offshore entity or person has made in the host country, but which the host country cannot tax for lack of jurisdiction over the foreign entity. In this respect the resource sector is just like any other sector and generally applicable withholding rates should apply. In countries where resource revenues are a significant portion of government income, however, withholding must be addressed in the sector.

Two problems typically arise. On the one hand, statutory rates are often set rather high; these payments are costs to the investor and high rates can significantly increase the fixed costs of the investment, shifting additional risk to the investor and raising the threshold of required returns before investment is undertaken. Of course, high rates have the same effect on non-resource investments. On the other hand, these high rates are often mitigated by tax treaties, but which (especially some of the older ones) often reduce withholding taxes to zero or very low rates.

This reduction may not be important for advanced countries with significant reciprocal flows of services and investments, but for poor countries with large resources, the treaties effectively shift tax revenues to wealthier countries or often simply allow the service or activity involved to escape taxation altogether. Sophisticated investors will structure their investment to take account of such treaties using intermediate holding companies so an investor may avoid withholding taxes even if the host government has a very limited number of treaties.<sup>33</sup>

The longer term solution for developing countries is to reduce the statutory withholding rates to more moderate rates and to renegotiate outstanding double taxation treaties.<sup>34</sup> In the meantime, governments that supplement their resource and taxation laws and regulations with contractual agreements, e.g., petroleum or mineral development or investment agreements, should consider negotiating contractual commitments where the investor makes equivalent withholding payments at moderate levels without regard to any applicable tax treaties. This would remove the incentive for artificial tax structuring and allow the country to retain at least a portion of the revenue expected under the taxation statutes. Where affiliates are involved, withholding may also act in some very rough fashion to offset mispricing of services provided by affiliates (see Transfer Pricing, Section 5 below).

### ***Customs duties***

*Duties levied on the import of goods and services for resource sector activities, or on the export of the produced resource.*

There are two relevant types of Customs duties: import and export duties. The main objective of import duties with respect to petroleum or mining sector activities is typically revenue-raising.<sup>35</sup> Part of their appeal is that revenues are paid early in the life of the extraction project, even before resource production begins. That said, since most technical inputs often have to be imported in low income countries, duties raise input costs. This deters the investment that leads to potentially greater revenue and other benefits in the future. As a result, most resource-rich countries exempt from duty, imports used in petroleum or minerals

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33 The Netherlands actually advertises the use of their tax laws and treaty structure to permit holding companies to avoid taxation.

34 Developing countries without existing double tax treaties will generally be better off without such treaties. Rather efforts should be spent on negotiating agreements permitting the exchange of tax information to assist in administration.

35 Revenue-raising rather than protection, since much of what is imported is of a specialized, sophisticated nature and not manufactured locally.

exploration or development. Such exemptions need to be carefully tailored to avoid abuses where goods are imported duty-free and then are diverted to other domestic uses. For this reason it is better practice to have a positive list of exempt items and to restrict or limit import of such items which can be easily diverted. Further, exemptions for consumables and other imports (spare parts, etc.) can be ended after extraction begins.

Export duties, once common in mining countries, have now been largely discontinued as either unnecessary (transport costs have been sufficient to promote domestic processing), or distorting, when they do force domestic processing (in such cases, inefficient domestic processing induced by export duties can produce lower net revenues for government than the export of unprocessed minerals).

### ***Value Added Tax (VAT)***

*Taxes levied on domestic consumption, with VAT paid on inputs credited against VAT paid on domestic outputs.*

The petroleum and mining sectors are, in most developing countries, export-oriented. Thus they have no outputs directed to the domestic market against which they can credit the VAT paid on inputs. Under such circumstances, standard VAT rules would call for refunds to be paid by domestic tax authorities.<sup>36</sup> Recognizing the long and costly upfront expenditures characteristic of the resource sectors and their own difficulties in making timely refunds, many countries have chosen to simply exempt from VAT domestic purchases destined for the petroleum and mining sectors.

## **Fiscal allowances, deductions and other special topics**

Having discussed the main fiscal instruments, this section provides a brief explanation of the other mechanisms that are often used in conjunction with these taxes, as well as some other special topics that are important to note.

### ***Tax holidays***

*Relief from taxes for a specified project and/or period of time to encourage investment*

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<sup>36</sup> The exported resource would be 'zero-rated' for VAT purposes. The company would be refunded the VAT it pays on inputs for the production of the export.

Governments should almost never provide tax holidays that relax generally applicable regimes to attract resource production. Once popular, especially in the mining sector, tax holidays are now rare.

The main problem with tax holidays is the serious loss of revenue and the delay in getting revenue for governments. They can also skew the incentives of the company. Tax holidays can result in a common practice of '*high-grading*' which involves the undue acceleration of high margin production with a view to extract as much value as possible before the holiday ends. If government wants to incentivize capital investment it would be better advised to provide for expensing of capital expenditures, rather than an outright tax holiday. In this way, the instrument directly incentivizes capital investment, rather than exempting the company from tax whether or not investment is undertaken.

### ***Thin capitalization (debt-to-equity ratio)***

Debt plays a prominent role in the taxation of resource projects. Since interest payments on debt are deductible for tax purposes, unlike dividends on equity, the resource company has an incentive to increase the amount of debt it carries relative to equity.<sup>37</sup>

This problem is not unique to the resource sector, but it is an important distortion therein, particularly where multinational companies are involved.<sup>38</sup> The two traditional ways to deal with it are: (i) establish a maximum debt-to-equity ratio (three parts debt to one part equity is common), and (ii) where borrowing from affiliates is involved, limit the interest rate either by comparing with third-party loans or perhaps at the interest rates being paid by the affiliate lender to third parties. Some countries directly limit the interest deduction. The net interest deduction (interest earned less interest paid) may, for example, be limited to half of taxable income calculated without respect to net interest.<sup>39</sup>

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37 The ratio of debt to equity is also known as the *leverage* or *gearing* of the company, while the term *thin capitalization* refers a company that is thinly capitalized with equity capital.

38 Operating a thinly capitalized (highly leveraged) company is usually not highly recommended, as it significantly increases the financial risks of the company. However, in the case of multinationals, a subsidiary can be thinly capitalized to take advantage of the tax deduction, while the multinational company as a whole operates at a less risky level of leverage.

39 This approach is less commonly found because in the past the direct limitation on interest cost deductions resulted in a loss of foreign tax credits under U.S. rules. The practice is now accepted, however.

### ***Ring-fencing***

Ring-fencing rules limit the recovery of costs from a particular petroleum or mining project to revenues generated from the same license or project area. The decision on whether to go the ring-fence route or allow full consolidation of cost and revenues involves a clear policy trade-off. Ring-fencing avoids the deferral of government revenues that would occur under consolidation. This allows investors to write-off the cost of new investment against the income from existing investment. In addition, ring-fencing also takes away the advantage that existing tax-paying investors might have over new investors. At the same time, however, it restricts the incentives to accelerated exploration and development that consolidation provides. Country circumstances determine how this trade-off is resolved. Project ring-fencing is generally considered an essential feature of resource rent taxation. Its application under resource rent taxation may give rise to transfer pricing issues, since it creates an incentive for investors to shift accounting costs from projects where the regime results in low rates of tax to projects where higher tax rates have been triggered.

### ***Accelerated depreciation***

In addition to regular cash costs, companies can count a proportion of their capital investment as ‘depreciation’<sup>40</sup> costs each year. Since mines typically have to incur substantial capital costs before production commences, the particular percentage they are allowed to claim as depreciation each year can make a big difference to estimates of profit (and tax). The normal accounting practice worldwide is for assets to be depreciated evenly over their expected life; so if an asset is expected to last ten years, a firm would typically claim ten per cent of its cost as depreciation each year. However, in order to encourage mining investment, many countries allow mines to claim ‘*accelerated depreciation*’. For example, with the above asset the mine may be able to claim 25 per cent (instead of 10 per cent) of the capital cost as depreciation in each of the first four years it is used. This has the effect of reducing profit and tax in the early years and increasing it later on – so tax payments can be significantly delayed, particularly when this instrument is used in conjunction with a loss carry forward provision (see next).

### ***Loss carry forward***

A frequently contentious issue related to cost recovery is the period provided by law or contract for loss carry forwards. Especially where the tax law permits

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40 Depreciation is an accounting method by which the cost of an investment is allocated across its normal operating life.

accelerated depreciation or expensing of capital expenditures, the carry forward of tax losses can result in significant deferral of income. As a theoretical matter, a long or unlimited carry forward is appropriate, since the losses represent actual out-of-pocket expenditures. The revenue deferral impact may be reduced by having depreciation mirror economic depreciation.

### ***Decommissioning costs***

Almost all countries now require investors to pay for the clean-up and closure of extraction sites at the end of the project life. This presents an issue in that, once the oil field or mine has ceased production, there is no income against which these decommissioning costs can be recovered. The most common response to this cost recovery issue is to require investors to establish a decommissioning fund in advance of field abandonment or mine closure, and to allow payments into that fund to be deducted for income tax purposes. Payments are based on estimates of decommissioning costs and are made into escrow accounts at an agreed bank. Interest income earned on the account should be taxed. Further details on decommissioning issues are provided in Precept 5.

### ***Excluded items***

There is a class of cost items which are very difficult to monitor and government may decide to exclude them in the computation of taxable income. These items could include hedging costs, insurance, and risk or license payments to affiliated entities, among others.

### ***Foreign tax credits***

The availability of a credit in their home countries for taxes paid in the host country is important to investors whose home countries have a system of *world-wide taxation*, i.e., that taxes foreign source income in the home country. For petroleum and mining companies, the U.S. and U.K. are perhaps the most important practitioners of world-wide taxation; for mining, Canada and Australia are also important.

Whether or not a tax credit is available depends on a number of criteria, among them:

- the host country tax must be based on net income (i.e. this rules out royalties);
- third party sale prices or equivalent benchmarks must be used in the calculation of taxable income; and



- all significant costs related to the taxable activity must be deductible.<sup>41</sup>

Since investors are able to reduce the global tax payments with tax credits, satisfaction of these criteria will increase investor interest in the host country and, through appropriate adjustment of their resource tax regimes, can be accomplished without any host country loss of fiscal revenues. By ensuring that their general tax levels are at least as high as those applied in the home country, host countries can capture as much tax revenue as possible, without increasing the global tax burden of the company. of tax revenues to the home country, thus preserving the incentives to invest.

### ***Fiscal treatment of natural gas***

Natural gas is widely distributed in resource-rich developing countries and has enormous potential to contribute to their growth and, as a feedstock to power generation and light manufacturing, even their diversification away from petroleum dependency. Its advantages notwithstanding, natural gas is generally considered to have been underexploited. While many of the obstacles to development of the gas sector have been contractual or institutional, at least two relate to its fiscal treatment. Firstly, in the past, it was customary to apply the same fiscal terms to gas as were applied to oil. This took away incentives to look for and develop gas since the much longer development lead times, costly processing and transport infrastructure and significantly smaller margins associated with gas made such projects less profitable under the same fiscal terms used for oil. Secondly, arriving at a standard market price for gas to use in fiscal contracts has proved challenging since, with the exception of the United States, the UK and parts of Europe, there are no active, competitive global market to provide a price. Oil, on the other hand, is a standardized commodity traded on a global market. This fact, coupled with an enthusiasm in many countries for subsidized pricing of the resource to the consumer, has further deterred investment in natural gas. Fortunately, in recent years there has been progress on both fronts. Gas terms are now differentiated from oil and less onerous. The disincentive caused by consumer subsidies is increasingly recognized, and a range of acceptable pricing approaches have been adopted, including: cost-plus; reference to competing fuels; and net-backs to the production well-head from final unsubsidized consumer prices.

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<sup>41</sup> The basic rule is that a credit is allowed for all income taxes and taxes in lieu of income taxes. These criteria determine whether or not the basic rule is met.

## 6. Stabilization, Renegotiation and Fiscal Modeling

The stability of any fiscal regime is of considerable concern to investors in the resource sectors. The original design of a fiscal regime, the negotiation of a regime and its possible renegotiation present challenges to government and investor alike. Fiscal modeling of the regime can give both sides a good appreciation of the robustness of the regime to changing circumstances, and hence its likely stability, and facilitate negotiations.

### Fiscal Stabilization

Investors have a strong and legitimate interest in a stable and reasonably predictable fiscal environment. Particularly in countries with histories of political instability, investors will seek assurances with respect to the stability of the fiscal regime. Once investment is made it very costly or even impossible to transfer assets to another jurisdiction.<sup>42</sup> As such, investors need some assurance that governments will not take advantage of this and change or renege on the terms of the deal between the company and the government.<sup>43</sup>

Since government also have a strong interest in attracting investment, it is useful to signal their credibility to investors. One way to provide such assurance is for governments to use stabilization mechanisms. Stability of certain elements in the fiscal regime may be guaranteed by law for particular periods, but often investors seek contractual guarantees stabilizing the regime, either as it exists in law or as provided as part of an investment contract with government.<sup>44</sup> Many countries, even low-income countries, will not enter into stabilization clauses as a matter of principle or because of constitutional or other legal prohibitions. Of course, countries with a history of stable government and investor protection should, in general, not require stabilization clauses in order to build confidence. Further, while stabilization may appear to offer a strong commitment to building investor confidence, such a commitment can prove brittle; an inflexible or unresponsive

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42 The assets are said to be 'sunk', so that their costs are not recoverable.

43 Changing the terms of the deal and other acts of expropriation of assets by the government is covered under the concept often called the 'time inconsistency problem' or 'obsolescing bargaining problem'.

44 Investors may seek stabilization of other non-fiscal elements and many older investment contracts have very broad stabilization clauses. Good contemporary practice is to limit stabilization, if any, to fiscal elements and perhaps certain elements of the foreign exchange regime. Governments must have the ability to adapt labor, environmental, and other general welfare law to the changing needs of the citizenry and to its own development.

arrangement may not be robust to changing circumstances and may not therefore be credible over time.

In considering the need for stabilization, it is also important to recognize that investors have other tools to protect themselves against significant changes. International investors are usually entitled to non-discriminatory treatment so that they cannot be singled out. Truly abusive changes may constitute a form of expropriation entitling the investor to compensation. Moreover, there are other mechanisms such as political risk insurance to protect against instability. Finally, questions remain as to whether such clauses are actually enforceable or if they are indeed effective in attracting investment. Nevertheless, such contractual assurances are commonly sought by investors and commonly given by many low-income countries.

While the scope of stabilization clauses is often simply directly negotiated, it is far better practice to set out in statute what investments are entitled to stabilization. This can be done by specifying the size, nature and perhaps location in the country of resource projects, what elements may be stabilized and for how long, whether eligible entities are entitled to stabilization as a right, and if not, who may authorize it. This is usually the minister of finance together with the line minister.

Where stabilization is provided it can take the form of a *freezing* of certain elements of the fiscal regime as it applies to the investor, prohibiting any changes over time, or a *compensatory* arrangement, whereby certain changes in the regime give the investor the right to seek adjustments or compensation to restore the economic 'equilibrium' between the investor and the state. 'Frozen-in-law' arrangements are disfavored because they are too inflexible to take account of changing circumstances, in contrast to compensatory arrangements.

Compensatory stabilization requires a clear demonstration that fiscal changes have increased the burden on the investor. Compensatory arrangements may also include thresholds that prevent stabilization from being triggered by changes which have limited or *de minimus* effect. For example, in a Liberian renewable resource investment, the stability clause is triggered only if the changes increase the *effective fiscal burden* by five percent or more. A further advantage of compensatory arrangements is that the process of negotiating any compensation provides an opportunity to better accommodate the interests of both investor and government.

If there is stabilization it should be limited in time with clear beginning and ending dates (e.g., ten years from the agreement date, seven years from the date of commercial production). The possibility of changes in the fiscal regime a decade or more into the investment when discounted to the present are unlikely to deter investment, and the longer the clause continues to operate the more likely that the

government will be saddled with a regime that no longer appropriately balances the interests of the investor and the public. Indeed, investors recognize that such balancing may change and are all too eager to have clauses written as one way streets giving the investor the benefit of any favorable changes in law but without being exposed to any adjustments in favor of government.

Clauses should also be limited to identified elements which are significant parts of the regime, such as the: income tax rate, capital recovery mechanisms, royalty rate and base, resource rent tax, and any reductions in import duties or VAT on imports. This makes such provisions easier to monitor and administer, and avoids having a special law for each investor, a significant problem where capacity may be limited already.

## **Renegotiation**

More than 30 oil producing countries changed fiscal terms in the period 1999 to 2005.<sup>45</sup> Recent years have seen similar enthusiasm for renegotiation in the mining sector. Changes have been in the direction of both increased government shares, and enhanced investor incentives, depending on the circumstances. Any of a variety of factors may create pressures to renegotiate fiscal terms: unexpected geological developments (reserve size, minerals content, etc.); engineering or technical challenges (reservoir performance, facilities construction); unanticipated changes in prices or costs. The pressure may come from the investor or from government, and it will be greater the less flexible or adaptable the fiscal regime is to these changes. When the change in economic balance between the parties is very great and the regime in itself is unaccommodating, both parties may accept that some renegotiation is appropriate and win-win solutions may result. A grant of more favorable terms to the investor should bring the promise of new investment or the extension of field or mine life with resulting revenues to government. An acceptance of less favorable terms by the investor can be expected to improve the investor's reputation and "license to operate" in the host country, while still leaving the investor with an attractive return. Failure to recognize these win-win opportunities – an investor walking away from a country, or a unilateral revision of terms by government – represents a defeat for the negotiation process. Transparency on both sides and maintaining good channels of communication will be important to success.

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<sup>45</sup> Wood Mackenzie, "The terms, they are changin' .....", Industry research, August 2006, available at [www.woodmac.com](http://www.woodmac.com)

## **Fiscal Modeling**

In the design of a fiscal regime, in initial license negotiations, and certainly in any renegotiations, good economic models of the regime are essential. Any regime, proposal or counterproposal should be evaluated against a range of economic indicators, including projected rates of return and present values, sensitivity to changed circumstances, the time profile of revenue streams, and other comparable country fiscal regimes. Models of any one project should take into account broader sector activity if the fiscal regime offers opportunities to consolidate returns across a number of projects. International comparisons should recognize any significant differences among countries in exploration success, reserve sizes, costs, proximity to markets (and hence realized prices), etc.

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An important element often overlooked in such modeling exercises is the value of reserves over time. It is important for any calculation includes the opportunity cost of reserves in addition to computed cash flow.

These are issues of interest to both sides of the negotiating table and they should be openly discussed. Agreement with investors on a joint evaluation model would be desirable. As part of negotiations, governments might require companies to provide them with a copy of the company's model. Although parties will have different views about the future, for example, with regard to prices, having a commonly understood model will enhance decision-making and minimize misunderstandings.

Modeling is sophisticated work. Where a government feels lacks the necessary skills it should be able to contract in those skills.

## **7. Fiscal Administration**

Effective administration is critical in all fiscal matters, but it is particularly important for natural resources given the complexity of the sectors, the enormous sums of money involved and the common informational and skills disadvantage of revenue authorities relative to the taxpayers. This section reviews a number of critical topics bearing on the effectiveness and efficiency of tax administration in the resource sectors: transfer pricing abuse; alignment of fiscal regime design and

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46 See Daniel, Philip et. al. "Evaluating fiscal regimes..." (2010) for an excellent treatment of the issues and instruments involved in fiscal modeling. Also, Johnston, David (2007).

administrative capacity; routine and non-routine fiscal functions; transparency; and institutional structures.<sup>47</sup>

## Transfer pricing abuse

The pricing of transactions with affiliates and related parties, whether in the sale of the resource or the purchase of goods and services is known as *transfer pricing*. This process is a necessary part of global business operations, but involves a complex calculation of prices that cannot always be easily compared against a reliable benchmark, such as the market price of a good. This creates the opportunity to significantly misstate taxable income or any other payment based on value, e.g., royalties. Large resource investors often use affiliated services in extraction projects and sell output to affiliated entities, increasing the risk of such misstatements in the extractive industry. As a result transfer pricing abuse has become a critical issue in the resource sectors. Tax rules usually require the use of 'arms-length' prices, i.e., an estimate what the price of the good or service would be *as if* the transaction had occurred between non-affiliated sellers and buyers. However, application and monitoring is very difficult, particularly where the capacity of the tax authority is low.

As a first step, government should require detailed reporting of all affiliate transactions above a certain minimum value. Such reports should include identification of the transactions (some aggregation may be permitted), setting out the prices and providing contemporaneous documentation showing that the basis for determining individual prices meets the arms-length standard. These reports should be certified by the chief financial and executive officers of the company. In certain cases an independent study confirming that prices are equivalent to arms-length prices may be required.

Managing transfer pricing requires balancing accuracy, or at least reasonableness, with the ability of all parties to administer and comply with the system. Tools for striking this balance include *advanced pricing agreements* for commodity sales, *recurring charges* (e.g. a royalty for technology), or charges above a certain amount, as well as the tying of transfer prices for commodity sales to public international commodity price indices. Most tax codes refer to the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations.<sup>48</sup> However, these provide only general guidance and, even when applied, still leave considerable discretion to the taxpayer.

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47 See Calder (2010) for a thorough discussion of resource tax administration issues.

48 See [www.oecd.org/ctp/tp/guidelines](http://www.oecd.org/ctp/tp/guidelines).

In general governments without very strong tax administrative capacities are likely to be at greater risk of transfer pricing abuse which can significantly reduce government revenue, and create an environment of distrust between the host country and the extractive industry. More specific rules on managing transfer pricing can help mitigate this risk. Governments can hire expert assistance in this area, and donor institutions can provide the necessary funding.

Confidence in the legitimacy of transfer prices can be improved by limiting payments on service or management contracts to affiliates by an amount or percentage of gross revenues (or costs) for most costs in order to facilitate administration, while recognizing actual costs where reasonable.<sup>49</sup> One source of information on the level of such reasonable management fees is the fees charged within a company to other affiliates for the same services. For services that a company might self-supply, regulations may also require that they be supplied by an affiliate or related party at cost—that is without a profit mark-up.

### **Alignment of Design with Capacity**

The discussion of efficient resource tax design under section 4 above points in the direction of profits taxation and rate-of-return-based progressive taxation. The discussion also notes that these regimes may exceed the capacity of developing country administrations because of their complexity and in particular the need to monitor investor costs. The most common response to this dilemma has been to opt for simple, but manageable fiscal regimes at the expense of efficiency, e.g., for royalty regimes rather than profit-based taxation. The alternative, however, would be to select the efficient regime and address the capacity deficiency directly through training, and the engagement of experienced international auditors, ideally under twinning arrangements which would allow for transfer of skills from the international auditors to host country practitioners. This approach has been adopted by Angola with considerable success. Other countries continue to emphasize royalties on simplicity of administration grounds. It needs to be mentioned that the simplicity of less efficient tax regimes may prove illusory to the extent that they create pressures to renegotiate or introduce special exemptions or side deals greatly increasing administrative complexity.

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<sup>49</sup> Regulations or contracts should be clear as to what elements are to be covered by the permitted management fee to avoid duplication. Where contracts are being used, the investor may be required in negotiations to identify on a schedule any charges for related party services that are not covered by such charges. This schedule can then be a negotiated item with the government. Any unidentified charges nor on the agreed schedule would then be excluded as deductions.

## **Improving tax administration processes**

### ***Routine functions***

Routine resource tax administration involves, as its name suggests, relatively straightforward activities such as the registration of taxpayers, issuance of tax assessments and the collection of tax. These functions ought to be easier in the resource sectors, since the number of taxpayers is typically few, and self-assessment is widely practiced in these sectors. Yet, many countries face considerable difficulties in performing routine functions, attributable to, among other things: too many taxes with different filing rules; too many agencies involved; poor resources (in particular, poor IT systems); limited control over national resource company payments; and confused accountability. Improving these areas can contribute greatly to better tax administration efforts.

### ***Technical functions***

These functions are more demanding than the routine functions and include, most importantly, price and volume determination and audit.

***Price and volume determination.*** Prices for fiscal purposes should equate to, or closely approximate, prices that would be realized in third-party or market transactions. This is not difficult for oil and many minerals, where international competitive markets exist and prices for key benchmark commodity products are regularly quoted and easily accessed. Adjustments for quality, transport costs are readily available. The point of fiscal assessment must be made clear (well head, pipeline entry point, etc.) but should not present serious problems. Determining fiscal prices for gas, as suggested above under Special Fiscal Topics, may prove more difficult due to the absence of competitive markets. That said, several options exist; clarity as to which will be applied may be as important as the actual option selected.

Physical or volume determination can be as complicated as price determination and involve sophisticated measurement equipment. Box 2 describes price and volume determination in the calculation of minerals royalties.

### ***Box 2 Determining Price and Volume for Minerals Royalties***



Mining royalties are applied to the value of the product, which is based on volume extracted and market prices. Traditionally, the royalties have been calculated on actual sales prices or the deemed sales price at the mine-head/wellhead or at the border. When sales are made to company affiliates, it is necessary to input a sales price, creating a transfer pricing issue. When sales are not made at this point of measurement for the royalty, it is necessary to identify what elements may be deducted from the sales price, e.g., transportation, and to determine the value of such elements.

Especially with the advent of more transparent commodity markets, several countries have begun to calculate royalties on a basis that is a deemed value per unit set equal to a selected public international market value. For instance, Zambia has set its royalty on copper at a given percentage of the London Metal Exchange price for copper. This greatly facilitates administration of a royalty system by eliminating the need to deal with transfer pricing or the valuation of various other elements that might be required in calculating a mine head or border price. Although, it is important to note that this method imposes a higher burden on the company in comparison with calculating the price at the mine-head, which will be somewhat lower than the final market price.

An effective royalty system also requires accurate measurement of output. It is critical that government has the capacity, either directly or through agents, to independently measure output at the wellhead (oil), the mine or processing plant (minerals), as well as exports and imports. While this seems obvious, many countries, including Russia for instance, are only beginning to develop systems to measure production on a property basis. The determination of production should not be left to the sole discretion of the producer. Production needs to be monitored and verified by government. Without proper measurement it is impossible to assure that government is receiving those revenues to which it is entitled. This is true not only for royalties but for other elements of the fiscal system as well.

Law or regulations must also establish when the royalty is due and payable to the government. The date can be set at the date of production or export but should not be left to the date of sale. Where royalties are based on the sales price and the sale occurs after export, an advance payment of the estimated royalty can be required on the date of export or production, with an adjustment later to reflect any difference in the final sales value and estimated value at the date of initial payment.

**Audit.** To facilitate auditing and control, all taxpayers should be required to maintain consistent accounts according to internationally accepted accounting rules, the International Financial Reporting Standards (IFRS) or Generally Accepted Accounting Principles (GAAP), for instance, and/or in accordance with

government established systems of accounts.<sup>50</sup> Private joint venture investors notably impose very specific accounting provisions on the joint venture operator. Where such exist, government should, to the extent possible, utilize the same accounts for determining taxes. Where such provisions are not in place the government should consider imposing them.

Audits should begin with the first year of activity and not wait until positive taxable income is declared. Delay increases the difficulty of conducting an audit of initial losses during the investment period, the size of which will often depend upon payments to affiliates. Governments should consider following the example of some producing countries in retaining professional international auditors to audit the returns of their most important taxpayers until sophisticated domestic capacity is in place. The amounts expended for such auditors are likely to be a small fraction of the revenue gain. Further, the prospect of such auditing is likely to make the investor maintain better accounting and controls in the first instance.

## **Transparency**

As stressed under Precept 2, transparency should apply along the entirety of the extractive resource decision chain. Transparency in the area of fiscal administration is an essential component of this.

Transparent administration of revenue collection requires full public disclosure of the administrative process for receiving and disposing of payments, including payments in kind and the formula for monetizing them. In addition, transparency also requires disclosure of which government accounts are authorized to receive payments from extractive companies and the identities of the financial institutions holding the accounts. The name in which an account is held, whether personal or institutional should be publicly known, as should the identity of the agency and officials authorized to transfer funds out of accounts. These transfers should not be discretionary, but undertaken solely for previously approved purposes; the specific purpose for each transfer should be identified as far as is feasible.

The importance of transparency also applies to the fiscal terms the government give to companies, so that third-parties can benchmark the performance of the fiscal system. This is particularly relevant where individual contracts are used.

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<sup>50</sup> IFRS and GAAP rules have many different options. Host governments will need to consider carefully which are best suited to their administrative capacity and/or will require technical assistance.

## **Institutional Structures**

In the petroleum and mining sectors, responsibility for fiscal administration is often shared between the ministry of finance or an independent or quasi-independent revenue authority and the sector ministry. The ministry of finance or revenue authority is typically responsible for income tax administration, while the sector ministry, or in some cases the national resource company, oversees royalty administration. This division of responsibility is based partly on the argument that the royalty calculation requires specialized expertise which is available in the sector ministry but not the finance ministry.<sup>51</sup> For the same reason, the sector ministry or national resource (oil) company is charged with administering the fiscal provisions under production sharing agreements, i.e., cost oil and profit oil calculations. Administration of a PSA requires monitoring costs, affiliate transactions, outputs, and revenues – all of the information required in the typical profits tax. While there is some apparent logic to this particular division of responsibility, dispersion of administrative authority inevitably increases the complexity of overall administration, limits the opportunities for economies of scope in tax administration, and the scope for errors or even corruption.<sup>52</sup> It also places a premium on the clear definition of roles, transparency in operations and close inter-agency cooperation. These observations apply with equal or greater force where national governments have transferred fiscal responsibilities to sub-national levels of government.

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51 The assignment of responsibility for royalty collection also derives from the perception in many countries that it is integral to resource management in a way that tax collection is not.

52 An emphasis on transparency can go a long way towards mitigating this risk.

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