

# Capturing a fair share of fiscal benefits in the extractive industry

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For many Governments, their expectations of reaping a fair share of the high returns to the extractive industry over the last few years are not yet being realized. In light of likely continued good returns to the industry, at least in the medium-term, it is important for Governments to set up suitable arrangements, particularly in the fiscal arena. In order for them to do so, a number of conditions need to be met. First, there has to be an appreciation of the characteristics of the extractive industry and the Government's bargaining strength. Secondly, there must be fiscal policy coherence between Government institutions to underpin suitable fiscal arrangements. Thirdly, it is necessary to ensure the availability of skills necessary to formulate fiscal policies and appropriate negotiating strategies. A final requirement for countries and Governments is the capacity to administer and enforce more sophisticated forms of taxation and contractual arrangements.

## 1. Introduction

There has been a striking reversal of fortunes in recent years for those companies that make a business out of finding and exploiting mineral and hydrocarbon resources. High commodity prices, in real as well as absolute terms, have translated into sharply increased earnings. Although this has led to a welcome increase in investment levels, many companies are nonetheless generating so much cash that levels of gearing have reached new lows and cash is being returned to shareholders through special dividends and share buy-back programmes.

In such favourable times, all stakeholders, not only shareholders, expect a fair share of the resulting economic benefits. For many governments, this expectation is not being realized. This will be evident from the widespread resort to unilateral actions by governments to redefine the fiscal terms under which investment in the extractive industry takes place.

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\* The views expressed in this study are those of the author and do not necessarily reflect the views of the United Nations, its member States, or the institutions to which the author is affiliated.

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The case of mining in Zambia is illustrative. The fiscal regime under which the Government succeeded in attracting investors from the mid-1990s to rehabilitate the ailing mining sector offered substantial incentives, including tax holidays and one of the lowest rates of royalty in the world. The annual budget announced in February 2007 increased mining royalties and tax rates and curtailed the provision of tax holidays.<sup>1</sup> These changes were to apply only to new investments, since the Government had entered into contractual stability undertakings with mining companies in much less auspicious times. The Government has let it be known, however, that it hopes to claw back some of the concessions previously granted in direct talks with these mining companies.

Other cases have been rather more acrimonious. In Mongolia, prospects for a surge of investment in minerals were dampened when, in May 2006, the Government decided to impose a windfall tax on gold and copper mining revenues, just as several significant projects were being assessed for full commercial development.<sup>2</sup> The resort to new windfall taxes linked to oil price levels in Algeria and China, which have been applied to existing as well as new oil projects, is prompting companies to turn to international arbitration in order to protect their contractual position and obtain compensation.<sup>3</sup> Venezuela, as well as Bolivia and Ecuador, have taken the even more radical step of entirely rewriting the rules on equity participation and taxation to reduce foreign oil company interests and add to their tax bills – moves that constitute “creeping expropriation”.<sup>4</sup>

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<sup>1</sup> The February 2007 budget contains a number of tax measures to redress the perceived inequity in the fiscal terms available to investors in the Zambian mining sector. This includes an increase in the rate of ad valorem mineral royalties from 0.6% to 3%, a rise in the applicable rate of income tax from 25% to 30%, application of a 15% dividend withholding tax on previously exempt mining profit distributions, and the curtailment of income tax holidays previously offered to attract investors (PWC 2007). Fiscal stability undertakings formed a key ingredient in the fiscal packages offered to the private sector to induce investment at a time of poor and uncertain copper market conditions.

<sup>2</sup> The Mongolian windfall tax took the form of a 68% levy on profits triggered by prices of gold exceeding US\$ 500/ounce and copper exceeding US\$ 1.18/pound (World Bank 2006). The Government has reportedly shown willingness to entertain negotiations with project sponsors who would otherwise be affected negatively by the increased tax burden.

<sup>3</sup> In March 2006, China imposed a special upstream tax levy on oil companies at rates of between 20% and 40%, linked to oil prices in excess of \$40/barrel of oil, prompting ConocoPhillips to invoke the international arbitration clause in its production-sharing agreement (MarketWatch.com 2007). In December 2006, Algeria promulgated regulations imposing a windfall tax on production values exceeding US\$30/barrel of oil, prompting Anadarko to make a charge against profits pending the outcome of negotiations or international arbitration (BusinessWire.com 2007).

<sup>4</sup> In February 2007, the Government of Venezuela announced a draft bill that

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The consequences of such unilateral action by governments to capture a “fairer” share of the fiscal benefits generated by the extractive industry depend on many factors. Confronted by such Government actions, companies with investment costs already sunk must decide how to respond based on their financial and strategic interests. Some companies will accept that in order to retain an interest in lucrative assets, concessions have to be accepted, and will go to the negotiating table to seek a settlement. Others may opt to uphold their interests by challenging unilateral actions using legal remedies, such as international arbitration, to obtain economic compensation<sup>5</sup>, while still others will determine that the best course of action is to pull out altogether.

The consequences of unilateral action by governments for those companies that may have been considering new opportunities to invest in such countries or to commercialize prospects that have been explored are potentially more significant. Such investors may be deterred from investing by higher levels of tax and heightened uncertainty about the fiscal “rules of the game”. Governments that resort to unilateral action with a view to redressing perceived inequities in the sharing of the fiscal benefits of the extractive industry run the risk of setting back investment prospects for many years.

In this game of brinkmanship, the stakes are high. Though there are some governments that will win, there are others that stand to lose. What may come as a surprise to many is that governments and investors have not found ways to reconcile their economic differences in a more orderly and predictable manner. After all, the volatile character of mineral and hydrocarbon product prices is not a new phenomenon; nor is the potential for particularly rich mineral and hydrocarbon deposits to generate substantial resource rents (box 1). From time immemorial, public policymakers have been faced with the challenge of how to reap a fair share of the fiscal benefits that accrue from the exploitation of mineral and hydrocarbon resources in both good times and bad in a way that does not undermine the stability of investment and hence the sustainability of extractive industry development.<sup>6</sup>

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would increase the State’s stake in four Orinoco heavy oil projects from the previous levels of 30-49% to 60%, thereby effecting State control of such operations (FT.com 2007).

<sup>5</sup> The reaction of companies operating under risk service contracts in Venezuela to a sharp increase in the applicable rate of tax on payments under such contracts has varied a great deal. Whereas some have opted to continue to operate and pay the tax, at least one, State-owned ENI of Italy, has opted to take Venezuela to international arbitration.

<sup>6</sup> Colbert, Louis XIV’s Controllor-General of Finance, made the acute observation that “the art of taxation consists in so plucking the goose as to obtain the largest amount

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### **Box 1. Characteristics of the extractive industry**

The extractive industry displays certain characteristics that distinguish it from other industries and can explain government and investor economic interests and behaviour. First, governments and investors alike face huge uncertainty about the economic outcomes of extractive industry investments, especially at the start of an exploration programme. Not only are outcomes uncertain but they are highly variable too. Some of the factors that contribute to this are:

- **Geological risk:** a high number of investments yield no economic return because exploration is unsuccessful – success rates in the extractive industry are very low.<sup>a</sup> Variable value of deposits – mineral and hydrocarbon deposits are heterogeneous, being characterized by substantial differences in quality and location which determine the economic value that can be yielded by their exploitation.<sup>b</sup> The resource rent associated with the quality of a resource is, in a system of privately held exclusive mineral rights, appropriated by the company that holds those rights, to the extent allowed by the fiscal system.
- **Price volatility:** mineral and hydrocarbon product prices are notoriously volatile and display marked cyclical movements – such price behaviour reflects the imperfect responses of supply and demand to price signals.<sup>c</sup>

Secondly, Government and investor uncertainty about economic outcomes is compounded by the long time frames over which their respective economic interests are at stake. The gestation period for many larger scale investments is substantial, commonly exceeding ten years if a full programme of exploration has had to be undertaken. The value that governments and investors place on an uncertain stream of revenue at a future date will depend, in part, on the time value of money placed by each on such revenue streams.<sup>d</sup>

Thirdly, the relationship between Government and investor economic interests is characterized by the concept of an “obsolescing bargain”. Before any investment is made, the bargaining power of the investor is at its strongest – by the time the investor has sunk costs in establishing the viability of exploiting a mineral or hydrocarbon, his bargaining power is very much weaker.

Confronted by such factors, the economic interests and behaviour of governments and investors could be summarized as follows.

- A *Government* will seek some return on the exploitation of the non-renewable resources, the rights to which it has allocated to private parties, since such resources are not replaceable, and will otherwise seek to optimize revenues from their exploitation. It would rather fix (or indeed reopen) fiscal terms once an investor has sunk costs but has yet to generate any economic return on the investment, rather than commit itself to fiscal terms before the investment commitment is made when the full range of investment risks are faced. The Government may also use the fiscal system to achieve a host of other objectives

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of feathers with the least amount of hissing”.

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besides revenue optimization, relating to value-added processing of minerals and hydrocarbons, environmental protection and broader economic and social development goals.

- An *investor* and, where relevant, his financiers, will seek to maximize the protection of the investment against downside risks, including accelerating the pay-back period for an investment, and seek to capture as much of any windfall as may be generated from a particular deposit, as compensation for the many unsuccessful investments he must make in order to assure a single successful investment.<sup>e</sup> He would rather fix fiscal terms as early as possible, when the Government is most in need of inducing investment, rather than wait until he has sunk costs but has yet to generate any economic return on the investment. Critically, the investor will wish to base his investment decision on fiscal terms that are clear and predictable and not subject to unilateral change, as the bargaining position moves in favour of the Government.<sup>f</sup>

## **2. Progressive taxation as an alternative to brinkmanship**

Progressive taxation may be considered to provide an orderly and predictable alternative to brinkmanship as a means of reconciling the economic interests of governments and investors. Under an appropriately designed fiscal regime, it should be possible for the Government share of fiscal benefits to adjust to changes in economic circumstances. Under such a fiscal regime, the Government “take” would rise or fall to correspond to changes in the levels of profitability actually achieved by mining and petroleum projects.<sup>7</sup>

In principle, progressive taxation has the flexibility to induce investment in high-risk ventures yet still assure the Government a significant share of profits, if and when they occur. It is therefore well suited to take into account the uncertainties inherent in extractive industry investment. Moreover, by adjusting the respective shares of the Government and the investor on an automatic *ex ante* basis, the two parties obviate the need to revisit existing fiscal arrangement on an *ex post* basis, thereby removing the risk of disagreement, deadlock and mutual recrimination. This provides a more certain and risk-free environment in which to undertake investment. Other things being equal, investors will reduce the risk premium built into the return on

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<sup>7</sup> The Government take refers to the percentage share of net profits that is claimed by the Government through the fiscal regime. It is measured over the project lifetime, thereby representing the aggregate share of the Government. The Government take would include the share of net profits that are channelled through a State-owned enterprise – to reflect this situation, particularly in the petroleum industry, reference is commonly made to State take.

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investment required to induce investment, with the consequence that investments of more modest profit potential, that would otherwise be deterred, will be undertaken.

In economic theory, the optimal form of progressive taxation is one that is progressive with respect to resource rent. The objective of resource rent taxation is to tax only that portion of net investment proceeds as exceeds the minimum rate of return required by the investor to undertake an investment.<sup>8</sup> The imposition of tax on this basis should not, in principle, distort investment decisions, in so far as it does not alter the pre-tax merits of an investment.

There are, therefore, a number of benefits of progressive taxation, which can be especially relevant to the extractive industry. The following section examines some of the types of taxes that have been developed with this objective in mind.

### **3. An overview of progressive taxes**

For purposes of this overview, a progressive tax is one that is structured to adjust the fiscal burden progressively, either directly or indirectly, with achieved profits on a predetermined basis. As this overview will show, there is a wide spectrum of fiscal instruments that purport to achieve this, though in practice many of these have limitations, which will be noted, as appropriate. The fiscal instruments take many forms, including taxes in the conventional sense of taxes on production, business revenues or profits, State equity participation and production-sharing, as employed in the petroleum industry. The following survey is by no means exhaustive but serves to highlight the main types of fiscal instrument that have been developed and some of the issues concerning their use.

#### **a. Progressive profits taxes**

Many taxes on profits have been devised in which tax is applied at escalating rates. In its simplest form, the tax rate increases with rises in taxable income, as is common in the taxation of personal incomes. Taxable income is then taxed at the applicable rate.<sup>9</sup> The limitation of

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<sup>8</sup> Resource rent is the excess of the total value (gross proceeds) arising from the exploitation of a deposit over the sum of all costs of exploitation, including the rewards to all factors of production. The latter includes the minimum return on capital at which investment will take place.

<sup>9</sup> Typically the higher rate is applied on an incremental basis, i.e. only on that portion of taxable income that exceeds the specified threshold. There are cases in which

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this type of tax is to determine a scale of escalating tax rates that does not merely discriminate between small and large companies.

In order to overcome this limitation, some profits taxes have been designed in which the thresholds at which higher tax rates are triggered are based on profit ratios rather than absolute levels of profit. One of the early negotiated arrangements of this kind was that used in Papua New Guinea for the Bougainville copper project.<sup>10</sup> A further adaptation of the same principle is to be found in the Variable Rate Income Taxes employed in the mining sector in South Africa, Botswana, Namibia and Uganda. In these cases, a profit-to-sales ratio is used to define the tax rate in a formula that also includes starting and top rates of tax.<sup>11</sup>

The principal characteristic of the examples of profits taxes cited so far is that the applicable tax rate depends on profit performance on an annual tax accounting basis. Other profits taxes have been designed in which the applicable tax rate depends on the profitability of an investment achieved on a cumulative basis.

For example, a number of profits taxes are designed such that the applicable tax rates rate is linked to rates of return achieved over the project life to that point. There may be one or more thresholds at which successively higher tax rates are applied. Several countries have employed this approach, in both the petroleum and mining sectors, usually by establishing a separate tax to supplement ordinary flat-rate income tax.<sup>12</sup> The advantage of this type of tax, is its ability, if appropriately designed, to target resource rent at a project level. In practice, it is rather easier to describe resource rent than to tax it, since this depends on being able to determine the minimum required rate of return of the investor (see box 2).

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the higher rate is applied to the whole of taxable income but this implies greater fiscal severity and is less common.

<sup>10</sup> Under the renegotiated Bougainville Mining Agreement, a higher profits tax rate applied in any year in which taxable profits exceeding a defined percentage of the capital base of the project.

<sup>11</sup> The formula used to derive the applicable tax rate in Botswana, for example, is  $70-1500/x$ , where  $x$  (%) = taxable income/gross income subject to a minimum tax rate of 25%.

<sup>12</sup> Prominent examples include the Petroleum Revenue Tax brought in by the United Kingdom Government in 1976 to capture a higher share of profits from North Sea oil and the Additional Profits Tax pioneered by Australia, Canada and Papua New Guinea in the 1970s and subsequently featured in the legislated mining regime in Ghana and in several negotiated mining and petroleum agreements at various times.

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## **Box 2. The minimum required rate of return**

The minimum return required by an investor to undertake an investment is not fixed but will vary in relation to the prevailing cost of capital and expectations about the financial outcome of exploiting different deposits. A compensatory return on capital consists of a basic return equivalent to the rate of interest on risk-free long-term borrowing plus whatever margin the investor considers necessary to compensate for the technical, commercial and political risks associated with investments.

In practice, it is difficult for a Government to anticipate just what minimum return an investor would find acceptable. In principle, the minimum return should be no higher than the returns of investors on comparable investments. However, since deposits are scarce and each is unique, it is hard to rely on finding such benchmarks. This is a particular concern for countries that lack a track record in mining and where exploration is at a grassroots stage. A connected issue for the Government is whether and, if so, how to allow for the risk of exploration failure in the minimum return. In high-risk areas, this might require a very high premium added to the basic return required by an investor.<sup>a</sup>

### **b. Price-based windfall taxes**

The progressive profits taxes examined above are all based on the principle of directly measuring and then taxing profits. However, governments can rely instead on a simpler and indirect way of taxing profits, by employing a proxy for profitability to trigger higher tax rates of supplementary taxes. A typical example is a price-based windfall tax on profits, such as has been introduced in Algeria and China (see note 4). These are targeted at the windfall profits that are expected to flow from periods of unusually high prices. The limitation of this approach is that product prices alone do not determine the level of profitability achieved on an annual basis, not to mention on a cumulative basis. In certain circumstances, cost escalation may significantly erode the advantage that high prices bring.<sup>13</sup>

### *c. Sliding-scale royalties*

There are also examples of royalties being structured on a progressive basis. Under this approach, royalty rates imposed on production escalate on the basis of a chosen threshold. Many of the characteristics of this type of royalty are the same as those of taxes

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<sup>13</sup> Indeed, both the mining and petroleum sectors are affected by significant escalation of inputs into the industries, which has resulted in sharp rises in the capital costs of developing new mineral and hydrocarbon projects.

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examined in the preceding section, except that the fiscal imposition is on revenues and not profits, unless the royalty is, in fact, structured as a net profits royalty.<sup>14</sup>

#### **d. Carried interest participation**

State equity participation can be structured in such a way as to operate as if it were a progressive tax. A carried equity option enables the Government to fund its share of the costs of the project in which it takes an interest out of net project earnings, without any liability for any shortfall in net earnings. The investor effectively provides an interest-bearing loan to the Government, secured against project profits. The Government bears little risk under this arrangement but the investor must tie up capital in carrying the Government. This participation operates like an additional profits tax, in which the equity interest is equivalent to the rate at which additional tax is levied and the rate of interest which the loan bears is equivalent to the rate of return threshold at which the additional tax is triggered.

#### **e. Profit-oil sharing (under production-sharing contracts)**

More than half of ventures involving international oil companies in the petroleum sector take place under production-sharing contracts (PSCs).<sup>15</sup> Under this type of contractual arrangement, the balance of

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<sup>14</sup> Ghana, for example, has employed a sliding-scale mineral royalty in which the starting rate is 3% rising on a sliding scale once the net operating profit ratio exceeds 30%.

<sup>15</sup> There are a number of reasons why production-sharing contracts were first developed in the 1960s and 1970s as an alternative to conventional royalty/profits taxation that then prevailed and have since retained their popularity in the petroleum industry. Firstly, it is often convenient for the Government, normally through a State-owned enterprise, to receive petroleum in kind in place of tax. This is particularly so for crude oil, which may be refined domestically or exported either in government-to-government deals or through traders (which at the time helped to break the market power of the major private oil companies. Second, the arrangement in which the investor acts as a contractor to the State-owned enterprise was designed to retain national control of petroleum and project assets and provide nominal management control, which was considered necessary because of the strategic importance of energy supply. Third, during the 1960s and 1970s, production-sharing had the attraction of avoiding pricing disputes which arose in the computation of profits taxation at a time when pricing was very much less transparent than in later decades. Finally, production-sharing has proved to be a quite workable, as well as flexible, way of sharing benefits between the State and the investor to which the industry has adapted. Companies, in particular, have come to rely on this type of contractual arrangement as providing stability for fiscal terms tailored to specific projects through negotiation.

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production which is not allocated to the recovery of project costs is divided between the investor and the Government according to an agreed formula. This may be a flat rate split or a sliding-scale split. Sliding scales used in such arrangements typically attempt to correlate the division of the production surplus (“profit oil”) to the expected profitability of the project, as would a progressive tax.

Historically, many PSCs have used a sliding scale based on production volumes, so that as oil field production increases, so too does the Government share of profit oil. The reason for using this approach is that production volumes, in a project in which costs are largely fixed (rather than variable), will correlate quite closely with profitability. But the correlation is not exact. Economies of scale might well occur in oil fields; however, the variable element of costs is not negligible. To the extent that the variable component of costs increases as a function of production volumes, then the correlation of production volumes and profitability cannot be assumed.

Other formulations have included an oil price element or a cost indicator (one proxy for costs, for example, is the depth of water in which a project is located). Though some degree of correlation with profitability can be expected under such arrangements, the correlation is unlikely to be exact.

An increasing number of PSCs feature sliding scales that are instead based on direct measures of profitability. The most common are sliding scales based on a revenue-to-cost ratio (“R factor”). Others employ the project rate of return. This type of sliding scale is likely to result in a closer correlation between the division of profit oil between the Government and the investor and achieved profitability of the project than other types of formulation discussed above.

#### **4. Limited use of progressive taxation**

The foregoing overview demonstrates that there is no shortage of fiscal and quasi-fiscal instruments that can be used to achieve progressive taxation. Considerable ingenuity has been shown in developing such tools, and much economic analysis has been devoted to optimizing fiscal systems around the principles of progressive taxation.

That so many governments have felt bound in recent times to revisit fiscal terms and unilaterally seek to modify them in their own favour, attests to the fact that progressive taxation is either not widely practiced or, where it is employed, not effective in meeting its objectives.

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Indeed, this observation is supported by studies of fiscal regimes in the extractive industry, which provide compelling evidence that relatively few fiscal regimes actually achieve the objectives for which progressive taxation is designed. Cross-country studies have repeatedly shown that a high proportion of fiscal regimes are either neutral or mildly regressive and that very few are clearly progressive. Thus, it is typical for the level of Government take to remain unchanged or to actually fall rather than rise as a function of profitability.<sup>16</sup> Progressive fiscal regimes are more prevalent in the petroleum sector than in the mining sector; however, they are still the exception rather than the norm.

One or two examples would help to illustrate this point. In the case of mining, the United Republic of Tanzania is a country in which the fiscal regime has been the subject of some concern that the Government has not been receiving a fair share of increasing mining profitability. The regime is a simple one combining a relatively low royalty rate of 3 per cent on net production values and a 30 per cent income tax coupled with special deductions for capital spending. Since there is no progressive element in the regime, there is no means of adjusting the Government take upwards. In times of rising profitability, the effective tax rate remains unchanged and the Government share of such profits therefore falls.<sup>17</sup> By comparison, Uganda employs a fiscal regime that comprises a royalty rate of 3 per cent on gross production values and a variable rate income tax with a starting rate of 25 per cent rising thereafter, in accordance with a formula linked to the ratio of taxable income to gross mining revenues. This means that beyond a certain profitability threshold the effective tax rate starts rising, thereby achieving a modest degree of progressivity.

In the petroleum sector, an example of a recently devised fiscal regime that is progressive is that of Timor-Leste. In this case, the regime comprises a royalty of 5 per cent of gross production values, income tax of 30 per cent on the oil company's taxable income generated by its share

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<sup>16</sup> Such studies are based on cash flow modelling of the entire array of fiscal impositions on an investment in order to derive a measure of how the net proceeds of an investment over its lifetime are apportioned between the Government and the investor. The conclusion is drawn from a variety of studies conducted over the years with which the author is acquainted. Among those that are published are studies by Johnson (1994) on petroleum and Otto et al (2000) on mining. Other studies of this kind are regularly conducted by IHS Energy and Wood Mackenzie (on petroleum) and the Commonwealth Secretariat (both mining and petroleum).

<sup>17</sup> The effective tax rate refers to the portion of a single dollar that is taxed by combining the royalty and the income tax. This is less than the arithmetic addition of the two rates, since royalty payments are deductible expenses for income tax purposes.

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of production under a production-sharing contract and a supplemental petroleum tax of 22.5 per cent, which applies when the oil company's after-tax return on a cumulative basis has exceeded 16.5 per cent.

## **5. Factors limiting the achievement of progressive taxation**

The concluding part of this paper considers factors that might explain why relatively few fiscal regimes in the extractive industry are progressive, notwithstanding the benefits of progressive taxation and the availability of a wide array of progressive tax instruments.

### **a. Design of the fiscal regime**

Economic analyses of fiscal regimes reveal that many that include a progressive tax or equivalent fiscal instrument are not necessarily progressive overall. The interaction of all the constituent elements of a fiscal regime may result in its progressive elements being more than offset by other elements of the regime.

The most common example of this results from the use of royalties. Royalties are an imposition on production, not profits, and constitute a regressive form of taxation. Although excessive reliance on royalties may lead to inefficient operations and the discouragement of investment, many governments prefer an assurance that some revenue can be raised, irrespective of profitability. Royalties have the advantage of being relatively easy to administer, and many governments continue to view royalties as being the cornerstone of resources taxation. In addition, there are an increasing number of cases in which all or part of royalty proceeds are earmarked for distribution to beneficiaries at local government or community level.

Some other examples of taxes that are regressive and that can have the effect of offsetting the impact of a progressive tax, when combined in the fiscal regime, are export taxes, production bonuses (in the petroleum industry) and State participation, where this is structured as a free allocation of equity. The foregoing suggests that careful and holistic consideration needs to be given to fiscal regime design if the intended objectives of progressive taxation are to be achieved.

### **b. Competitive pressure to offer fiscal incentives**

One further explanation for the limited employment of progressive taxation may be the intensity of competition among governments to

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attract investment, especially among countries with little or no proven mineral or hydrocarbon resources or an acute need for investment to rehabilitate the industry. Until the recent turnaround in the economic fortunes of the extractive industries, levels of investment in exploration were falling and many companies were consolidating their investments in only the most prospective and established areas. Efforts to attract investment inevitably tended to focus on lowering the fiscal burden on investors rather than on seeking ways to share economic surpluses which would have been viewed as unlikely in such difficult economic circumstances.

This factor would have been particularly influential in the mining sector, given the long trend of subdued mineral prices and low industry profits that was only broken recently.<sup>18</sup> In this period, minerals exploration spending was drying up globally and much of the developing world was off the radar screens of mining companies. The ideal way to attract investment was, therefore, to offer substantial fiscal incentives, generating a so-called “race to the bottom”. Though not as severe, competition among countries with unproven petroleum potential and faced by high oil import bills had resulted, especially in the 1990s, in the framing of many “frontier” fiscal packages, featuring special investment incentives.

Cross-country comparisons, such as those cited earlier in the paper, do indicate that the level of Government take varies quite markedly from one country to another and indeed, where terms are subject to negotiation, from one contract to another within the same country. At any time, there are some countries which are in a far stronger position to assert tough fiscal terms than others.

Thus, for example, within the mining industry, levels of Government take have typically ranged from lows of some 25 per cent to highs of 65 per cent in certain cases, reflecting considerable differences in prospectivity and economic circumstances. The “race to the bottom”, particularly in the 1990s, resulted in a preponderance of fiscal regimes being in the lower part of this range, prompting recent reactions in which some governments sought to impose corrective actions.

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<sup>18</sup> Fierce competition in the mining industry had, for a long period, driven capacity costs (and eventually mineral prices) down. Producer countries have not been able to assert the same measure of influence over mine supply as OPEC has over oil supply. To remain competitive, new mine supplies have had to be brought on stream at progressively lower costs.

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Levels of Government take in the petroleum industry, with its ability to generate substantially greater resource rents in the case of giant or super-giant oil fields, typically range from similar lows (as in mining) but especially among established oil producing countries reach as high as 70–90 per cent. Recent analysis by IHS Energy and Wood McKenzie has identified significant increases in levels of Government take in a number of countries, resulting from unilateral actions and the outcomes of fierce competitive bidding for oil prospects.

### **c. Capacity weaknesses**

Further factors that might explain the limited adoption of progressive taxation are weaknesses in Government capacity in many developing countries, in three respects. One is a lack of capacity to negotiate effectively with international companies because of an absence of the necessary specialized skills, particularly those of fiscal modelling. This leads to a poor understanding of the options available to governments and of the implications of alternative sets of fiscal proposals.

An observation that can be made, based on experience of advising on negotiations in both the mining and petroleum industries, is that in the latter case, the capacity to negotiate might be greater because of the tendency for State-owned oil companies to engage in negotiations with international oil companies on behalf of the State. This is a reflection of the economic strength and the interests of such companies that enable them to sustain a cadre of trained personnel with skills that can be deployed effectively in negotiations. By comparison, sector ministries are often ill-equipped to contend with the challenges of contract negotiations.

Another weakness is in the capacity to administer and enforce taxation. This would tend to limit the Government's interest in depending on more sophisticated forms of taxation. This is especially true of taxes whose effective administration requires robust reporting and auditing, and where vigilance is needed to safeguard tax collection against tax avoidance measures, such as under-reporting of revenues and over-statement of costs.<sup>19</sup> Observation, based on experience of advising on fiscal regime design, suggests that there is a limited interest among tax revenue agencies in administering anything other than the standard types

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<sup>19</sup> In administering progressive profits taxes, the Government faces the risk that taxpayers will seek to avoid triggering higher rates of tax by incurring costs that would not otherwise have been expended (“gold-plating”). The incentive to do so might arise when the marginal tax rate is sufficiently high to make inefficient expenditure worthwhile.

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of corporate taxation, regardless of the merits of special taxes crafted to suit the extractive industries.

A further weakness is a lack of fiscal policy coherence in Government that enables investors to seek and obtain a range of concessions from different taxing authorities. This problem is more prevalent in the mining sector, especially in countries with no tradition of mining. Often, there is no clearly demarcated mining fiscal regime – other than royalty, the taxes to which a company may be subject may depend on an array of generally applicable and mutually inconsistent tax laws at national and sub-national level. This can provide the scope for investors to obtain tax holidays and other incentives by qualifying for pioneer or export industry status under general tax and investment legislation, in which Government objectives may relate to employment creation or enhancing exports through processing operations.<sup>20</sup> By comparison, it is rare to find a petroleum fiscal regime that lacks such clear definition. In this respect, the prevalence of PSCs, which is a clearly defined industry-specific fiscal arrangement, may help to achieve fiscal policy coherence that might otherwise be lacking.

#### **d. Reliance on bargaining power**

Finally, as will be evident from recent events, many governments place faith in their ability, if the need arises, to depend on unilateral action to redefine fiscal terms when economic circumstances change in their favour. The marked changes in bargaining power that can take place in the extractive industries enable some governments to extract concessions from companies whose investments are captive (i.e. sunk costs) or which have already recovered their initial capital outlays.

This approach obviates the need to use foresight in the design of the fiscal regime to take into account changes in economic circumstances. For those countries that have the benefit of possessing proven and high-value mineral and petroleum deposits, this may be a viable approach to capturing a fair share of fiscal benefits in the extractive industries. Policymakers in Caracas, for example, may indeed calculate that they hold the upper hand in bargaining with international oil companies, given

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<sup>20</sup> It is not uncommon for mining companies to qualify for favourable tax treatment by making application to ministries other than that responsible for mining. Where there is a lack of fiscal policy coherence in Government, this may lead to “cherry-picking” by companies, resulting in fiscal terms for mining projects that are particularly favourable to companies.

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current high oil prices and their market share of proven oil resources. Whether this position is sustainable remains to be seen.

## 6. Conclusion

For many countries, a resort to fiscal brinkmanship is a course of action full of dangers that can be avoided by making better use of progressive tax arrangements. To do so, however, a number of conditions must be met. These include:

- An appreciation of the characteristics of the extractive industry, the bargaining strength of the Government and the benefits of progressive taxation;
- Fiscal policy coherence among Government institutions to underpin suitable fiscal arrangements based on a holistic approach to fiscal regime design, which will limit the scope for cherry-picking by investors;
- The availability of skills necessary to formulate fiscal policies and, where negotiation takes place, to formulate appropriate negotiating strategies; and
- A capacity to administer and enforce more sophisticated forms of taxation and contractual arrangements.

## References

- BusinessWire.com (2007) “Anadarko to Reserve for New Algeria Tax Response”, 5 February 2007.
- FT.com (2007) “Chavez elaborates on nationalisation plans”, 2 February 2007.
- Johnson, Daniel (1994). *International Petroleum Fiscal Systems and Production Sharing Contracts* (Oklahoma, USA: Penwell Books).
- Land, B (1995). “The Rate of Return Approach to Profit Sharing in the Mining Industry” in Otto, James (ed), *The Taxation of Mineral Enterprises* (The Hague, Netherlands: Kluwer Press).
- MacKenzie, B.W. & Doggett M.D. (1992). *The Economics of Mineral Economics in Australia* (Kingston, Canada: CRS and Australian Mineral Foundation).
- MarketWatch.com (2007) “ConocoPhillips seeks arbitration with China’s CNOOC over oil tax”, 5 February 2007.
- “Mongolia: Mining Industry” presented at *Mining Fiscal Issues Workshop* 4-5 October 2006, World Bank, Washington D.C.

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Otto, James et al (2000). *Global Mining Taxation Comparative Study* (Golden, Colorado: Colorado School of Mines).

PriceWaterhouseCoopers (2007) “Beyond figures 2007 Budget” in *\*connectedthinking*, 9 February 2007.

Vernon, Raymond (1971). *Sovereignty at Bay* (New York: Basic Books).

