

# TAXATION OF NON-FUEL MINERALS IN INDIA

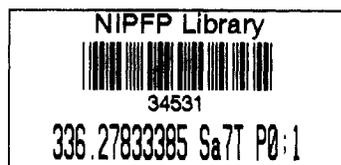
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(Final Report)

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(With Research Assistance from)  
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June 2000

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**NATIONAL INSTITUTE OF PUBLIC FINANCE & POLICY**  
**NEW DELHI (INDIA)**

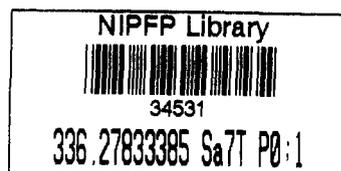
# P R E F A C E

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The National Institute of Public Finance and Policy undertook this study in consultation with the Department of Mines, Government of India. The study team consists of Dr J V M Sarma and Dr G Naresh. Research support has been provided by Mr A K Halen, Ms J Roberts, Ms J Mohanty and Ms M Dasgupta. Opinions expressed are those of the authors. The Director and the Members of the Governing Body of the Institute are in no way responsible for these.

A K Lahiri  
Director

New Delhi  
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# EXECUTIVE SUMMARY AND RECOMMENDATIONS

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## Summary

### Chapter 1: Introduction

Mineral sector is an important segment of the Indian economy. Yet, India continues to be a net importer of several minerals despite being well endowed with many minerals such as mica, barytes, iron-ore, bauxite, manganese, and aluminum. The 9<sup>th</sup> Plan target of 7 percent per annum requires larger quantities of several minerals and therefore, significant reforms in government policy on the mineral sector are called for.

Indian mineral industry is completely dominated by the public sector. Consequently, the severe resource constraints faced by the Government have resulted in declining government expenditure on mineral exploration leaving substantial mineral potential untapped. Realizing the need for a higher level of investment, the new National Mineral Policy seeks to redesign fiscal measures with a view to encouraging private participation and foreign investment. The present study aims to analyze the impact of the overall tax regime on the mineral sector and to suggest possible reforms.

Part I of the study (Chapters 2 and 3) presents a general discussion of the issues involved in mineral taxation with the help of existing theoretical literature and international experience, while Part II (Chapters 4 through 6) reviews the current status of mineral levies in India and examines the need for related fiscal reforms.

### Chapter 2: Mineral Taxation – Objectives and Design Issues

Chapter 2 briefly reviews the broad issues concerning the need and role of government in mineral management. Studies relating to mineral-dependent economies emphasize the need to achieve *sustainable development* – that is, continuing the economic growth achieved by the initial push given by the discovery and extraction of minerals even after their exhaustion. Many economists believe that with proper government planning for achieving higher capital and technological progress, natural resource will not be a constraint to sustain economic growth. On the contrary, without planned mineral development, mineral-rich economies could be prone to such maladies as the ‘Resource curse’ and the ‘Dutch disease’.

Government intervention is needed for optimal exploration of reserves, maximizing mineral rents, maintaining environmental standards, and providing incentives for reinvestment of

mineral rents. Government intervention is also called for to achieve inter-generational equity and international competitiveness through optimal extraction policy. Even in countries such as in India, where dependence on mineral extraction is not high but mineral sector crucially provides industrial inputs, the primary concern is how to design an optimal and inter-generationally equitable mineral extraction policy. Although experts such as Hotelling proposed that market could take care of the optimal extraction of a mineral through price and interest mechanisms, possible market failures warrant a modest amount of government intervention.

Having established the need for government intervention for better management of mineral resources, focus is turned to the major instrument of intervention, namely, taxation. The specific issues in the taxation of mineral resources that need to be resolved are: (a) how much to tax, (b) how to coordinate the two roles of the government - one as the owner of the mineral resources and the other as an agent responsible for achieving economic and social development, (c) whether a separate tax regime is needed for the mineral sector, and (d) how to combine different levies in a multi-levy system. As regards how much to tax, conceptually, the entire mineral rent (in the Ricardian sense) can be taxed. In the simplest sense, mineral rent is the supply price less the cost of labour supplies, equipment, cost of riskless capital, and quasi-rents. In practice, however, it is not easy to identify the exact magnitude of mineral rent. There are certain components of mineral supply price, which if taxed, can affect private sector's incentive for extraction. While taxing the mineral companies, the government has to balance its two roles - as owner of the mineral resources and as an agent responsible for the overall economic development and social welfare. The dilemma regarding the dual role of the government leads to the third issue that is, whether taxation of mining sector should be different from the general system in terms of both the rate structure, and administration. Taxes of general application may not always be suitable for mineral companies, as these revenues are uncertain. They tend to reduce the expected return and deter investments that would otherwise be commercially viable. At the same time, exempting mineral companies from the general taxation is administratively inconvenient and may be inequitable. The case for exemption exists only when the general taxes are distortionary. This discussion is particularly important with respect to the applicability of the income tax to the mineral sector - whether the standard corporate income tax should continue, or be replaced, or combined with other more neutral mineral rent taxes.

Finally, as there are unavoidable trade-offs between revenue, risk, and timing of the revenue receipts, multiple fiscal instruments are needed. Product-based levies can ensure that the government receives at least a minimum payment for the exploitation of minerals while profit-based instruments reduces uncertainty in mineral contracts as the government shares the risk. The choice among fiscal instruments hinges on the timing of revenue, ease of administration, risk-sharing, and political judgement.

### **Chapter 3: Mineral Levies Around the World**

Chapter 3 tries to identify the major forms of levies in the world. A variety of mineral levies is in vogue in the world. Among the direct taxes, income tax is the most common instrument used in almost all the mineral countries of the world. In some countries, a higher rate of income tax (HRIIT) or a progressive profit tax (PPT) for minerals has also been in existence. Two cash-flow variants of income tax, resource rent tax (RRT) and Brown tax (BT), are under experimentation. Among the non-taxes, royalties and a fixed prospecting fee seem common. Among other forms of levies, equity-sharing and carried interest are in vogue.

## *Income Tax*

Income tax is levied as part of the government's general power to tax, without bothering about the ownership rights of minerals in the ground. The only special feature is that typically, mineral companies desire generous depreciation deduction owing to large initial capital outlays incurred in exploration and development of mineral projects.

Where the government desires to have its share as the mineral owner, the general income tax is supplemented with additional levies such as prescribing higher or progressive rates of tax and levying rent resource taxes. For example, the Indonesian government taxes profits of its petroleum companies at a higher-than-normal rate. However, income tax administration with such supplementary taxes is complex and the rate determination is not easy. Too high a rate delays and deters the projects while too low a rate affects revenue flows. The progressive profit tax follows the same principle as an individual income tax. The principle has been applied to the copper, gold, and silver mining in Papua New Guinea, oil investments in the UK, Indonesia and in Australia. Since the progressive profit tax requires specification of a threshold profit-capital ratio in the income tax law, the final tax liability depends on the definition of capital. The question of tax depreciation issue might also crop up again. The RRT is similar to a cash-flow tax but is imposed only if the accumulated cash-flow is positive. It captures a share of the mineral rent, which is the return over and above the company's cost of capital. As long as subsequent annual net cash-flows are positive, they are taxed. The RRT has been in force as an additional tax in Papua New Guinea, Tanzania and several other developing countries, and its application in general form to the petroleum and mining industries is under discussion in Australia. The BT, just like RRT, is also a tax on all net cash-flows generated by a mineral project at a constant proportional rate. The difference is that under a BT system, the government pays subsidies (negative taxes) in years in which net cash-flows are negative. As such, this tax would be completely neutral and would tax economic rent of the mineral, no more and no less.

## *Import Duties*

Import duties are an element of the general tax powers of the government rather than an instrument to secure a return on mineral ownership. As a general rule, tariffs applied to the minerals sector should be those generally applicable in the economy. However, when mineral sector companies rely heavily on imported capital equipment and intermediate inputs for their exploration, development, and operational activities, import duties can be important means of developing the mineral sector though lower duties payable on the imports of capital equipment.

## *Other Indirect Taxes*

Since minerals are typically primary commodities, manufacturing taxes are not normally applicable. Sales taxes and similar indirect levies like excises and royalty adversely affect the price of the product. In a competitive environment, this may affect the development of a particular ore. They inhibit mine development by adding to production costs, increasing risk and precluding investment. In a way, they also encourage the 'high-grading' effect. Lower grade ore is left in the ground, which shorten the overall life of a mine, and hence shorten the period of revenue flow to the host country. In several countries, the most important indirect tax has been the value-added tax.

Apart from the mineral taxes, there are a number of non-taxes the most important among them being the fixed fee and royalty.

### *Fixed Fee*

A fixed fee is most appropriate when a government has little idea of the value of mineral to be extracted and pre-assessment is hard. It is suitable for the sale of exploration (as distinct from extraction) rights and for small-scale unorganized mining activity. Sometimes, mining rights are auctioned as in the case of offshore mining in the US. The fixed fee system is of course easy to administer but requires detailed knowledge of the individual project and its prospects.

### *Royalties*

Royalties in the form of specific or *ad valorem* duties on the amount or value of the product are among the most popular additional mining levies. They are commonly used as an element of fiscal control in most petroleum and mining industries all over the world. The attractiveness of royalty levies is their simplicity in administration and less deterrent effects than a general fixed fee of the same expected revenue on projects actually undertaken. A royalty levy however has 'high-grading' effect as sales taxes.

### *Product-sharing (PS)*

Product-sharing between government and mineral investor has a certain intuitive appeal, and some governments have adopted it. There are a variety of possible forms of PS, the simplest consisting of paying for the mineral extracted with a certain fixed proportional share of the output, which the government can then sell. PS has the same effect as an *ad valorem* royalty or first point sales tax. Product-sharing can also be viewed as another form of government equity. Some product-sharing agreements allow the companies a prescribed proportion (30 to 40 percent) of costs of production as deduction before sharing.

### *Equity-sharing (ES)*

In some countries, governments insist on acquisition of equity in a project without paying what could be considered a fair market price. In this sense, it imposes a cost on the investor that is similar in its fiscal effect to taxation. Equity to the government could be substituted for tax rights. Equity holding has an appeal for some governments because of the impression it gives of ownership and control.

### *Carried Interest (CI)*

Sometimes government uses its revenue to acquire (compulsorily) equity in the project. The revenue may be converted into equity as it accrues, or equity may be acquired in advance through a loan from the company, which will be repaid from the profit share accruing to the State. Carried interest has implications for the timing of the company's after-tax cash-flows.

## **Chapter 4: Mineral Taxes in India**

Chapter 4 gives a profile of the major taxes and non-taxes in India, levied by all the three levels of government -- Central, State and Local. Although most of these levies are expected to reflect the overall policy on mineral exploitation, in practice only the non-tax levies such as royalties seem to have been used for regulating the mineral sector activity. As far as taxes are concerned, very few are specifically designed for regulating the mineral activities in the country.

The levies are: corporate income tax, Union excise duties, and custom duties by the Central government; prospecting and mining lease fee, royalty, dead rent, surface rent, stamp duty and registration fee, sales taxes, and certain environmental protection fees and charges by State governments; and property taxes and tax on entry of goods (octroi/ entry fee) by local governments, including other general taxes.

## **Chapter 5: Tax Burden on the Indian Mineral Sector**

Chapter 5 attempts to assess the burden of the various levies on the prices of selected minerals and to examine variations across States. For this purpose, two measures of tax impact on mineral prices, namely, the domestic tax burden and the effective rate of protection (ERP) have been adopted.

Estimates with statutory tax rates show that the price impact of taxes varies mostly across the States but not across the minerals. The tax burden is the highest in States imposing octroi. More importantly, the tax impact depends upon the acquisition channel. It is the lowest when minerals are extracted from captive mines and is the highest when acquired from outside the State. Further, it is generally higher for imports than domestic purchases. Estimates based on the effective tax rate show that the tax burden not only differs from State to State, but also from company to company depending on the gamut of deductions and exemptions claimed. As regards ERP, given the uniformity of the basic customs duty (BCD) and the special additional duty (SAD) across the country, it is a uniform 9.72 percent. Furthermore, given the variation in statutory sales tax rates across States, the ERP also varies from 11.91 percent in Gujarat to 14.77 percent in Madhya Pradesh.

## **Recommendations**

From the review of mineral levies in India, the tax system does not appear to be designed to take into account the risk that characterizes mineral exploration and extraction. The government appears to have been more concerned with its agency role to achieve the overall development objectives, rather than claiming its legitimate share of mineral rents as the owner of the natural and mineral resources. This partly explains the absence of taxes aimed at appropriating mineral rents such as RRT and BT. With efforts underway to create special provisions into the fiscal regime to boost private investment, it may be necessary to bring in elements of rent taxes at least in the long-run and make mineral taxation more neutral and globally competitive.

Most of the types of mineral taxes and non-taxes used in the world are in force in India. As in many other countries, the levies are not neutral and are not commensurate with the risky nature of the mineral extraction business. If the private sector is to play an important role in the

mineral sector, and private investment is to be encouraged, there is a need to take into account the special character of mineral exploration and extraction in devising the levies, and for the government to share the risk involved. This calls for certain immediate changes -- rationalization of the corporate income tax structure, bringing a degree of uniformity in the State sales taxes, abolition of the octroi and other levies that hinder the transport of the minerals, and rationalize and simplify the various local levies. Also, while in several countries, mineral levy system hardly differentiates between fuel and non-fuel sectors, in India, petroleum companies receive a favourable treatment<sup>1</sup>. We believe that the tax treatment should be the same for all the mineral sector companies and, therefore, such discrimination should be reduced. Our specific recommendations are as follows.

## Income Tax

World over, income tax appears to have been perceived as the single most important tax for a private investor to consider the allocation of investible funds to the mineral sector. It is, therefore, necessary that mineral taxes be more neutral in view of the higher risk involved in reconnaissance, prospecting, and extracting the mineral resources and for this purpose, cash-flow based mineral rent taxes are more suited than the conventional income tax. However, the general acceptance of corporate income tax, with international tax provisions treating it more favorably than certain other kinds of taxes suggests the desirability of retaining it for the mineral sector for the time being<sup>2</sup>. Nonetheless, certain adjustments in the definition of taxable income through the introduction of specific provisions seem proper to make it more neutral and make mining investment more attractive.

### *(a) Increase the list of mining equipment items that qualify for 100 percent-accelerated depreciation.*

Owing to the large initial capital outlays incurred by mineral companies in reconnaissance, exploration, and development of mineral projects, and relatively longer gestation periods, generous depreciation deductions may be desirable. The existing general 25 percent rate of tax depreciation may not be adequate and some accelerated depreciation and capital allowances will help reduce investor risk and thereby attract more private investments. Already, the accelerated depreciation provision of 100 percent is available for selected mining equipment. Yet, a large number of items used in non-fuel mining are not covered under this.

With a view to make the income tax more neutral for the mineral sector, we recommend that the list should be enhanced so that the accelerated depreciation is available for all plant and equipment used in the entire mineral sector, fuel or non-fuel.

<sup>1</sup> For example, 100 percent accelerated depreciation is allowed for all capital items used in petroleum sector while it is confined to only selected items in the case of non-fuel mining. Similarly, equipment import of the petroleum companies is treated as part of the 'Project Import Scheme' while that of non-fuel sector is not.

<sup>2</sup> One can also think of introducing in the long-run, such mineral rent taxes, as 'additional taxes'. One way to do that in the Indian context would be to bring down the statutory rate of corporate income tax applicable to mineral companies from the present 35 percent to 20 percent and levy a mineral rent tax (MRT) on the lines of RRT to compensate for the remaining 15 percent. If the mineral rent tax is applied first, the rent is assessed as a surplus over the required minimum pre-tax return on mineral investment. If, on the other hand, the rent tax is applied after the company tax, the rent is assessed as the surplus over the post-tax minimum required return on investment.

*(b) Allow deductible expenditures to be charged against future profits without time restrictions.*

At present, deductions are allowed for prospecting and development expenditure incurred in ten equal annual installments from four years before commercial production. Changes in the deductible expenditure are also needed. Considering the high risk involved, the maximum time allowed before commencement of production and the deduction time of ten years appear short and insufficient. Similarly, rehabilitation and restoration of a mine site to a reasonable approximation of its 'pre-mining condition' may include activities that are more substantial at the end of the mine life when there is no income. These are legitimate expenses and need to be allowed as in the case of petroleum sector.

We recommend that all pre-trading costs, including acquisition of deposits, sites or rights over it, exploration and development expenditure, should be allowed to be charged against future profits without restriction. In view of the recent changes in the MMDR Act pertaining to the rising of the mining lease period, we feel that there need not be any limit on the timing and installments, especially with income tax provisions such as the Minimum Alternative Tax.

*(c) Reduce withholding taxes to 10 – 15 percent.*

The issue is pertinent for tax harmonization across countries. High withholding taxes on expatriated profits severely affect the viability of investment decisions of multinational companies with foreign investors. Although, double taxation agreements do mitigate the burden selectively, for long-term international competitiveness it is not adequate.

It is, therefore, recommended that withholding taxes relating to mineral sector be reduced to an internationally competitive level of say, 10 – 15 percent.

*(d) Allow creation and maintenance of special reserve for site restoration costs.*

As regards the site restoration costs, the requirement of maintaining a bank account where the funds are deposited should be discarded as this creates an added cash constraint for the companies. Instead, it is recommended that a special reserve should be allowed to be maintained by the companies, where a percentage of profits are apportioned each year to meet rehabilitation costs in future.

## **Import Duties**

*(e) Exempt the mining capital equipment imports from the import duty.*

Import duties on capital goods are higher for the non-fuel mineral sector (25 percent) as compared to those in fuel mining sector (16 percent<sup>3</sup>). Since the requirements for capital goods

<sup>3</sup> 10 percent before 2000-01 Central Budget.

are same for all minerals, there appears to be no reason to discriminate the non-fuel mineral sector in this respect. Moreover, the NMP aims at attracting private participation in the non-fuel mineral sector with improved technology, which requires import of capital equipment at least in the initial phases. We, therefore, recommend that import duty on mining equipment be in line with that presently available to imports for petroleum operation.

## Union Excise Duties

### *(f) Extend the Union excise duty exemption to mineral concentrates as well.*

Although mineral ores are exempt from Union excise duties, the ore concentrates and beneficiated products are not, and they come under the Central value added tax (CENVAT). There exists a case for extending the exemption to ore concentrates, as firstly, it is not easy to distinguish between an ore and its concentrate. Secondly, the profit margin involved in the beneficiation process being low, the revenue yield may not be commensurate with the effort involved in identifying the taxable content. Thirdly, taxation of concentrates discourages miners to undertake the beneficiation process for low-grade ore within the mine area, and cost of delivery of such ore may not always be economical.

We recommend the extension of excise exemption given for mineral ores to concentrates and beneficiated products also.

## Sales Taxes

### *(g) Implement the floor rate of 4 percent for mineral ores and include them in the 'Declared goods' category.*

The inter-State transactions of minerals attract 4 percent Central sales tax. The rates of sales taxes pertaining to intra-State transaction of minerals are levied on the pit's mouth value (PMV) plus royalty payable and vary from State to State. In some States, the sales tax rates are supplemented with surcharge, turnover tax, and additional tax. The sales tax being levied at the first point is very much akin to an *ad valorem* royalty rate.

In addition, as many States grant tax concessions, the effective rate is around 2 percent. Although statutory rates of sales tax pertaining to many minerals vary from State to State, the variation is low in terms of applicable concessional rates. In any case, eventually when State level VAT is introduced the input credit will be taken care of. For the time being what is needed is the implementation of the floor rate.

However, minerals being basically essential inputs to metallurgical industry, their proper development is a national concern. World over, local transactions of ores and minerals are not subjected to sales tax. Keeping these in view, it is recommended that although the floor rate can be kept at 4 percent, it is desirable to combine ores and major minerals under the category of 'declared goods' which also come under the 4 percent floor rate category. However, they will continue to be treated as inputs eligible to application of concessional tax rates.

## Local Levies

### *(b) Abolish octroi and rationalize/ simplify other local levies*

Besides the above, there is a multiplicity and non-uniformity of the levies at the Local government level that need to be rationalized. Frequent changes in these levies and the uncertainty that the rates may be changed in future adversely affect the investment climate. To begin with, we suggest the abolition of octroi and other local levies that hinder the transport of the minerals, and rationalize and simplify the various local levies. They may be compounded.

# Chapter 1. INTRODUCTION

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Mineral sector is an important segment of the Indian economy. Its contribution by way of providing vital raw materials to many basic industries is quite significant although its share in the gross domestic product (GDP) itself is just about 2 percent. India is the world's largest producer of mica, ranks second in the production of barytes, fourth in iron-ore, sixth in bauxite and manganese, and tenth in aluminum. Yet, the country continues to be a net importer of several minerals such as rock phosphate, asbestos, copper, lead concentrates, zinc concentrates, magnesite, limestone, pyrites, tungsten, and uranium. In addition, if the growth rate of the economy is to be anywhere near the 9<sup>th</sup> Plan target of 7 percent per annum, the country would need larger quantities of not only the fuel minerals but also others such as limestone, bauxite, zinc, copper, lead and so on. In this perspective of the rising demand for minerals, significant reforms in government policy on the mineral sector are called for.

## 1.1 Mineral Policy in India

Realizing the importance of the mineral sector, the Constitution of India provides a separate entry (Entry 23 of the State List) for regulation of mines and mineral development<sup>4</sup>. The National Mineral Policy (NMP) that has evolved over the years<sup>5</sup> is based on the awareness that minerals are valuable natural resources. Being finite and non-renewable, management of minerals has to be closely integrated with the overall strategy of development keeping in view the long-term national goals and perspectives. The policy, therefore, has been towards making the best use of available mineral resources through scientific methods of mining, beneficiation, and economic utilization. At the same time, the policy has been to ensure indigenous availability of basic and strategic minerals to avoid disruption of core industrial production in times of international strife<sup>6</sup>.

The mineral industry in India is completely dominated by the public sector with over 88 percent of the total value of mineral production originating from it<sup>7</sup>. However, the severe

<sup>4</sup> See Annexure 1 of this Report. Annexure 2 provides list of specified minerals as per The First Schedule of MMDR Act classified as Part A. Hydrocarbons Energy Minerals, Part B. Atomic Minerals, and Part C. Metallic and Non-Metallic Minerals for which the State has to take permission from the Central Government before issuing reconnaissance, prospecting and mining lease licences. The List undergoes revision from time to time.

<sup>5</sup> As codified into the Mines and Minerals (Development and Regulation) Act, 1957, (MMDR Act).

<sup>6</sup> Besides these goals, the policy also emphasizes certain new aspects and elements like mineral exploration in the sea-bed, development of proper inventory, proper linkage between exploitation of minerals and development of mineral industry, preference to members of the Scheduled Tribes for development of small deposits in Scheduled Areas, protection of forest, environment and ecology from the adverse effects of mining, enforcement of mining plan for adoption of proper mining methods and optimum utilization of minerals, export of minerals in value added form and recycling of metallic scrap and mineral waste. [Government of India (1993)].

<sup>7</sup> Public sector enterprises like the National Mineral Development Corporation, Kudremukh Iron Ore Company, Steel Authority of India Limited and Orissa Mining Corporation dominate the iron-ore sector. Two public sector enterprises - National Aluminum Company and Bharat Aluminum Company, account for over 66 percent of aluminum production in India. Hindustan Copper Limited dominates the copper-ore mining sector, zinc-lead ore

resource constraints faced by the Government have resulted in declining government expenditure on mineral exploration. Consequently, substantial mineral potential remains unascertained and untapped. If the pace of mining activity is to be accelerated, a higher level of private investment appears to be inevitable for mineral exploration, if not extraction.

The new NMP, promulgated in 1993 as part of the country's economic liberalization process, seeks to bring about the much-needed change in the management of the country's mineral resources within the overall strategy of development. It aims at an optimal depletion rate in respect of each mineral, keeping in view the domestic and global resource position, the international market situation and the needs of stable and sustained economic development. Accordingly, appropriate amendments were made to the MMRD Act in January 1994<sup>8</sup> and MMDR Act in December 1999<sup>9</sup>. These amendments basically aim at devolution of more powers to State governments; consciously encouraging private participation and foreign investment by opening up 13 minerals hitherto reserved for the public sector<sup>10</sup>; and ensuring greater stability of tenure.

Nevertheless, the operations of the mining companies, especially those in the private sector are constricted by various fiscal measures at different levels of government, the impact of which is largely unknown. Besides the royalty levies, several taxes levied by the Central, State and Local governments impinge on this sector. Apart from the fact that taxation of minerals is tantamount to taxation of inputs, the two special features of mining activity, the non-renewability and high risk involved for investment in this sector, call for separate tax treatment of the mineral sector. Realizing this, the NMP also seeks to redesign fiscal measures consistent with the general tax structure both at the national and the international level.

The royalty rate-structure of major minerals is revised periodically by the Government based on the recommendations of specific study groups and multi-disciplinary advisory bodies. However, similar attention towards taxes is conspicuous by its absence. So far, no attempt has been made even to comprehensively trace the taxes levied on the mineral sector by different layers of government at different stages, let alone quantifying the impact and incidence<sup>11</sup>.

Besides, there is a feeling in the mineral industry that the burden of taxes coupled with that of royalties and other levies is quite high and is affecting its international competitiveness. While the case for government sharing the 'surplus' revenue from mining is obvious, it is imperative to see that the instruments used to raise revenue conform to the principles of

mining and processing is dominated by Hindustan Zinc Limited. Bharat Gold Mines, a public enterprise of the Government of India and Hatti Gold Mines Limited (a Government of Karnataka undertaking), are engaged in the mining of gold. Rajasthan State Mines and Minerals Limited and Andhra Pradesh Mining Development Corporation dominate the mining of rock phosphate and barytes, respectively.

<sup>8</sup> Indian Mineral Yearbook, 1996. Also, Rastogi, S P (1997).

<sup>9</sup> The M M (Regulation and Development) Act, 1957 (No. 67 of 1957) was amended on December 20, 1999 and renamed as Mines and Mineral (Development and Regulation) Act, 1957. The Mineral Concession Rules, 1960 and Mineral Conservation and Development Rules, 1988 were consequently were amendend on January 18, 2000.

<sup>10</sup> Sharma, R K (1997).

<sup>11</sup> As a matter of fact, the Multi-disciplinary Committee on Taxation Regime for the Mineral Sector, in its inaugural meeting felt that "it will be germane to list out some of the main taxes or levies in the mineral sector in India, and after a consensus is reached on this list, carry out the necessary exercise of ascertaining the impact of these taxes, etc on the mineral sector and then examine as to what extent these incidences of taxation compared favorably or otherwise with the international norms". Government of India, Ministry of Steel and Mines, Department of Mines, Multi-disciplinary Committee on Taxation Regime for the Mineral Sector, *Minutes of the first meeting held on 10-2-1999*, 24-2-1999.

neutrality, efficiency, and equity. Also, the tax treatment of minerals in terms of rates as well as incentive provisions varies considerably across the States in India -- particularly, in respect of sales taxes and local taxes. Thus, there is a need for a detailed study of the tax burden on the mining sector and examine the need for harmonization of the tax rates across the States.

Studying the tax impact assumes further importance in view of the liberalization process initiated in the mineral sector. The reforms aim at encouraging foreign equity participation. Foreign investment will flow in only if tax system in the mineral sector is not only appropriate but also in line with the system prevailing in alternative destinations across the globe.

## 1.2 The Present Study

To analyze and recommend the impact of overall tax regime on the mineral sector, the National Institute of Public Finance and Policy was entrusted 'the task of preparation of the report of the Multi-Disciplinary Committee on Taxation Regime for the Mineral Sector in connection with carrying out the study of the taxation regime for the mineral sector for suggesting appropriate tax structure conducive to rapid development of minerals and mineral-based industries'<sup>12</sup>. The scope and time frame of the study are further specified in the following terms:

- The study would be based on only metallic and non-metallic minerals.
- The study would be based on and modified according to the interactions and consensus in the meetings of the Sub-group of the Multi-disciplinary Committee on Taxation Regime for the Mineral Sector.
- The study would cover as many of the major mineral producing States as feasible, including Andhra Pradesh, Madhya Pradesh, Orissa, and Rajasthan.
- The study would cover tax structure of as many of the major mineral producing countries as feasible including Australia, Canada, South Africa, Chile, Mexico, Brazil, Peru, Kazakhstan, China, and Indonesia.
- The preliminary report will be submitted by 15<sup>th</sup> October 1999. And, the final report will be submitted by 31<sup>st</sup> March 2000.<sup>13</sup>

## 1.3 The Study Plan

An interim report was submitted in January 2000, describing the major taxes impinging on the mineral sector and their price impact. This final report is divided into two parts. Part I presents a general discussion of the issues involved in mineral taxation and consists of two chapters, Chapters 2 and 3. Chapter 2 discusses the importance of mineral sector in the overall economic development in general, underlines the need for government intervention in the

<sup>12</sup> *vide* letter no. 3/2/97-M.VI dated 15 June 1999 by Government of India, Ministry of Steel and Mines, Department of Mines.

<sup>13</sup> The interim report was submitted in January 2000 and the date of submission for the final report is extended to May 15, 2000, due to certain unavoidable factors.

development of the mineral sector through its tax and non-tax policy instruments and discusses the design issues in mineral taxation. This is followed by Chapter 3 that briefly reviews various types of mineral levies that are in existence in different countries.

Part II focuses on the current status of mineral levies in India and examines the need for fiscal reforms relating to the mineral sector in three chapters. Chapter 4 gives a picture of the variety of taxes and non-taxes that impinge on the mineral sector levied by the three layers of government – Central, State and Local. Chapter 5 attempts to measure the impact of the tax system on the mineral sector – particularly on prices. This exercise is carried out at the desegregated level for a few selected minerals and States. In Chapter 6, some of the major issues in the mineral taxation in India are critically examined with a view towards possible reform.

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PART-I

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ISSUES INVOLVED IN MINERAL  
TAXATION

## Chapter 2. MINERAL TAXATION – OBJECTIVES AND DESIGN ISSUES

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### 2.1 Minerals and Economic Development

#### Sustainable Development through Mineral Income

Roughly, a fifth of the developing countries have their economies critically dependent on the mineral sector. Many of them, especially those in economic transition, depend heavily on mineral extraction for fiscal revenue, foreign exchange, and economic growth<sup>14</sup>. In fact, much of the vast body of literature on the role of minerals in economic development, optimal mineral extraction, and mineral taxation is related to these mineral-dependent economies. These studies emphasize the need for achieving *sustainable development* – that is, continuing the economic growth achieved by the initial push given by the discovery and extraction of minerals even after their exhaustion<sup>15</sup>. The primary task of governments in these countries is to reinvest the mineral rents and develop other industries so that the growth rate is maintained even after the minerals are exhausted.

#### Mineral Resources and Growth

Throughout the history of economic doctrine, natural resources have been viewed as less important to growth than capital and labour. Although the classical economists considered natural resources, particularly land, as a potential constraint on production and income generation, by the end of the nineteenth century many economists were convinced that capital and technological progress would circumvent the natural resource constraint. This is clear from the post-World War II literature on economic growth as many theories attributed an insignificant role to the natural resources<sup>16</sup>. Instead, capital and technological progress were considered to be the engines of growth. Some growth theories, such as the famous theory of Arthur Lewis, considered that with proper government planning and policy reforms, the natural resource constraints (including that of minerals) could be removed altogether.

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<sup>14</sup> The contribution of the mining sector to the growth of the economy is through mineral rents – revenues produced by the mineral sector after deducting the costs associated with prospecting and production. Mineral prices that reflect the costs of labour and capital also reflect the degree of scarcity of the minerals. The mineral prices determine the mineral rents earned by the owners of the mineral resources.

<sup>15</sup> One way of measuring the sustainability is by computing environmental domestic product (EDP) instead of GDP. EDP excludes output representing natural capital depletion and deterioration in the quality of the environment. This adjustment is important for countries with major portion of GDP from environmental or forests sources, because depletion of these resources may boost the income of the present generation at the cost of the next. Rate of saving in this respect should be measured as net of rate of depletion of natural capital. See Hamilton and O'Connor (1994), Harrison (1992), and Hartwick and Hageman (1991) .

<sup>16</sup> For example, the well-known Harrod - Domar model.

The conservationists however have been arguing that rapidly dwindling natural resources might eventually reduce the productive capability of the future generations [Barnett and Morse (1963)]. They have been advising 'conservation' and 'wise use' of the natural resources. Indeed, the rapid increase in petroleum and other mineral prices in the 1970s forced the economists to take account of the threat of natural resource scarcity<sup>17</sup>.

Nevertheless, most economists have remained optimistic regarding the outlook of supplies of natural resource, and in the substitutability of capital and technology for scarce resources. Solow, basing on a specification of Cobb-Douglas production function  $Q = F(K, L)R^h$ , where R is an exhaustible resource, pointed out that if the elasticity of substitution between an exhaustible resource and other factors exceed unity, the resource is not indispensable to production<sup>18</sup>. Continuous technological progress can improve the elasticity of substitution that renders an exhaustible mineral resource indispensable and thereby reduces the apprehensions about inter-generational equity. Stiglitz (1979) also comes to the same conclusion.

### C. Mineral Resources and Inter-temporal Equity

Economists such as Hotelling (1931), Solow (1974), Hartwick (1977), and Dasgupta and Heal (1979) have analyzed the consequences of exhaustion of natural resources on inter-generational equity but without any clear-cut conclusions.

#### *The Hotelling Principle*

For a long time, the principle provided by Hotelling (1931) ruled the discussion on the issue of inter-temporal equity in mineral extraction. According to the principle, to a large extent the problem can be taken care of by market forces as extraction of a mineral declines automatically as more and more of it is depleted. This hypothesis is based on the assumption of an inverse relation between the rate of increase in the mineral price and the rate of interest. Mining entrepreneurs have an option – extract the mineral now, sell it and hold the proceeds to earn interest, or conserve the mineral, wait for the price to rise, then extract and reap capital gains. If the expected rate of capital gain is higher than the rate of interest then it pays to conserve the mineral. This will happen with the higher expected increase in the mineral price. Thus, higher the price rise (or expectations thereof), lower would be the rate of mineral extraction. As a matter of fact, no mineral is ever completely exhausted under the Hotelling Rule.

Dasgupta and Heal (1979) looked into the question – “under what conditions will a market system allocate exhaustible resources in such a manner that the marginal social value of a resource is equal in all uses and constant over time so that the benefits accruing from its use are maximized?” They came to the conclusion that the exhaustible resource allocation will be optimal only under the following conditions: (a) perfect competition, (b) no externalities, (c) no non-convexities in either production possibility sets or preferences, and (d) existence of ‘forward markets’<sup>19</sup>.

<sup>17</sup> As indicated by The Club of Rome report by Meadows *et al* (1972).

<sup>18</sup> On the other hand, an elasticity of substitution below unity would indicate the indispensability of the mineral resource and thereby put a constraint on growth.

<sup>19</sup> Markets where it is possible to transact goods for delivery in any future time-period.

## 2.2 Need for Government Regulation and Control

On the whole, the discussion on the role of mineral resources in economic development points to the need for explicit government intervention. The applicability of the Hotelling principle is limited by certain factors like continuous exploration for new deposits, substitution possibilities of the mineral, technological advances in not only mineral extraction<sup>20</sup> but also in the overall economy, and market failure (government intervention). Applicability of the Hotelling principle might prevent a sudden exhaustion of a mineral, but it may not automatically provide inter-generational equity in mineral extraction. The conditions mentioned by Dasgupta and Heal (1979) for inter-generational equity are also restrictive, not generally satisfied, and call for government intervention.

### Economic Disorders in the Absence of Government Regulation

In fact, without government regulation and control for planned mineral development, mineral-rich economies could be prone to such economic maladies as the 'Resource curse' and the 'Dutch disease'.

#### *(a) The 'Resource Curse' Phenomena*

Generally, it is found that mineral-rich countries have lower rates of growth than resource-poor countries<sup>21</sup>. One explanation for the resource-curse is the Prebisch terms-of-trade hypothesis<sup>22</sup>, which holds that over the long-term, prices of primary commodities decline relative to prices of manufactures. Nevertheless, the evidence supporting this explanation is weak. Another explanation is that the primary resource sector attracts capital and skilled labour from the manufacturing sector, and thereby slows down the growth. However, it seems that mineral resource abundance by itself need not result in relatively low growth. If the government follows the right policies, mineral resources could be a boon and not a curse.

#### *(b) The 'Dutch Disease' Hypothesis*

During the 1970s, petroleum-producing countries that often experienced export booms also underwent a decline in their manufacturing industries and sometime in agriculture as well. The symptoms of this Dutch Disease<sup>23</sup> are recession in manufacturing and agricultural sectors

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<sup>20</sup> For example, extraction of a poorer grade mineral that was not hitherto economic might become economic with advances in production technology and beneficiation of the low-grade ores.

<sup>21</sup> This is corroborated by the finding of Auty and Mikesell (1998) that mineral-exporting countries as a group had the lowest rate of economic growth among developing countries over the period 1970-93. Also, Sachs and Warner (1995) found a negative relationship between growth rates and the ratio of natural resource exports to GDP for 80 developing countries during the 1971-89 period. The poor performers include Mexico, Nigeria, and Venezuela. The star performers among the developing countries - Korea, Taiwan, Hong Kong, and Singapore - were resource-poor.

<sup>22</sup> Prebisch (1964).

<sup>23</sup> A name derived from the Dutch experience following the discovery of natural gas in Holland in the late 50s.

and inflation. Corden and Neary (1982) provide a plausible explanation with their three-sector model. The three sectors are (a) a booming sector such as oil or another primary product such as minerals giving rise to increased exports, (b) a sector of other tradeables that includes both manufacturing and agriculture, and (c) non-tradeables. The hypothesis is that the Dutch disease is the result of three effects -- a spending effect, a relative price effect, and a resource movement effect. Spending the increased export earnings increases the demand for both tradeables and non-tradeables. But the effect of this increased spending is not felt in the same way in tradeables as for the non-tradeables. Spending on tradeables may not raise their domestic prices. In an open economy, their prices are determined by international market trends and any excess demand is met by higher imports. In non-tradeables, on the other hand, the increased demand cannot be met by raising imports and, therefore, results in higher domestic prices. Hence, there is a rise in the prices of non-tradeables relative to the prices of tradeables, with consequent shift of resources from tradeables to non-tradeables. If the non-tradeable sector is relatively labour-intensive, the movement in favour of this sector will raise wages and lower returns on capital, and hence reduce capital accumulation. These adjustments following an export boom summarize the classical model of Dutch disease.

Thus, the vast body of literature on mineral economics shows that government regulation is needed for better mineral management, which includes exploration of mineral reserves, designing of strategies for maximizing mineral rents, maintaining environmental standards, and providing incentives for reinvestment of mineral rents.

## 2.3 Mineral Taxation -- Design Issues

### Mineral Tax Objectives

Tax policy is an important instrument of government intervention in any sector, including minerals. While taxing the mineral sector, three types of objectives can be envisaged. The first set of objectives emanates from the role of government as an agent responsible for achieving economic and social development. Here, government has the responsibility to ensure that the mineral extraction is socially optimal and equitable, and at the same time, the sector makes due contribution to public revenues in the same manner as other sectors of the economy to promote sustainable economic development<sup>24</sup>. To fulfill these goals, the system of mineral levies should be characterized by the generally acclaimed principles of certainty, fiscal stability, and administrative convenience apart from neutrality. As mineral sector operations involve high risk, high capital intensity, and long gestation periods, fiscal stability and certainty characteristics are all the more important. Ensuring reasonable stability in the fiscal environment and reducing variability and uncertainty is essential if private sector participation is to be encouraged<sup>25</sup>. The risk

<sup>24</sup> This is somewhat similar to the dilemma faced by the government in managing public sector undertakings.

<sup>25</sup> It is for this reason that most mining agreements are written for periods of 10 to 30 years, with the aim of defining a stable relationship between the investors and the government. "One reason mineral projects are developed under long-term agreements is that the balance of power shifts over the life of a project. Before exploration begins or in its early stages, the power is with the mineral companies because there is worldwide competition to attract potential investors. The power then shifts to the government and political pressure for renegotiating the original agreement can become almost irresistible once a successful project has come on stream and is generating significant positive net cash-flows. At the tail end of the project, when the mineral deposit is almost depleted, the balance of power shifts again. The mineral company can walk away from the project should it conclude that the government is making excessive demands. Given the shifting balance of power over the life of a project, it is difficult to achieve an identity of interests" (Nellore, 1995).

that future governments may change the contractually agreed upon fiscal rules has an adverse impact on investment decisions and, therefore, should be minimized. In addition, a mineral levy system should also facilitate ease in administration, adaptability in terms of reduced government-risk and reduced delay in tax remittances.

The second set of tax objectives arises from the role of government as owner of minerals that requires the government to secure an appropriate share in the mineral rent. If a valuable mineral is extracted, the government should receive not only the regular tax but also a separate payment over and above it. Maintaining the neutrality characteristic of mineral taxation is all the more important in fulfilling this objective. The appropriation of the mineral rent should be, as far as possible, without disturbing the allocative decisions of economic agents involved, unless there is need for deliberate measures to resolve conflicting interests between the objectives of private agents and social welfare considerations. Traditional efficiency considerations also lead to a choice of fiscal instruments that do not distort investment and production decisions. The third set of objectives aims at minimizing the damage to the environment and ecological balance.

Given these three types of motivations for mineral taxation, the issues that need to be looked into are (a) what should be the total tax take from the mineral sector, (b) whether a separate tax regime is needed for the mineral sector, and (c) how to combine the different levies in a multi-levy system with a view to achieving the above fiscal goals.

### *(a) How Much to Tax*

Insofar as government has the responsibility to ensure that the mineral extraction is socially optimal and equitable, the levy system would be purely regulatory in nature and therefore not much revenue is expected. It is only when mineral sector is expected to make due contribution to public revenues in the same manner as other sectors of the economy, the revenue expectations come to the fore. However, the fundamental dilemma faced by a government is in respect of the additional government's share in the mineral rent. This issue assumes greater importance as increasingly private sector companies enter the mineral sector<sup>26</sup>.

Unlike other sectors of the economy, government as owner of mineral resources can claim a sizable share in the mineral rent. Conceptually, the entire mineral rent (in the Ricardian sense<sup>27</sup>) can be taxed. It is important, however, to ensure that the private sector's incentive for mineral extraction is not affected in an adverse way. The entire return on capital can not be regarded as pure mineral rent. It is composed of not only the cost of riskless capital (opportunity cost) but also various risk-premia that are associated with the sector. Then there are certain 'quasi-rents' in the Marshallian sense<sup>28</sup>. In the simplest sense, mineral rent is the supply price less

<sup>26</sup> It has become an established practice for the governments to undertake mineral exploration and extraction through private sector companies. Although the State is the owner of the minerals, private sector companies are allowed because of the doubts regarding government's efficiency in mineral production.

<sup>27</sup> The mineral rents are profits derived by deducting from the supply price the costs associated with prospecting and production. Mineral prices that reflect the costs of labour and capital also reflect the degree of scarcity of the minerals. In other words, they may give rise to profits that exceed the minimum required return on capital for making the investment attractive.

<sup>28</sup> Long-term payment provided as incentive to a particular allocation of resources which in the absence of the payment could not continue.

the cost of labour supplies, equipment, cost of riskless capital, and quasi-rents. In practice, it is not easy to identify the exact magnitude of mineral rent<sup>29</sup>.

### *(b) General vs Special Taxes on Minerals*

The special character of the mineral sector and the dual nature of the role of the government lead to the dilemma, whether taxation of the mining sector should be different from the general system in terms of rate structure and administration. Taxes of general application may not always be suitable for mineral companies involving high capital intensity and long-gestation lags. Firstly, they seek to raise revenue from mining enterprises relatively early in the life of a mineral project. For example, during the developmental phase, investment in mineral development will generally contribute to the revenue through import duties and through income tax on the personnel or suppliers of capital goods in the mineral sector. However, these contributions to revenue are associated with a high degree of uncertainty. They also tend to reduce the expected return and deter investments that would otherwise be commercially viable.

At the same time, exempting the mineral companies from general taxation is administratively inconvenient and also against equity principles. Further, it is difficult to pre-judge whether exempting the mineral companies from general taxation and subjecting them to only special taxes would promote or detract from the neutrality of the whole taxation system. The distortions created by the special fiscal treatment of mining may not be equal to the distortions removed by the abolition of general taxes. The case for exemption is strong only when the general taxes are distortionary.

This discussion is particularly important in the case of whether other more neutral mineral rent taxes should replace standard corporate income tax. A proportional corporate income (or profit) tax with depreciation deduction could be neutral as between projects and techniques only under certain conditions that can never strictly be fulfilled. For instance, the tax depreciation rarely equals the fall over that year in the present value of the cash-flows expected from the project over its life. In practice, the tax depreciation deduction is calculated on some arbitrary rule, and in those circumstances the tax may discriminate between different time patterns of receipts and hence between different techniques, products, and industries. This argues in favour of more neutral mineral rent taxes relative to the standard corporate income tax.

### *(c) Multiple Fiscal Instruments*

All this calls for a system of multiple fiscal instruments that judicially combines the three sets of objectives. One set of levies represent government's general tax power – basic income tax, import duties, export taxes, sales tax, value added tax, property tax, stamp duties. The second set comprises those that are levied to claim government's legitimate share as mineral owner – progressive profits tax, supplementary income tax at higher rates, and so on. Non-tax instruments such as royalties, product-sharing and equity-sharing are also used mainly for this purpose. A third group of levies is intended to achieve the environmental objectives.

<sup>29</sup> Garnaut and Ross (1983) suggest making a distinction between three types of mineral rents taking into account short-term, medium-term and long-term costs. In the short-term the cost is due to the variable costs involved in extracting the ore from established mines, in the medium-term it is related to the total cost of producing ore from new mines based on known mineral deposits, and in the long-run it is related to the costs including prospecting costs.

The choice among fiscal instruments hinges on the timing of revenue, risk-sharing, administrative convenience and political judgement. Product-based levies can ensure that the government receives at least a minimum payment for the exploitation of minerals while profit-based instruments reduce uncertainty in mineral contracts because they mean that the government shares in the returns from projects that turn out to be more profitable than expected.

In the next chapter we will briefly examine the prevailing mineral levy systems in selected countries with a view to identify the most commonly used fiscal instruments.

## Chapter 3. MINERAL LEVIES AROUND THE WORLD

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### 3.1 Types of Mineral Levies - Taxes

A variety of mineral levies, both direct and indirect, are in vogue in the world<sup>30</sup>. Some levies such as the basic income tax, import duties, export taxes, sales tax, value added tax, property tax and stamp duties are levied as part of the government's general tax power. Some are levied with a view to claim government's legitimate share as mineral owner – for example, progressive profits tax, supplementary income tax at higher rates, and so on. Two cash-flow variants of the income tax, the Resource Rent Tax and Brown Tax are under experimentation. Non-tax instruments such as royalties, product-sharing and equity-sharing are also used for this purpose. Other imposts like environment taxes are used to minimize the damage to the environment and restore the ecological balance.

Among the direct taxes, income tax is generally the most common instrument used in almost all the mineral-producing countries of the world. In some countries, a higher rate of income tax (HRIT) or a progressive profit tax (PPT) for minerals has also been in existence. Among the non-taxes, a fixed prospecting fee and royalties seem common. Among other forms of levies, equity-sharing and carried interest are in vogue. (A more detailed picture of the mineral levy systems across selected countries is given in the Annexure 3).

#### Income Tax

Income tax (or corporate tax) is the most important levy on mineral sector although it is levied as part of the government's general tax power. Generally, income tax system comprises a basic rate structure (usually one rate), provisions for deduction of certain items from the tax base, supplementary levies, tax incentives and withholding provisions.

##### *(a) Basic Rate Structure*

The basic rate usually is a single rate. However, there could be multiple rate categories. For example, small companies in Brazil can choose from many options. In Chile, there exists a special stabilized tax regime rate as an option. In federal countries such as Canada and the US, companies are normally liable to both the federal as well as provincial income taxes and the approximate combined federal provincial rate works out to be 31.97 percent after taking into

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<sup>30</sup> Our sample includes the following mineral-producing countries: Argentina, Australia, Brazil, Canada, Chile, China, Ethiopia, Indonesia, Kazakhstan, Mexico, Papua New Guinea, Peru, South Africa and the United States of America

account the 25 percent resource allowance<sup>31</sup>. Currently, the overall corporate income tax rate in several countries is in the range of 30 percent to 35 percent. In addition, in countries such as Canada, the US, India and so on there is a minimum tax applicable to safeguard against undue tax avoidance.

There are certain issues pertaining to the applicability of general income tax to mineral companies that need to be looked into. The first issue relates to the tax depreciation provision along with certain deductions, incentives and withholding taxes.

### *(b) Tax Depreciation*

The tax depreciation allowance is provided under the income tax regime separately for equipment and buildings, the general rate in many countries being around 25 percent for equipment and 2-10 percent for buildings.

The tax depreciation issue is one of the most important when it comes to mineral companies. Owing to large initial capital outlays incurred by mineral companies in exploration and development of mineral projects, there is a worldwide felt need for generous depreciation deductions. Consequently, several countries allow accelerated depreciation for equipment used in mining, the period of expensing not exceeding three years. Argentina for example, allows 60 percent of the infrastructure cost to be claimed in the first year and 20 percent per annum during the next two years. In Brazil, the accelerated depreciation is linked to the number of shifts for approved mining projects. In Canada, equipment used in new mines is allowed 100 percent depreciation. In Chile, heavy machinery is qualified for fast expensing within three years. In almost all the countries, with few exceptions such as Mexico, the tax depreciation claim is not indexed for inflation. In addition, some countries also allow depletion allowances for exploration costs.

### *(c) Allowable Tax Deductions for Costs*

The second issue pertains to the allowable tax deductions. Apart from depreciation of assets, certain other types of costs that include the following are allowed to be deducted for calculating net taxable income.

- (a) Feasibility study cost,
- (b) Pre-production exploration costs,
- (c) Development costs,
- (d) Post-production exploration costs,
- (e) Operating costs,
- (f) Post-production costs,
- (g) Interest on long-term debt,
- (h) Royalty payments,
- (i) Withholding taxes on interest, dividends, fees for technical assistance,
- (j) Import duties on equipment,
- (k) Export duties,
- (l) Excise/sales tax on equipment and services,
- (m) Fees based on land area,

<sup>31</sup> For details see Annexure 3.

- (n) Payroll taxes, and
- (o) Stamp taxes.

Among these, deductions that are most specific for mineral companies are (a) through (d) and those from (e) through (o) are applicable to non-mineral sector companies as well.

As regards the special tax deductions for the mineral sector [(a) through (d)], there are different methods of expensing allowed. Costs incurred in respect of feasibility study, pre-production exploration costs and development costs are usually amortized to be deducted annually starting within a stipulated minimum period (4 to 5 years after the commencement of production) and upto a maximum period (10 to 15 years). In Canada no limit exist and the costs can be expensed either immediately or can be carried forward indefinitely. In Chile, feasibility study costs and the pre-production exploration costs can be deducted using one of the three methods -- capitalize and 100 percent in the first year; capitalize then amortize over 6 years (16.67 percent); capitalize then amortize 75 percent the first year and 25 percent the second year. The development costs, however, are depreciated based on the life of the project.

### *(d) Tax Incentives*

Besides the allowable deductions, it is common practice to give tax incentives to companies -- not necessarily operating in the mineral sector alone. Losses carried forward and backward, tax holidays and tax credits for research and development are the commonly allowed tax incentives. Business losses are allowed to be carried forward or backward for a specified number of years. The number of years for which the losses can be carried forward are usually 7 to 8 years, while for carrying backward, the number of years are less than 4 years. Sometimes a distinction is also made between capital and non-capital losses. Tax holiday is another commonly observed tax incentive. Unlike for companies eligible in other sectors for which the tax holiday period is limited to 5 or 8 years, there are instances where tax holiday is given for 10 years for eligible mineral companies (*for example, Brazil*).

In addition, mineral companies are given certain special incentives such as 'Resource Allowance', 'Processing Allowance', 'Foreign Re-investment Allowance', and 'Re-investment Deposit Allowance'.

#### *Resource Allowance' and 'Processing Allowance'*

Notable among the tax incentives specifically given for mineral companies is the 'Resource Allowance' and 'Processing Allowance' in Canada. These are simply, additional deductions from mining profits base. The Resource Allowance is calculated as 25 percent of defined resource profits<sup>32</sup>.

The objective of granting Processing Allowance is to ensure that mining tax would be imposed only on profits from the extraction of the ore, and not on profits from associated mineral processing operations. The allowance is calculated annually on the original cost of all processing assets, at a rate based on the degree of processing achieved<sup>33</sup>. The percentage of

<sup>32</sup> Defined resource profits include income from the production and processing of ore to any stage that is not beyond the prime metal stage minus expenses that may reasonably be regarded as applicable to that production but not including financing expenses or most exploration or development expenses. [See Otto (1992)]

<sup>33</sup> In Ontario, Canada, the Processing Allowance rates are as follows. Where a mineral ore is processed only to a concentrate stage, the applicable rate is 8 percent of the concentrating assets. However, if the ore is processed to

income that is offset by the Processing Allowance depends on the relative importance of the processing assets and on the profitability of the operations. At moderate levels of profitability, this allowance could effectively offset 15 to 25 percent of income after deductions in the case of gold, and 30 to 50 percent in the case of copper.

### *Foreign Re-investment Allowance*

China has an ingenious method of encouraging foreign private investment. If foreign investors use profits from their enterprise to directly reinvest in the mineral enterprise or launch another foreign-funded mineral enterprise with a 5-year operation period, 40 percent of the income tax paid on the amount of income used for reinvestment is returned to the investor.

### *Reinvestment Deduction*

In countries such as Ethiopia and Papua New Guinea, mining companies are entitled a tax deduction of an amount equal to 5 percent of gross income to be reinvested in other mining operations or in other investments. In Peru, the entire reinvestment without any limit is allowed as tax deduction.

### *Tax Stabilization Provision*

It is not unusual to provide stable tax rate structure for mineral companies. Mining agreements in Indonesia contain provisions for keeping the applicable tax rate structure stable over a specified period.

## *(e) Withholding Taxes*

The issue of withholding taxes is related to the tax harmonization across countries. Many countries tax the worldwide income of their companies and allow a foreign tax credit in the domestic tax liability. Investors from these countries would like to have the host country's income tax system harmonized with their systems to keep the administration simple. High withholding taxes on expatriated profits severely affect the viability of investment decisions. Double taxation agreements mitigate the burden to some extent. Withholding taxes are applicable to all forms of income but the rates differ according to the nature of income. The rate applicable for interest payments is different from that on dividends remitted abroad and salaries and fees paid to foreign consultants.

The statutory rates of withholding tax on remittances by way of interest payments or dividends abroad or salaries and fees paid to foreign consultants range from zero to 35 percent (Chile) while the effective rates vary within a narrow band of 5-10 percent due to tax treaties.

the refining stage in Northern Ontario, the processing allowance rate is 20 percent of the combined cost of concentrating, smelting and refining. In addition, the allowance may not be less than 15 percent, nor more than 65 percent, of mining/ processing income after deducting all expenses. [See Otto (1992)]

## (f) *Supplementary Taxes*

With a view to gain its legitimate share as mineral owners, governments in some countries attempt imposing additional levies such as prescribing higher or progressive rates of tax for mineral companies and levying rent resource taxes.

### *Higher Rate of Income Tax (HRIT) and Progressive Profits Tax (PPT)*

The Indonesian government, for example, taxes profits of its petroleum companies at a higher-than-normal rate [Garnaut and Ross (1983)]. The advantage of imposing higher rates of income tax is that there is no need to design any special tax and the existing income tax system can be made use of. Income tax has the main advantage of sharing the risk, which the mineral companies prefer and, therefore, is superior to the fixed fee or royalty system. However, income tax administration becomes more complex and the rate determination is not easy. Too high a rate delays and deters the projects, while too low a rate affects revenue flow.

In some other countries, the higher rates are applied *progressively* on a project by project basis. The progressive profit tax (PPT) follows the same principle as an individual income tax. A more profitable project is taxed at a higher rate than a less profitable one. The usual method for this is to tax, at a higher rate, profits above a certain stipulated limit. The limit is prescribed in terms of capital. Whenever the profit-capital ratio raises above a certain threshold level, the higher rate is applied on the additional profits<sup>34</sup>. Here, tax depreciation issue might again crop up. Whether tax depreciation is to be used to reduce the value of the capital for the purpose of deciding the profit-capital ratio to be compared to the threshold ratio poses a problem. There are two variants of the PPT -- one that takes into account capital after deducting accumulated depreciation, and the other that uses undepreciated capital. The second variant is less severe as deducting depreciation from the capital for assessing the extra tax increases the tax collected. Using the depreciated capital, however, makes the additional tax more neutral and it approaches the rent resource tax.

The PPT is in existence in a number of countries, prominent among them being the UK, Canada, Indonesia, Brazil, Papua New Guinea, Australia, South Africa and Kazakhstan. The principle of PPT has been applied to the copper, gold, and silver projects of Bougainvillea Copper Limited in Papua New Guinea, and also in a highly diluted form to oil investments in the UK sector of the North Sea, for which the additional profit tax is referred to as the 'petroleum revenue tax'. It has been incorporated in a modified form into Indonesia's 'third generation' mining agreements. In Australia, a special tax is applied to income from the base metal mines at Broken Hill. In Brazil, taxable profits up to R\$240,000 are charged the nominal income tax at 15 percent, profits above this amount are taxed at 25 percent. In Canada, a federal Large Corporations Tax (LCT) is in existence with a rate of 0.225 percent of the taxable capital in excess of \$10 million, not deductible for computing federal income tax. The corporate tax is creditable against the LCT and carry forward of credits is permitted. By far Kazakhstan offers the most complex PPT so far. The PPT there is based on the magnitude of Internal Rate of Return (IRR)<sup>35</sup>.

<sup>34</sup> Thus, if the accumulated investment amounted to Rs 100 crore and the threshold for additional tax were 15 percent, then taxable profit up to Rs 15 crore in any year would be taxed at the normal rate, say 30 percent, but profit in excess of Rs 15 crore would be taxed at a higher rate, say 50 percent, so that the additional tax would be the extra 20 percent on annual profit in excess of Rs 15 crore.

<sup>35</sup> PPT rate-structure in Kazakhstan

The PPT has its burden more clearly linked to profitability, and entails lower risk to investors than applying a uniform higher rate of income tax for all mineral companies. It also has an administrative advantage over some other profit-based taxes as it can use existing tax legislation without much modification. However, the problem of defining capital investment remains. In addition, relative to fixed fee and royalty, the PPT being an income tax, has the administrative disadvantage connected with the problems of definition and assessment.

### *Resource Rent Tax (RRT) and Brown Tax (BT)*

The PPT often taxes two projects with the same net present value (NPV) differently if they have different time patterns of cash-flows. This is largely avoided with a 'resource rent tax' (RRT)<sup>36</sup>. The RRT is similar to a cash-flow tax but is imposed only if the accumulated cash-flow is positive. It captures a share of mineral rent, which is the return over and above the company's cost of capital. In practice, all cash inflows and outflows generated by the project are summed in each year to give a net inflow figure. The net cash-flow figures are accumulated year by year at an interest rate until a cumulative positive value is attained. That value is then taxed at a specified tax rate. As long as subsequent annual net cash-flows are positive, they are taxed. If in any later year the net cash-flow turns out to be negative, then from that year onward the net inflows are not taxable. The negative cash-flows are accumulated again at the specified interest rate until a cumulative positive value is attained.

The RRT shares the returns more than the company's opportunity cost of capital, and does not distort investment decision. It is thus viewed as superior to other fiscal instruments such as royalties or production-based taxes or even the conventional profit-based taxes. Another advantage of the RRT is that it automatically provides stability in the tax system as revenue is linked to profitability.

Despite this theoretical attractiveness, the RRT can discourage exploration in practice. Investors know that they will be taxed on highly successful projects, whereas unsuccessful projects will not be compensated. Consequently, the RRT reduces the expected return from exploration, and distorts exploration decisions. Also, excessive capital or a reduced rate of production will be encouraged if the RRT discount rate for cash-flow accumulation rate is set above the company's discount rate, which will vary from company to company and can never be known with certainty. For example, assume a company's discount rate is 15 percent and that used for RRT is 20 percent. In the absence of the RRT, the company would just be willing to invest Rs one crore today if it will receive a payback of Rs 1.15 crore a year from now. With RRT, this investment would not be viable. The RRT is a high-risk measure for a government looking for a return on mineral ownership. Although the revenue could be sizeable in favourable circumstances, there is also a possibility that mineral development will yield little revenue.

IRR (%)	Rate of tax (%)
<=20	0
20-22	4
22-24	8
24-26	12
26-29	18
29-30	24
>30	30

The IRR is nothing but a measure of return on capital employed and may be computed simplistically by taking the ratio of tax on the average book value of the net capital assets employed.

<sup>36</sup> Garnaut and Ross (1983).

Administratively, the introduction of the RRT would require definitions of the assessable receipts and deductible payments – the positive and negative cash-flows that are netted and accumulated to form the base of the tax. Since a mining company often has diverse interests, some definition is needed of the receipts and expenses of the project or activities to be taxed. Broadly, all receipts and payments concerned with the project are included except those that are capital, dividend, or interest transactions with equity-holders, creditors, or debtors. The fact that the tax is based on cash-flows, rather than income, means that there is no need to have rules for depreciation or for valuation of stock, two of the main sources of problems of income tax legislation. There is also no need to define capital as in the case of PPT.

In summary, the RRT can be used to capture mineral rents that are not collected by royalties and help fiscal stability by linking revenue to profitability. But it cannot be relied on as a major fiscal instrument.

The RRT has been embodied in legislation in Papua New Guinea as an additional tax applying to future projects for extracting metals, petroleum, and gas. However, it is not known to what extent it can be administered successfully as it applies to only one very large project in process of development, in which it was acceptable to the major investor involved. The RRT has recently been incorporated into major new mining agreements in Tanzania and several other developing countries, and its application in general form to the petroleum and mining industries is under discussion in Australia.

The 'Brown tax'<sup>37</sup> (BT) was first proposed by Cary Brown (1948). He suggested it as a substitute for the general income tax, but it could also be applied as a special tax on mining income. Just like RRT, the BT is also a tax on all net cash-flows generated by a mineral project at a constant proportional rate. The difference is that under the BT, the government pays subsidies (negative taxes) in years in which net cash-flows are negative. As such, this tax would be completely neutral and would tax the economic rent of the mineral, no more and no less. Since no accumulation for time is needed, there is no 'threshold' rate, and hence it would be unnecessary for the authority to estimate the investor's discount rate -- an important advantage over the PPT and RRT.

A disadvantage of the BT is that, of the taxes so far considered, it involves greater risk to government. The BT might make government vulnerable to financial losses. The subsidization aspect might also be politically difficult to 'sell'. As for the investors, the subsidies might not convert the losses into gains. In addition, it may be difficult for investors to be completely confident that subsidies on future capital outlays will continue to be paid. Administration of the BT has much the same problems as that of the RRT.

### *Combining Income Tax with Rent Taxes*

The basic effect of a corporate income tax is to reduce post-tax returns and post-tax supply price of investment below its pre-tax level. On the other hand, to replace it by a mineral rent tax (that extracts all returns above a pre-tax supply price of investment) might divert capital into mining that could be more productive in other industries.

It is for this reason, in countries where RRT exists, it is imposed as a supplement to the general corporate profit tax. Here an issue that arises is whether RRT should be imposed before

<sup>37</sup> The name was given by Garnaut and Ross (1983)

or after a company profit tax. If RRT is imposed before corporate income tax then it can be treated as a deductible cost. On the other hand, if RRT is levied after the corporate profit tax, the payment of corporate profit tax can be treated as a cash-outflow for the purpose of assessing the RRT.

## **B. Import Duties on Equipment used in Mineral Sector**

Import duties are an element of the general tax powers of government rather than an instrument to secure a return on mineral ownership. Thus, as a general rule, the tariffs applied to the mineral sector should be those generally applicable in the economy. However, mineral sector companies rely heavily on imported capital equipment and intermediate inputs for their exploration, development, and operational activities. In most countries, equipment imports are exempt.

In Argentina, no import duty on equipment imports by the mineral companies. In Australia, most plant and equipment imports are subject to a rate of 5 percent. An exemption is available if and only if there is no substitutable goods in Australia. In Canada, Brazil, most mining equipment is exempt. In China, mining equipment may be exempt (usual rate is 22 percent) for Sino-foreign joint ventures and Sino-foreign co-operatives. Ethiopia equipment imports are free from import duties. In Indonesia Import duty on foreign equipment is exempt for first 10 years and then capital equipment and spares are taxed at around 20 percent. In South Africa no import duty on plant and equipment imports. The countries that levy the import duties on mining equipment imports include Chile (11 percent – exempt for exportable goods), Kazakhstan, Mexico (11 percent), Peru (20 percent) India and Indonesia.

## **C. Sales Taxes**

Most countries abstain from levying sales taxes not only on mineral ores but also the inputs and equipment used in the mining. Sales tax and similar indirect levies like excise and royalty are considered to adversely affect the price of the product. In a competitive environment, this may affect the development of a particular ore. They deter development of the mine by adding to production costs, increase the risk, and can discourage investment. In a way, they also encourage 'high grading' and lower grade ore is left in the ground, which will shorten the overall life of a mine with a consequent shortened period of revenue flow to the host country.

In Argentina, Indonesia, Kazakhstan, Chile Papua New Guinea, Mexico, and Brazil, local purchases of mineral ore are not taxed. In Australia, inputs used on the mine site are exempt from sales tax. In Canada, local purchases of equipment used in mines are exempt. While sales of ores attract a Provincial tax of 7-10 percent. Ethiopia, it is around 10 percent.

However, several countries levy the Value Added Tax (VAT) system. Even so VAT on equipment used in mining gets full refund. It is also fairly common to zero rate the mineral ores under VAT.

## 3.2 Types of Mineral Levies -- Non-taxes

### A. Fixed Fee

Mineral licenses or mining rights may be sold by charging a fixed sum of money independent of whether there is any investment at all. A fixed fee<sup>38</sup> is the most appropriate when the government has little idea of the value of the mineral to be extracted and hard to pre-assess it. Thus, it may be suitable for the sale of exploration (as distinct from extraction) rights and for small-scale unorganized mining activity. Sometimes, mining rights are auctioned as in the case of offshore mining in the US. Auctioning leads the investor to set his own value on the resource, and it charges him an amount equal to that value. However, where the knowledge regarding the total deposits is deficient, as in the case of metal mining, the amount charged by way of fixed fee has little relation to the true rent of a project<sup>39</sup>. The fixed fee system is of course easy to administer, but requires detailed knowledge of the individual project and its prospects.

### B. Royalties

Royalties in the form of specific or *ad valorem* duties on the quantum or value of the product are among the most popular additional mining levies. They are commonly used as an element in the fiscal control in most petroleum and mining industries, all over the world. The attractiveness of royalty levies is their simplicity in administration. In the case of specific duty, the base of the tax is the quantity produced, which is easy to check. In the case of *ad valorem* duty when the true market price is not known, some formula can be prescribed for determining value for tax purposes from quantity produced. Royalties have less deterrent effects on projects actually undertaken than a general fixed fee of the same expected revenue. However, a royalty levy has a distorting effect in the sense it raises the unit costs of extraction and thereby tends to reduce the pace and extent of extraction (the 'high-grading' effect). With the result, some deposits are left in the ground although their price exceeds the total social cost of extracting them. This is socially wasteful as capital investments and disbursements are made without full use of their productive capacity.

It is suggested that a method of avoiding the distorting effects of a royalty is to apply it on a sliding scale. In an extreme version, the royalty might disappear after a certain number of years<sup>40</sup>. If the timing of the sliding-scale royalty is exactly right, it will avoid much of the distorting effect on *increment* extraction decisions, but it may lead to delays in extraction as a means of tax avoidance.

<sup>38</sup> Also called 'lease bonus'.

<sup>39</sup> The fixed fee system appears to have been successful in collecting rents from US offshore oil and gas, at least over the 1950s and 1960s. The reason could be the comparatively large number of companies interested in petroleum extraction in the USA.

<sup>40</sup> This is one of the experimental methods tried recently in the USA, where the sliding scale follows a logarithmic formula.

## 3.3 Types of Mineral Levies -- Other Methods

### A. Product-sharing (PS)

Product-sharing between the government and mineral investor has a certain intuitive appeal, and some governments have adopted it. There are a variety of possible forms and twists that can be given to this device. In its simplest form, it consists of paying for the mineral extracted with a certain fixed proportional share of the output, which the government can then sell. In another type of product-sharing arrangement, the government share production after the investors have recovered the original exploration costs, development costs, and operating costs including depreciation. A product-sharing agreement along these lines is essentially equivalent to the government having a carried interest, and thus is less risky than a working interest, which requires the government to purchase its equity. In this form, PS has similar financial effects as a higher income tax. Currently this is a form approximated in Indonesia.

PS has the same effect as an *ad valorem* royalty or first point sales tax. A high proportion of PS is like a duty at a very high rate, has very large distorting effects on extraction, and leads to 'high-grading'. Product-sharing can also be viewed as another form of government equity. In theory, the government and the private investors are partners. The government contributes capital to the project in the form of the ore body while private investors contribute the exploration and development costs and operates the project. The government and the private investors agree to share production from the project, though the government often can require the private investors to market its share of the product. Some production-sharing agreements limit the cost-recovery in any single year to 30 or 40 percent of production.

### B. Equity-sharing (ES)

In some countries, governments insist on the acquisition of equity in a project without paying what could be considered a fair market price. In this sense, it imposes a cost on the investor that is similar in its fiscal effect to some additional taxation. Equity to the government could be substituted for tax rights. Equity holding has an appeal for some governments because of the impression it gives of ownership and control.

Government equity in mineral projects is an important political symbol in many countries. Government equity gives a sense of participating in the development of the country. However, there is a case for the government not taking an equity interest in mineral projects. Nevertheless, if at all the government decides to take an equity position in mineral projects, it should use a carried interest.

There are a number of costs associated with public ownership. First, when the government takes an ownership position, it exposes itself to risk. Second, taxation is more likely to maximize government revenue flow than an equity interest that looks to dividends that may never be paid. Third, equity requires the government to divert funds that otherwise could finance priority development projects. If the government borrows externally to pay for its equity interest, there will be years when the government is required to pay interest on its indebtedness even though it received no dividends from its investment. Fourth, there can be a conflict between the government's role as a shareholder and its role as a regulator. As a shareholder, the government

will want to maximize its return from its investment. As a regulator, the government will want to ensure that the mining project fully complies with all government regulations.

### C. Carried Interest (CI)

This term is used for arrangements in which the State uses its revenue to acquire (compulsorily) equity in the project. The revenue may be converted into equity as it accrues, or equity may be acquired in advance through a loan from the company, which can be repaid using the profit share accruing to the government. This form is used in Zambia under the copper nationalization of 1970, in Papua New Guinea under various petroleum agreements, and in a uranium mining agreement in Tanzania. Carried interest has implications for the timing of the company's after-tax cash-flows. The liquidity position of the company would be better if *in lieu* of taxes, the government is allowed to acquire equity.

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**PART- II**

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**STATUS OF MINERAL TAXATION IN  
INDIA AND SCOPE FOR POSSIBLE  
REFORMS**

## Chapter 4. MINERAL TAXES IN INDIA

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### 4.1 Mineral Policy Objectives in India

Most of the tax and non-taxes (except the additional income taxes in the form of HRIT and PPT as also the RRT and BT) reviewed in the previous chapter are in existence in India. Although these levies are expected to reflect the overall policy regarding the exploitation of mineral resources, in practice only the non-tax levies such as royalties seem to have been used for regulating the mineral sector activity so far. As far as taxes are concerned, very few are specifically designed at regulating the mineral activities in the country. For example, taxes such as the corporate income tax and sales tax simply encompass the mineral sector as part of their bases and consequently, their burden on the mineral sector is not always intentional.

In this chapter, we attempt to list out the important taxes and non-taxes that impinge on the mineral activity. A summary of major taxes and non-taxes levied by three layers of governments is given in Table 1.

**Table 1: Summary of government levies at different levels**

Government	Tax	Non-tax
Central	Corporate income tax, Union excise duties, Custom duties, and Central sales tax	Nil
State	Stamp duty and registration fee, State general sales taxes	Reconnaissance fee, Prospecting fee, Mining lease fee, Royalty, Dead rent, Surface rent, Environmental protection fee, Local area development fee
Local	Property tax, Octroi / Entry tax, service tax, and various rural taxes and levies	Nil

### 4.2 Levies by Different Layers of Governments -- Central Government

#### Income Tax

Incomes of the companies operating in the mineral sector are subject to the Indian Income Tax Act, 1961<sup>41</sup>. The tax rates vary according to the origin and nationality of the company (Table 2). In addition, there exists a minimum alternative tax (MAT) where if the total

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<sup>41</sup> Indian companies are taxable in India on their worldwide income irrespective of its origin. Foreign companies are taxed only on income that arises from operations carried out in India or on income that is deemed to have arisen in India.

taxable income of a company is less than 30 percent of its book profits, the company would be required to pay income tax on 7.5 percent of its book profits effective from 2001-02<sup>42</sup>.

**Table 2: Corporate income tax rates in India**

Company	Rates of tax (percent)
In case of a domestic company*	35
In case of a foreign company	
a) Royalty received from Government or an Indian concern in pursuance of an agreement made by it with the Indian concern after March 31, 1961, but before April 1, 1976, or fees for rendering technical services in pursuance of an agreement made by it after February 29, 1964 but before April 1, 1976, and where such agreement has, in either case, been approved by the Central Government.	50
b) Other incomes.	48
Surcharge	
Domestic company	
Assessment year 1999-2000	Nil
Assessment year 2000-01	10
Foreign company	Nil
Rates of deduction of tax at source:	
(a). On income by way of dividends and interest other than interest on securities	20
(b). On any other income	20

Source: Taxmann (1999)

Notes: \* In addition, there is a tax on distributed profits at 20 percent (Section 115A of the Income-tax Act).

### *(a) Special Deductions for Mineral Sector*

The expenditure incurred by an Indian company engaged in any operation relating to reconnaissance and prospecting for, or extracting or production of any mineral during the 4-year period ending with the year of commercial production is allowed as a deduction from the total income up to 10 percent of such expenditure<sup>43</sup>. However, no deduction is allowed on expenditure on the acquisition of site and other capital expenses on which depreciation is claimed.

### *(b) Other Deductions*

As in the case of companies in other sectors, mineral companies are eligible for cost deductions for calculating net taxable income. The items include: post-production exploration costs, operating costs, post-production costs, depreciation, amortization, loan interest, royalty payments, withholding tax on interest, withholding tax on dividends, import duties on equipment, export duties on minerals, excise/sales tax on equipment and services, fees based on land area, payroll taxes, and stamp duties.

### *(c) Depreciation*

In India, the rates of tax depreciation differ by types of capital assets. These are as in the Table 3.

<sup>42</sup> It used to be 10.5 percent till 2000-01

<sup>43</sup> Section 35E of the Income Tax Act, 1961.

**Table 3: Rates of tax depreciation under the Indian Income Tax Act**

Item	Rate of tax depreciation (%)	Method of depreciation
Equipment	25	Declining balances
Vehicles	20-25	Declining balances
Furniture and fittings	10-15	Declining balances
Pollution control equipment	100	
Buildings	5-20	Straight-line

Notes: Costs qualifying for depreciation not adjusted for inflation

### *Accelerated depreciation allowance*

The benefits of accelerated depreciation are available for some of the equipment used in mining operations. Tubs, winding ropes, haulage ropes, stowing pipes and safety lamps used in mines and quarries are allowed 100 percent depreciation in the first year itself. Similarly, environment protection equipment, pollution control equipment, energy saving equipment also qualify for 100 percent depreciation.<sup>44</sup> However, a large number of items come under only 25 percent of tax depreciation.

### *(d) Withholding Taxes*

Table 4 shows the taxes withheld while allowing foreign companies to repatriate incomes.

**Table 4: Rates of tax for withholding under Indian Income Tax Act**

Nature of income	Rate of withholding (%)
Loan interest paid to foreign lenders	20
Dividends remitted abroad	20
Salaries and fees paid to foreign consultants	30

Note: Rates agreed upon in the bilateral treaties prevail over those in the Act.

### *(e) Income Tax Incentives for Mineral Companies*

Mineral companies are eligible for following specific relief in addition to tax relief and incentives available for companies in general.

#### *Loss carry-forward*

Indian companies are eligible for carry-forward of losses including depreciation upto 8 years, provided the business in which the loss actually arose is continued in such lax year.

#### *Tax holiday*

Mining companies in specified backward areas<sup>45</sup> are also eligible for a complete tax holiday for a period of 5 years from the commencement of production and a partial tax holiday thereafter<sup>46</sup>.

<sup>44</sup> Singhania, V, K Singhania and M Singhania (1999): Assessment Year 2000-01. Annex 2: Rates of Depreciation, A(III)(x). p. 1033

<sup>45</sup> Under Rule 11EA (Section 80-IA) of the Income Tax Act, deduction to industrial undertakings located in industrially backward districts are allowed. Notification # SO 714 (E), dated 7-10-1997 has declared 123 districts as industrially backward districts in India, categorized in two categories, i.e., 53 districts in Category 'A' and 70 districts in 'B'. The notification has adopted the guideline based on the Report of the Study Group on

### *Deduction in respect of export turnover*

At present, deduction of 100 percent of export income is available for export of specified minerals and ores. To claim this deduction, the sale proceeds of exports must be brought into India in convertible foreign exchange within a specified period<sup>47</sup>. However, from the fiscal year 2001-2002 this tax benefit is to be phased out during the next five years at the rate of 20 percent per annum, except units in 'Free Trade Zone', or export-oriented units, set up on or after 1-4-2000.

## **B. Union Excise Duties**

Union excise duties are levied in terms of the Central Excise and Salt Act, 1944 and the Central Excise Tariff Act, 1985. Ores, slag and ash and ore concentrates are excisable items now at 16 percent rate *ad valorem*. However, since 1996 ores, slag and ash have been exempt from the whole of the duty of excise leviable thereon<sup>48</sup> but ore concentrates continue to be levied excise duties.

## **C. Custom Duties**

### *(a) Import of Mineral Ores*

Custom duties are levied as per the terms of the Custom Act 1962 and Custom Tariff Act 1975. They are leviable on all goods, which are freely importable, on *c.i.f.* value of imports (that is, imports valued at cost including freight). Basic custom duty on mineral ores is 5 percent along with a surcharge at the rate of 10 percent on basic custom duty. A special additional duty (SAD) of 4 percent was imposed in 1998-99 to provide a level playing field with respect to the burden of State and local taxes on domestic and imported goods. From the year 2000-01, the SAD has been extended on imports by traders as well<sup>49</sup>. The countervailing duties (CVD) that were to be at 16 percent are not relevant now because ores are exempt from excise.

### *(b) Import of Capital Goods for Mining Projects*

Along with the ores, the customs duties on capital good imports are also important. In general, capital goods attract a levy of 25 percent basic customs duty, 10 percent surcharge, SAD of 4 percent and CVD of 16 percent, the combined import tax comes to be 53.8 percent. On the contrary, for fuel minerals, it works out to be 22.38 percent.

Identification of Backward Districts dated October 4, 1994 and is based on districts as they stood in the Census Report of 1991.

<sup>46</sup> The activities should have begun in the period between April, 1993 and March 31, 1998. (Sections 80 HH and 80IB of the Income Tax Act, 1961)

<sup>47</sup> Section 80FHC (2(a)) of the Income Tax Act, 1961.

<sup>48</sup> Ores, slag and ash were made eligible for benefit of general exemption from levy of Union excise duty under Notification no: 19/88-CE dated 1.3.1988 *vide* court ruling Chandigarh Zinc & Residue Pvt Ltd v/s Collector - 1995 (78) ELT 102 (Tribunal) effective from 23.7.1996.

<sup>49</sup> Government of India, Finance Bill 2000.

## Excise-related Welfare Cess

This welfare cess is leviable on five mineral ores, namely, chrome, iron, manganese, limestone, and dolomite<sup>50</sup>. The proceeds go to labour welfare. Table 5 shows the rate of cess on these ores.

**Table 5: Rates of welfare cess**

Chapter of the central excise tariff act	Ore	Maximum rate at which duty of excise may be collected on ores (Rs per metric tonne)	Effective rate of duty (Rs per metric tonne)
26	Chrome-ore	4	NA
26	Iron-ore	1	1
26	Manganese-ore	NA	2
25	Lime stone and Dolomite	1	0.50

Source: Central Excise Tariff of India 2000-01

Note: NA = Not Available.

## 4.3 Levies by Different Layers of Governments -- State Government

### Stamp Duty and Registration Fees

The stamp duty is assessed on a percentage of value of transaction described in the contract or on a fixed fee basis. Lease agreements and transfer of assets attract stamp duty. The quantum of the stamp duty is determined as per the provisions of Indian Stamp Act and the rates vary from State to State. Table 6 lists the rates of stamp duty for mining lease for a period of 20 to 100 years for selected States.

<sup>50</sup> Leviable under the Iron Ore Mines, Manganese Ore Mines and Chrome Ore Mines Labor Welfare Cess Act, 1976 (55 of 1976) (w.e.f. 1.9.1978) vide Notification No. 1041, dated 9.8.1978.

**Table 6: Rates of stamp duty on mining leases in selected States in India**

State	Period (Years)	Amount (Rs)	Rate (percent)
Andhra Pradesh	20-30.	First Rs 1,000	5 percent
		Next every Rs 500 and part thereof	25 percent of amount considered or 3-times of the amount as average annual rent reserved.
	30-100.	First Rs 1,000	5 percent
		Next every Rs 500 and part thereof	25 percent of amount considered or 4-times of the amount as average annual rent reserved.
Bihar	20-30.	Rs 5,000-Rs 50,000	5 percent of amount considered or 5-times of the amount as average annual rent reserved.
		More than Rs 50,000	7 percent of amount considered or 5-times of the amount as average annual rent reserved.
	30-100.	Rs 5,000-Rs 50,000	5 percent of amount considered or 8-times of the amount as average annual rent reserved.
		More than Rs 50,000	7 percent of amount considered or 8-times of the amount as average annual rent reserved.
Gujarat	10-30.		8 percent for Rs 100 or part thereof of amount considered or 2-times of the amount as average annual rent reserved.
	In perpetuity.		Same as above for 1/5 <sup>th</sup> of the whole amount of rents which would be paid or delivered in respect of the first 50 years of the lease.
Karnataka	10-30.	First Rs 1,000	10 percent
		Next every Rs 500 and part thereof	Rs 50 for every Rs 500 or 3-times of the amount as average annual rent reserved.
	Indefinite term.	First Rs 1,000	10 percent
		Next every Rs 500 and part thereof	Rs 50 for every Rs 500 or 3-times of the amount as average annual rent to be paid for the first 10 years of the lease.
Madhya Pradesh	20-30.		7.5 percent of amount considered or 5-times of the amount as average annual rent reserved.
	30-100.		7.5 percent of amount considered or 8-times of the amount as average annual rent reserved.
Rajasthan	Indefinite term.	Rs 1,000 - Rs 50,000	30 percent for Rs 500 or part thereof of amount considered or equal to the amount of average annual rent paid for the first 10 years.
		More than Rs 50,000	50 percent for Rs 500 or part thereof of amount considered or equal to the amount of average annual rent paid for the first 10 years.
	In perpetuity.	Rs 1,000 - Rs 50,000	30 percent for every Rs 500 or part thereof of amount considered or 1/5 <sup>th</sup> of the whole amount of rent to be paid in respect of the first 50 years of the lease.
		More than Rs 50,000	50 percent for every Rs 500 or part thereof of amount considered or 1/5 <sup>th</sup> of the whole amount of rent to be paid in respect of the first 50 years of the lease.
Uttar Pradesh	20-30.	Rs 900 - Rs 1,000	125 percent
		More than Rs 1,000	62.5 percent of amount considered or 6-times of the amount as average annual rent reserved.
	30-100.	Rs 900 - Rs 1,000	125 percent
		More than Rs 1,000	62.5 percent of amount considered or 10-times of the amount as average annual rent reserved.

Note: \* = Stamp duty base is an amount for a consideration or market value which is equal to a product of average annual rent reserved and a specified factor.

Source: Krishnamurthy (1997): Indian Stamp Act.

## B. Sales Taxes

Sales taxes in India are imposed either as Central sales tax (CST) on inter-State transaction or General State sales tax (GST) on intra-State transaction.

### (a) Central Sales Tax (CST)

CST<sup>51</sup> is imposed on inter-State transactions of commodities for which Central Government has the power to frame rules. The rates applicable as per Central Sales Tax Act, 1956, under different transaction conditions are shown in Table 7. States can exempt or reduce the CST rate on any good by issuing a notification in official Gazette of the State<sup>52</sup>. However, they cannot raise the rate of tax beyond 4 percent. The Central Government, on the contrary, cannot reduce the rate without necessary Constitutional amendment.

**Table 7: Rate chart of CST: Rate-wise and transaction-wise**

	Description of rate and transaction
1	<p><b><u>Tax rate of 4 percent</u></b></p> <ol style="list-style-type: none"> <li>1. Sales to Government not being a registered dealer of any goods against 'D' Form<sup>53</sup> certificate</li> <li>2. Sales to registered dealers, for resale purposes, of any goods specified in their RC<sup>54</sup> against 'C' Form<sup>55</sup> declarations</li> <li>3. Sales to registered dealers for use in manufacture, of all kinds of goods specified in their RC against 'C' Form declaration.</li> <li>4. For declared goods when sold to Government or to registered dealers</li> </ol>
2	<p><b><u>GST rate applicable to unregistered dealers</u></b></p> <p>Sales to Government not being a registered dealer of any goods</p>
3	<p><b><u>GST rate applicable to sales of declared goods</u></b></p> <p>For declared<sup>56</sup> goods.</p>

<sup>51</sup> The Central Sales Tax Act, 1956 (Act No. 74 of 1956, dated December 21, 1956) is an Act to formulate principles for determining when a sale or purchase of goods takes place in the course of inter-State trade or commerce or outside a State or in the course of import into or export from India, to provide for the levy, collection and distribution of taxes on sale of goods in the course of inter-State trade or commerce and to declare certain goods to be of special importance in inter-State trade or commerce and specify the restrictions and conditions to which State laws imposing taxes on the sale or purchase of such goods of special importance shall be subjected. Sub-section (1) of Section 13 authorizes the Central Government to frame rules in respect of matters specified in clauses (a) to (g) in sub-section (1). Accordingly Government of India have under its notification number SRO 644 dated 28.2.1957 published the Central Sales Tax (Registration and Turnover) Rules, 1957 in extra-ordinary Gazette. This Act covers all-India except Jammu and Kashmir since March 13, 1958.

<sup>52</sup> Under sub-section (5) of section (8)

<sup>53</sup> 'D' Form is a declaration certificate for making Government purchase not being a registered dealer.

<sup>54</sup> RC is a registration certificate issued by the competent sales tax authority where from the registered dealer is effecting his trade.

<sup>55</sup> 'C' Form is a declaration certificate for making purchase by a registered dealer from other State of goods covered under RC. This Form is submitted to the dealer he is trading with in another State.

<sup>56</sup> Article 286 of the Constitution was amended by the Constitution (Sixth) Amendment Act, 1956. Goods of special importance in inter-State trade or commerce are considered as declared goods under Chapter IV, Section 14 of the CST Act, 1956. Broadly, they are the following with date of effect: (i) Cereals (7.9.1976), (ia) coal (5.1.1957), (iia) cotton fabrics (29.4.1961), (iib) cotton yarn (1.10.1958), (iic) crude oil (7.9.1976), (iiu) hides and skins (5.1.1957), (iv) iron and steel (1.4.1973), (v) jute (1.4.1973), (vi) oilseeds (1.4.1973), (via) pulses (7.9.1976), (vii) man-made fabrics (29.4.1961), (viii) sugar (29.4.1961), (ix) unmanufactured tobacco (29.4.1961), and (x) woven fabrics of wool (30.4.1961). These goods are further detailed in the section. This section has so far been amended seven times. Every sales tax law of a State shall, insofar as it imposes or authorises the imposition of a tax on the sale or

**Table 7 (continued)**

	Description of rate and transaction
4	<b><u>10 percent or GST rate whichever is higher</u></b> For non-declared goods.
5	<b><u>Double the GST rate applicable to sales of declared goods</u></b> For declared goods when sold to unregistered dealers.
6	<b><u>GST rate</u></b> In all cases other cases where GST is less than 4 percent.
7	<b><u>Nil</u></b> 1. Subsequent sales when made to a registered dealer and supported by declaration Form 'C' and certificate Form E-I <sup>57</sup> or E-II <sup>58</sup> as applicable 2. Subsequent sales when made to Government, not being a registered dealer, and supported by declaration Form 'C' and certificate Form E-I or E-II as applicable

Source: Merchant and Sachdeva (1999).

## C. General Sales Tax (GST)

Intra-State transactions of goods are taxed by State governments as per their respective Sales Tax Acts. Sales tax is a single point levy payable on sale/purchase of products largely at first point otherwise at last point. When a mineral is marketed, the first sale within a State is subject to its own GST on the pit's mouth value (PMV) plus royalty payable.

The statutory GST tax rates of the States vary in the range of 4 percent in Andhra Pradesh to 16 percent in Orissa. In most States, additional levies also exist in the form of surcharge, turnover tax and additional tax. In most States, minerals are subject to concessional tax treatment when they are used as input by registered processing/ manufacturing units, the applicable tax rate varying from 2 to 4 percent (ceiling equivalent to CST). The GST structure in selected States as on April 1, 2000 is given in Table 8.

purchase of declared goods, be subject to the following restrictions and conditions, as specified under section 15 of the Act, namely (a) The tax payable under that law in respect of any sale or purchase of such goods inside the State shall not exceed four per cent of the sale or purchase price thereof, and such tax shall not be levied at more than one stage; (b) where a tax has been levied under that law in respect of the sale or purchase inside the State of any declared goods and such goods are sold in the course of inter-State trade or commerce, and tax has been paid under this Act in respect of the sale of such goods in the course of inter-State trade or commerce, the tax levied under such law shall be reimbursed to the person making such sale in the course of inter-State trade or commerce in such the course of inter-State trade or commerce in such manner and subject to such conditions as may be provided in any law in force in that State. This section was amended for six times since its inception on 1<sup>st</sup> October, 1958.

<sup>57</sup> Form E-I is to be issued (i) by the selling dealer, who first moved the goods in the case of a sale falling under section 3 (a) or (ii) by the dealer, who makes the first inter-State sale during the movement of the goods from one State to another in the case of a sale falling under section 3 (b).

<sup>58</sup> Form E-I is to be issued by the first or subsequent transfer or in the series of sales referred to in section 6(2)(a) or second or subsequent transfer or in the series of sales referred to in section 6(2)(b).

**Table 8: GST on ores and minerals in selected States as on April 1, 2000**

State	Point of levy	Sales tax rate (percent)				Turnover tax	Additional tax rate (percent)
		Full rate		Concessional rate			
		Basic	Surcharge on basic	Basic	Surcharge on basic		
Andhra Pradesh	LP	4	Nil	3	Nil	Nil	Nil
Bihar	LPS	7	Nil	4	Nil	10 percent for turnover >5 lakhs	1
Gujarat	FPS	12	Nil	2	Nil	Nil	Nil
Karnataka	FPP	10	5	3	5	1 percent on Rs 5 lakhs to 5 crore 3 percent on Rs 10 crore and above	Nil
Madhya Pradesh	FPP	8 -12	15	4	15	Nil	Nil
Maharashtra	FPP	13	10	3	10	1 percent	Nil
Orissa	FPP	16	Nil	4	10	10 percent upto Rs 1 crore 15 percent >Rs 1 crore	Nil
Rajasthan	FPS	12	12	3 *	12 *	Nil	Nil
				4 #	12 #		
Uttar Pradesh	FPP	5	Nil	2.5	Nil	Nil	Nil

Source: Respective State Government Tax Departments

Notes: FPP = First point of purchase, FPS= First point of sale, LPS= Last point of sale

\* = Registered dealers, # = Unregistered dealers

Currently, the Sales tax system in the country is under review by a Standing Committee of State Finance Ministers constituted to monitor the reforms recommended by various committees and studies such as the Government of India (1991, 1992, 1993) and the NIPFP (1994). The Standing Committee, with a view to bringing out some degree of uniformity in the sales tax rates, devised a system of floor rates for different categories of commodities. Under this system, States cannot charge a rate less than the floor rate although they are free to levy higher rates within the band. For this purpose, taxable commodities are classified under five categories and floor rates are suggested. Ores and minerals come under the Category II for which the floor rate is prescribed at 4 percent. Along with the floor rates, the Committee also proposed abolition of all sales tax linked incentives and concessions. It is noteworthy that for minerals this would mean a higher sales tax rate than the concessional rates charged at present in several States.

## D. Road Tax

Generally, each State charges Rs 5,000 per year or part period as road tax for common transport trucks and truck with trailer of upto 35 tonnes capacity pay road tax of Rs 13,500 per annum.

## E. Reconnaissance Permit Fee

The non-tax levies now start right from the reconnaissance stage<sup>59</sup>. When an area is demarcated as a possible mineral-bearing area and the mine lease is to be awarded, first a Reconnaissance Permit is granted. The applicant has to apply with a non-refundable fee at the

<sup>59</sup> Grant of Reconnaissance Permits started with effect from 18.12.1999, with the MM(RD) Amendment Act as MM(DR) Act (As amended up to 18<sup>th</sup> January 2000). This is a pre-prospecting stage of survey etc. vide Chapter II, section 4 to 7.

rate of Rs 5 per sq km to the State Government<sup>60</sup>. Along with this, a refundable security for the observance of the terms and conditions of the permit is required to be paid at the rate of Rs 20 per sq km or part thereof<sup>61</sup>.

## F. Prospecting and Mining Lease Fee

After successful reconnaissance of the area, it is prospected by the first eligible bidder<sup>62</sup> under a Prospecting License. The holder of a Prospecting License is required to pay annually in advance, a Prospecting Fee in respect of the ensuing year or part of the year at such rates and time as may be fixed by the State Government, being not less than Re 0.50 per hectare and not more than Rs 5 per hectare of land<sup>63</sup>. The payment is independent of the mineral extraction activities.

In case, a quantum of mineral is removed at the prospecting stage itself for commercial purposes, and/ or the quantity so removed is more than that specified in Schedule III of the MCR, a royalty has to be paid at the usual prescribed rate. Subsequently, on successful prospecting, the miner applies for grant of Mining Lease by paying a fee of Rs 500<sup>64</sup>.

## G. Royalties

Royalties are imposed under Section 9 of the MMDR Act. Under this, the holder of a Mining Lease shall pay royalty in respect of any mineral removed or consumed by his or by his agent, manager, employee, contractor, or sub-lessee from the leased area after such commencement, at the rate specified in the Second Schedule in respect of that mineral (Annexure 4).

In India, royalty is charged on a quantity basis (specific-rated) for 43 minerals and for the remaining minerals on a sale price basis (*ad valorem*-rated)<sup>65</sup>. The basis of calculating the royalty is the pit's mouth value (PMV) of the mineral, that is, the highest price at which the mineral can be sold at the mine. If there is no actual local market, then the notional PMV is considered. The royalty rates for major minerals are revised for a 3-year period by Central Government notification. The current rates for selected minerals are given in Table 9 and Annexure 4 provides the full range of minerals.

**Table 9: Royalty rates of selected major minerals**

Mineral	Ore / Mineral	<i>Ad valorem</i> as percent on sale price	Specific (Rs per tonne)
Bauxite	On all grades		41
Iron	<b>(I) Ore lumps</b>		
	a) with 65 percent Fe or more		21.5
	b) with 62 percent Fe or more but less than 65 percent Fe		12
	c) with 60 percent Fe or more but less than 62 percent Fe		8.5
	d) with less than 60 percent Fe		6
	<b>(II) Fines including natural fines produced incidental to mining &amp; sizing of ore</b>		

<sup>60</sup> Under section 4(2)(a) of Mineral Concession Rule, 1960.

<sup>61</sup> Under section 7B(i) of the Mineral Concession Rules, 1960.

<sup>62</sup> As per Sub-rule (2) of Rule 22 B of MCR.

<sup>63</sup> As per Rule 14(i), Mineral Concession Rules, 1960 (MCR)<sup>63</sup>.

<sup>64</sup> Under Rule 22 (3) (i) (a) of MCR

<sup>65</sup> Efforts are on to convert the specific royalty rates to *ad valorem* rates.

	a) with 65 percent Fe or more b) with 62 percent Fe or more but less than 65 percent Fe c) with less than 62 percent Fe (III) Concentrates prepared by beneficiation and/or concentration of low grade ore containing 40 percent Fe or less		15.5 8.5 6 2.5
Limestone including kankar	a) LD Grade (less than 1.5 percent silica content) b) Others		50 32
Manganese-ore	a) MnO <sub>2</sub> (containing 78 percent or more MnO <sub>2</sub> and 4 percent or below Fe) b) 46 percent Mn or above c) 35 percent Mn and above but below 46 percent Mn d) 25 percent Mn and above but below 35 percent Mn e) Below 25 percent Mn f) Concentrate		112 42 25 17 7 2
Rock phosphate	a) Above 25 percent P <sub>2</sub> O <sub>5</sub> b) Upto 20 percent P <sub>2</sub> O <sub>5</sub>	11 percent 5 percent	
Barytes	White and off colour	5.50 percent	
Chromite	Both lumpy non-ore and concentrate	7.50 percent	
Copper Ore		0.7 percent of LME	
Diamond		10 percent	
Gold	Primary By-product	1.50 percent 2.59 percent	
Lead-ore		4 percent of LME	
Silver		5 percent	
Zinc		3.5 percent of LME	

LME = London Metal Exchange metal price chargeable per tonne of concentrate produced.

Source: Government of India (1998), Ministry of Steel and Mines, Indian Bureau of Mines, Mineral Economics Division, *Mineral Royalties*, July.

## H. Dead Rent

Dead Rent is a deterrent against the tendency of the lessee to corner leases and keep them idle to prevent competitors from accessing mineral-bearing areas. It is charged based on area of mining lease granted irrespective of the mineral. The underlying principle of calculation of the rate of dead rent is the assumption that the lessee can sustain certain minimum yearly production. The rate of dead rent, like royalty, is fixed by the Central Government and revised along with royalty rates. When the lessee becomes eligible to pay royalty under Section 9 of the Act, he is liable to pay either such royalty, or the dead rent in respect of that area, whichever is greater (Table 10 and Annexure 5).

**Table 10: Dead rent rates for various leases**

Category of the mining lease	1 year of lease	II to V year of lease	VI to X year of lease	XI year of lease and onward
a). Lease area upto 50 hectares	Nil	60	120	180
b). Lease area above 50 but not exceeding 100 hectares	Nil	80	160	240
c). Lease area above 100 hectares	Nil	120	200	300

## I. Royalty-linked Cess

This is a kind of levy charged for meeting some specified expenditure like welfare, education, construction of roads etc. It is levied based on either royalty payable or the quantity of mineral production. Royalty-linked cesses were struck down by the Supreme Court but for West Bengal<sup>66</sup>.

<sup>66</sup> *vide* Gazette notification, 15<sup>th</sup> February 1992.

## J. Surface Rent

In addition to royalty or dead rent, a mineral lessee is required to pay a surface rent in respect of the area used by the lessee for mining operation at a rate not exceeding the land revenue, as may be specified by the State Government in the Mining Lease. It is levied on the area assessed as non-agricultural area (NAA) and used for mining or related activities. In Maharashtra and Madhya Pradesh, it is assessed as indicated in Table 11.

**Table 11: Rates of surface rents on mines in India**

Locality/ tax	Rate and basis
<b>Maharashtra</b>	
Surface rent	
Class II villages:	1 paise per sq metre of NAA
Class I villages:	2 paise per sq metre of NAA
Municipal area:	20 paise per sq metre of NAA
Zila Parishad tax:	250 percent of NAA
Gram Panchayat tax:	20 percent of NAA
<b>Madhya Pradesh</b>	
Surface rent	Rs 2 per acre
<b>West Bengal</b>	
Surface Rate	Rs. 45 per acre per annum

NAA= The area assessed as non-agricultural area and used for mining or related activities.

## K. Other Levies

Several other specific levies such as State Water Pollution Consent fee, State Air Pollution Consent fee, Water Rate, Local Area Welfare Development Fund or Charge, Environment and Forest charge, and Safety Zone charges for mining operation (Green-belt charge) also exist.

### (a) State Water Pollution Consent Fee

This is a fee payable for obtaining consent to establish an industry. This fee is a 'once off' costs and represent minimal expenditure in terms of total project costs. However, determination of the fee at the prospecting stage is problematic, as expenditure on the project will increase with the project nearing decision to mine.

#### *Rajasthan*

In Rajasthan the fee is dependent upon the level of investment and is charged at both the prospecting and mining stages. For consent to start operations, an additional fee of 50 percent of the prospecting fees listed below is payable.

Fees payable at the prospecting stage (assumed to be payable per company based on total expenditure in the State) and mining stages are given in Table 12.

**Table 12: Rajasthan: Water Pollution Consent Fees**

Investment Amount	Fee at prospecting	Fee at Mining
Up to Rs. 65 lakhs	Rs.2,000	Rs.3,000
Rs. 65 lakhs to Rs. 5 crores	Rs.5,000	Rs.7,500
Rs. 5 to Rs. 10 crores	Rs.7,500	Rs.11,250
Rs. 10 to Rs. 50 crores	Rs.10,000	Rs.15,000
Rs. 50 to Rs. 100 crores	Rs.15,000	Rs.22,500
Rs. 100 to Rs. 200 crores	Rs.25,000	Rs.37,500

Rs. 200 crores & above	Rs.50,000	Rs.75,000
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### *Bihar*

In Bihar fees payable are dependent upon the size of the industry (Table 13). The parameters used to define the size of the industry are not known. The fee is payable when mining commences.

**Table 13: Bihar: Water Pollution Consent Fees**

Major industry	Rs.7,500
Medium industry	Rs.4,000
Small industry	Rs.1,500

### *(b) State Air Pollution Consent Fee*

This fee is also payable for obtaining consent to establish an industry, and is an 'once off' cost and represent minimal expenditure in terms of total project costs. However, determination of the fee at the prospecting stage is problematic, as the expenditure on the project will increase as the project nears decision to mine.

### *Rajasthan*

The fee is dependent upon level of investment and is charged at both the prospecting and mining stages. The fees are the same as the fees charged for State Pollution Water Consent.

Fees payable at the prospecting stage (assumed to be payable per company based on total expenditure in the state) and commencement of mining are given in Table 14.

**Table 14: Rajasthan: Air Pollution Consent Fees**

Investment Amount	Fee at prospecting	Fee at Mining
Up to Rs. 65 lakhs	Rs.2,000	Rs.3,000
Rs. 65 lakhs to Rs. 5 crores	Rs.5,000	Rs.7,500
Rs. 5 to Rs. 10 crores	Rs.7,500	Rs.11,250
Rs. 10 to Rs. 50 crores	Rs.10,000	Rs.15,000
Rs. 50 to Rs. 100 crores	Rs.15,000	Rs.22,500
Rs. 100 to Rs. 200 crores	Rs.25,000	Rs.37,500
Rs. 200 crores & above	Rs.50,000	Rs.75,000

### *Bihar*

Fees payable are dependent upon the size of the industry. The parameters used to define the size of the industry. The parameters used to define the size of the industry are not known. The fee is payable when mining commences at the rate shown in Table 15.

**Table 15: Bihar: Air Pollution Consent Fees**

Major industry	Rs.10,000
Medium industry	Rs.6,000
Small industry	Rs.1,000

## 4.4 Levies by Different Layers of Governments -- Local Government

### Property-related Levies

Land and buildings are taxed on structure of the buildings and urban vacant land. Besides, there are service taxes, which are levied based on ratable value of the buildings. The rate structure of these taxes varies across the States and across the local bodies within a State.

### Octroi / Entry Tax

It is a levy on goods entering the local jurisdiction for sale or consumption. Octroi or entry tax is levied in Gujarat, Madhya Pradesh, Orissa, and only by Municipal Corporations in Maharashtra. The rate of octroi in Gujarat is 3.524 percent, and in Maharashtra, it is 2 percent in Greater Mumbai Corporation and 4 percent in Kolhapur Corporation.

### Levies by Rural Local Bodies

Mining areas generally fall under the jurisdiction of some rural local body (*Gram/Gaon Panchayat*) and super bodies over *Gram Panchayat* at the circle and district level. There are no specific levies on the mineral sector, but other general levies impinge on this sector too. The nomenclature and structure apart from range of tax assignment considerably across States<sup>67</sup>. The general taxes include tax on land and building, tax on vehicles, water tax, tax on trade, lighting tax, cess on land, octroi, etc. A list of tax assignment in selected States is given in Annexure 6.

## 4.5 Stage-wise Sequence of Levies

It would be useful to note the sequencing of the various taxes and non-taxes as their burden depends on the stage of levy. Table 16 shows a summary of the levies at each stage.

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<sup>67</sup> The nomenclature of these units varies considerably across the States and among different types of local bodies within a State. At District level they are called as

1. *Zila Parishad* in Andhra Pradesh, Assam, Bihar, Haryana, Himachal Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Tripura.
2. *Zila Panchayat* in Madhya Pradesh, Goa, Karnataka, Kerala, Sikkim, Uttar Pradesh, and
3. *District Panchayat* in Gujarat, and Tamil Nadu.

Similarly at Circle level they are named as

4. *Anchalik Panchayat* in Assam
5. *Panchayat Samiti* in, Bihar, Goa, Haryana, Himachal Pradesh, Kerala, Maharashtra, Orissa, Punjab, and Rajasthan, Tripura, West Bengal
6. *Panchayat Union* in Tamil Nadu
7. *Mandal Parishad* in Andhra Pradesh,
8. *Taluk Panchayat* in Karnataka, Gujarat,
9. *Jampad Panchayat* in Madhya Pradesh, and
10. *Kshetra Panchayat* in Uttar Pradesh.

**Table 16: Summary of taxes and non-taxes levied on minerals at different stages of extraction**

Stage Type of levy	Pre-extraction activity	Extraction activity	Semi-Processing	Marketing	Transportation
Taxes on domestic production	Stamp duty and registration fee	Income tax	Union excise duties (Basic duty, Additional duty, Surcharge, Cess etc)	Sales taxes (State General Sales Tax, Additional sales tax, Turnover tax, surcharge, Central sales tax).	Motor vehicles tax (Road tax). Octroi/ entry tax and other local taxes.
Taxes on imports	Customs (Basic custom duties, Special additional tax, Countervailing duty, surcharges)				
Non-taxes on domestic production	Reconnaissance fee, Prospecting fees, Mining lease fees	Royalty / dead rent, Surface rent, Other State specific levies, Environmental and Pollution levies		Nil	

### Stage 1: Pre-extraction Activity

The Government levies start right from the reconnaissance stage followed by prospecting stage. The eligible bidder at this stage pays reconnaissance fee and prospecting fee. The payment is independent of the mineral extraction activities. The lessee has to pay the stamp duty and registration fee levied by the respective State Government.

### Stage 2: Extraction Activity

Once extraction commences, the mining firm starts paying the royalty (or continues to pay the dead rent, whichever is higher), corporate income tax or the income tax, along with any surcharges thereof, depending upon the type of business organization. In the case of a company, there are other direct taxes such as the additional tax on distributed profits, and the advance (or withholding) taxes on dividends.

### Stage 3: Semi-processing

When the extracted mineral is subject to any processing in the nature of manufacturing, then it is liable to pay the Union excise duties.

### Stage 4: Marketing

Sales taxes are levied at this stage. The tax structure varies from State to State, however, CST remains uniform.

## **Stage 5: Transportation**

Finally, when the mineral is moved and transported, it is likely to attract the local level taxes such as the octroi/ entry tax imposed by urban and rural local bodies.

## *Chapter 5.* **TAX BURDEN ON MINERAL SECTOR IN INDIA**

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As noted in the previous chapter, the Indian mineral sector has to absorb a variety of taxes levied by all layers of Government and at different stages of mining operation from reconnaissance to delivery to end-users. The impact and burden of these taxes are economically different. However, in this study, we focus only their impact on final prices. The total burden of these taxes and non-taxes cannot be ascertained easily because of several reasons. First, except for the Central taxes such as the corporate income tax and Union excise and custom duties, Central sales tax, the rates of levy are not uniform. Even in the case of the corporate income tax, the effective tax rate might differ from company to company, depending upon its origin, location (backward area), age of capital assets (tax holiday), and structure of capital. Second, the base differs from levy to levy. The corporate income tax is levied on the profit base, which means that unless the firm makes a profit out of its operations, it is not liable for the tax. On the other hand, taxes such as Union excise duties and sales taxes are levied on the value of production. Royalties are also production-based, but the base is generally quantity and not the value. It implies that irrespective of whether the mining firm makes profit or not royalty is chargeable. Some levies like prospecting fees and surface rent are fixed annual charges very much akin to land revenue or property tax. Third, with so many uncoordinated levies at different stages of mineral production, the possibility of tax cascading/ pyramiding cannot be ruled out. For example, sales taxes are levied on the declared price of the mineral which includes the royalty paid as specific charge per tonne of the mineral or as percent of PMV. The price implicitly includes the charges like prospecting fees, surface rent and so on. Fourth, the indirect levies are usually passed on to the consumers of the minerals while the producers supposedly absorb the direct levies. Yet, it is well known that the extent of shifting depends upon the degree of market competitiveness. For example, a company monopolizing a market can pass on the burden to the consumers whether it is in the form of a direct or an indirect levy. However, this does not hold in the case of perfectly competitive markets.

### **5.1 Tax Impact Variations**

Thus, the tax rates and conditions of the levy and consequently, the price impact depend upon the nature of trade flows and the type of consumers. For example, a mineral consumer (often, metal manufacturer) attracts no taxes (except perhaps the local taxes including octroi) if he obtains the ores from own captive mines. On the other hand, if he buys the ore from another miner (within the State), he will have to bear the sales tax apart from the local taxes. The impact of sales taxes also depends upon the registration status (under appropriate law) of the mineral user. In many States, for a registered manufacturer, the sales taxes on the mineral ore used as input is charged at a concessional rate. For imported mineral ore if imported directly, on the other hand, a basic customs duty of 5 percent and a special additional duty of 4 percent rate applies. However, if purchased through an importer, apart from custom duties, he has to pay sales taxes also. Therefore, purchases made through traders are costly. The variations in the tax

incidence depending upon the nature of consumer and nature of trade flow are shown in Table 17.

**Table 17: Summary of taxes leviable on minerals depending upon the nature of mineral consumer and nature of trade flows involved**

		Procurement		
		Direct	Indirect	
			Registered trader	Unregistered trader
<b>A. Mineral consumer: Registered manufacturer of metals</b>				
Domestic	Own mine	O	-	-
	Intra-State	-	GST*, O	GST, O
	Inter-State	-	CST, GST*, O	GST <sub>1</sub> , GST <sub>2</sub> , O
Import		BCD, SAD, O	BCD, SAD, GST*, O	-
<b>B. Mineral consumer: Unregistered manufacturer of metals</b>				
Domestic	Own mine	O	-	-
	Intra-State	-	GST, O	GST, O
	Inter-State	-	CST, GST* O	GST <sub>1</sub> , GST <sub>2</sub> , O
Import		BCD, SAD, O	BCD, SAD, GST, O	BCD,SAD,GST,CST <sup>68</sup> ,O

Note:

- For imports, the price is pre-customs clearance.
- Domestically extracted minerals are inclusive of royalty levy.
- The unregistered trader (not being a company) sells sales taxes paid goods and cannot deal in inter-State transactions.
- Although minerals are liable for the Union excises duties in principle, they are given an exemption. Consequently, even the countervailing duty (CVD) is not applicable.

Legend:

BCD = Basic custom duty, SAD = Special additional duty, CST= Central sales tax, GST = General sales tax at full rate, GST<sub>1</sub> = General sales taxes at full rate by State of origin, GST<sub>2</sub> = General sales taxes at full rate by State of destination, GST\* = General sales taxes at concessional rate applicable when used as inputs, O = Other levies, if any, imposed by local bodies like octroi / entry tax, etc., depending on the locations.

Among the taxes, the corporate income tax and other direct levies are intended to be absorbed by the producers and, therefore, are not expected to have any impact on the product price. Yet, in practice, the possibility of shifting of the corporate income tax to the consumers cannot be ruled out although the extent of shifting might vary from company to company depending upon its market conditions. In our estimates, we have presented both the cases, i.e., if corporate tax is not shifted and also shifted fully. However, in fact the real case falls in between depending on the market situation

## 5.2 Measuring the Price Impact: Methodology

For the purpose of the present study, we have attempted to estimate two measures of tax impact on mineral prices – namely, the domestic tax burden and the degree of protection. The burden of domestic taxes on the mineral prices is measured as a ratio  $[(p^* - p)/p]$ , where  $p^*$  = the tax-inclusive final price of a mineral,  $p$  = the price that would have been charged had there been no taxes. In general, if there is a domestic tax  $\tau_d$ , the tax-inclusive final price would be  $p^* = p(1 + \tau_d)$  and the tax impact on the price would be  $\tau_d$ .

The following taxes are considered for the present study: Custom duties, State general sales taxes (including related levies such as surcharges, turnover tax, additional tax and so on), Central sales tax, and local octroi by urban and rural bodies. Table 18 gives the summary of the formulae used in estimating domestic and import tax-burden on minerals.

<sup>68</sup> CST applicable to unregistered traders, i.e., 10 percent or GST rate whichever is higher.

**Table 18: Summary of formulae used in estimating tax-burden on minerals**

		Procurement	
		Direct	Indirect through registered trader
<b>A. Mineral consumer: Registered manufacturer of metals</b>			
Domestic	Own mine	$(1+O)-1$	-
	Intra-State	-	$(1+GST^*)(1+O)-1$
	Inter-State	-	$(1+CST)(1+O)-1$
Import		$(1+BCD)(1+SAD)(1+O)-1$	$(1+BCD)(1+SAD)(1+CST)(1+GST^*)(1+O)-1$
<b>B. Mineral consumer: Unregistered manufacturer of metals</b>			
Domestic	Own mine	$(1+O)-1$	-
	Intra-State	-	$(1+GST)(1+O)-1$
	Inter-State	-	$(1+GST)(1+O)-1$
Import		$(1+BCD)(1+SAD)(1+O)-1$	$(1+BCD)(1+SAD)(1+GST)(1+CST^{69})(1+O)-1$

Notes and legend: as in Table 17.

The measure that is widely used to assess the degree of protection caused by discriminatory import taxes is the 'effective (tax) rate of protection' (ERP). It may be defined as a proportional change in the value addition due to two tax regimes. If  $\hat{p} = p(1+\tau_i)$ , is the final price of an imported mineral inclusive of import tax,  $\tau_i$ , then  $ERP = (\hat{p} - p) / p$ . For the present study, two alternative ERP<sup>70</sup> measures are considered, i.e.,

1. Direct import  $[(1+BCD)(1+SAD)]-1$
2. Import through registered trader  $[(1+BCD)(1+SAD)(1+GST^*)]-1$

### 5.3 The Estimates of Price Impact

The price impact analysis is carried out for thirteen specific minerals, namely, bauxite, copper-ore, gold, iron-ore, lead & zinc, manganese-ore, silver, chromite, barytes, diamond, gypsum and limestone, across the nine States, that dominate their production. The geographical spread of these States is Andhra Pradesh, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, and Uttar Pradesh. The estimates have been worked out in two sets: (A) with statutory tax rates, and (B) with effective tax rates.

#### A. Price Impact with Statutory Rates

We consider only the statutory tax rates<sup>71</sup> to begin with, for computing the price impact of taxes. This will help obtain a quick idea of the impact and its variation across the States and the minerals. It should be noted that most of the statutory tax rates such as the custom duty rates do not vary across minerals. As far as the Union excise duties are concerned, minerals in their ore form are exempt. As regards the State and local level taxes, although they differ from State to State, the rates hardly differ across minerals. Thus, the price impact of taxes varies mostly across the States. As regards sales taxes, we have taken into account the concessional rates as applied to

<sup>69</sup> CST applicable to unregistered traders, i.e., 10 percent or GST rate whichever is higher.

<sup>70</sup> To keep the analysis simple, it is assumed that the value addition is equal to price and material input cost is zero. The estimates are not very refined, as our objective of presenting them is just to have a feel and direction of protection.

<sup>71</sup> That is, tax and non-tax rates prescribed in the relevant Acts without taking into account any exemptions, incentives and rebates claimed by the tax payers.

the registered manufacturers since it is assumed that all users are registered and avail of the conditional concessional rate facility applicable to raw material and inputs for processing and manufacturing activities.

Table 19 shows that the tax impact is the lowest on the minerals when they are extracted from own (captive) mines (zero in non-octroi States to 3.52 percent in Gujarat) and is the highest when acquired through a registered importer (16.93 percent in Uttar Pradesh to 22.19 percent in Maharashtra). Further, the Table shows that tax impact is generally higher for imports than domestic purchases. In addition, obviously, the tax burden is the highest in States imposing octroi.

**Table 19: Tax impact on prices of minerals obtained by a registered manufacturer**  
(Percent)

State	Domestic extraction				Imports	
	Having own captive mines	Acquiring minerals through a registered trader			Direct import	Acquiring through a registered importer
		Selling locally extracted minerals	From other States	Selling minerals imported from other States		
$((1+O)-1)$	$((1+GST^{*})(1+O)-1)$	$((1+CST)(1+O)-1)$	$((1+CST)(1+GST^{*})(1+O)-1)$	$((1+BCD)(1+SAD)(1+O)-1)$	$((1+BCD)(1+GST^{*})(1+SAD)(1+O)-1)$	
Andhra Pradesh	0.00	3.00	4.00	7.12	9.20	17.48
Bihar	0.00	4.00	4.00	8.16	9.20	18.57
Gujarat	3.52	5.59	7.66	9.82	13.05	20.49
Karnataka	0.00	3.15	4.00	7.12	9.20	17.89
Madhya Pradesh	0.00	4.60	4.00	8.78	9.20	19.97
Maharashtra	2.25	6.75	6.43	11.02	11.66	22.19
Orissa	0.00	4.40	4.00	8.36	9.20	19.50
Rajasthan	0.00	3.36	4.00	7.12	9.20	18.47
Uttar Pradesh	0.00	2.50	4.00	6.60	9.30	16.93

We also have examined the alternative situations in which the corporate income tax is fully shifted forward and the tax burden is passed on to the final consumers. The estimates are given in Table 20. Under the assumption of no shifting of corporate income tax and that sales taxes are levied at the concessional rates, the estimated tax burden varied across the States from 2.5 percent in Uttar Pradesh to 6.7 percent in Maharashtra. If input sales tax credit is not available then the burden varied widely, from about 5 percent in Uttar Pradesh to 17.6 percent in Orissa. The burden caused by possible shifting of the corporate tax would be around 9.7 percent.

**Table 20: Estimates of the tax impact on price of mineral ores under alternative assumptions regarding the shifting of corporate income tax and sales tax rate.**

State	Full shifting of the corporate income tax		No shifting of corporate income tax	
	Full sales tax rate	Concessional sales tax rate	Full sales tax rate	Concessional sales tax rate
Andhra Pradesh	19.9	12.3	10.0	3.0
Bihar	19.9	13.4	10.0	4.0
Gujarat	26.4	15.1	15.9	5.6
Karnataka	20.4	12.4	10.5	3.2
Madhya Pradesh	24.0	14.0	13.8	4.6
Maharashtra	27.4	16.4	16.9	6.7
Orissa	28.2	13.8	17.6	4.4
Rajasthan	21.2	12.7	11.2	3.4
Uttar Pradesh	14.5	11.7	5.0	2.5

The estimates of the ERP show the extent to which value addition with taxes exceeds value addition without taxes. The domestic price (and hence value added with the assumption of no material input cost) can be equal to  $(1+BCD)(1+SAD)-1$  or  $(1+BCD)(1+SAD)(1+GST^*)-1$  depending upon whether the bulk of the imports takes place through direct route or through registered dealers. Given the uniformity of BCD and SAD across the country, Table 21 shows that ERP is a uniform 9.72 percent. Furthermore, given that GST\* rates vary across the States, the ERP also varies from 11.91 percent in Gujarat to 14.77 percent in Madhya Pradesh.

**Table 21: Effective rates of protection on minerals under alternative assumptions regarding mineral transactions**

(Percent)

State	Direct import	Import through registered trader
	$[(1+BCD)(1+SAD)]-1$	$[(1+BCD)(1+SAD)(1+GST^*)]-1$
Andhra Pradesh	9.72	13.01
Bihar	9.72	14.11
Gujarat	9.72	11.91
Karnataka	9.72	13.18
Madhya Pradesh	9.72	14.77
Maharashtra	9.72	13.34
Orissa	9.72	14.55
Rajasthan	9.72	13.41
Uttar Pradesh	9.72	12.46

## B. Price Impact with Effective Rates

Since the business forms, the nature of transactions, the tax and non-tax structures differ vastly from mineral to mineral, the effective tax burden differs from the intended statutory burden. It not only varies from State to State but also from company to company depending on the gamut of deductions and exemptions claimed.

With a view to quantifying the effective burden due to the major tax and non-tax elements, we have drawn a sample of companies that dominate the mining activities pertaining to thirteen important minerals. In all, the sample consisting of 16 companies as listed in Table 22 and Table 23 shows their mineral-wise distribution. Out of the 16 companies selected, APMDC, MOIL, NMDC, RSMM and BGML are purely mineral-extracting companies while the others are not only extracting but also processing the minerals.

The effective tax burden is computed based on detailed tax-wise information obtained by canvassing a carefully designed questionnaire (Annexure 7) among the companies. Two variants of the effective rates based on company experience are considered. They are (a) impact of all taxes and non-taxes, and (b) impact excluding direct taxes (corporate income tax).

It should be noted that the tax and other operational information collected from these companies pertain not only to mineral production but also to other products and byproducts of the company as well. It is not easy to segregate the information product-wise. Thus, the company-wise tax liabilities may not exactly correspond to the minerals produced by the companies but might be related to other products as well. This is particularly so in the case of processing or semi-processing companies with captive mines. Nevertheless, the company-wise effective tax rates and related information is valuable in understanding the impact of the tax and non-tax burden on the minerals.

Not all the companies could respond to the survey in time and satisfactorily. Consequently, the following companies could not be included for the analysis: Kudremukh Iron Ore Co Limited, Rajasthan State Mineral Development Corporation, Bharat Aluminum Ltd Corporation, Steel Authority of India Ltd., and Gujarat Ambuja Cements Ltd. Also, among the respondents, Gujarat Mineral Development Corporation dealt mainly with lignite (98 percent) and therefore was left out of the analysis.

**Table 22: List of sample mineral companies**

	Company		Registered office		Location of the mines
			City	State	
1	Hindustan Zinc Limited	HZL	Udaipur	Rajasthan	Rajasthan
2	Manganese Ore (India) Limited	MOIL	Nagpur	Maharashtra	Maharashtra, Madhya Pradesh
3	Kudremukh Iron Ore Co Limited	KIOCL	Bangalore	Karnataka	Karnataka
4	The Andhra Pradesh Mineral Dev. Corpn. Ltd	APMDCL	Hyderabad	Andhra Pradesh	Andhra Pradesh
5	National Mineral Development Corpn. Ltd.	NMDC	Hyderabad	Andhra Pradesh	Andhra Pradesh
6	Rajasthan State Mineral Development Corpn. Ltd.	RSMDC	Jaipur	Rajasthan	Rajasthan
7	Rajasthan State Mines & Minerals Ltd.	RSMM	Udaipur	Rajasthan	Rajasthan
8	Steel Authority of India Ltd	SAIL	Calcutta	West Bengal	Orissa, Madhya Pradesh, Bihar, Rajasthan
9	Tata Iron and Steel Company Ltd	TISCO	Singhbhum	Bihar	Bihar, Orissa, Karnataka
10	Bharat Aluminium Co Ltd	BALCO	New Delhi	Delhi	Madhya Pradesh
11	Bharat Gold Mines Limited <sup>72</sup>	BGMM	Kolar Gold Fields	Karnataka	Karnataka
12	Gujarat Ambuja Cements Ltd	GACL	New Delhi	Delhi	Madhya Pradesh, Himachal Pradesh, Gujarat
13	Gujarat Mineral Dev. Corpn. Ltd.	GMDC	Ahmedabad	Gujarat	Gujarat
14	Hindusthan Aluminium Co Industries Ltd.	HINDALCO	Renukoot	Uttar Pradesh	Bihar, Madhya Pradesh
15	Hindustan Copper Limited	HCL	Calcutta	West Bengal	Rajasthan, Madhya Pradesh, Bihar
16	National Aluminium Co Ltd	NALCO	Bhubaneshwar	Orissa	Orissa

Table 24 provides not only the company-wise aggregate tax burden but also the amounts paid by way of Central, State and local taxes. The tax burden (tax paid as a ratio to the turnover) varies very widely among the companies. The tax to turnover ratio varies from as low as 3.7 percent (HINDALCO) to 27.6 percent (HZL) among companies engaged in extraction and processing while among those engaged only in extraction it varies from 9.3 percent (APMDC) to 25.1 percent (RSMM).

The pattern of Central, State and Local taxes and non-taxes shows that most of the tax burden of the mineral-extracting companies is caused by the Central government's taxes and

<sup>72</sup> India's Kolar Gold Fields, the world's second deepest (8 km) old mine of 12,000 acre of land, started in 1880, was shut down on March 31, 2000 leaving its 4,000-odd employees to face an uncertain future. The state-owned Bharat Gold Mines, which runs the mines, accumulated huge losses worth Rs 400 crore last March. The Central Government has decided that it will not extend any financial assistance for 2000-2001 except for safety operations. The expenditure was Rs 18,000 to extract 10 grams of gold when the international standard is as low as Rs 1,587. The Central government has offered a VRS to the employees, allocating Rs 75 crore for the purpose. In 1992, the company was to be declared sick and referred to the Board for industrial and Financial Reconstruction (BIFR).

non-taxes of State governments (Table 25). In the case of extracting and processing companies, Union excise duties are the most burdensome levy.

**Table 23: Mineral-wise distribution of the sample companies**

Mineral	Company
Bauxite *	Bharat Aluminium Co Ltd Hindalco Industries Ltd. National Aluminium Co Ltd
Copper-ore	Hindustan Copper Limited
Gold	Bharat Gold Mines Limited
Iron-ore	Kudremukh Iron Ore Co Limited National Mineral Development Corpn. Ltd. Steel Authority of India Ltd Tata Iron and Steel Company Ltd
Lead & Zinc	Hindustan Zinc Limited
Manganese-ore	Manganese Ore (India) Limited Gujarat Mineral Development. Corpn. Ltd. Steel Authority of India Ltd Tata Iron and Steel Company Ltd
Rock phosphate	Rajasthan State Mineral Development Corpn. Ltd Rajasthan State Mines & Minerals Ltd..
Barytes	The Andhra Pradesh Mineral Dev. Corpn. Ltd
Diamond	National Mineral Development Corpn. Ltd.
Gypsum	Gujarat Mineral Development. Corpn. Ltd. Rajasthan State Mineral Development Corpn. Ltd. Rajasthan State Mines & Minerals Ltd.
Limestone *	Gujarat Ambuja Cements Ltd

\* These minerals have now been classified as minor minerals.

**Table 24: Taxes paid by the sample companies as ratios to sales turnover during 1998-99**

(Percent)

Tax	Company	Companies engaged in extraction					Companies engaged in extraction and processing			
		APMDC	MOIL	NMDC	RSMM	BGML	HINDALCO	HCL	HZL	NALCO
Central Taxes		2.9	6.4	4.9	5.2	0.0	2.2	3.5	19.8	15.6
Corporate income tax		2.9	5.3	4.8	5.2	0.0	0.8	0.0	6.0	7.2
Union excise duties		0.0	1.1	0.0	0.0	0.0	1.4	3.5	11.9	4.7
Custom duties		0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.8	3.7
Total Central indirect taxes		0.0	1.1	0.2	0.0	0.0	1.4	3.5	13.7	8.4
State Taxes		0.7	5.7	1.7	4.0	2.6	1.3	0.3	2.7	2.6
Sales taxes		0.7	5.7	1.5	4.0	1.7	1.3	0.3	2.7	2.5
Other taxes		0.0	0.0	0.2	0.0	0.9	0.0	0.0	0.0	0.1
Local Taxes		0.0	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Octroi/ Entry tax		0.0	0.1	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Other taxes		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-taxes		5.7	1.6	3.3	15.9	2.5	0.1	0.1	5.1	0.8
Royalty and Dead rent		5.7	1.6	3.0	9.7	1.4	0.1	0.1	5.1	0.8
Others		0.0	0.0	0.4	6.2	1.1	0.0	0.0	0.0	0.0
Total levies of Central, State and local		9.3	13.7	10.0	25.1	5.6	3.7	3.9	27.6	19.0
Total levies net of corporate income tax		6.4	8.4	5.2	19.9	5.6	2.8	3.9	21.6	11.8
Total levies net of Central taxes (State and local)		6.4	7.3	5.0	19.9	5.6	1.5	0.4	7.8	3.4

**Table 25: Contribution of Central, States and local government levies to total tax burden of the sample mineral companies**

(Percent to total burden)

Tax	Company	Companies engaged in extraction					Companies engaged in extraction and processing			
		APMDC	MOIL	NMDC	RSMM	BGML	HINDALCO	HCL	HZL	NALCO
Central Taxes		31.5	46.8	49.7	20.6	0.0	60.5	89.4	71.6	82.0
Corporate income tax		31.5	38.9	48.0	20.6	0.0	22.6	0.0	21.8	37.7
Union excise duties		0.0	7.9	0.0	0.0	0.0	37.9	89.4	43.3	25.0
Custom duties		0.0	0.0	1.7	0.0	0.0	0.0	0.1	6.5	19.3
Total Central indirect taxes		0.0	7.9	1.7	0.0	0.0	37.9	89.4	49.8	44.3
State Taxes		7.5	41.5	16.7	16.0	46.1	35.6	7.6	9.7	13.8
Sales taxes		7.5	41.4	14.8	16.0	29.7	35.6	7.3	9.7	13.2
Other taxes		0.0	0.1	1.9	0.0	16.4	0.0	0.3	0.0	0.5
Local Taxes		0.0	0.4	0.2	0.0	9.3	0.1	0.0	0.0	0.0
Octroi/ Entry tax		0.0	0.4	0.0	0.0	9.3	0.1	0.0	0.0	0.0
Other taxes		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Non-taxes		61.0	11.3	33.4	63.3	44.6	3.8	3.0	18.7	4.3
Royalty and Dead rent		61.0	11.3	29.7	38.6	24.9	3.8	3.0	18.6	4.3
Others		0.0	0.0	3.7	24.7	19.7	0.0	0.0	0.0	0.0
<b>Total levies of Central, State and local</b>		<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Total levies net of corporate income tax		68.5	61.1	52.0	79.4	100.0	77.4	100.0	78.2	62.3
Total levies net of Central taxes (State and local)		68.5	53.2	50.3	79.4	100.0	39.5	10.6	28.4	18.0

## Chapter 6. SCOPE FOR MINERAL TAX REFORM IN INDIA

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As can be observed in the earlier chapters, there is very little special tax treatment for the mineral sector in India and the general tax regime is applied to the mineral sector. The tax system is not quite designed to take into account the risk that characterizes mineral exploration and extraction. The government is more concerned with its agency role to achieve overall development objectives rather than claiming its legitimate share of mineral rents as the owner of the natural and mineral resources. This partly explains the absence of taxes aimed at appropriating mineral rents such as resource rent tax (RRT) and Brown Tax (BT).

However, as efforts are under way to create special provisions into the fiscal regime with a view to boosting private investment (including direct foreign investment) in the mineral sector, it is necessary to bring in elements of rent taxes to make mineral taxation more neutral. This also involves extending tax concessions such as accelerated depreciation and also reviewing the applicable tax rate structure. Already the petroleum sector, another mining sector, has been given certain favorable treatment. Perhaps, it is not difficult to extend the substantive provisions to the other minerals as well.

### 6.1 Income Tax

Corporate income taxation should remain the primary mechanism of direct taxation. It is only fair, as it is capable of taxing the true economic rent. Still, it is necessary to examine, whether the income tax system in its existing form should be continued or replaced by a more neutral tax such as the RRT to allow the government to share the risk involved. It is not advisable to entirely substitute the RRT for general income tax immediately, as it may create problems of transition. Instead, a combination approach may be followed in the medium-term. The general acceptance of corporate income tax, with parity in line with international tax provisions treating it more favorably than certain other kinds of taxes suggest the desirability of retaining it for mineral sector and applying the rent taxes only as 'additional taxes'<sup>73</sup>. We favor such an approach for the long-run.

In the medium-term, however, it is desirable that the income tax alone can continue without additional taxes on mineral rent, but with certain changes to make it more neutral.

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<sup>73</sup> It is not uncommon to combine mineral rent taxes with the general income tax to have the best of both worlds. While combining the two taxes, the practice is to collect both corporate profit tax and mineral rent tax, with either treated as an expense for the purpose of assessing the other. If the mineral rent tax is applied first, the rent is assessed as a surplus over required minimum pre-tax return on mineral investment. If, on the other hand, the rent tax is applied after the corporate income tax, the rent is assessed as the surplus over the post-tax minimum required return on investment. This type of combination of income tax with a rent tax may not create any distortion of productive decisions over and above what may have been already inherent in the income tax regime.

Adjustments in the definition of taxable income through the introduction of specific provisions will make the mining investment more attractive.

## A. Depreciation Provision

The depreciation issue is one of the most important when it comes to mineral companies. Owing to the large initial capital outlays incurred by these companies in exploration and development of mineral projects, generous depreciation deductions may be desirable. The existing general 25 percent rate of tax depreciation may not be adequate and some accelerated depreciation and capital allowances will help reduce investor risk and thereby attract investments<sup>74</sup>. It is not uncommon for a number of countries in Africa to provide a 100 percent write off for mining equipment in the first year. We suggest that the rate of depreciation for mining plant and equipment should be increased to at least 50 percent now and should be gradually increased to 100 percent during, say, the next three years enlarged after carefully identifying eligible equipment.

## B. Deductible Expenditures

### (a) *Reconnaissance, Prospecting and Development Expenditure*

Certain changes in the deductible expenditure provision also appear to be needed. Of special interest are the expenditure on reconnaissance, prospecting, and development. At present, deductions are allowed for prospecting and development expenditure incurred in ten equal annual installments four years before commercial production<sup>75</sup>. Considering the high risk involved, the maximum time allowed before commencement of production, as also the deduction time of ten years appear short and not sufficient. In some countries such as Canada, prospecting expenditure is allowed to be charged against future profits without any restrictions. Also the reconnaissance, prospecting and development expenditure needs to include expenditure on acquisition of the mine land, which at present is disallowed.

All pre-trading costs, including acquisition of deposits, sites or rights over it, exploration and development expenditure, should be allowed to be charged against future profits without restriction. In view of the recent changes in the mining code pertaining to the rising of the mining lease period, we feel that there need not be any limits on the timing and installments, especially with provisions such as the Minimum Alternative Tax.

### (b) *Deductibility of the Rehabilitation Expenditure*

Rehabilitation involves full or partial restoration of a mine site to a reasonable approximation of its 'pre-mining condition'. They include reclamation costs, dismantling and removal costs, removal of foundations and roads, the clean-up of polluted materials, and re-

<sup>74</sup> At present, the accelerated depreciation provision of 100 percent is available for only selected mining equipment (Annex 2 Rates of Depreciation - A(III)(x)). On a large number of items under Machinery and Plants A(III) of the Annex provides for 100 percent depreciation apart from 40 and 60 percent rates on a few cases. (Singhania et al (1999) pp. 1,030-1,034)

<sup>75</sup> S 35E (1) & (2) Income Tax Act 1961

vegetation of areas affected by operations and monitoring of sites. These activities are more substantial at the end of the mine life when there is no income. These are legitimate expenses and need to be allowed as in the case of petroleum sector<sup>76</sup>. Introduction of similar provisions would enable non-fuel-mining companies to provide for rehabilitation costs. The requirement of maintaining a bank account where the funds are deposited should be discarded as this creates an added cash constraint for the companies. Instead, a special reserve should be allowed to be maintained by these companies, where a percentage of profits are apportioned each year to meet rehabilitation costs in future.

## C. Withholding Taxes

The issue of withholding taxes is related to the tax harmonization across countries. Many countries tax the worldwide income of their companies and allow a foreign tax credit in the domestic tax liability. Investors from these countries would like to have the host country's income tax system harmonized with their systems to keep the administration simple. High withholding taxes on expatriated profits severely affect the viability of investment decisions. For example, the current tax rate of 11 percent imposed on dividends<sup>77</sup> along with the corporate income tax rate at 38.5 percent produces an overall rate of 45.27 percent, which is higher than in many developed countries. Double taxation agreements do mitigate the burden selectively but from the long-term international competition view, it is not adequate. We recommend that withholding tax be reduced to an internationally competitive level, that is, 10 to 15 percent.

## 6.2 Customs and Import Duties

In the case of mining projects, duties on capital goods imported under the 'Project Import Scheme' has an effective rate of approximately 53.8 percent<sup>78</sup>, under the heading 'Industrial Plants'. For a primary sector, such as mining, this rate is rather high. Other sectors including coal mining enjoy a lower duty level of 22.38 percent under the scheme. Presently, Indian mining equipment manufacturers do not have the capability of manufacturing large mining equipment needed to develop large mines economically. Such equipment is imported. There is a notable difference in the tax treatment between fuel and non-fuel minerals. The equipment used in mining being mostly similar for fuel and non-fuel it is desirable to remove the differential tax treatment.

<sup>76</sup> A specific scheme has been formulated by the Ministry of Petroleum and Natural Gas, which provides the modalities for availing the deduction for Exploration and Production (E&P) for companies that have concluded Production Sharing Contracts (PSC) with the Government of India. Absence of provisions clearly specifying the deductibility of rehabilitation costs/provisions maintained by E&P companies were, until recently, cause for some uncertainty. The Government has sought to mitigate uncertainty for E&P companies by introducing specific provisions in the Indian Income Tax Act, enabling them to claim deduction up to 20 percent of their business profits, set aside in a special bank account.

<sup>77</sup> U/s 115(O)(1) of Indian Income Tax Act, 1961 inserted by Finance Act 1997.

<sup>78</sup> Basic custom duty (25 percent) Surcharge at 10 percent (2.5 percent) Countervailing duty (16 percent) Special Additional Duty (4 percent)

## 6.3 Union Excise Duties

Although mineral ores are exempt from the Union excise duties<sup>79</sup>, the concentrates and beneficiated products are not, and they come under the central value added tax (CENVAT)<sup>80</sup>. It should be noted that since the consumables in this case are exempt from the tax, the CENVAT credit is not available to them. In addition, the concentration and beneficiation does not have the value addition commonly observed in manufacturing or other intense processing industries. Thus, the concentrates attract Union excise duties at 16 percent. It would be better if the concentrates and beneficiated products<sup>81</sup> receive the same exemption that ores do.

The case for extending the exemption to ore concentrates arises, as firstly, it is not easy to distinguish between an ore and its concentrate. Secondly, the profit margin involved in the beneficiation process being low, the revenue yield may not be commensurate with the effort involved in identifying the taxable content. Thirdly, taxation of concentrates discourages miners to undertake the beneficiation process for low-grade ore within the mine area, and cost of delivery of such ore may not always be economical.

## 6.4 Sales Taxes

The inter-State transactions of minerals attract 4 percent Central sales tax. The rates of sales taxes pertaining to intra-State transaction of minerals are levied on the pit's mouth value (PMV) plus royalty payable and vary from State to State. In some States, the sales tax rates are supplemented with surcharge, turnover tax, and additional tax. The sales tax being levied at the first point is very much akin to an *ad valorem* royalty rate.

In addition, as many States grant tax concessions, the effective rate is around 2 to 4 percent. Although statutory rates of sales tax pertaining to many minerals vary from State to State, the variation is low in terms of applicable concessional rates. In any case, eventually when State level VAT will be introduced the input credit will be taken care of. For the time being what is needed is the implementation of the floor rate.

However, minerals being basically essential inputs to metallurgical industry, their proper development is a national concern. World over, local transactions of ores and minerals are not subjected to sales tax. Keeping these in view, it is recommended that although the floor rate can be kept at 4 percent, it is desirable to combine ores and major minerals under the category of 'declared goods' which also come under the 4 percent floor rate category. However, they will continue to be treated as inputs eligible to application of concessional tax rates.

## 6.5 Local Levies

Besides the above, there is a multiplicity and non-uniformity of levies at the local government level and the uncertainty that the rates may be varied in the future amounts to costly

<sup>79</sup> Entry 11 of notification number 5199-CE, dated February 2, 1999.

<sup>80</sup> Erstwhile modified value added tax (MODVAT).

<sup>81</sup> Concentrates and beneficiated ores are high-grade ores. The poor-grade ores are not accepted by the existing metallurgy technology and therefore are left as waste. So they are upgraded for use. They are, otherwise, ores.

compliance requirements to a potential investor. It is, therefore, desirable that these minor taxes/levies putting hindrance to free flow of goods either be abolished or appropriately compounded.

## **6.6 Equity-sharing by State Government**

Further, the trend amongst some States to go for equity-sharing conflicts with the role of a regulator vs. investor and limits exploration spending and reduces the development potential. Not only does it make the investment unattractive; it raises the chances of conflict of interest between its role as regulator and investor. It is, therefore, desirable that equity-sharing by State Governments should be discouraged.

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## ANNEXURES

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## **Annexure 1: Constitutional Provisions Related to Regulation and Development of Mines and Minerals.**

Industrialization has brought in its wake an ever-increasing demand for mineral resources. These resources are non-replenishable and mostly scarce. Proper control over regulation and development of mines and minerals is, therefore, a matter of national concern. The Constitutional Provisions in this respect have been summarized by Government of India (1988) as follows.

Entry 23 of the State List relates to "Regulation of mines and mineral development". However, it is expressly subject to the provisions of the Union List with respect to regulation and development under the control of the Union. Entry 54 of the Union List provides for "Regulation of mines and mineral development to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest". It is significant that Entry 23 of List II has not been made subject to any specific Entry of List I. This means that apart from Entry 54, there are other Entries in List I which may, to an extent, overlap and control the field of Entry 23 of List II.

The Constitutional arrangements regarding the regulation of Mines and Mineral Development are generally on the lines of Government of India Act, 1935, except that the Entry relating to "Oil Fields" has been dealt within a separate Entry, of the Union List in the Constitution. (Entry 53 List I).

Parliament has enacted the Mines and Minerals (Regulation and Development) Act, 1957 (MMRD Act) to "provide for regulation of mines and the development of minerals under the control of the Union" in public interest.

Conflicts do arise as to how much of the field of Entry 23 of List II has been taken over by Parliament by enacting the MMRD Act, 1957 by virtue of Entry 54 of List I. Conflicts can also arise when States impose taxes under Entries 18, 49 and 50 of List II. The Constitutional position with regard to Entries on regulation of mines and minerals development and the related Entries in List I and II, therefore, needs to be examined. The Supreme Court has considered these points in a number of cases.

The power of the State legislature under Entry 23 has been made subject to the provisions of List I with respect to regulation and development under the control of the Union. Parliament enacted the MMRD Act. A question arose concerning the extent of the legislative power of the State following an enactment under Entry 54 of List I. The Supreme Court held:

"The jurisdiction of the State legislature under Entry 23 is subject to the limitations imposed by the latter part of the Entry. If Parliament by its law has declared that regulation and development of mines should in public interest be under the control of the Union, to the extent of such declaration the jurisdiction of the State Legislature is excluded. In other words, if a Central Act has been passed which contains a declaration by Parliament as required by Entry 54, and if such declaration covers the field occupied by the impugned Act, the impugned Act, will be ultra vires not because of any repugnance between the two statutes but because the State legislature has no jurisdiction to pass a law. The limitations imposed by the latter part of Entry 23 is a limitation on the legislative competence of the State Legislature itself".

The findings in this case have been followed in other cases. In a subsequent case, the Supreme Court held:

"Subject to the provisions of List I, the power of the State to enact Legislation on the topic of "mines and minerals development" is plenary. To the extent to which the Union Government had taken under "its control" "the regulation and development of minerals" under Entry 54 of List I so much was withdrawn from the ambit of the power of the State Legislature under Entry 23 of List II and legislation of the State which had rested on the existence of power under that Entry would, to the extent of the "control", be superseded or be rendered ineffective; for here we have a case not of mere repugnancy

between the provisions of the two enactments but of a denudation or deprivation of State legislative power by the declaration which Parliament is empowered to make under Entry 54 of List I and has made. The Central Act 67 of 1957 covered the entire field of minerals development, that being the "extent" to which Parliament had declared by law that it was expedient that the Union should assume control".

The result, therefore, of Parliament having occupied the entire field is that the State legislature thereafter lacks legislative competence and consequentially, executive authority in regard to regulation and development of mines and minerals. Therefore, where a law is attributable in pith and substance to Entry 23 of List II, it would not be valid in as much as Parliament has occupied the entire field.

States have legislative competence with respect to land and connected matters under Entry 18 of List II and regarding taxes on lands and buildings under Entry 49 of List II. Conflicts have arisen in the matter of levies under Entries 18, 49 and 50 of List II on the ground that they impinge upon Entry 54 of List I. These Entries should also be read with Entry 54 of List I. The State Legislatures' competence is not taken away unless it is shown that in pith and substance the enactment relates to Entry 23 of List II. Dealing with the validity of demand for payment of land cess under Sections 78 and 79 of the Madras District Boards Act (1920), the Supreme Court held that these Sections had nothing to do with the development of mines and mineral or their regulation because the proceeds of the land cess were to be used for providing amenities to the people of the area like education, health, etc. It was also observed that the land cess was not a tax or mineral right but was in pith and substance a tax on lands under entry 49 of List II. Entry 50 of List II relates to taxes on mineral rights. However, this has been made expressly subject to any limitations imposed by Parliament, by law, relating to mineral development. Taxes under Entry 50 of List II do not include royalty and cess.

### *General framework of the MMRD Act, 1957*

The MMRD Act, 1957 mainly deals with general restrictions on prospecting and mining operations and the rules and procedures for regulating grants of prospecting licenses and mining leases. Section 2 of the Act makes a declaration that it is expedient in the public interest that the Union should take under its control the regulation of mines and the development of minerals to the extent provided in the said Act. In section 3, the words "Minerals", "Mineral Oils", "Minor Minerals" have been separately defined. State Governments are competent to give licenses for prospecting and for granting mining leases. The Act specifically provides that in the case of minerals included in the First Schedule to the Act, the State Governments shall not grant or renew, prospecting licenses or mining leases without the prior permission of the Union Government. Sections 4 to 12 of the Act deal with the conditions and procedures and other allied matters regarding the prospecting or mining operations under licence or lease. Sections 13 and 13A deal with the rule making power of the Central Government.

It is, however, significant that Section 14 provides that Section 4 to 13 of the Act shall not apply to minor minerals. Further, Section 15 provides that the State Governments may by notification in the Official Gazette make rules for regulating grant of quarry-lease, mining-lease or other mineral concessions in respect of minor minerals and for the purposes connected therewith. A combined reading of Sections 4 to 13 and Section 14, 15 and 18 show that while Parliament's enactment (viz., the MMRD Act) has occupied the entire field, it has specifically exempted minor minerals from the application of Section 4 to 12 and has also empowered the State Governments in respect of minor minerals. The list of Amending Acts are as follows.

1. The MMRD Act, 1958 (15 of 1958).
2. The Repealing and Amending Act 1960 (58 of 1958).
3. The MMRD Amendment Act 1972 (56 of 1972).
4. The Repealing and Amending Act 1978 (38 of 1978).
5. The MMRD Amendment Act 1986 (37 of 1986).
6. The MMRD Amendment Act 1994 (25 of 1994).
7. The MMRD Amendment Act 1999 (38 of 1999).

## Annexure 2: Schedule of the Mines and Minerals (Development and Regulation) Act, 1957<sup>82</sup>

### *Part A. Hydro Carbons Energy Minerals*

1. Coal and Lignite.

### *Part B. Atomic Minerals*

2. Beryl and other beryllium-bearing minerals
3. Lithium-bearing minerals
4. Minerals of the 'rare earths' group containing Uranium and Thorium
5. Niobium-bearing minerals
6. Phosphorites and other Phosphatic-ores containing Uranium
7. Pitchblende and other Uranium-ores
8. Titanium-bearing minerals and ores (ilmenite, rutile and leucoxene)<sup>83</sup>.
9. Tantalum-bearing minerals
10. Uraniferous allanite, monazite and other thorium minerals
11. Uranium-bearing tailings left over from ores after extraction of copper and gold, ilmenite and other titanium-ores
12. Zirconium-bearing minerals and ores including Zircon<sup>84</sup>

### *Part C. Metallic and Non-metallic Minerals*

13. Asbestos
14. Bauxite
15. Chrome-ore
16. Copper-ore
17. Gold
18. Iron-ore
19. Lead
20. [Limestone, except when it is used in kilns for the manufacture of lime as building material]<sup>85</sup>

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<sup>82</sup> As amended upto 20<sup>th</sup> December 1999[see sections 4(3), 5(1), 7(2) and 8(2)]. Substituted by MM(RD) Amendment Act 1994 *vide* Government of India Ext. Part-II Section 1 dated 28.3.1994 (effective from 25.1.1994)

<sup>83</sup> Substituted by MM(RD) Amendment Act 1999 *vide* Government of India Ext. Part-II Section 1 dated 20.12.1999 (effective from 18.12.1999)

<sup>84</sup> Substituted by MM(RD) Amendment Act 1999 *vide* Government of India Ext. Part-II Section 1 dated 20.12.1999 (effective from 18.12.1999)

<sup>85</sup> Omitted by MM(RD) Amendment Act 1999 *vide* Government of India Ext. Part-II Section 1 dated 20.12.1999 (effective from 18.12.1999).

21. Manganese-ore
22. Precious stones
23. Zinc

## **Annexure 3: Mineral Taxation in Selected Countries**

In this Annexure a tax regime system prevalent in the following mineral-producing 14 countries is provided on 'comparable' basis: Argentina, Australia, Brazil, Canada, Chile, China, Ethiopia, Indonesia, Kazakhstan, Mexico, Papua New Guinea, Peru, Republic of South Africa, United States of America.

### **Argentina**

#### **Income tax**

##### *Basic rate*

35 percent. (Mining Investment Law qualified mines are treated differently than mines not qualifying).

##### *Special deductions for mineral sector*

*Feasibility studies*: 200 percent deduction. (100 percent to be expensed, 100 percent to be capitalised).

*Pre-production exploration costs*: 200 percent deduction. (100 percent to be expensed, 100 percent to be capitalised).

##### *Depreciation*

*Infrastructure* depreciation: 60 percent first year, 20 percent second year, 20 percent third year.

*Capital assets depreciation*: Straight-line method over three years. Investments other than infrastructure, in machinery, equipment, vehicles and installation may be depreciated from the operation start-up at an annual rate of 33.33 percent.

*Building depreciation*: At a 2 percent rate. A higher rate is accepted when sufficient proof is provided to show the useful life is less Normally 50 years..

*Costs qualifying for depreciation or amortization* may be adjusted for inflation according to consumer price indices, up to April 1, 1992 only.

There is a depletion allowance for exploration costs based on units of depletion method.

##### *Other deductions*

Post-production exploration expenses, operating costs, depreciation, amortization, loan interest, royalty, withholding tax on interest, import duties on equipment, value added tax on equipment and services, stamp taxes, depletion, payroll taxes.

Amounts destined to be placed in reserves for the prevention or repair of environmental damages are deductible from taxable income upto 5 percent of operation costs pertaining to the recovery and benefit of minerals.

##### *Tax incentives*

*Loss carry-forward*: 5 years.

*Loss carry-back*: None.

*Tax holidays*: None.

*Tax stabilisation:* 30 years (Provincial and municipal taxes, import duties, exchange regulations only).

Provincial Gross Turnover Tax: Exempt.

### ***Supplementary taxes***

None.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* 13.2 percent (may be less under bilateral tax treaty).

Dividends remitted abroad: None.

*Salaries and fees paid to foreign consultants:* 29.7 percent (rate is applicable to technical assistance, which does not imply any transfer of technology).

### **Indirect Taxes**

*Import duty on foreign equipment:* Eligible equipment listed by the mining secretariat is exempt. Non-exempt equipment is assessed at a typical rate of 14 percent.

Sales tax on local purchases: None.

*VAT on local purchased goods or services:* 21 percent (refundable if attributable to export product).

*VAT on goods or services purchased abroad:* 21 percent (refundable if attributable to export product).

VAT on minerals sold abroad: None.

Time period for VAT reimbursement: 2 or 3 months.

Standard VAT rate is 21 percent, other rates are 10.5 percent and 27 percent.

### **Stamp duties and other land-based taxes and fees**

*Stamp tax:* The stamp tax varies according to the provincial jurisdiction. The taxable amount is the nominal value of the contract, for all its term. A typical rate is 1 percent.

*Property tax:* Property taxes vary according to the local and provincial jurisdiction and are based on use or value, a typical rate is 1 percent of assessed value.

Local development requirement: None.

Land-use fees during exploration: None.

Land-use fees during mining: None.

### **Other provisions**

*Tax stabilisation:* 30 years (provincial and municipal taxes, import duties, exchange regulations only).

Provincial gross turnover tax: Exempt.

Requirement to use local goods and services: None.

Local equity requirement: None.

Government equity requirement: None.

No ring fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

*Exchange controls:* No significant restrictions.

Under law 24,224, published in the official gazette of 19 July 1993, concessions are subject to a fixed levy known as canon (normally) payable annually, which varies with the kind of concession and kind of deposit and to a surface area charge per 100 square meters.

# Australia

## Income tax

### *Basic rate*

Under “Tax Reform: Not a New Tax: a new Tax system”, released in August 1998, the company tax rate is lowered from 36% to 34% for the 2000-01 income tax year and to 30% thereafter.

### *Special deductions for mineral sector*

*Feasibility studies:* Deductible in the year incurred pre-production exploration costs: deductible in the year incurred development costs: may be amortized over the mine life or 10 years, whichever is less equipment and plant depreciation straight-line method with effective life ranging generally from 10 to 20 years

*Tax concessions:* Tax concessions are granted to mining industry in the form of write-offs for capital expenditure, exemption of certain sorts of mining income and a tax rebate for capital subscribed to mining companies.

Gains from the sale of rights to mine gold and certain prescribed metals in Australia by the prospector are exempt from income tax

### *Depreciation*

Costs qualifying for depreciation or amortization cannot be adjusted for inflation

Depletion allowance: None

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration expenses, operating costs, capital expenses, depreciation, amortization, loan interest, royalty, import duties, excise/sales tax on equipment and services, withholding tax on interest, local development costs, property tax, fees based on land area, stamp taxes, payroll taxes.

### *Tax incentives*

*Loss carry-forward:* Can be carried forward until absorbed (no time limit).

Loss carry-back: None.

Tax holidays: None.

*Tax credits:* In some instances a foreign tax credit may apply.

Mines located in remote areas may qualify concessional tax treatment.

### *Supplementary taxes*

Excess profits type tax: None

## ***Withholding taxes***

*Loan interest paid to foreign lenders:* 10 percent on the gross amount of interest paid, deductible.

*Dividends remitted abroad:* 15 percent for remittance to a treaty country otherwise 30 percent, not deductible. However, if a dividend is fully franked then no dividend withholding tax is applicable. Fully franked means paid out of projects on which tax has already been paid.

*Salaries and fees paid to foreign consultants:* Up to A\$20,700 29 percent; above A\$20,700: A\$6003+34 percent amount above \$20,700; above A\$38,000: A\$11,885 + 43 percent amount above \$38,000; above A\$50,000: A\$17045+47 percent amount above \$50,000.

## **Indirect Taxes**

*Import duty on foreign equipment:* representative rate 5 percent although higher rates apply to some goods (most plant and equipment imports are subject to a rate of 5 percent. An exemption is available if and only if there is no substitutable goods in Australia. Therefore, if a mine uses equipment not available in Australia, exemption could be obtained).

Export duties on minerals: None.

*Sales tax:* most goods purchased for use on the mine site are exempt from sales tax.

Value added tax on local purchased goods or services: Exempt.

Value added tax on goods or services purchased abroad: Exempt.

Value added tax on minerals sold abroad: None.

## **Stamp duties and other land-based taxes and fees**

*Property tax:* The land tax varies according to the unimproved value of the land above \$A 10,000; for unimproved land valued at more than \$1,000,000, the rate is \$A12,102.50 + 2.00 cents for each \$ above \$1,000,000.

Local development requirement: None.

*Land-use fees during exploration:* Prospecting license \$ 1.50/ha/yr, special prospecting license for gold \$1.50/ha/yr, exploration license \$30.60/km<sup>2</sup>/year, graticular exploration license \$80/block/year.

*Land-use fees during mining:* Mining lease \$10.00/ha/year, general purpose or miscellaneous license \$9.30/ha/yr, retention license \$4.65/ha/yr.

*Stamp tax:* Varies by type and value of transaction; on conveyances the duty is paid by the purchaser of property and is \$16,775 + \$4.25 per \$ 100 above \$500,000.

## **Other provisions**

Tax stabilisation: None.

Requirement to use local goods and services: Seek to achieve the highest possible level of procurement of goods, labour, materials and services from local manufacturers and suppliers, where these are competitive as to price, quality and delivery requirements.

Local equity requirement: None (Foreign Investment Board reviews foreign investment but generally there is no local equity requirement)

Government equity requirement: None.

No ring fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Allowed.

Exchange controls: No significant restrictions.

Fringe benefits tax: A tax payable by employers on the value of certain fringe benefits that have been provided to their employees or to associates of those employees (rate: 48 percent).

# Brazil

## Income tax

### *Basic rate*

Generally 15 percent. Mining companies earning less than R\$ 12.3 million may select from several options: an excess profit tax applies.

Under article 3(1) of law as amended by article 4 of law 9430/96, as from 1 January 1996, all resident legal entities are subject to corporate income surtax levied at a flat rate of 10 percent on taxable profits exceeding the amount resulting from multiplying BRL 20,000 by the number of months of the relevant assessment period.

### *Special deductions for mineral sector*

*Feasibility study cost:* Amortised beginning in the year production operations commence over a minimum period of 5 years (according to tax legislation) or a maximum of 10 years (according to commercial law).

*Pre-production exploration costs:* Amortised over a minimum of 5 years.

*Development costs:* Amortised over a minimum of 5 years.

### *Depreciation*

*Equipment:* Useful life basis, generally set by law at around 10 percent to 25 percent per year, earth moving equipment 25 percent, tools 20 percent; equipment and machinery 10 percent.

*Accelerated depreciation is allowed in the following circumstances:* (1) where two 8-hour shifts are worked--depreciation may be 1.5 times normal tax depreciation rate; (2) where three 8-hour shifts are worked--depreciation may be double the normal tax depreciation rate and (3) where the mining project is approved by a government entity (CDI).

Depreciation of buildings: 4 percent per year.

Costs qualifying for depreciation may no longer be adjusted for inflation.

### *Other deductions*

Post-production exploration costs, operating costs, post-production costs, depreciation, amortization, loan interest, royalty, (import duties on equipment are considered part of the cost of the equipment and its depreciation will be deducted), VAT, education tax, property tax, fees based on land area, depletion allowance, payroll taxes, PIS, COFINS, CSL.

*Annual depletion allowance:* Calculated by dividing the cost of acquisition of the concessions to operate the mine by the mineable reserve, and multiplying the result by the total of ores mined in that year.

There are indemnities for work-related accidents.

### *Tax incentives*

*Loss carried-forward:* Yes, no time limit; however, accumulated losses can be only be offset against taxable profits up to 30 percent of such profits each year.

Loss carry-back: None.

*Tax holidays:* Up to a 10 year exemption from income tax may apply in areas under control of the SUDENE (Northeast Development Agency) or SUDAM (Amazon Development Agency).

### ***Supplementary taxes***

*Excess profits type tax:* Taxable profits up to R\$240,000 pay the normal income tax at 15 percent, profits above this amount are taxed at 25 percent.

*Social contribution tax on profit (CSL):* 8 percent on net profit before provision of income tax (taxable income for income tax purposes); allowable as a deduction for income tax purposes.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* 15 percent, unless lower by a bilateral tax treaty, not allowable as a deduction for computing taxable income.

Dividends remitted abroad: None.

*Salaries and fees paid to foreign consultants:* 15 percent, not allowable as a deduction for computing taxable income.

## **Indirect Taxes**

*Import duty on foreign equipment:* Most mining equipment is exempt or zero rated; if paid, the amount is allowable as a deduction for computing net taxable income but as a part of the depreciation deduction for that equipment, exemptions apply for equipment to be used in several special geographic areas (see below).

Sales tax: None.

*VAT on equipment purchased locally or abroad:* A state levy, maximum rate 18 percent, typical rate on a ball mill 11 percent.

Typical time period for VAT reimbursement: 2 - 24 months.

VAT on minerals sold abroad: None.

The state VAT for interstate transactions is 7 percent or 12 percent. For intra-state transactions it is 17 percent, 18 percent, 25 percent or 37 percent.

## **Stamp duties and other land-based taxes and fees**

Stamp tax: None.

Real property land tax: This is payable depending on whether the land is considered urban or rural. The rural tax (ITR) is calculated according to a specific Law table, taking into consideration the level of utilisation of the land area. The urban tax (IPTU) is calculated based on the commercial value of the property.

Land-use fees during exploration: R\$0.88 per hectare per year payable to the Mines Department (DNPM) - if private land, the amount is set by private negotiation but if negotiations are inconclusive, the amount is set by a judge.

Land-use fees during mining: None. However, if the land is privately held the mining legislation provides that the landholder is to be paid an amount equal to 50 percent of the amount of royalties due to the government, i.e., if a 1 percent royalty is payable to the government, another 0.5 percent is due to the landholder.

## Other provisions

*Tax stabilisation:* Some local taxes may be stabilised by agreement.

Requirement to use local goods and services: None.

Local equity requirement: None.

Government equity requirement: None.

No ring-fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

*Exchange controls:* Not significant although procedures must be followed.

*Service tax (ISS):* A municipal tax, varying between 2 percent and 5 percent, which is levied on services rendered to and by companies.

Local development requirement: None.

*COFINS:* A contribution chargeable on billings (invoicing) at 2 percent, exports are exempt.

*PIS:* A contribution of 0.65 percent of gross working revenue (operating income); exports are exempt.

# Canada

## Income tax

### *Basic rate*

*Federal rate:* Basic rate is 38 percent, less provincial abatement of 10 percent yields a 28 percent federal rate before surtax, plus the federal surtax of 1.12 percent yields the net federal rate of 29.12 percent. Note: a Resources Allowance (see below) reduces the effective rate of federal tax to 21.84 percent.

*Provincial rate:*

Province	General rate (percent)
Newfoundland	43.12
Nova Scotia	45.12
Prince Edward Island	44.12
New Brunswick	46.12
Quebec	45.37
Ontario	44.62
Manitoba	46.12
Saskatchewan	46.12
Alberta	44.62
British Columbia	45.62
Yukon Territory	44.12
Northwest Territories	43.12

*Approximate combined federal provincial rate:* 31.97 percent after taking into account the 25 percent resource allowance.

*Mandatory corporate provincial minimum tax:* 4 percent of income for financial statement purposes; in the event that the minimum tax is greater than the corporate provincial tax liability, the taxpayer must pay the minimum tax; applies only to corporations with gross revenue over \$10,000 or total assets over \$5 million.

### *Special deductions for mineral sector*

*Feasibility study cost:* May be expensed immediately or carried forward for future expensing.

*Pre-production exploration costs:* May be expensed immediately or carried forward for future expensing.

*Development costs:* Two pools-pre-production Canadian Development Expense Pool, 100 percent deductible up to the income of the mine, unused amount may be carried forward; and post initial production development, a minimum depreciation of 30 percent straight-line basis must be taken when the taxpayer claims an exemption in the first three years of mine operation.

### *Depreciation*

Processing and transportation assets are allowed a depreciation rate of 15 percent straight-line, irrespective of whether those assets are acquired before or after commencement of commercial production.

*Depreciation of equipment:* Federal and provincial rate-25 percent declining balance pool method; all equipment for use in a new mine or major expansion (>25 percent increase in mill output) qualifies for an accelerated rate up to 100 percent-- the additional claim over 25 percent cannot exceed the lessor of the taxpayer's income from the new mine before deduction of exploration and development expenses, financing costs, resource allowance and any other accelerated depreciation in the pool; provincial rate is same as federal.

*Depreciation of buildings:* Same as for equipment. Costs may not be adjusted for inflation (see above).

### ***Other deductions***

Post-production exploration costs, operating costs, post-production costs, capital expenses, depreciation, loan interest, withholding tax on interest, import duties on equipment.

*Depletion allowances:* None, except for some industrial mineral mines.

### ***Tax incentives***

*Loss carry-forward:* Net capital losses may be carried forward indefinitely, non-capital losses can be carried forward for 7 years.

*Loss carry-back:* Non-capital losses and net capital losses may be carried back 3 years.

Tax holidays: None.

*Tax credits:* Available for expenditures on qualified scientific research.

*Resource allowance:* Calculated as 25 percent of defined resource profits; defined resource profits include income from the production and processing of ore to any stage that is not beyond the prime metal stage minus expenses that may reasonably be regarded as applicable to that production but not including financing expenses or most exploration or development expenses.

*Processing allowance available for the Ontario mining tax:* The processing allowance's intent is to ensure that mining tax would be imposed only on profits from the extraction of the ore, and not on profits from mineral processing operations. The allowance is calculated annually on the original cost of all processing assets, at a rate based on the degree of processing achieved in Ontario. That is, where the ore is processed only to a concentrate stage, the applicable rate is 8 percent of the concentrating assets. But if the ore is processed to the refining stage in Northern Ontario, the processing allowance rate is increased to 20 percent of the combined cost of concentrating, smelting and refining. In addition, the allowance may not be less than 15 percent, nor more than 65 percent of mining/processing income after deducting all expenses. The percentage of income that is offset by the processing allowance depends on the relative importance of the processing assets and on the profitability of the operations. At moderate levels of profitability, processing allowances could effectively offset 15-25 percent of income after deductions for gold, and 30-50 percent for copper.

### ***Supplementary taxes***

*Excess profits type tax: Federal Large Corporations Tax (LCT):* 0.225 percent of the taxpayer's taxable capital in excess of \$ 10 million; not deductible for computing federal income tax; corporate tax is creditable against the LCT; carry forward of credits is permitted.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* 25 percent to non-treaty countries. 5-15 percent for most bilateral treaty countries (total exemption may apply in some cases).

*Dividends remitted abroad:* 25 percent to non-treaty countries, 15 percent or less for most bilateral tax treaty countries.

Salaries and fees paid to foreign consultants: 25 percent to non-treaty countries.

*Import duty on foreign equipment:* Levels vary, most are zero percent; however not applicable in practice, equipment available in Canadian or NAFTA zone.

## Indirect Taxes

*Import duty on foreign equipment:* Levels vary, most are zero percent; however not applicable in practice. equipment available in Canadian or NAFTA zone.

*Sales tax on local purchase:* Provincial variation ranging from 7 to 10 percent, however, most mining equipments are exempt.

<i>Province</i>	<i>Rate (Percent)</i>
Newfoundland	8.0
Nova Scotia	8.0
Prince Edward Island	10.0
New Brunswick	8.0
Quebec	7.5
Ontario	8.0
Manitoba	7.0
Saskatchewan	7.0
Alberta	No provincial sales tax
British Columbia	7.0
North West Territories	No provincial sales tax
Yukon Territory	No provincial sales tax

*VAT on equipment purchased locally:* 7 percent GST (goods and services tax), not allowable as an income tax deduction, fully refundable.

*VAT on equipment purchased abroad:* 7 percent GST, not allowable as an income tax deduction, fully refundable.

Typical time period for VAT reimbursement: Less than 1 year.

VAT on minerals sold for export: None.

*VAT general treatment:* GST must be paid but is refundable.

Education tax: None.

## Stamp duties and other land-based taxes and fees

Local development requirement: None.

Provincial capital tax: Nova Scotia, Ontario, Quebec, Manitoba, Saskatchewan and British Columbia impose a general capital tax (ranging from 0.25 percent in Nova Scotia to 0.5 percent in Saskatchewan and Quebec). The capital tax base varies from province to province. Generally, however capital is equal to share capital, retained earnings, corporate surplus and corporate liabilities (i.e. the accounting concept of capital). The tax applies to only that part of capital that is considered to be employed in the province. In general, capital taxes are deductible for income tax purposes. However, the federal government will allow the deduction of provincial capital taxes only up to the rates in effect in March 1993.

Property tax: Levied at local level; rates vary.

Land-use fees during exploration and mining: A one time fee of C\$4,400 per 16 hectares is payable minus the amount already spent on assessment work, annual rental fee of C\$5.10 per hectare.

Stamp tax: None.

## Other provisions

Requirement to use local goods and services: None.

Local equity requirement: None.

Government equity requirement: None.

No ring-fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

Exchange controls: No significant restrictions.

# Chile

## Income tax

### *Basic rate*

The taxpayer may make a one-time election to be taxed under a special regime or the general regime. If electing the special regime the tax rates are guaranteed stable for 10 year but the taxpayer may irrevocably waive the special regime, returning to the general regime, at any time.

*General regime rate:* 15 percent on accrued income; First Category Tax (this is coupled to 35 percent dividend withholding tax against which the First Category tax can be credited, see below).

*Special stabilised regime rate:* 42 percent rate calculated as a 15 percent first category tax paid on accrued income and 27 percent which is paid as additional tax on dividends, distributions or remittances.

Small- scale miners are subject to a single tax, which is withheld by purchasers of mining products and replaces all taxation on income from mining activities. The tax is a percentage (1 percent, 2 percent, or 4 percent) of the net price of sales of mining products, which varies with the international price of copper.

### *Special deductions for mineral sector*

*Feasibility study cost:* The taxpayer may elect to amortize using one of the three methods - capitalise and then amortize 100 percent in the first year, capitalise then amortize over 6 years (16.67 percent), capitalise then amortize 75 percent in the first year and 25 percent in the second year.

*Pre-production exploration costs:* The taxpayer may elect to amortize using one of due methods: Capitalise and then amortize 100 percent in the first year, capitalise then amortize over 6 years (16.67 percent); capitalise then amortize 75 percent the first year and 25 percent the second year.

### *Depreciation*

*Development costs:* Depreciated calculated straight-line based on the life of the project.

*Depreciation of equipment:* Based on estimated useful life using straight-line method; most heavy machinery qualifies for 3-year accelerated depreciation (straight-line method), otherwise 10 years.

*Depreciation of buildings:* If qualified, 20 year accelerated depreciation, otherwise 60 years (mines normally qualify).

Can costs qualifying for depreciation be adjusted for inflation: Unknown.

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration costs, operating costs, post-production capital costs, depreciation, amortization, loan interest, royalty, withholding tax on interest, withholding tax on dividends, fees based on land areas, stamp taxes, payroll taxes.

Depletion allowance: None.

### *Tax incentives*

*Loss carry-forward:* Losses may be carried forward indefinitely loss carry-back: yes, details unknown.

*Tax holidays:* Generally none. For investment in some regions an income holiday is available: Porvenir and Primavera provinces -- 44-year exemption; XII Region --50 year exemption.

*Tax credits:* The following items are creditable against liability to FCT: (1) Immovable property tax paid by the taxpayer (owner or usufructuary) for the relevant tax year on property used for his business which is generally creditable (as adjusted for inflation). If the credit exceeds the liability to FCT, the excess may not be used to pay other taxes nor may it be refunded. During tax years 1998 through 2001, the immovable property tax is creditable only if paid by the owner or usufructuary of agricultural land or if the entire property is leased to an unrelated party for an annual rent representing at least 11 percent of the cadastral value; (2) 4 percent of the value of new tangible fixed assets.

### ***Supplementary taxes***

Excess profits type tax: None.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* The general rate is 35 percent, however the rate may be reduced to 4 percent if expressly authorised by the Chilean Central Bank, the amount is deductible for computing the first category income tax.

*Dividends remitted abroad:* 35 percent, this tax is determined based on the amount remitted and taking the 15 percent First Category income tax already paid by the company as a credit, may not be deducted for computing the First Category income tax.

*Salaries and fees paid to foreign consultants:* Remittances for technical assistance engineering fees are subject to a 20 percent rate, other fees are subject to a 35 percent rate; deductible for computing the First Category income tax.

## **Indirect Taxes**

*Import duty on foreign equipment:* Generally 11 percent; import duties may be deferred up to 7 years and are not due if equipment is used in the production of goods to be exported, duties paid are not directly deductible for computing First Category income tax rather they are added to the equipment cost basis and depreciated.

Sales tax: None.

*VAT on equipment purchased locally:* 18 percent.

*VAT on equipment purchased abroad:* 18 percent, investors subject to the Foreign Investment Statute (Decree Law 600) are not subject to VAT on import of government listed capital goods.

Typical time period for VAT reimbursement: One month.

*VAT on minerals sold abroad:* Exporters are not taxed on their export sales if performed within the local market. If exporters perform sales abroad, VAT charged on purchases can be recovered at a ratio between export sales and the total sales.

*VAT treatment in general:* Although export sales are VAT zero-rated, mines may apply for a full refund of VAT on equipment and services.

## **Stamp duties and other land-based taxes and fees**

*Local development requirement:* None. However, foreign companies operating in Chile voluntarily contribute to local development.

*Real property tax:* This tax is computed as an expense and can be credited against assessed income tax.

*Land fees during exploration:* Payable every two years - 1 UTM/30 per hectare; UTM is a monthly tax unit, in May 1997 Ch\$23,790 (US\$57.35).

*Land-use fees during mining:* Payable yearly-1 UTM/10 per hectare; UTM is a monthly tax unit. in May 1997 Ch\$23,790 (US\$57.35).

*Stamp tax:* Paid on documents containing currency credit operations 0.1 percent on the amount for each month between issuing and maturity, up to a cap at 1.2 percent.

## **Other provisions**

Tax stabilisation: 10 year.

Requirement to use local goods and services: None.

Local equity requirement: None.

Government equity requirement: None.

No ring fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

Exchange controls: Free from significant restrictions.

# China

The mineral sector fiscal system in China is relatively new and many details have yet to be resolved with certainty. Thus, the information below represents a best estimate by the IGRPM study team based on their assessment of information received from both government and industry sources.

## Income tax

### *Basic rate*

30 percent central government tax rate; 3 percent provincial rate (not deductible for determining central government tax liability); effective rate 33 percent.

### *Special deductions for mineral sector*

*Feasibility study cost:* Is it believed that feasibility costs will be handled as they are in the petroleum sector, i.e., capitalise and amortize over a period of not less than 6 years, straight-line method.

*Pre-production exploration costs:* Capitalise and amortize over a period not less than 1 year, straight-line method.

*Development costs:* Capitalise and amortize over a period not less than 6 years, straight-line method.

### *Depreciation*

*Depreciation of equipment:* Production equipment 10 years, straight-line method, vehicles 5 years, straight-line method (in some instances, accelerated depreciation may be negotiated).

*Depreciation of buildings:* 20 years, straight-line method.

Costs qualifying for depreciation may not be adjusted for inflation.

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration costs, operating costs, post-production costs, capital expenses, depreciation, amortization, mineral resources compensation tax.

Depletion allowance: None.

### *Tax incentives*

Loss carry-forward: 5-year limit.

Loss carry-back: None.

Tax holidays: If a mine will operate for more than 10 years, a 5 year income tax holiday may apply; 100 percent in years 1 and 2; 50 percent reduction in years 3,4 and 5; does not apply to mines producing gold, other precious metals or rare earth.

Tax credits: Unknown.

Tax stabilisation: None.

Enterprises established in SEZs and Economic and Technological Development Zones enjoy a reduced tax rate of 15 percent. Those established in coastal economic open zones are taxed at a rate of 24 percent.

In some provinces, enterprises with foreign investment may be exempted from some local taxes such as the land-use tax, land site development fee, urban construction fee and education surtax.

If foreign investors use profits from its enterprise to directly reinvest in the enterprise or launch another foreign-funded enterprise with a 5-year operation period, 40 percent of the income tax paid on the amount of income used for reinvestment will be returned to the investor.

### *Supplementary taxes*

Excess profits type tax: None.

### *Withholding taxes*

*Loan interest paid to foreign lenders:* 20 percent, not deductible for computing income tax.

Dividends remitted abroad: None.

*Salaries and fees paid to foreign consultants:* An individual progressive income tax - 5 to 40 percent -- may apply depending on the case.

### **Indirect Taxes**

*Import duty on foreign equipment:* Representative rate 22 percent; not deductible for computing income taxes; mining equipment may be exempted for Sino-foreign joint ventures and Sino-foreign co-operatives.

Sales tax: None.

*VAT on equipment purchased locally:* 13 percent with a 10 percent refund rate on sales, not deductible for income tax purposes.

VAT on equipment purchased abroad: 17 percent

Typical time period for VAT reimbursement: Unknown.

*Business tax: assessed on most transactions not covered by VAT:* Rates vary from 3 to 20 percent; rate for transfer of intangible assets and sales of real property are 5 percent.

VAT on minerals sold abroad: None.

### **Stamp duties and other land-based taxes and fees**

Local development requirement: Unknown.

Urban construction fee: This fee applies, details unknown.

Land site development fee: This fee applies, details unknown.

Real property tax: 1.2 percent per year on the standard price for the improved property, 1.5 percent on the standard price for land.

Land-use fees during exploration: 100 RMB (US 12)/ sq km/ year.

Exploration usage fee: 330 yuan/sq.km./year

Where a mining lease has been granted, the usage fee is 3,000 yuan/sq.km./year.

Land-use fees during mining: 1,500-2,000 RMB (US\$180/ sq km / year = 1,500 RMB).

Stamp tax: A variety of rates apply ranging from around 0.03 percent to 0.1 percent of the value of the purchase or sale.

## **Other provisions**

Requirement to use local goods and services: Yes.

Local equity requirement: None except gold; with gold there must be a joint venture with a local partner.

Government equity requirement: None.

No ring-fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

Exchange controls: Free from major restrictions.

# Ethiopia

## Income tax

### *Basic rate*

35 percent.

### *Special deductions for mineral sector*

*Feasibility studies:* Straight-line over four years.

*Pre-production exploration costs:* Straight-line over four years.

*Development expenses:* All pre-production costs may be depreciated straight-line over 4 years.

### *Depreciation*

*Equipment depreciation:* Straight-line over 4 years.

Costs qualifying for depreciation cannot be adjusted for inflation.

*Depletion allowance:* None.

### *Other deductions*

*The following types of costs may be deducted for computing net taxable income:* Operating costs. Depreciation, loan interest, royalty, withholding tax on dividends, import duty on equipment. Excise/sales tax on equipment and services, stamp taxes, payroll taxes.

Tax holiday: Persons investing in pioneer investment activities by establishing a new enterprise will be exempt from income tax as follows

Where investment in Addis Ababa, Nazareth or in a locality within a radius of 15 km of the main highway connecting the two cities, the period of exemption will be three years.

Where investment is in a relatively under developed regions the period of exemption will be for 5 years.

In other localities the period of exemption will be 4 years.

An investor may carry forward losses incurred during the period of exemption from income tax after the end of the tax holiday.

### *Tax incentives*

Loss carry-forward: 10 years.

Loss carry-back: None.

Accelerated depreciation: 4-year life.

Tax holidays: None.

Tax credits: None.

Tax stabilisation: None.

Reinvestment deduction: A mining company is entitled to deduct for each accounting year an amount equal to 5 percent of gross income. This amount is to be reinvested in other mining operations or in other investments within Ethiopia approved by the Licensing Authority.

### *Supplementary taxes*

*Excess profits type tax:* None.

## *Withholding taxes*

Loan interest paid to foreign lenders: None.

Dividends remitted abroad: 10 percent (note: dividends paid to a locally established branch may be free of withholding tax).

Salaries and fees paid to foreign consultants: 10 percent.

Royalties paid to the foreign nationals: 40 percent

## **Indirect Taxes**

*Import duty on foreign equipment:* All equipment, machinery, vehicles and spare parts (excluding Sedan Cars and their spare parts) necessary for mining operations are free of all import duty and taxes.

*Sales tax:* Payable on local and imported goods and on local services. The basis of the sales tax is: (1) in respect of goods produced locally, the producers wholesale price and the excise tax paid; (2) in respect of goods imported, cost, insurance and freight (CIF) plus customs duty and the excise tax paid; (3) in respect of services, the service charge shall be the basis. Schedule A items 5 percent, Schedule B items 12 percent, all other items 10 percent. The sales tax paid on raw materials used in the production of locally made goods is refundable.

Note: some government sources indicated that this tax may not apply to export-oriented mines, however, a strict reading of the respective tax proclamation would indicate that it may be payable.

*VAT on purchased goods or services:* There is no VAT.

## **Stamp duties and other land-based taxes and fees**

Local development requirement: None.

Property tax: Unknown.

Land-use fees during exploration: Prospecting license 60 Birr/sq km exploration license 60 Birr/sq km.

Land-use fees during mining: Small scale mining lease 150 to 200 Birr/sq km; large scale mining license 400 Birr/sq km.

Stamp tax: Minimal.

## **Other provisions**

*Requirement to use local goods and services:* Should give preferences to employment of Ethiopian nationals to the fullest extent possible, provided such nationals have the required qualifications and experience.

*Local equity requirement:* None.

*Government equity requirement:* policy on this issue is in transition. However, the experience of companies in 1997 would indicate that probably no government share would be taken, particularly in the case of a "green fields" project.

It is not known whether ring-fencing principles apply, i.e., whether books from several operations may be consolidated for tax purposes.

Foreign external accounts are allowed for receipt of revenues.

*Exchange controls:* No significant restrictions.

# Indonesia

## Income tax

### *Basic rate*

30 percent Note: income tax rate has varied with different CoW (Contract of Work) generation contracts and has ranged from 22 percent to 48 percent. Generation 6 and 7 contracts of work are set at 30 percent.

### *Special deductions for mineral sector*

Feasibility study cost may be amortized over the life of the mine, or amortized at 25 percent declining balance.

Pre-production exploration costs can be amortized over the life of the mine, or amortized at 25 percent declining balance.

Interest payment made by an Indonesian company (including PMA company) to a non-residential entity are generally deductible if the interest expenses are at arm's length and if loans are not used to capitalise a subsidiary company.

### *Depreciation*

*Fixed plant* may be depreciated at 6.25 percent straight-line.

*Mobile plant* may be depreciated at 12.5 percent straight-line, or amortized at 2.5 percent declining balance.

*Permanent buildings* may be depreciated at 10 percent straight-line.

*Non-permanent buildings* may be depreciated at 20 percent straight-line.

Costs qualifying for depreciation or amortization may not be adjusted for inflation.

No depletion allowance.

### *Other deductions*

*The following types of costs may be deducted for computing taxable income:* Operating costs, depreciation, amortization, loan interest (limits apply on the amount that is deductible based on the limit ratios of 5:1 and 8:1 for different sizes of operations), royalty tax, withholding tax on interest, import duties on equipment, export duties on minerals, excise/sales tax on equipment and services, VAT on equipment and services, education tax, local development costs, property tax, fees based on land area, stamp taxes.

### *Tax incentives*

Loss carry-forward: 8 years.

Loss carry-back: None.

Tax holidays: None.

Tax credits: None.

*Tax stabilisation:* 30 years provided for in CoW.

### ***Supplementary taxes***

Excess profits type tax: None.

### ***Withholding taxes***

Dividend, rent, royalty loan interest paid to foreign lenders: 20 percent.

Dividends remitted abroad: 7.5 percent to original founding foreign shareholders, otherwise 15 percent.

Salaries and fees paid to foreign entities: 15 percent.

In 1996, new regulations were issued for Indonesian mining service companies requiring such companies to obtain a license from the ministry of mines. Payments for their services are subject to a final withholding tax of 4.5 percent of gross fees (not including VAT)

For interest, rent and royalties, the rate is 15 percent of the gross amount, but for technical and management fees (both for residents and foreigners) it is 9 percent of the gross amount.

### **Indirect Taxes**

*Import duty on foreign equipment:* Exempt for first 10 years then capital equipment and spares are taxed at around 20 percent.

Sales tax: None.

*VAT on equipment purchased locally:* 10 percent.

*VAT on equipment purchased abroad:* 10 percent, VAT may be deferred for 10 years for equipment appearing on the government's Master List.

*VAT on minerals sold abroad:* Zero percent.

Time to claim back value added tax: 6 - 12 months.

### **Stamp duties and other land-based taxes and fees**

*Local development requirement:* The mine is expected to provide basic infrastructure, schooling and medical facilities.

*Property/ turnover tax:* 0.15 percent of turnover.

*Land-use fees during exploration:* Year 1 - US\$0.10/ha; year 2 - US\$0.12/ha; year 3 - US\$ 0.15/ha; year 4 - US\$0.25/ha, year 5 - US\$0.35/ha.

*Land-use fees during mining:* Surface deposit - US\$ 1.50/ha; other deposits - US\$3.00/ha.

*Stamp tax:* RP 2,000 per transaction.

### **Other provisions**

*Requirement to use local goods and services:* Yes, if quality and quantity sufficient and priced with 12.5 percent of international price.

*Local equity requirement:* None.

*Government equity requirement:* None.

Ring fencing principles apply (may not consolidate accounts from multiple mines).

*Foreign external accounts allowed for receipt of revenues:* Yes.

*Exchange controls:* Free of any major restriction.

# Kazakhstan

## Income tax

### *Basic rate*

30 percent.

### *Special deductions for mineral sector*

*Feasibility studies:* Amortised at 25 percent per year (declining balance method) once production commences; taxpayer has the right to opt for a slower amortization rate at his discretion.

Pre-production exploration costs: Amortised at 25 percent per year (declining balance method) once production commences; taxpayer has the right to opt for a slower amortization rate at his discretion.

Subscription and commercial discovery bonuses: Amortised at 25 percent per year (declining balance method) once production commences; tax payer has the right to opt for a slower amortization rate at his discretion.

Development costs: Amortised at 25 percent per year (declining balance method) once production commences; taxpayer has the right to opt for a slower amortization rate at his discretion.

### *Depreciation*

*Depreciation:* 25 percent (declining balance method) once production commences; taxpayer has the right to opt for a slower amortization rate at his discretion.

Costs qualifying for depreciation or amortization may be adjusted for inflation based on annual government adjustment of balance sheet value of the group at the end of the preceding tax year.

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration costs, operating costs, depreciation, amortization, loan interest subject to a limit, royalty tax, import duties on equipment, excise/sales tax on equipment and services, VAT on equipment and services, education tax, local development costs, property tax, occupation fees based on land area, stamp taxes, payroll taxes, allocation to the Liquidation Fund.

Depletion allowance: None.

### *Tax incentives*

*Loss carry-forward:* Generally, 5 Years, 7 years for subsurface users.

Loss carry-back: None.

Tax holidays: The investment law provides that some activities may be granted a tax holiday. It is not determined whether a mine would qualify. If qualified, the mine would enjoy a 100 percent tax holiday for 5 years from income tax, land tax, customs duty on imported equipment and not more than a 50 percent tax holiday from those taxes for an additional 5 years. Such a holiday would probably conflict with the tax code as presently written.

Tax credits: Foreign tax credits may be available for withholding taxes paid to the government.

*Investment in special geographic areas:* It may be possible to decrease the income tax rate to either 20 percent (special economic zones) or 10 percent (where land is the main production asset). It is unknown whether the government would apply these reductions to mines.

### ***Supplementary taxes***

*Excess profits type tax:* An excess profits tax applies if the IRR on net income is greater than 200 percent. The excess profit tax is calculated as a percentage of the net income. The percentage is as follows: IRR less or equal to 20 percent – 0 percent; IRR more than 20 percent, but less or equal to 22 percent - 4 percent; IRR more than 22 percent, but less or equal to 24 percent - 8 percent; IRR more than 24 percent, but less or equal to 26 percent - 12 percent; IRR more than 26 percent, but less or equal to 28 percent - 18 percent; IRR more than 28 percent, but less or equal to 30 percent - 24 percent; IRR more than 30 percent – 30 percent.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* 15 percent generally, 10 percent for some tax treaty countries. The tax is not deductible for purposes of calculating income tax liability.

Dividends remitted abroad: 15 percent generally, 5 percent for some tax treaty countries. The tax is not deductible for purposes of calculating income tax liability.

Salaries and fees paid to foreign consultants: 20 percent. The tax is not deductible for purposes of calculating income tax liability.

## **Indirect Taxes**

*Import duty on foreign equipment:* Duty does apply.

Sales tax: Probably none.

VAT on equipment purchased locally: 20 percent.

VAT on equipment purchased abroad: 20 percent, imports for geological prospecting and exploration work are exempt.

VAT on minerals sold abroad: 0 percent.

General treatment of VAT: A new tax law was brought into force in March 1997 and no provision is made there for any credit or exemption scheme for VAT paid for purchases of goods and services except as noted above.

Time to claim back value added tax: Unknown.

## **Stamp duties and other land-based taxes and fees**

*Local development requirement:* None, but there may be expectations beyond legal requirements.

Property tax: The tax on capital goods and non-production capital assets of corporations and individuals engaged in business activities is payable annually at the rate of 1 percent of the value of the specified assets.

Land-use occupation fees during exploration: A land tax is assessed based on the quality of the land. A schedule indicates 11 qualities of land the poorest of which is taxed at 25 tenge/ha the highest at 3,000 tenge/ha. In addition, negotiated rentals may apply.

*Land-use fees during mining:* A land tax is assessed based on the quality of the land. A schedule indicates 11 qualities of land, the poorest of which is taxed at 25 tenge/ha the highest at 3,000 tenge/ha. In addition negotiated rentals may apply.

*Stamp tax:* Unknown.

## Other provisions

*Road tax:* 0.5 percent of gross turnover.

*Subscription bonus:* A contractually, agreed lump sum payment for the right to carry on operations.

*Commercial discovery bonus:* A contractually agreed lump-sum payment to be paid for each commercial discovery made in a contract area.

*Extraction bonus:* A contractually agreed payment paid by the investor periodically at reaching certain extraction levels.

*Liquidation fund:* The investor must pay into a liquidation fund amounts as stipulated in the contract for use in meeting the costs of closure. The amounts may be deducted for income tax purposes. Should any balance remain after closure is complete, that amount shall be considered taxable income.

*Tax stabilisation:* Tax stabilisation is provided for the term of the contract.

*Requirement to use local goods and services:* Yes, if quality and quantity are sufficient and price is comparable.

*Local equity requirement:* None. Foreigners can own 100 percent but are often encouraged to locate a Kazakh partner.

*Government equity requirement:* None.

*Ring fencing principles are applied (accounts from different operations cannot be consolidated for tax purposes).*

*Foreign external accounts allowed for receipt of revenues:* Yes.

*Exchange controls:* Free of any major restriction.

# Mexico

## Income tax

### *Basic rate*

35 percent. 30 percent on retained profits and 5 percent upon distribution. There is no surcharge or surtax.

Minimum tax: A minimum tax may be payable based on business assets. The rate is 1.8 percent on the value of business assets as defined by law.

### *Special deductions for mineral sector*

*Feasibility study cost:* Capitalised and depreciated at a 10 percent rate starting in the first year of operation (or may be expensed at the time the studies are performed).

Pre-production exploration costs: Capitalised and depreciated at a 10 percent rate starting in the first year of operation (or may be expensed at the time the studies are performed).

Development costs: Capitalised and depreciated at a 10 percent rate starting in the first year of operation (Or may be expensed at the time the studies are performed).

### *Depreciation*

*Depreciation of equipment:* Machinery 10 percent straight-line method, motor vehicles 25 percent

Depreciation of buildings: 5 percent straight-line method.

Costs qualifying for depreciation may be adjusted for inflation: Adjustment is done on a yearly basis by applying the general price index. Annual depreciation is actualised from the month of purchase until the 6th month of the fiscal year depreciation is calculated for.

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration costs, operating costs, capital expenses, R&D, depreciation, amortization, loan interest, royalty, withholding tax on interest payments, import duties on equipment, local development, property tax, fees based on land area, payroll taxes.

Depletion allowance: None.

Mining concessionaires who explore or exploit minerals are subject to a mining duty payable every semester on each hectare or portion thereof included in the concession. The amount of the duty is in Mexican currency, which varies with the type of concession and the period involved. Several fees are also charged by the Ministry of Finance in order to compensate for services rendered.

### *Tax incentives*

*Loss carry forward:* 10 Years; companies are allowed to adjust losses for inflation.

*Loss carry-back:* None.

*Tax holidays:* None.

*Tax credits:* None.

*Accelerated depreciation:* May be available in some geographic areas outside major metropolitan areas.

*Tax stabilisation:* None.

### ***Supplementary taxes***

*Excess profits type tax:* None.

*Mandatory profit sharing:* Some employers are required to share 10 percent of the company's taxable income, subject to some adjustments, with its employees; the profit shared amount is not, in practice, deductible for income tax purposes; some new enterprises may be exempt; most mines have to comply.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* 15 percent (if there is a tax treaty with lender's country, the rate is 4.9 percent, deductible for computing income tax).

*Dividends remitted abroad:* 5 percent and the effective rate is 7.69 percent (if dividends are distributed upon profits already taxed at the corporate level, no withholding tax is applicable -- the usual case for a mining company); not deductible for income tax purposes.

*Royalties for the use or for the right to use a foreign patent trademark and for advertising:* 40 percent

*Any other category of royalties, salaries and fees paid to foreign consultants:* 15 percent; not deductible for income tax purposes.

*Capital gains from assets other than immovable property* are subject to an advance payment of 20 percent withheld by the purchaser.

## **Indirect Taxes**

*Import duty on foreign equipment:* The general tariff law provides for rates of upto 20 percent. The average tariff rate has been reduced to about 11 percent.

*Sales tax:* None.

*VAT on equipment purchased locally:* 15 percent.

*VAT on equipment purchased abroad:* 15 percent.

*Typical time period for VAT reimbursement* within 50 days.

*VAT on minerals sold abroad:* None.

*VAT treatment in general:* Although there is no VAT on export sales, in practice, companies are allowed to apply for a refund of VAT on equipment and services used to produce the export product.

A reduced VAT rate of 10 percent applies to supplies (other than the sale of immovable property which is taxed at 15 percent) by residents of a 'frontier zone' provided that the supply of the related goods or services takes place in such zone.

## **Stamp duties and other land-based taxes and fees**

*Local development requirement:* None.

*Real property tax:* Local land tax is assessed by local authorities based on site-value parameters. details unknown.

Land-use fees during exploration: Fee is calculated by applying a fee schedule based on two parameters: land and years of exploration.

Land-use fees during mining: Fee is calculated by applying a fee schedule based on two parameters: land area and years of exploitation.

Stamp tax: None.

## **Other provisions**

*Requirement to use local goods and services:* None.

Local equity requirement: None

Government equity requirement: None.

No ring fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

Exchange controls: Free from any significant restrictions.

# Papua New Guinea

## Income tax

### *Basic rate*

*Special mining lease (major project) rate:* 35 percent.

*General provisions apply to mines with less than US\$ 75 million capital cost:* 25 percent rate.

### *Special deductions for mineral sector*

Information below applies to Special Mining Lease.

Feasibility studies: Amortized over the life of the mine. Amortizable balance is divided by the lesser of remaining life or 5 to determine deduction on a reducing balance basis.

Pre-production exploration costs can be amortized over the life of the mine (exploration expenses may be carried forward only for 11 years). Amortizable balance is divided by the lesser of remaining life or 5 to determine deduction.

### *Depreciation*

*Mobile plant* may be depreciated at 150 percent on a declining balance and switched to straight-line at a time elected by the operator (effective life is generally assumed to be 7 years).

Permanent buildings may be depreciated, deduction calculated by dividing the undepreciated balance by the lesser of remaining life or 10 (effective life is the life of the mine).

Costs qualifying for depreciation or amortization may not be adjusted for inflation.

Accelerated depreciation allowed during investment recovery period if after tax cash-flow provides less than a 25 percent return on initial investment.

Loan interest is deductible for income tax purposes is not deductible as against the additional profits tax. There is a 3:1 debt/equity ratio restriction.

No depletion allowance.

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Taxes paid to local government, post-production exploration expenses, operating costs, depreciation, amortization, loan interest, royalty tax (a portion is deductible as an expense and a portion is treated as a tax credit), import duties on equipment, excise/sales tax on equipment and services, fees based on land area, stamp taxes, withholding tax on salaries and fees paid to foreign consultants.

### *Withholding taxes*

*Loan interest paid to foreign lenders:* None.

Dividends remitted abroad: 17 percent (not deductible for computing income tax liability).

Salaries and fees paid to foreign consultants: 15 percent.

Management fees paid to a non-resident by a resident or a permanent establishment in PNG: 17 percent

### *Tax incentives*

*Loss carry-forward:* Exploration expenditures can only be carried forward for 11 years, ordinary tax losses for 7 years.

Loss carry-back: None.

Tax holidays: None.

Tax credits: Given for the construction of approved infrastructure up to a value of 2 percent of assessable income from a mine in each year. 75 percent of royalty is also a tax credit.

### *Supplementary taxes*

*Excess profits type tax:* Additional profit tax applies to Special Mining Leases if after tax profitability reaches a trigger threshold. The trigger threshold occurs when the sum of accumulated positive cash-flows (excluding interest received) equals the sum of accumulated negative cash-flows (excluding interest paid), where both have been accumulated at an interest rate of 20 percent or US Prime plus 12 percent, as irrevocably chosen by the tax payer. Positive cash-flows are uniquely defined and are not the same as for income tax purposes. The applicable rate is  $(70-x)$  where  $x$  is the mining company tax rate current at the time (35 percent). This is levied on after tax cash-flow.

### **Indirect Taxes**

*Import duty on foreign equipment:* Representative rate 11 percent, only some items may be exempt (the import duty may be eliminated in 1998 and replaced by a value-added tax).

Sales tax: 3 percent (can be negotiated downward or made exempt). VAT has replaced all existing Provincial sales taxes with effect from March 31, 2000.

*VAT on equipment purchased abroad, on minerals sold abroad:* None at present. (Zero-rating of the mining sector under the new VAT regime which was expected to become effective from 1 July 1999)

### **Stamp duties and other land-based taxes and fees**

*Local development requirement:* Negotiated in Mining Development Contract, generally would include provision of basic infrastructure such as roads, schools, hospital, electricity supply, government office at mine site and housing for government officers.

Property/turnover tax: None.

Land-use fees during exploration: US\$ 0.64/sqkm/yr (K 3.00/subblock/yr).

Land-use fees during mining: Special Mining Lease US\$ 7.23/ha/yr (K 10/ha/yr).

Stamp tax: On undeveloped leases such as EL and transfer of information K 5,000 per transfer, for operating mines 5 percent of value of transfer.

### **Other provisions**

*Tax stabilisation:* None.

Requirement to use local goods and services: Opportunity must be given to local businesses to tender.

Local equity requirement: None.

Government equity requirement: The government has the right to take up to 30 percent equity at sunk cost of exploration at the time of granting the mining right (fully paid equity).

Ring fencing principles apply to Special Mining Leases (may not consolidate books) but not Mining Leases.

Exchange controls: No significant restrictions.

# Peru

## Income tax

### *Basic rate*

30 percent, no surcharge or surtax. The General Mining Law establishes that in order to make mining activity competitive at international levels, only dividends distributed by the mining company will be subject to taxation. In this sense, the company will pay Income Tax only on the distributed income. The non-distributed income must be applied up to a limit of 80 percent to the execution of new investment programs guaranteeing a rise in the mining activity's production level. These investment programs must be duly authorised by the Mining Bureau.

### *Special deductions for mineral sector*

*Feasibility studies:* May either be expensed in the year they were incurred or amortized as from the year the minimum production is achieved, over a period determined based on the life of the mine.

*Pre-production exploration costs:* May either be expensed in the year they were incurred or amortized as from the year the minimum production is achieved, over a period determined based on the life of the mine.

*Development expenses:* May either be expensed in the year they were incurred or amortized as from the year the minimum production is achieved, over a period determined based on the life of the mine.

### *Depreciation*

*Equipment depreciation:* 20 percent, 5 years straight-line (average rate - if a stabilisation agreement is entered into under Article 83 of the General Mining Law, a global 20 percent annual depreciation rate may be applied for).

Building depreciation: 3 percent (straight-line method).

Costs qualifying for depreciation or amortization may be adjusted for inflation. Accumulated amortization and accumulated depreciation are adjusted annually using coefficients determined by the Wholesale Price Index according to their origin date.

Depletion allowance: None.

### *Other deductions*

*The following types of costs may be deducted for computing net taxable income:* Post-production exploration expenses, operating costs, capital expenses, depreciation, amortization, loan interest, royalty, withholding tax on interest when contractually assumed by the debtor, import duties on equipment, property tax, asset tax, validity fees, payroll taxes.

### *Withholding taxes*

*Loan interest paid to foreign lenders:* 1 percent is applied to loans from abroad provided moneys are sent into Peru, lender is a juridical person and the maximum interest is prime +6 percent or LIBOR - 7

percent. 30 percent is applied on the excess over the maximum interest rate in this case and in all other cases of loans.

*Dividends remitted abroad:* None.

*Salaries and fees paid to foreign consultants:* 30 percent (if technical services are rendered in Peru, the tax rate is applied on gross income. If technical services are rendered partly abroad and partly in Peru, tax rate is applied on 40 percent deemed net profit (in practice, the effective rate is 12 percent). Services totally rendered abroad are not subject to withholding tax.

Royalties paid to non-residential: 30 percent

## *Tax incentives*

*Loss carry-forward:* 4 years.

*Loss carry-back:* None.

Tax holidays: Asset tax - No asset tax is applied to pre-operational mining companies until the second subsequent year after the one in which the first sale of goods takes place tax credits: a) the acquisition of goods and services abroad which are allowed as expenses or costs for income tax purposes and which are related to operations in respect to which value added tax has to be paid, grant the right to a tax credit; b) income tax paid abroad in respect to income of foreign source taxable in Peru, may be deducted against Peruvian income tax within certain limits.

Reinvestment: If a mining company reinvests its profits, the reinvested amount is not taxable, provided that the company has a reinvestment program.

Permanency of tax, foreign exchange and administrative rules.

Credit of internal taxes on production of products which are exported or whose price is subject to international quotations.

Deduction of investment in infrastructure for public services approved by the government.

Free remittance of dividends and other profits, foreign exchange and other financial resources.

Free marketing of production both in Peru and abroad.

## *Supplementary taxes*

*Excess profits type tax:* None.

## **Indirect Taxes**

*Import duty on foreign equipment:* Typical rate 12 percent (20 percent or 25 percent for some specific goods); most goods are subject, duty-free temporary admission granted for raw materials such as reactives (floculants and depressors) and intermediate goods used in export production and for non-transformable goods added to the final export product.

Sales tax: None.

VAT on purchased goods or services: 18 percent, VAT is levied on sales of goods and services, imports of goods, construction contracts, sales of real property by construction concerns, and services rendered abroad but used in Peru. Vat paid on acquiring goods and services is deducted as a tax credit in computing liability. In the case of imports, the rate is applied to the cost + insurance + freight value including ad valorem duty. For most mines, VAT on equipment and services is refundable, creditable or tradable in the form of credit certificates.

Time to claim back value added tax: 1-4 months.

## Stamp duties and other land-based taxes and fees

*Property tax:* Only applies to operations located in urban areas.

*Asset tax:* 0.5 percent of asset value to be paid to the central government (not paid by pre-operational companies). This is minimum tax that is only payable if it is greater than the income tax, which would otherwise be collected.

*Local development requirement:* None (Note: 20 percent "income tax" is sent by central government to provincial and local government, 40 percent of land fees are sent).

*Land-use fees:* A validity tax is calculated based on the area in milling concession from the moment the claim is filed. The fee is US\$2/ha/yr (small miners (US\$ 1 /ha/yr.). A penalty is applied if mines are not put into production within first 8 years.

*Stamp tax:* None.

## Other Provisions

*Tax stabilisation:* Title-holders of mining activities may enter into stabilisation agreements with the Government. Among other things, the agreements grant title-holders of the mining activity the right to freeze the total tax regime applicable to them. In addition, the agreements guarantee that the tax benefit granted by the law will remain valid. The agreements can be for a period of 10 or 15 years. 10 year - the investment must equal US\$2 million and be destined to either start up an operation with a production capacity of 350 to 5,000 Mt/day, or to increase by 100 percent the capacity of a mine whose capacity fits the aforementioned range. If the increase in capacity is less than 100 percent and more than 50 percent, the guarantee period is reduced proportionately. 15 year - this agreement targets production of at least 5,000 Mt/day and requires an investment of US\$20 million for a start-up operation, or US\$50 million to capitalise an existing operation.

*Requirement to use local goods and services:* None.

*Local equity requirement:* None.

*Government equity requirement:* None.

*Usually no ring fencing principles apply:* A mining company will have only one set of books regardless of how many operative mines it has. However, a different treatment may be applicable if one company has entered into more than one stabilisation agreement under the General Mining Law.

*Foreign external accounts are allowed for receipt of revenues.*

*Exchange controls:* No significant restrictions.

# Republic of South Africa

In South Africa, most minerals are owned by the landowner not the government. A royalty arrangement is often negotiated with the landowner to compensate the mineral-owning landowner for the exploitation of this resource. While in most of the other tax treatments a royalty paid to any private party has been disregarded, to insure better compatibility with the other study countries it has been assumed that the mine is exploiting minerals located on government land where the government has negotiated a royalty with the mining company.

## Income tax

### *Basic rate*

For mines except gold mines-35 percent. Gold mining income is taxed on a formula basis, in terms of which the tax rate rises with an increase in the ratio of profit (gross mining revenue less mining costs) to revenue (gross mining revenue). There are two formulae, the first applying where the gold mine has elected to be exempted from Secondary Tax on Companies (STC) and the second applying to all other gold mines. The formula takes the form of  $y = a - ab/x$ , where:  $y$  = the tax rate to be determined,  $x$  = the ratio of profit to revenue (as a percent),  $a$  = the marginal tax rate,  $b$  = the quantum of revenue that is free of tax (calculated as a percent of revenue); note, this a form of depletion allowance. The first formula is:  $y = 51 - 255/x$  (where  $a = 51$  and  $b = 5$ ) and the second is  $y = 43 - 215/x$  (where  $a = 51$  and  $b = 5$ ).

All companies (with the exception of gold mines subject to the first formula) must deduct STC on dividends paid by them. The flat tax rate is currently 35 percent and the STC rate is currently 12.5 percent. For companies subject to the flat tax rate of 35 percent, this results in an effective tax rate of 42.22 percent on distributed earnings (computed as  $35 + 12.5/112.5$  of the remaining 65).

### *Special deductions for mineral sector*

*Feasibility study cost:* Counted as mining capital expenditure, effectively expensed immediately.

*Pre-production exploration costs:* Counted as mining capital expenditure, effectively expensed immediately.

*Development costs:* Counted as mining capital expenditure, effectively expensed immediately.

### *Depreciation*

*Depreciation of equipment:* Expensed immediately.

*Depreciation of buildings:* Most are expensed immediately, exceptions are residential buildings, residential infrastructure, hospitals, schools, outward railway lines or pipelines for mined materials - all of which qualify for an effective 10 percent straight-line depreciation rate.

Costs qualifying for depreciation may not be adjusted for inflation.

### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration costs, operating costs, post-production costs, capital expenses, depreciation (where applicable) loan interest, royalty, import duties on equipment, export duties on minerals, VAT,

Excise/sales tax on equipment and services, property tax, fees based on land area, depletion (indirectly-see income tax description), payroll taxes, stamp taxes.

*Depletion allowance:* Not per se but some gold mines may elect a depletion type adjusted income tax (see above).

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* None.

Dividends remitted abroad: 12.5 percent STC (see income tax description) is payable on all dividends including dividends remitted abroad; not deductible for income tax purposes. However, for gold mines, the taxpayer may opt for a special income tax treatment, which, in effect, nullifies the effect of withholding tax on dividends.

Salaries and fees paid to foreign consultants: None.

### ***Tax incentives***

*Loss carry-forward:* Yes, no time limit; a loss caused by capital expenditure exceeding mining income can only be set off against mining income from the relevant mine. It cannot be set off against non-mining income, and (with limited exceptions) it cannot be set off against mining income from another mine.

Loss carry-back: None.

Tax holidays: None.

Tax credits: None.

### ***Supplementary taxes***

*Excess profits type tax:* In effect, the income tax approach to gold mines imposes a higher tax rate when profits rise relative to revenue.

## **Indirect Taxes**

*Import duty on foreign equipment:* None on complete units of plant; import duty is applied to spares and components- this is deductible for computing income subject to the income tax- typical rate is around 1 percent.

Sales tax: None.

VAT on equipment purchased locally: 14 percent.

VAT on equipment purchased abroad: 14 percent typical time period for VAT reimbursement 1 month.

VAT on minerals sold abroad: None (zero-rated).

General VAT treatment: where an output is exported it is zero-rated and the taxpayer may claim back VAT on all input costs.

## **Stamp duties and other land-based taxes and fees**

*Local development requirement:* None.

Real property tax: Unknown.

Land-use fees during exploration: None.

*Land-use fees during mining:* None.

Stamp tax: A minimal stamp tax is levied on transactions.

## **Other provisions**

*Tax stabilisation:* None.

Requirement to use local goods and services: None.

Local equity requirement: None.

Government equity requirement: None.

Ring fencing principles apply (cannot consolidate books).

Foreign external accounts allowed for receipt of revenues: If a local company operates the mine, revenues must be remitted to South Africa. Foreign currency accounts may be held, with special permission, if there are good reasons for doing so (for example, international marketing etc.).

Exchange controls: Minimal impact.

## United States of America

In the United States, no royalty is normally payable to the federal government. However, a royalty is often paid to the owner of a private mineral interest and this has been incorporated into the analysis.

The United States has some of the world's highest withholding taxes. To maintain compatibility with the other comparisons computations were done using the normal 30 percent rates but, in addition, a lower rate of 10 percent (typical of a rate found in some tax treaties) was also used and the results also reported.

One of the main fiscal measures used in the United States is the property tax. Unlike most nations where rates are very modest, rates imposed by states or local governments are quite high. For this reason, property taxes have been included in the computations.

### Income tax

#### *Basic rate*

*Federal rate:* progressive type based on taxable income- \$0 to 50,000-15 percent; \$50,000 to 75,000-25 percent, \$75,000 to 10,000,000-34 percent; > \$10,000,000-35 percent.

Federal AMT: a non-elective alternative minimum tax can apply, 20 percent rate on AMT income (taxable income increased by tax preference items and certain other adjustments - in excess of \$40,000, but only if AMT exceeds the regular corporate tax.

State income tax: Nevada-none; Arizona- 8 percent.

#### *Special deductions for mineral sector*

*Feasibility study cost:* Depleted over mine life.

Pre-production exploration costs: Depleted over life of the mine.

Development costs: typical: charged as capital expenditures and amortized straight-line over 10 years.

#### *Depreciation*

*Depreciation of equipment:* Varies according to class; most handled on a Modified Cost Recovery System in which property is assigned a class life which affects its depreciation period and method., how this is handled will depend on AMT implications, typical: 150 percent declining balance switching to straight-line over a ten year period.

Depreciation of buildings: see above, or depreciated using the straight- line method over a useful life of 39 years.

Costs qualifying for depreciation may not be adjusted for inflation.

#### *Other deductions*

*The following types of costs may be deducted for calculating net taxable income:* Post-production exploration costs, operating costs, post-production costs, capital expenses, depreciation, amortization, loan interest, import duties on equipment, US state and local income and real estate taxes, charitable contributions, losses that are not compensated for by insurance or otherwise, and worthless bad debts. Foreign taxes may be credited or deducted at the option of the taxpayer.

*Depletion allowance:* Yes, exhaustible natural deposits qualify for the deduction of a reasonable allowance for depletion; normally based either on taxpayer's cost (cost depletion) or as a specified percentage of gross income (percentage depletion). Can switch from one method to another on an annual basis. The percentage depletion rate for oil, gas and geo-thermal production is 15 percent.

### ***Withholding taxes***

*Loan interest paid to foreign lenders:* 30 percent to non-treaty countries, treaty countries vary mainly from 0 percent to 15 percent.

Dividends remitted abroad: 30 percent to non-treaty country, treaty countries vary mainly from 5 percent to 15 percent.

Salaries and fees paid to foreign consultants: 30 percent to non-treaty country, treaty countries around 10 percent.

### ***Tax incentives***

*Loss carry-forward:* Net-operating losses may be carried forward 15 years.

*Loss carry-back:* Net-operating losses may be carried back 3 years.

Tax holidays: None.

Tax credits: Generally none.

Tax stabilisation: None.

### ***Supplementary taxes***

*Excess profits type tax:* None.

## **Indirect Taxes**

*Import duty on foreign equipment:* rates vary by product and by country, however, in practice not applicable in most instances as equipment is available in the US or NAFTA zone.

Sales tax on mine equipment: Arizona-mine equipment is exempt; Nevada-if purchased locally, may be 2 percent state plus 4.5 to 5.0 percent county sales tax (typical input tax - 6 percent).

The United States does not have a VAT system. Almost all US states and municipalities impose taxes on retail sales of goods and services (sales taxes). The rates are in the range from 5 percent to 9 percent depending on the state and municipality where the transaction occurs.

## **Stamp duties and other land-based taxes and fees**

*Local development requirement:* None.

Real property tax: Tax on the ownership of real estate is not imposed at the federal level. The local municipalities and counties of the US states impose real estate taxes. Rates vary widely at local level; typical Arizona copper mine: tax base of 30 percent of value at rate 7.00 percent; typical Nevada gold mine: tax base at 35 percent of book value assets at 2.85 percent.

Land-use, fees during exploration: Generally none.

Land-use fees during mining: Generally none.

Stamp tax: None.

*Environmental tax:* Corporations with alternative minimum taxable income in excess of \$2million are liable for an environmental tax-0. 12 percent of income above the AMT income.

Petroleum and mineral taxes: A majority of the US states impose taxes on the severance or production of oil, gas, minerals, timber or other natural resources. The tax rates and the minerals and other resources subject to tax vary from state to state.

amount in excess of the social security maximum without limit.

## Other provisions

*Requirement to use local goods and services:* None.

*Local equity requirement:* Structuring of company can avoid any restrictions.

*Government equity requirement:* None.

No ring fencing principles apply (may consolidate books).

Foreign external accounts allowed for receipt of revenues: Yes.

Exchange controls: None.

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Sources: Otto, James M (1997) and International Bureau of Fiscal Documentation (2000).

Notes:

1. Excise tax is not levied in any sample country, as mining extraction is not a manufacturing activity.
2. Export of Gold-ore from China is not permitted.

### Annexure 4: Rates of Royalty in Respect of Minerals<sup>86</sup>: 1995 and 1997

Sl No	Mineral	Ore Grade	Rate of royalty (Rs per tonne)		Increase/decrease in 1997 over 1995 (Rs per tonne) (5-4)	Changed to <i>ad valorem</i>
			1995	1997		
1	2	3	4	5	6	7
1	Agate		73	73	0	
2	(i) Apatite	(a). Ore with more than 27 percent P <sub>2</sub> O <sub>5</sub>	70	80	10	
		(b). Ore with 20 percent P <sub>2</sub> O <sub>5</sub> to 27 percent P <sub>2</sub> O <sub>5</sub>	40	40	0	
		(c). Ore with less than 20 percent P <sub>2</sub> O <sub>5</sub>	70	19	-51	
	(ii) Rock Phosphate	(a). Above 30 percent P <sub>2</sub> O <sub>5</sub>	152	11 percent of sale price on <i>ad valorem</i> basis of above 25 percent P <sub>2</sub> O <sub>5</sub>		Yes
		(b). Above 25 percent P <sub>2</sub> O <sub>5</sub> and upto 30 percent	96	5 percent of sale price on <i>ad valorem</i> basis upto 25 percent P <sub>2</sub> O <sub>5</sub>		Yes
		(c). Above 20 percent P <sub>2</sub> O <sub>5</sub> and upto 25 percent P <sub>2</sub> O <sub>5</sub>	56			
		(d). Upto 20 percent P <sub>2</sub> O <sub>5</sub>	23			
	3	Asbestos	(a). Chrysotile	726	726	0
(b). Amphibole			28	31	3	
4	Barytes	(a). White (including snow white and super-snow-white)	54	5.5 percent of sale price on <i>ad valorem</i> basis		Yes
		(b). Off colour	30			
5	Bauxite	All grades	34	41	7	
6	Brown Ilmenite (Leucoxene)		113	2 percent of sale price on <i>ad valorem</i> basis		Yes
7	Cadmium		Rs 74 per unit percent of cadmium metal per tonne of ore and on <i>pro rata</i> basis	Rs 82 per unit percent of cadmium metal per tonne of ore and on <i>pro rata</i> basis	8	
8	Calcite		44	48	4	
9	China clay; also called Kaolin (including ball clay) and white shale	(a). Crude	14	18	4	
		(b). Processed (including washed)	62	68	6	

<sup>86</sup> Applicable in all States and Union Territories except the State of West Bengal.

..... Annexure 4 contd.

1	2	3	4	5	6	7
10	Chromite (both lumpy non Ore and concentrates)	(a). Containing 47 percent Cr <sub>2</sub> O <sub>3</sub> and above	255	7.5 percent of sale price on <i>ad valorem</i> basis for all grades		Yes
		(b). Containing less than 47 percent Cr <sub>2</sub> O <sub>3</sub> and more than 40 percent Cr <sub>2</sub> O <sub>3</sub>	135			
		(c). Containing 30 percent to 40 percent Cr <sub>2</sub> O <sub>3</sub>	90			
		(d). Containing less than 30 percent Cr <sub>2</sub> O <sub>3</sub>	23			
11	Copper-ore		Rs 17 per unit percent of copper metal contained per tonne of ore and on <i>pro rata</i> basis	0.7 percent of London Metal Exchange metal price on <i>ad valorem</i> basis chargeable per tonne of concentrate produced		Yes
12	Corundum		210	231	21	
13	Diamond		26 percent of the sale price at the pit's mouth	10 percent of sale price on <i>ad valorem</i> basis		
14	Diaspore		83			
15	Dolomite		25	28	3	
16	Felspar		15	17	2	
17	Fireclay (including plastic pipe, lithographic and natural pozzolanic clay)		13	17	4	
19	Fluorspar (also called fluorite)	(a). Containing 85 percent CaF <sub>2</sub> or more	270	2.5 percent of sale price on <i>ad valorem</i> basis		Yes
		(b). Containing 70 percent CaF <sub>2</sub> or more but less than 85 percent CaF <sub>2</sub>	170			
		(c). Containing 30 percent CaF <sub>2</sub> but less than 70 percent CaF <sub>2</sub>	113			
		(d). Containing 30 percent CaF <sub>2</sub> or less	45			
20	Garnet (Abrasive)		45	3 percent of sale price on <i>ad valorem</i> basis		Yes
21	Gold	(a). Primary: Rs 11 per one gram contained gold per tonne of ore and on <i>pro rata</i> basis		1.5 percent of sale price on <i>ad valorem</i> basis		Yes
		(b). By-product: Rs 10 per one gram gold		2.5 percent of sale price on <i>ad valorem</i> basis		Yes

..... Annexure 4 contd.

1	2	3	4	5	6	7
22	Graphite	(a). With 80 percent or more fixed carbon	185	205	20	
		(b). With 40 percent or more fixed carbon but less than 80 percent fixed carbon	100	110	10	
		(c). With 20 percent or more fixed carbon but less than 40 percent fixed carbon	40	45	5	
		(d). With less than 20 percent fixed carbon	25	28	3	
23	Gypsum		20	22	2	
24	Limelite		34	10 percent		
25	Iron	<b>(I). Ore lumps</b>				
		(a). With 65 percent Fe or more	18	21.5	3.5	
		(b). With 62 percent Fe or more but less than 65 percent Fe	10	12	2	
		(c). With 60 percent Fe or more but less than 62 percent Fe	7	8.5	1.5	
		(d). With less than 60 percent Fe				
		<b>(II). Fines (including natural fines produced incidental to mining &amp; sizing of ore)</b>				
		(a). With 65 percent Fe or more	13	15.5	2.5	
		(b). With 62 percent Fe or more but less than 65 percent Fe	7	8.5	1.5	
		(c). With less than 62 percent Fe	5	6	1	
		<b>(III). Concentrates prepared by beneficiation and/or concentration of low grade ore containing 40 percent Fe or less</b>	2.5	2.5	0	
26	Kyanite	(a). Containing 40 percent Al <sub>2</sub> O <sub>3</sub> and above	85	10 percent		
		(b). Containing less than 40 percent Al <sub>2</sub> O <sub>3</sub>	40			
27	Lead-ore		Rs 80 per unit of contained lead metal per tonne of ore and on <i>pro rata</i> basis	4 percent of London Metal Exchange metal price on <i>ad valorem</i> basis chargeable per tonne of concentrate produced		Yes
28	Limeshell (including calcareous sand and chalk)		25	10 percent		
29	Limestone (including lime kankar)	(a). LD Grade (less than 1.5 percent silica content)	50	50	0	
		(b). Others	25	32	7	

..... Annexure 4 contd.

1	2	3	4	5	6	7
30	Magnesite		25	3 percent of the sale price on <i>ad valorem</i> basis		Yes
31	Manganese-ore	(a). MnO <sub>2</sub> (containing 78 percent or more of MnO <sub>2</sub> and 4 percent or below Fe)	107	112	5	
		(b). 46 percent Mn and above	40	42	2	
		(c). 35 percent Mn and above but below 46 percent Mn	23	25	2	
		(d). 25 percent Mn and above but below 35 percent Mn	17	17	0	
		(e). Below 25 percent Mn	7	7	0	
		(f). Concentrate		2	2	
32	Mica	(a). Crude Mica	Rs 34 per 100 kg	4 percent of sale price on <i>ad valorem</i> basis		Yes
		(b). Waste and scrap Mica	Rs 14 per 100 kg			
33	Monazite		113	125	12	
34	Nickel-ore		Rs 2.50 per unit percent of contained nickel metal per tonne of ore and on <i>pro rata</i> basis	Rs 2.25 per unit percent of contained nickel metal per tonne of ore and on <i>pro rata</i> basis		
35	Ochre		10	11	1	
36	Precious and semi precious stones (except agate and diamond)		20 percent of the sale price at the pit's mouth	10 percent of the sale price at the pit's mouth	-10	
37	Pyrites		Rs 0.60 per unit percent of sulphur per tonne of ore and on <i>pro rata</i> basis	Rs 0.65 per unit percent of sulphur per tonne of ore and on <i>pro rata</i> basis	0.05	
38	Pyrophyllite		22	24	2	
39	Quartz, Silica sand and moulding sand and Quartzite		12	13	1	
40	Rutile		225	2 percent of sale price on <i>ad valorem</i> basis		Yes
41	Sand for stowing		0.4	3	2.6	
42	Selenite		50	50	0	
43	Sillimanite		90	2.5 percent of sale price on <i>ad valorem</i> basis		Yes
44	Silver		Rs 340 per kg of metal	5 percent of sale price on <i>ad valorem</i> basis		Yes
45	Slate		40	40	0	

..... Annexure 4 contd.

1	2	3	4	5	6	7
46	Talc, Steatite and Soapstone	(a). Insecticide grade	23	25	2	
		(b). Other than insecticide grade	56	65	9	
47	Tungsten		Rs 33 per unit percent of contained WO <sub>3</sub> per tonne of ore and <i>pro rata</i> basis	Rs 20 per unit percent of contained WO <sub>3</sub> per tonne of ore and <i>pro rata</i> basis	-13	
48	Uranium		(a) Rs 3.50 for dry ore with U <sub>3</sub> O <sub>8</sub> content of 0.05 percent with <i>pro rata</i> increase/decrease	(a) Rs 5 for dry ore with U <sub>3</sub> O <sub>8</sub> content of 0.05 percent with <i>pro rata</i> increase/decrease	1.5	
			(b) Re. 1.00 per metric tonne of ore for 0.01 percent increase/decrease	(b) Re. 1.5 per metric tonne of ore for 0.01 percent increase/decrease	0.5	
49	Vermiculite		28	25	-3	
50	Wollastonite		80	10 percent of sale price at the pit's mouth		
51	Zinc-ore		Rs 16 per unit percent of zinc metal contained per tonne of ore and on <i>pro rata</i> basis	3.5 percent of London Metal Exchange metal price on <i>ad valorem</i> basis chargeable per tonne of concentrate produced		Yes
52	Zircon		180	2 percent of sale price at the pit's mouth		Yes
53	All other minerals not here-in-before specified		12 percent of sale price at the pit's mouth	10 percent of sale price on <i>ad valorem</i> basis	-2	

Source: Government of India (1998), Ministry of Steel and Mines, Indian Bureau of Mines, Mineral Economics Division, *Mineral Royalties*, July.

Note: Explanation: 1. For the purpose of this item, the specification of each grade of coal shall be as prescribed under clause 3 of the Colliery Control Order, 1945.

(a) The rates of royalty for the state of West Bengal in respect of the minerals except the mineral specified against item number 11 shall remain the same as specified in the notification of the Government of India in the Ministry of Steel and Mines (Department of Mines) number GSR 458(E), dated the 5th May, 1987.

(b) The Second Schedule was amended earlier vide notification Nos.-

(1) GSR No. 175(E) dated March 31, 1975; (2) GSR No. 407(E) dated July 14, 1975; (3) GSR No. 584(E) dated December 13, 1991; (12) GSR No. 100(E) dated February 17, 1992; (13) GSR No. 748(E) dated October 11, 1994 and (14) GSR No. 27(E) dated January 13, 1995.

## Annexure 5: Rates of Dead Rent: 1997<sup>87</sup>

The rates of dead rent applicable to the leases other than those obtained for supply of raw material to the industry owned by the concerned lessee

(Rates of Dead Rent in Rs per hectare per annum)

Category of the mining lease	I year of lease	II to V year of the lease	VI to X year of the lease	XI year of the lease and onward
(a). Lease area upto 50 hectares	Nil (Nil)	60 (30)	120 (60)	180 (90)
(b). Lease area above 50 hectares but not exceeding 100 hectares	Nil (Nil)	80 (40)	160 (80)	240 (120)
(c). Lease area above 100 hectares	Nil (Nil)	120 (60)	200 (100)	300 (150)

Source: Government of India (1998), Ministry of Steel and Mines, Indian Bureau of Mines, Mineral Economics Division. *Mineral Royalties*, July.

**Note:** Figures in bracket relate to 1995 rates. The rates in 1997 have been doubled.

In the case of lease obtained for the supply of raw material for the industry owned by the concerned lessee, the rates of dead rent would be applicable as given in respect of item number (a) above, irrespective of the lease area.

For the State of West Bengal the rate would remain the same as of May 5, 1987.

The Third schedule was amended earlier, vide Notification Nos:

GSR No. 458 (E) dated May 5, 1987.

GSR No. 856 (E) dated October 14, 1987.

<sup>87</sup> Applicable in all States and Union Territories except the State of West Bengal.

## Annexure 6: Tax Assignments of Rural Local Bodies in Sample States in India

State	District level <i>Panchayat</i> (DP)	Circle level <i>Panchayat</i> (CP)	<i>Gram Panchayat</i> (GP)
<i>Andhra Pradesh</i>			
	No specific tax assigned	Surcharge on any tax imposed by the GP	a. A duty on transfers of property in the form of a surcharge on the duty imposed by the Indian Stamp Act 1899, at a rate not exceeding 5% on the amount for sale as set forth in the instrument or market value of the property, which is the subject matter of sale or exchange. b. Vehicle tax. c. Land cess at the rate of 2% on the annual rental value of occupied land. d. Duty in the form of a surcharge or seigniorage fee from persons permitted to quarry in the village, on materials including minor minerals other than major minerals. e. As directed by the Government every GP may levy in respect of land within its jurisdiction, a surcharge at rate not exceeding 25% on land cess, local cess and education tax.
<i>Bihar</i>			
	a. Lighting rate	a. Lighting rate	a. Tax on occupants of holdings.
	b. Water rate	b. Water rate	b. Tax on profession, trades, callings and employments. c. Water tax
<i>Gujarat</i> <sup>88</sup>			
	a. Special sanitary cess or water rate at a rate not exceeding 20% of water rate leviable under the provision of Bombay Irrigation Act, 1879.	a. Sanitary cess or water rate.	a. Tax on buildings and land
	b. Local cess leviable on lands.	b. Taluk Panchayat may impose any tax which are leviable by a GP at a rate not exceeding 15% of the rate of the tax or fee actually levied by the GP.	b. Octroi on animals or goods brought within the village for use.
	c. Power to increase the rate of stamp duty, not exceeding 20% of the rate of the duty.	c. Power to increase the stamp duty to an extent not exceeding 15% of the rate of the duty.	c. Tax on vehicles.
	d. District Panchayat may impose any tax which are leviable by a	d. Education cess.	d. A general water rate.

<sup>88</sup> Tax on profession levied by DP to be collected by (GP).

If GP fails to take adequate steps to increase its income to the required extent the CP may require GP to levy tax. The State Government is empowered to suspend or rescind any of the imposts (Section 200 (81)).

	GP at a rate not exceeding 10% of the rate of the tax or fee actually levied by the GP.		
			e. A special water rate for water supplied by the Panchayat through pipes.
			f. A fee for the supply of water from wells and tanks vesting in it. for purposes other than domestic use and for cattle.
			g. A lighting tax.
			h. 25% cess on land revenue.
<i>Madhya Pradesh</i> <sup>89</sup>			
	No specific tax assigned.	a. Fees on any license or permission granted by the JP for use and occupation of lands or other properties.	a. Property tax on buildings, land or both.
			b. Light tax
<i>Maharashtra</i>			
	a. Every Zilla Parishad shall be competent to make recommendations to the licensing authorities concerned for prospecting license or mining lease and also for concession regarding exploitation of minor minerals in such scheduled areas.		a. General water rates on buildings and land.
	b. A general water tax.		b. Special water rate for water supplied by Panchayat through pipes.
	c. Special tax on land and buildings.		c. Lighting tax.
	d. A tax on lands benefited by development schemes undertaken by a Parishad.		d. Tax on lands and buildings.
	e. Special water tax.		e. Octroi. with the sanction of the State Government.
	f. Stamp duty on the transfer of immovable property.		f. A tax on any trade (other than agriculture) which is carried on with the help of machinery run by steam, oil, electric power or manual labour.
	g. Cess on water rate not exceeding 20% of water rate leviable under the provision of Bombay Irrigation Act.		
	h. The State Government can levy cess on lands, when minerals therein belong to and royalty is payable to Government. With effect from 13 <sup>th</sup> July 1973, such cess is levied and collected at the rate of 10% in case of major minerals, and 5% in case of minor minerals of every sum payable on account of royalty.		
	i. Cess not exceeding 70% on every sum payable as ordinary land revenue.		

<sup>89</sup> CP shall impose tax specified in Schedule I and II with the previous approval of DP.

GP shall impose tax specified in Schedule I and II with the previous approval of CP. State Government may assign to Panchayats such taxes collected by state Government.

	j. Local cess leviable in respect of land.		
<i>Orissa</i>			
	No specific tax assigned	No specific tax assigned	a. Vehicle tax.
			b. Lighting rate.
			c. Water rate.
			d. Drainage tax at rates subject to a maximum of Rs.3 per year.
			d. Any other tax which GP imposes by law.
<i>Rajasthan</i>			
	a. 5% stamp duty on sale of property.	a. Education cess	a. Tax on buildings.
	b. Water rate.		b. Vehicle tax.
			c. Tax on supply of drinking water.
			d. Octroi on animals or goods.
			e. Any other tax which the state legislature has under the constitution power to impose in the State.
<i>Uttar Pradesh</i>			
	a. Tax on circumstances and property.	a. Water tax.	a. Tax on land.
	b. Any other taxes which the State legislature has the power to impose.	b. Electricity tax.	b. Water rate.
	c. Charges for the use or occupation of any immovable property	c. Any other taxes which the State legislature has the power to impose.	c. Tax for cleaning and lighting of streets and sanitation.
		d. Charges for the use or occupation of any immovable property.	d. Tax on animals or vehicles payable by the respective owners not exceeding Rs.3 per animal per annum and Rs.6 per vehicle per annum.
			e. Any other taxes which the State legislature has the power to impose.

Source: MA Oommen (1995) and Panchayati Raj Acts of respective States.

## Annexure 7: Questionnaire Canvassed among Selected Mineral Companies



NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY  
18/2, Satsang Vihar Marg, Special Institutional Area  
NEW DELHI - 110 067

### Study on Structure and Impact of Taxation on Mineral Sector in India

(Project sponsored by the Government of India, Ministry of Steel and Mines,  
Department of Mines)

#### Questionnaire

1. Name and address of the company and year of commencement of business.

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2. Details of mines owned by the company.

		Mine 1	Mine 2	Mine 3
Location of the mine				
1998-99	Area			
	Total reserves (tonnes)			
	Mining lease period			
1997-98	Area			
	Total reserves (tonnes)			
	Mining lease period			

Note: Please mark (\*) the mines located in backward areas. Also mark (#) the mines closed during the period.

3. What are the business activities of the company? Please comment on extraction, processing semi-processing of minerals.

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4. What is the Government's share in total capital in mineral activity?

Year	1998-99	1997-98
Total capital (Rs)		
Government capital (Rs)		
Percentage of Government capital		

(a) Annual turnover of the company mineral-wise.

Name and grade of mineral / Year	1998-99 (Rs)	1997-98 (Rs)
1		
2		
3		
4		
5		

(b) Production profile of minerals.

Year / Production Mineral (specify name and grade)	1998-99		1997-98	
	Quantity (tonnes)	Value (Rs)	Quantity (tonnes)	Value (Rs)
1				
2				
3				
4				
5				

© Cost of production of minerals in all the mines taking the company as one unit.

Year	1998-99 (Rs)	1997-98 (Rs)
Labour cost		
Input cost		
Mine development cost		
Infrastructure development cost		
Other costs		
<b>Total Cost</b>		

(d) Stock of capital and its addition every year in mineral activity.

Year/ Capital stock	1998-99	1997-98
Capital stock		
Addition		
<b>Total</b>		

**Details of taxes paid on minerals / apportioned to minerals.**

Tax/Year	Point of levy	1998-99			1997-98		
		Tax rate (%)	Tax base	Tax paid (Rs)	Tax rate (%)	Tax base	Tax paid (Rs)
<b>A. Central Government taxes/levies</b>							
<b>I. Direct taxes</b>							
C-1	Corporate income tax						
C-2	Minimum alternate tax (MAT)						
C-3	Tax on capital gains						
C-4	Withholding tax						
	- Dividends						
	- Interest						
	- Royalties						
	- Technical service fees						
	- Other taxable income						
C-5	Income tax incentives, if any						
	- Availability of tax holiday						
	- Depreciation allowance						
	- Deduction in respect of export turnover						
C-6	Any other levy						
<b>II. Indirect taxes</b>							
C-7	Union excise duties (if applicable)						
C-8	Custom duties						
<b>B. State Government taxes/levies</b>							
S-1	Sales taxes						
	(a). Central sales tax						
	(b). General sales tax						
	- GST paid on inputs /purchase tax						
	- GST paid on direct consumption						
S-2	Land tax						
S-3	Road tax						
S-4	Stamp duty on transfer of assets						
S-5	State water pollution consent fee						
S-6	Welfare development fund/ Local area Development charges						

Tax/Year	Point of levy	1998-99			1997-98		
		Tax rate (%)	Tax base	Tax paid (Rs)	Tax rate (%)	Tax base	Tax paid (Rs)
S-7	State air pollution Consent fee						
S-8	Local taxes, if any.						
S-9	Any other State levy						
<b>C. Local Government taxes/levies</b>							
L-1	Toll tax						
L-2	Entry tax						
L-3	Octroi						
L-4	Real estate taxes (property tax)						
L-5	Village panchayat levies (if any)						
L-6	Municipal tax (if any)						
<b>D. Other levies as per MMRD Act, 1957</b>							
O-1	Dead rent						
O-2	Royalties						
O-3	Surface rent						
O-4	Water rate						
O-5	Prospecting fee, if any						
O-6	Cesses assessable on land (specified by State Government under lease deed document).						
O-7	Annual compensation paid, if any, to the land owner other than the State Government..						
O-8	Other expenditure in obtaining mining lease (please specify).						

5. What are the levies and charges made by the company for environmental protection and afforestation Compensation? Kindly specify.

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6. Concessions or grants (if any) received from Centre / State Governments.

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7. Concession treatment of minerals as raw materials under State taxes.

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## **Annexure 8: Trends in Mineral Production in India**

India is endowed with significant mineral resources. Out of the 87 minerals extracted in the country, 4 are fuel minerals, 11 metallic minerals, 50 nonmetallic minerals and 22 minor minerals (mostly building materials). The major mineral-producing States are Andhra Pradesh, Assam, Bihar, Gujarat, Madhya Pradesh, Orissa, Rajasthan, and West Bengal, with Assam, Bihar, and West Bengal dominating in fuel minerals.

### **Contribution to Gross Domestic Product (GDP)**

GDP (at current prices at factor cost) generated by the mining and quarrying has steadily gone up from Rs 1,887 crore in 1981 to Rs 37,970 crore in 1998-99. The share of mining and quarrying in GDP (at factor cost) also rose from 1.5 percent in 1981 to 2.1 percent in 1997.

### **Production Profile**

The total value of mineral production (excluding atomic minerals) was about Rs 37,970 crore in 1998-99. Despite the decline in the number of mines (Table A 1), the value of output of metallic minerals grew at about 11 percent per annum on an average during the last decade (Table A 2 and Table A 3). Although value of production at current prices shows a rising trend, there is reason to believe that much of the increase could be due to inflation. The particular minerals contributing to the growth have been iron-ore (14.8 percent), manganese-ore (9.5 percent), chromite (8.1 percent) and bauxite (9.3 percent). Since the year 1988-89, iron-ore maintained a share of above 45 percent in total metallic mineral production (Table A 4). The non-metallic sector witnessed a growth of 11.9 percent during the decade of the 1990s. Among these minerals, high growth rates were achieved by vermiculite, diamond, steatite, phosphorite, feldspar and limestone.

### **Pattern of Production**

#### *(a) In Public and Private Sectors*

The public sector is the sole producer of diamond, gold, pyrites, copper, lead and zinc concentrates and is almost a monopolist producer of gypsum and sillimanite. Private sector participates in the production of other metallic minerals and of other non-metallic minerals is given in Table A 5 and Table A 6.

#### *(b) In Captive and Non-captive Mines*

The production of copper, gold, lead & zinc and pyrites is in captive mines and that of mica, feldspar, asbestos, sillimanite and diamond is confined to non-captive mines (Table A 7 and Table A 8).

### **Exports and Imports**

Indigenous production of minerals is insufficient for meeting the domestic demand of some of the minerals. Taken together, the country is a net exporter in 1997-98 netting an amount of Rs 1,214 crore. Net exports worth Rs 16,572 crore were mainly of diamonds, iron-ore and chromite, whereas net imports worth Rs 15,358 crore were in gold, silver, apatite and rock phosphate, and pyrites (Table A 9). Besides these, there are other minerals that have large untapped potential for export. Since most of these minerals are low value, bulk materials they require special attention in regard to their handling, movement and freight charges. In the export of any mineral, railway freight and port charges together consume 60- 70 percent of their f.o.b realization. If mineral exports have been dwindling, it is, to a great extent, because of the ever-rising rail and port charges coupled with archaic handling facilities at ports and the lack of Government incentives.

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## STATISTICAL APPENDIX

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**Table A 1: Number of mines in India: 1951 to 1998-99**

Mineral	1951	1961	1971	1981	1986	1988	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
<b>All minerals<sup>1</sup></b>	<b>2,703</b>	<b>3,174</b>	<b>3,758</b>	<b>3,928</b>	<b>4,425</b>	<b>4,544</b>	<b>4,502</b>	<b>4,362</b>	<b>4,300</b>	<b>4,033</b>	<b>3,917</b>	<b>3,837</b>	<b>3,746</b>	<b>3,635</b>	<b>3,527</b>	<b>2,768</b>	<b>2,602</b>
<b>Fuels</b>	<b>893</b>	<b>851</b>	<b>781</b>	<b>462</b>	<b>501</b>	<b>535</b>	<b>506</b>	<b>509</b>	<b>525</b>	<b>528</b>	<b>543</b>	<b>562</b>	<b>563</b>	<b>565</b>	<b>578</b>	<b>578</b>	na
Coal	893	848	779	460	497	531	502	505	521	524	539	558	559	561	574	574	na
Lignite	..	3	2	2	4	4	4	4	4	4	4	4	4	4	4	4	na
<b>Metallic Minerals</b>	<b>306</b>	<b>693</b>	<b>871</b>	<b>732</b>	<b>776</b>	<b>804</b>	<b>784</b>	<b>742</b>	<b>758</b>	<b>740</b>	<b>716</b>	<b>694</b>	<b>690</b>	<b>696</b>	<b>682</b>	<b>600</b>	<b>574</b>
Bauxite	11	31	74	93	166	193	198	196	209	208	197	198	189	197	194	174	155
Chromite	17	13	13	19	22	22	22	23	22	22	23	21	22	23	23	23	22
Copper-ore	4	4	6	13	14	14	14	14	14	14	15	15	13	13	12	11	11
Gold	6	4	3	5	6	6	7	6	8	8	8	8	8	8	7	8	7
Iron-ore	34	225	393	312	330	326	327	301	290	279	275	260	276	273	264	226	220
Lead & Zinc	..	..	2	6	1	6	6	6	7	8	8	8	8	8	8	8	8
Manganese-ore	234	416	373	271	206	206	206	192	204	197	186	180	171	171	171	149	150
Others	..	..	7	13	26	31	4	4	4	4	4	4	3	3	3	1	na
<b>Non-metallic Minerals</b>	<b>1,504</b>	<b>1,630</b>	<b>2,106</b>	<b>2,734</b>	<b>3,148</b>	<b>3,205</b>	<b>3,212</b>	<b>3,111</b>	<b>3,017</b>	<b>2,765</b>	<b>2,658</b>	<b>2,579</b>	<b>2,493</b>	<b>2,374</b>	<b>2,267</b>	<b>2,168</b>	<b>2,028</b>
Apatite	..	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2
Asbestos	19	22	55	72	82	74	74	76	72	64	63	63	55	51	49	38	35
Barytes	9	59	80	60	52	51	51	45	43	32	39	32	29	21	19	20	20
Diamond	3	5	3	2	0	2	2	2	2	2	2	2	2	2	2	2	2
Dolomite	1	22	69	118	144	139	141	128	135	133	125	130	119	121	129	145	126
Felspar	7	9	65	85	138	116	117	120	110	83	85	78	60	58	53	57	60
Fireclay	18	57	149	247	247	239	232	212	184	154	148	135	143	136	121	121	95
Gypsum	10	35	85	58	79	71	71	53	54	51	47	49	41	42	43	44	45
Kaolin	37	60	114	164	225	230	229	206	212	183	185	182	173	177	183	166	164
Kyanite	14	11	18	14	13	15	14	15	15	12	10	8	7	7	7	4	3
Limestone	50	175	303	445	633	716	690	706	666	668	642	671	664	628	601	545	525
Magnesite	7	14	13	20	18	23	22	21	19	19	20	17	17	17	17	15	18
Mica (crude)	1,160	808	520	294	165	150	148	145	137	134	127	112	95	76	66	58	55
Phosphorite	..	..	3	10	11	13	13	13	13	12	11	12	12	12	11	10	9
Pyrites	..	4	2	1	1	1	1	2	1	2	2	2	2	2	1	1	1
Saltrock	2	2	2	2	1	1	1	1	1	2	2	2	2	1	1	1	1
Sillimanite	1	1	6	9	10	10	10	9	7	7	7	4	4	4	4	4	4
Steatite	28	66	132	264	278	252	252	239	220	226	215	220	209	202	182	174	162
Vermiculite	..	1	6	15	8	14	13	12	9	9	9	8	10	10	7	7	6
Others	138	277	479	857	1,039	1,086	1,129	1,104	1,115	970	917	850	847	805	769	714	na

Sources:

(a). 1951-90 figures from Statistical Abstract 1999,

(b). 1990-91 to 1992-93 figures from Statistical Abstract 1997,

(c). 1993-94 to 1996-97 figures from Statistical Abstract 1998,

(d). 1997-98 to 1998-99 figures from Monthly Statistics of Mineral Production, March 1999, Government of India, Ministry of Steel and Mines, Indian Bureau of Mines

Note: 1: "All minerals" excludes data for atomic and minor minerals, natural gas and petroleum (crude).

**Table A 2: Production of minerals in India: 1990-99**

(In thousand tonnes)

Items/Years	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	Annual growth rate (%)
<b>Fuels</b>										
Coal	211,616	229,354	241,998	248,689	257,770	273,415	286,080	296,656	293,585	4.27
Lignite	14,073	15,811	16,618	18,008	19,256	22,144	22,540	23,052	23,009	6.74
Natural Gas (mln cubic metre)	12,869	14,441	16,116	16,340	17,339	20,916	21,262	19,703	19,522	5.83
Petroleum	33,021	30,346	26,950	27,027	32,239	34,517	32,900	33,772	32,893	1.59
<b>Metallic Minerals</b>										
Bauxite	4,984	5,013	5,145	5,535	4,913	3,902	6,036	6,112	6,452	2.70
Chromite	940	1,082	1,071	1,065	1,132	1,700	1,456	1,515	1,404	6.36
Copper-ore	5,255	5,207	5,210	5,009	4,767	4,737	3,896	4,500	4,253	-3.15
Gold (kgs)	2,207	2,041	1,850	2,075	2,373	2,036	2,710	2,636	2,463	3.31
Iron-ore	55,591	58,534	57,495	59,645	64,507	67,418	68,159	75,723	70,683	3.73
Lead concentrates	44	53	61	54	53	62	60	61	64	3.37
Manganese-ore	1,492	1,640	1,903	1,696	1,681	1,837	1,871	1,642	1,526	0.23
Zinc concentrates	137	253	301	290	269	289	277	293	350	6.93
<b>Non-metallic Minerals</b>										
Apatite	16	17	17	12	11	11	9	7	14	-7.13
Asbestos	38	39	42	42	28	24	27	26	20	-8.44
Barytes	509	635	481	526	531	443	382	453	659	-1.02
Diamond (carats)	17,976	18,213	18,017	19,222	25,518	29,931	31,836	30,994	34,579	10.14
Dolomite	2,648	2,949	3,232	3,443	3,419	3,718	3,400	3,003	2,908	1.02
Felspar	74	69	74	87	92	107	102	112	107	6.46
Fireclay	536	531	462	428	427	453	407	450	361	-3.72
Gypsum	1,589	1,582	1,802	1,686	1,646	2,195	2,210	2,196	2,327	5.44
Kaolin (natural) <sup>1</sup>	615	699	532	506	552	643	492	624	539	-1.29
Kyanite	37	20	10	11	5	9	7	6	6	-17.76
Limestone	70,125	77,185	80,206	83,159	93,207	96,832	104,029	110,441	109,835	6.08
Magnesite	529	531	541	375	334	345	378	374	351	-5.66
Mica crude	4	4	3	2	2	2	2	2	1	-10.93
Phosphorite	668	586	690	1,036	1,097	1,309	1,341	1,219	1,609	12.90
Pyrites	106	131	130	115	118	141	144	125	89	-0.69
Saltrock	3	3	3	3	3	2	3	3	3	-2.57
Sillimanite	13	14	20	12	10	9	9	12	12	-4.24
Steatite	431	452	414	421	409	541	513	475	456	1.77
Vermiculite	2	2	1	2	1	2	4	5	4	13.76

Source: Same as in Table A1

Note: 1: Relates to the mineral production and consumed as such

**Table A 3: Mineral-wise value of production at current prices: 1990-99**

(Rs crore)										
Items/Years	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	growth rate (%)
<b>All Minerals<sup>1</sup></b>	19,027.2	20,578.6	23,283.9	27,040.1	30,736.3	34,001.9	36,855.1	38,920.3	37,969.7	10.2
<b>Fuels</b>	16,041.8	16,816.9	19,123.5	22,502.2	25,525.8	28,062.8	30,537.1	34,206.2	33,272.3	10.9
Coal	5,918.8	6,946.8	8,812.4	10,446.3	11,352.2	12,200.6	15,129.6	17,724.2	17,171.4	14.9
Lignite	358.9	417.6	503.8	606.2	738.5	888.1	895.8	955.8	927.3	13.9
Natural Gas	1,832.5	2,163.5	2,691.4	2,884.9	3,218.6	4,035.6	4,085.7	3,810.7	3,763.1	10.1
Petroleum	7,931.6	7,289.1	7,115.8	8,564.9	10,216.5	10,938.4	10,426.0	11,715.5	11,410.6	6.7
<b>Metallic Minerals</b>	1,297.3	1,633.7	1,941.6	2,055.9	2,211.4	2,588.3	2,710.9	3,138.5	3,046.9	11.0
Bauxite	60.4	70.1	70.9	81.0	89.5	97.7	114.1	110.4	123.1	9.3
Chromite	155.8	205.7	205.7	228.3	252.2	356.8	290.6	304.6	281.9	8.1
Copper-ore	169.9	218.1	234.7	214.9	208.9	240.1	241.6	256.6	214.6	2.7
Gold	85.3	84.9	98.6	109.2	114.1	120.5	154.7	136.7	130.3	7.1
Iron-ore	587.3	749.9	908.8	1039.4	1,186.2	1,355.3	1,479.6	1,819.7	1,757.2	14.8
Lead concentrate	37.3	41.2	53.6	46.9	45.5	59.7	57.4	68.8	68.3	7.5
Manganese-ore	75.2	103.9	154.8	134.9	145.1	159.9	176.1	177.8	176.1	9.5
Zinc concentrate	100.5	133.4	182.6	165.4	139.7	172.9	168.5	223.9	254.2	9.0
<b>Non-metallic minerals<sup>2</sup></b>	666.3	800.8	928.8	999.7	1,143.1	1,345.8	1,393.3	1,575.5	1,650.5	11.9
Apatite	0.4	0.9	0.9	1.1	1.0	1.1	1.1	0.8	1.7	10.1
Asbestos	1.7	2.0	2.6	2.2	1.9	2.2	2.1	1.8	1.9	-0.4
Barytes	20.3	22.8	15.1	20.9	23.5	25.0	21.5	32.0	37.0	7.5
Diamond	6.2	10.8	9.4	10.8	11.5	17.3	22.0	20.9	19.1	15.5
Dolomite	27.9	33.7	54.4	62.9	60.3	70.8	67.8	73.2	72.3	11.8
Felspar	0.7	0.7	0.7	0.9	1.1	1.5	1.4	1.5	1.3	12.1
Fireclay	3.6	3.9	3.8	3.9	3.9	4.4	3.9	4.9	3.9	2.1
Gypsum	14.5	16.3	23.5	22.4	21.8	29.1	29.7	31.3	31.3	10.1
Kaolin (natural) <sup>3</sup>	3.7	4.8	5.0	5.7	4.9	6.5	5.5	7.4	7.2	7.3
Kyanite	3.7	1.7	0.7	0.5	0.2	0.6	0.4	0.3	0.3	-23.1
Limestone	415.9	518.1	592.7	621.2	736.2	854.8	891.1	1,036.9	1,122.6	12.7
Magnesite	29.8	31.8	35.6	26.7	25.6	31.0	34.9	37.9	35.6	2.3
Mica (crude)	3.2	3.0	2.4	2.3	2.6	2.7	2.7	2.4	2.3	-2.8
Phosphorite	53.7	59.1	76.5	102.0	109.9	134.5	137.2	148.5	157.3	15.2
Pyrites	4.2	5.7	5.7	5.0	5.1	6.9	7.0	7.9	8.4	7.7
Saltrock	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	6.7
Sillimanite	2.4	2.3	2.8	2.4	2.4	2.2	0.3	4.5	4.5	-0.3
Steatite	11.8	13.6	14.0	17.4	18.8	31.0	30.5	31.3	27.2	14.2
Vermiculite	0.1	0.1	0.2	0.2	0.2	0.3	0.7	0.3	0.4	21.1

Source: Same as in Table A 1.

Note: 1: Excludes the value output of 'atomic minerals'

2: Excludes the value of atomic minerals. The total will not tally with that of the details, which are for selected items only.

3: Relates to the mineral production and consumed as such.

**Table A 4: Share of value of production of minerals in India: 1990-99**

(In percent)

Items/Years	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
<b><i>In aggregate</i></b>									
All Minerals <sup>1</sup>	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Fuels	84.31	81.72	82.13	83.22	83.05	82.53	82.86	87.89	87.63
Non-Fuel Minerals	10.32	11.83	12.33	11.30	10.91	11.57	11.14	12.11	12.37
Metallic Minerals	6.82	7.94	8.34	7.60	7.19	7.61	7.36	8.06	8.02
Non-metallic minerals	3.50	3.89	3.99	3.70	3.72	3.96	3.78	4.05	4.35
<b><i>In respective sub-groups</i></b>									
Metallic Minerals	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bauxite	4.68	4.29	3.65	3.94	4.05	3.77	4.21	3.52	4.04
Chromite	12.01	12.59	10.60	11.11	11.41	13.79	10.72	9.70	9.25
Copper-ore	13.10	13.35	12.09	10.46	9.45	9.28	8.91	8.18	7.04
Gold	6.58	5.20	5.08	5.31	5.16	4.66	5.71	4.36	4.28
Iron-ore	45.27	45.91	46.81	50.56	53.64	52.36	54.58	57.98	57.67
Lead concentrate	2.87	2.52	2.76	2.28	2.06	2.30	2.12	2.19	2.24
Manganese-ore	5.80	6.36	7.97	6.56	6.56	6.18	6.49	5.66	5.78
Zinc concentrate	7.74	8.16	9.41	8.05	6.32	6.68	6.21	7.13	8.34
Others	1.94	1.62	1.64	1.74	1.37	0.98	1.05	1.27	1.35
Non-metallic Minerals <sup>2</sup>	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Apatite	0.06	0.11	0.10	0.11	0.09	0.09	0.08	0.05	0.10
Asbestos	0.25	0.25	0.28	0.22	0.17	0.16	0.15	0.12	0.11
Barytes	3.04	2.84	1.62	2.09	2.06	1.86	1.54	2.03	2.24
Diamond	0.93	1.35	1.01	1.08	1.01	1.28	1.58	1.33	1.16
Dolomite	4.18	4.21	5.85	6.29	5.28	5.26	4.86	4.64	4.38
Felspar	0.10	0.08	0.07	0.09	0.10	0.11	0.10	0.10	0.08
Fireclay	0.54	0.49	0.41	0.39	0.34	0.32	0.28	0.31	0.24
Gypsum	2.17	2.04	2.53	2.24	1.91	2.16	2.13	1.99	1.90
Kaolin <sup>3</sup>	0.56	0.60	0.54	0.57	0.43	0.48	0.40	0.47	0.44
Kyanite	0.56	0.21	0.08	0.05	0.02	0.04	0.03	0.02	0.02
Limestone	62.42	64.70	63.82	62.14	64.40	63.52	63.95	65.82	68.02
Magnesite	4.48	3.97	3.83	2.67	2.24	2.30	2.50	2.41	2.15
Mica (crude)	0.48	0.38	0.26	0.23	0.22	0.20	0.19	0.15	0.14
Phosphorite	8.06	7.38	8.24	10.20	9.61	9.99	9.85	9.43	9.53
Pyrites	0.63	0.71	0.61	0.50	0.45	0.51	0.51	0.50	0.51
Saltrock	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Sillimanite	0.37	0.29	0.30	0.24	0.21	0.16	0.02	0.28	0.27
Steatite	1.77	1.70	1.50	1.74	1.64	2.30	2.19	1.99	1.65
Vermiculite	0.01	0.01	0.02	0.02	0.02	0.02	0.05	0.02	0.02
Others	9.36	8.64	8.90	9.12	9.79	9.19	9.57	8.33	7.03

Source: Same as in Table A 1.

Footnotes: As in Table A 3.

**Table A 5: Production of minerals in public and private sectors in India: 1992-98**

(In '000 tonnes)

Mineral/Year	1992-93			1993-94			1994-95			1995-96			1996-97			1997-98		
	Total	Public	Private															
<b>Metallic Minerals</b>																		
Bauxite	5103	2637	2466	5202	2711	2491	4758	2520	2238	5264	2737	2527	6036	2952	3084	5844	3062	2782
Chromite	1071	341	730	1038	322	716	1139	341	798	1699	640	1059	1456	526	930	1365	463	902
Copper ore	5211	5211	..	5021	5021	..	4768	4768	..	4801	4801	..	3896	3896	..	4473	4473	..
Gold (kg)	1850	1850	..	1958	1958	..	2373	2373	..	1992	1992	..	2710	2710	..	2603	2603	..
Iron Ore	55818	33492	22326	56515	34904	21611	63037	37512	25525	66237	39137	27100	68173	39295	28878	70237	40112	30125
Lead concentrates	61	61	..	53	53	..	53	53	..	59	59	..	60	60	..	57	57	..
Zinc concentrates	301	301	..	286	286	..	268	268	..	286	286	..	277	277	..	277	277	..
Manganese	1870	893	977	1630	778	852	1643	1010	633	1736	1066	670	1871	1154	717	1597	1008	589
<b>Non-metallic minerals</b>																		
Asbestos	44	Neg.	43	40	Neg.	40	29	Neg.	28	20	Neg.	20	27	Neg.	27	22	Neg.	22
Barytes	405	218	187	508	281	227	484	394	90	466	439	27	382	345	37	471	449	22
Diamond (carats)	18017	18017	..	19281	19281	..	25845	25845	..	29985	29985	..	31836	31836	..	26488	26488	..
Dolomite	3051	664	2387	3472	726	2746	3087	1606	1481	3616	1655	1961	3400	1645	1755	2830	1656	1174
Felspar	75	4	71	65	6	59	81	10	72	92	8	84	102	7	95	85	5	80
Fireclay	439	14	425	434	33	401	384	29	355	411	15	396	407	20	387	348	5	343
Gypsum	1628	1547	81	1568	1526	42	1551	1536	15	1809	1784	25	2210	2198	12	2006	2002	4
Limestone	76617	11615	65002	82577	10619	71958	88128	10029	78099	91434	10159	81275	104029	8620	95409	106188	7935	98253
Magnesite	Neg.	Neg.	Neg.															
Mica (crude)	3	Neg.	2	2	Neg.	2	2	1	1	2	1	1	2	1	1	2	Neg.	1
Pyrites	130	130	..	119	119	..	118	118	..	136	136	..	144	144	..	120	120	..
Sillimanite	20	20	Neg.	11	11	..	10	10	..	10	9	Neg.	9	9	Neg.	12	12	Neg.
Steatite	382	..	382	354	..	354	389	..	389	436	..	436	513	..	513	380	..	380
Vermiculite	1	NA	NA	2	NA	NA	2	Neg.	1	2	Neg.	1	4	1	3	4	1	3

Source: FIMI (1999): Report of FIMI Committee on the Revision of Royalty Rates on Major Minerals, April.

Note: “..” implies zero.

NA implies not available.

Neg. implies negligible, less than 1000 tonnes

**Table A 6: Share of public sector in total non-fuel mineral production: 1992-98**

(In percent)

	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
<b>Metallic Minerals</b>						
Bauxite	52	52	52	52	49	52
Chromite	32	31	32	38	36	34
Copper-ore	100	100	100	100	100	100
Gold	100	100	100	100	100	100
Iron-ore	60	62	60	59	58	57
Lead concentrates	100	100	100	100	100	100
Zinc concentrates	100	100	100	100	100	100
Manganese	48	48	48	61	62	63
<b>Non-metallic Minerals</b>						
Asbestos	2	1	2	1	Neg	Neg
Barytes	54	55	54	94	90	95
Diamond	100	100	100	100	100	100
Dolomite	22	21	22	46	48	59
Felspar	5	10	5	9	7	6
Fireclay	3	8	3	4	5	1
Gypsum	95	97	95	99	99	100
Limestone	15	13	15	11	8	7
Magnesite	50	58	50	47	47	50
Mica (crude)	3	11	3	30	29	25
Pyrites	100	100	100	100	100	100
Sillimanite	100	100	100	97	98	100
Vermiculite	NA	NA	NA	23	30	27

*Source:* Calculation based on the data contained in Report of FIMI Committee on the Revision of Royalty Rates on Major Minerals (April 1999)

Note: Figures have been rounded off.

NA = Data not available. Neg. = Negligible.

**Table A 7: Production of minerals in captive and non-captive sector in India: 1992-98**

(In thousand tonnes)

Mineral/Year	1992-93			1993-94			1994-95			1995-96			1996-97			1997-98		
	Total	Captive	Non-captive															
<b>Metallic Minerals</b>																		
Bauxite	5103	3946	1157	5202	3978	1224	4758	3693	1065	5264	4126	1138	6036	4645	1391	5844	4746	1098
Chromite	1071	209	862	1038	255	783	1139	218	921	1699	263	1436	1456	255	1201	1365	283	1082
Copper-ore	5211	5211	NA	5021	5021	NA	4768	4768	NA	4801	4801	NA	3896	3896	NA	4473	4472	NA
Gold (kg)	1850	1850	--	1958	1958	--	2373	2373	--	1992	1992	--	2710	2710	--	2603	2603	--
Iron-ore	55818	20966	34852	56515	21307	35208	63037	25550	37487	66237	24487	41750	68173	25459	42714	70237	25856	44381
Lead concentrates	61	61	--	53	53	--	53	53	--	59	59	--	60	60	--	57	57	--
Zinc concentrates	301	301	--	286	286	--	268	267	1	286	286	--	277	277	--	277	277	--
Manganese	1870	399	1471	1630	348	1282	1643	342	1301	1736	365	1371	1871	384	1487	1597	328	1269
<b>Non-metallic Minerals</b>																		
Asbestos	44	--	44	40	--	40	29	--	29	20	--	20	27	--	27	22	--	22
Barytes	405	5	400	508	8	500	484	8	476	466	7	459	382	6	376	471	3	468
Diamond*	18	--	18	19	--	19	26	--	26	30	--	30	32	--	32	26488	--	26488
Dolomite	3051	857	2194	3472	947	2525	3087	1211	1876	3616	1308	2308	3400	1886	1514	2830	1815	1015
Felspar	75	--	75	65	Neg	65	81	--	81	92	1	92	102	--	101	85	--	85
Fireclay	439	27	412	434	29	405	384	29	355	411	23	388	407	18	389	348	8	340
Gypsum	1628	48	1580	1568	39	1529	1551	12	1539	1809	59	1750	2210	147	2063	2006	179	1827
Limestone	76617	66601	10016	82577	73941	8636	88128	81065	7063	91434	86042	5392	104029	96734	7295	106188	100389	5799
Magnesite (tonnes)	541	516	25	384	363	21	336	317	19	334	317	17	378	331	47	383	326	57
Mica (crude)	3	--	3	2	--	2	2	--	2	2	--	2	2	--	2	2	--	2
Pyrites	130	130	--	119	119	--	118	118	--	136	136	--	144	144	--	119872	119872	--
Sillimanite	20	1	19	11	--	11	10	--	10	9	--	9	9	--	9	12	--	12
Steatite	382	NA	NA	354	NA	NA	389	NA	NA	436	NA	NA	513	NA	NA	380	NA	NA
Vermiculite (tons)	1	NA	NA	2	NA	NA	2	--	2	2	--	2	4	--	4	3913	--	3913

Source: FIMI (1999): report of FIMI Committee on the Revision of Royalty Rates on Major Minerals, April

"\*" = In thousand carats.

"--" implies zero.

Neg = Negligible.

NA = Not available.

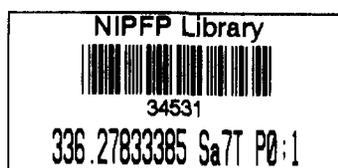


**Table A 8: Share of mineral production in captive sector in India: 1992-98**

(In percent)

Mineral/Year	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
<b>Metallic Minerals</b>						
Bauxite	77.33	76.47	77.62	78.38	76.95	81.21
Chromite	19.51	24.57	19.14	15.48	17.51	20.73
Copper ore	100.00	100.00	100.00	100.00	100.00	99.98
Gold	100.00	100.00	100.00	100.00	100.00	100.00
Iron Ore	37.56	37.70	40.53	36.97	37.34	36.81
Lead concentrates	100.00	100.00	100.00	100.00	100.00	100.00
Zinc concentrates	100.00	100.00	99.63	100.00	100.00	100.00
Manganese	21.34	21.35	20.82	21.03	20.52	20.54
<b>Non-metallic Minerals</b>						
Asbestos	0.00	0.00	0.00	0.00	0.00	0.00
Barytes	1.23	1.57	1.65	1.50	1.57	0.64
Diamond	0.00	0.00	0.00	0.00	0.00	0.00
Dolomite	28.09	27.28	39.23	36.17	55.47	64.13
Felspar	0.00	1.23	0.00	1.30	0.00	0.00
Fireclay	6.15	6.68	7.55	5.60	4.42	2.30
Gypsum	2.95	2.49	0.77	3.26	6.65	8.92
Limestone	86.93	89.54	91.99	94.10	92.99	94.54
Magnesite	95.38	94.53	94.35	94.91	87.57	85.12
Mica (crude)	0.00	0.00	0.00	0.00	0.00	0.00
Pyrites	100.00	100.00	100.00	100.00	100.00	100.00
Sillimanite	2.76	0.00	0.00	0.00	0.00	0.00

Source: FIMI (1999): Report of FIMI Committee on the Revision of Royalty Rates on Major Minerals. April



**Table A 9: Trade balance: 1997-98**

Mineral	In quantum terms ('000 tonnes)			In value terms (Rs crore)		
	Export	Import	Net export/ import	Export	Import	Net export/ import
Agate	NA	NA	NA	7.69	0.06	7.63
Barytes	140.0	62.0	78.0	17.2	3.3	13.9
Ilmenite	43.0	0.0	43.0	21.8	0.0	21.8
Rutile	7.4	4.8	2.6	17.1	16.3	0.8
Calcitte	0.2	0.0	0.2	0.1	0.0	0.1
Kaoline	10.5	1.4	9.0	3.2	1.8	1.3
Chromite	566.0	1.0	565.0	225.4	0.8	224.6
Dolomite	3.0	0.2	2.8	0.8	0.1	0.8
Fireclay	0.4	0.0	0.4	0.1	0.0	0.1
Garnate	1.9	0.0	1.9	0.6	0.0	0.6
Gypsum	67.1	10.2	57.0	6.4	2.9	3.5
Iron-ore	27,630.0	853.0	26,777.0	1,706.4	125.3	1,581.2
Manganese	310.0	2.8	307.2	48.1	2.9	45.2
Mica	29.4	0.0	29.4	46.8	0.0	46.8
Ochre	1.4	0.1	1.3	0.7	0.4	0.2
Quartz	42.0	15.0	27.0	10.0	0.1	10.0
Silica Sand	36.1	0.3	35.9	10.7	0.6	10.1
Quartzite	22.5	0.0	22.5	10.0	0.0	10.0
Sillimanite	0.8	0.0	0.8	0.6	0.0	0.6
Slate	69.8	0.0	69.8	53.5	0.0	53.5
Steatite	99.2	0.1	99.1	13.6	0.4	13.2
Bermiculite	0.7	0.1	0.7	0.3	0.0	0.2
Wollastonite	11.6	0.0	11.6	8.0	0.0	8.0
Apatite & Rock phosphate	0.2	2,038.0	-2,037.8	0.1	477.4	-477.2
Asbestos	0.3	77.5	-77.2	0.2	146.0	-145.8
Bauxite	104.0	27.0	77.0	5.0	13.5	-8.5
Zircon	0.0	4.7	-4.6	0.2	11.7	-11.6
Cadmium	0.0	0.2	-0.2	0.0	8.3	-8.2
Copper	0.0	60.1	-60.1	0.4	132.1	-131.7
Lead concentrates	0.4	52.4	-52.1	0.8	71.5	-70.7
Zinc concentrates	31.2	42.7	-11.4	30.0	56.1	-26.1
Felspar	94.7	54.7	40.0	17.1	28.2	-11.1
Fluorspar	0.2	54.7	-54.5	0.1	28.1	-28.1
Magnasite	0.0	67.0	-67.0	1.7	81.6	-79.9
Graphite	0.25	0.82	-0.58	0.37	3.59	-3.22
Limestone	47.00	1,030.00	-983.00	7.31	69.46	-62.15
Pyrites	1.58	1,544.00	-1,542.42	1.72	324.72	-323.00
Tungsten	0.00	0.32	-0.32	0.00	4.59	-4.59
Uranium	0.00	0.07	-0.07	0.00	0.23	-0.23

Source: Report of FIMI committee on the revision of royalty rates on major minerals, April 1999.

Note: NA = Figures not available. \*: In '000 carats.

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