

INVESTMENT CLIMATE IN PRACTICE

BUSINESS TAXATION

USING TAXATION TO ENABLE A FAIR AND THRIVING MINING INDUSTRY

Tax policy is an important tool for attracting investment and spurring growth in mining—a valuable industry. This note examines the implications of tax policy from the perspectives of both governments and investors, analyzing royalties, windfall taxes, depreciation allowances, loss carry-forward provisions, and tax administration.

Tax policy plays a key role in making mining financially attractive and economically feasible. But many governments view mining taxation primarily as a way to maximize fiscal revenue, rather than as an opportunity to shape the industry. Mining is capital intensive, has extremely high upfront costs and long lead times before profits are made, and is sensitive to changes in global commodity prices. These factors affect how investors view potential mineral investments and how governments try to maximize fiscal revenues while maintaining attractive investment climates.

USING TAX POLICIES TO FOSTER MINING INVESTMENT

Deciding on policies for mining taxation requires understanding the perspectives of the government as well as investors. A government must determine how to identify, maximize, and retain a fair share of mineral rents. That involves designing—in the face of significant uncertainty in the mining industry—a revenue-sharing system that:

- Maximizes government revenue over time.
- Does not deter exploration and development activities that would otherwise be economically justified.

- Prevents resources from being exploited inefficiently.
- Does not allow substantial rents to accrue to recipients other than the state and investors.

Mining companies, on the other hand, tend to be large multinational corporations. They allocate capital in ways intended to maximize the value of their companies, which partly depends on the share of rents they can retain. These companies argue that the risky nature of mining should provide them with higher returns than would be tolerated in other industries. In particular, they argue that the high returns on some projects are offset by the low returns on others and by failed exploration ventures.

Cash flow is a key concern for mining investors. Given mining's high upfront costs, the levels and timing of tax payments directly affect a project's internal rate of return. Accordingly, depreciation rates and loss carry-forward provisions affect a project's cash outflows and hence its economic feasibility. Moreover, large international mining companies can choose among potential projects in various countries.

A tax regime should not distort mining investment, production, or extraction. If the policy goal is to

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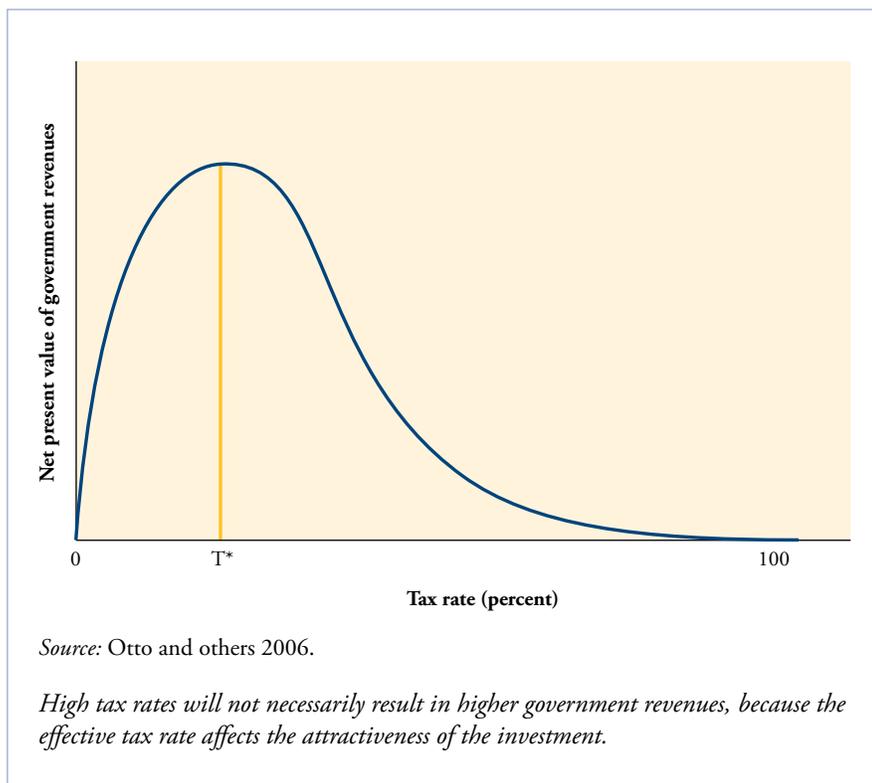
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This note and others in the *IN PRACTICE* series of notes on business taxation reform were developed as part of a joint program between the U.K. Department for International Development and the Investment Climate Advisory Services of the World Bank Group.

maximize short-term revenue, policymakers might be tempted to impose a high effective tax rate. But if the rate is too high, in the long run there will be fewer mines and fewer taxpayers because investors will not come, explore, and discover new mines. Yet if the effective tax rate is too low, the government will forgo revenue (CMA Limited and Otto 2007b).

Good tax policy should strive to set the effective tax rate at T^* , as defined in Figure 1. If the tax rate is too high, it could result in a lower net present value of government revenue because fewer mines are invested in due to marginal investments not being undertaken. Alternatively, if the tax rate is too low, more mining investment is made but the government's fiscal take is lower per mine. Perhaps the most important aspect of fiscal policy is to ensure it is clear, transparent, and predictable, enabling investors to accurately assess investments and compare them with opportunities elsewhere.

FIGURE 1: SETTING AN OPTIMAL EFFECTIVE TAX RATE



TAX TOOLS FOR MINING

Governments take a variety of approaches to collect revenue from mining investments. Among the challenges are striking a fair balance between benefits for governments and investors and ensuring that mining taxes are properly paid and credited.

Some governments choose to take an equity stake in the mining sector to help secure revenues during commodity boom markets, but this approach carries risks (Box 1).

Royalties

Royalties allow governments to capture tax revenue when mining profits are low or even nonexistent (a common occurrence in the first few years of production). A government might instinctively impose high royalties to secure its fiscal take, but doing so does not necessarily maximize revenue from its geological endowment because it undermines project viability and deters investment.

Because royalties are levied early in a project, before a profit is made, their rate influences a project's net present value. Still, if royalties are too low and other instruments are not available to extract additional taxes, the government may not receive the optimal amount of revenue from projects.

Good practice is to define royalty rates in a country's mining law as nonnegotiable percentages of the basis used to value metallic and fuel minerals (Table 1). To ensure competitiveness, rates should be comparable to those in other mining countries. In a hypothetical gold mine model, raising the royalty rate from 0 to 5 percent lowers the investor's internal rate of return from 13.7 percent to 9.0 percent (CMA Limited and Otto 2007a).

Windfall taxes

Windfall taxes are designed to capture additional revenue during commodity price booms, but they do not always work the way they were intended. This is one of the challenges facing mining and tax authorities when establishing reasonable tax policies for mining. When mineral prices are high and mining companies are making good profits, governments are tempted to try to capture a larger share of those profits by raising taxes, imposing

royalties, or both. This typically involves tying a windfall tax (either a profit tax or royalty) to the price of the commodity.

The risk of this approach is that capital and production costs often rise with the price of the commodity, negating part or all of any windfall for the investor. As the price of a commodity increases, the resulting growth of the industry often leads to rising equipment, engineering, logistics, and consulting costs. For instance, if a windfall tax is set using a threshold price for a commodity, in the medium to long term an investor would argue that the threshold price no longer represents a windfall because capital and production costs have increased.

Ideally, the threshold level for a windfall tax should reflect the increased value of the commodity as well as the change in cost structure for the investor. Rather than using the price of the commodity, a function of operating profit or net income provides a more accurate measure of windfall. But taking that approach requires significant capacity in the tax administration.

Accelerated depreciation allowances

Depreciation is a noncash expense used to distribute the cost of capital assets over their estimated useful lives. Rather than providing

BOX 1: STATE EQUITY PARTICIPATION IN MINING

Most governments do not take equity participation in mining. During commodity booms state equity participation is sometimes used to secure higher fiscal revenue. It can also be seen as a way to enhance stability, promote technology transfers, and prevent renegotiation of fiscal terms. The three main approaches to government equity participation are paid (working) interest equity, free interest equity, and, more rarely, carried interest equity. Recently, equity in exchange for infrastructure or reduced tax liability has also become more common.

But state equity participation carries risks. If a government takes an equity stake and pays for it through a working interest, the opportunity costs can be substantial. State revenue invested in a mine is diverted from other uses and put at risk. Not all mines are successful: some fail or do not generate sufficient profits to justify a distribution to shareholders. And if the equity is free or exchanged for infrastructure or reduced tax liability, transparency might be lacking—which can hurt the overall investment climate. Botswana and Namibia, both considered success stories in terms of the role of government in mining, opted for private sector-led mining and focused the government’s role in the sector on economic management and regulation. Mining revenue helped finance public investment, supporting economic growth.

TABLE 1: GOVERNMENT MINING ROYALTIES IN VARIOUS COUNTRIES

Country	Rate (percent)	Basis
Botswana	3–10	Ad valorem (net smelter return)
Brazil	3	Gold: gross sales revenue
Ghana	3–12	Ad valorem (sales revenue)
Guyana	5	Gold: gross sales revenue
Mozambique	3–12	Ad valorem (sales revenue)
Namibia	5–10	Ad valorem (sales revenue)
Suriname	2	Gold: based on gross sales; Other: based on net sales
Tanzania	0–5	Ad valorem (net smelter return)
Zambia	2	Ad valorem (net smelter return)

Source: Otto and others 2006; PriceWaterhouseCoopers data.

Note: Ad valorem is a tax, duty, or fee that varies based on the value of the products, services, or property on which it is levied.

Good practice is to grant generous or accelerated depreciation allowances to mining companies.

extended tax holidays or exemptions, good practice has been to grant generous or accelerated depreciation allowances to mining companies. Accelerated depreciation recognizes the high capital investment requirements and long lead times before mines begin generating sufficient profits to repay their initial investments, and so allows larger deductions in the early years of an asset's life.

With accelerated depreciation, the mine plant and related exploration and feasibility activities are typically capitalized (made into assets on the balance sheet) and depreciated (expensed on the income statement). Table 2 compares depreciation rates in various countries and the bases on which they are calculated. The higher the depreciation rate, the quicker the asset can be expensed—reducing taxable income.

Allowing an investor to depreciate assets over a shorter period allows it to recover the high investment

costs required to set up a mine before it begins paying income tax. This approach protects the mine's early income so that it can be used to reduce debt and to minimize financial vulnerability during downturns in commodity prices—an important benefit because mines are usually cash-strapped in their early years (Figure 2).

Loss carry-forward provisions

Loss carry-forward provisions allow mines that incur operational losses to use those losses to reduce their taxable income in future years. Such provisions are typically used to allow mines to recover losses caused by commodity price downturns or by initial losses from setting up (Box 2). There is a close relationship between depreciation and loss carry-forward provisions. For instance, if fiscal policy provides accelerated depreciation allowances but only allows for a mine to carry forward the loss for a limited number of years, the investor will likely be unable to take full advantage of the depreciation incentive.

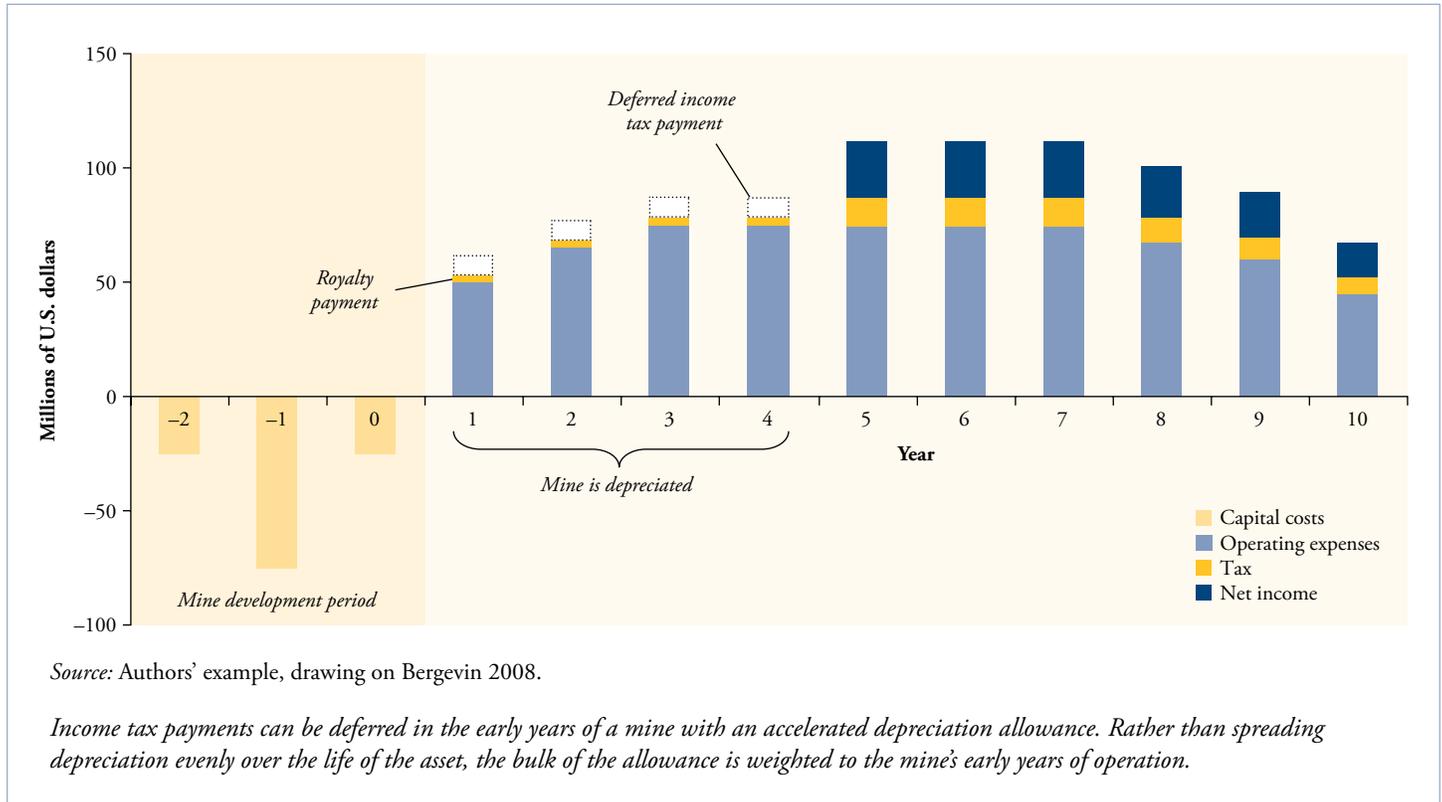
TABLE 2: DEPRECIATION RATES FOR MINING INVESTMENTS IN VARIOUS COUNTRIES

Country	Depreciation rate (percent)	Basis
Argentina	60	Initially 60 percent, then 20 percent straight line
Botswana	100	Initially 100 percent
Brazil	20	Straight line
Chile	33	Straight line
Ghana	75	Initially 75 percent, then 50 percent declining balance
Indonesia	10	Straight line
Lesotho	20	Declining balance
Mexico	10	Straight line
Namibia	33	Depreciated over three years
Peru	20	Straight line
Rwanda	50	Initially 50 percent, then 25 percent
South Africa	100	Initially 100 percent
Suriname	25	Straight line
Tanzania	100	Initially 100 percent
Zimbabwe	100	Initially 100 percent

Source: FIAS 2007.

Note: "Straight line" is defined as spreading the cost of an asset over several years—for example, 25 percent a year over four years.

FIGURE 2: EFFECT OF ACCELERATED DEPRECIATION ON TAX PAYMENTS OVER THE LIFE OF A HYPOTHETICAL MINE



Tax administration and auditing

Many countries face large gaps between mining taxes—which should be paid based on effective tax rates—and the amounts actually received. This disparity can be significant: in 2005 it was \$500 million in the Democratic Republic of Congo. The reasons are largely tied to tax administration, including limited capacity to enforce contracts, lack of coordination between ministries of mining and finance, nontransparent contracts, and rent seeking. Without remedial actions, these gaps will worsen as mining expands and investment increases.

To ensure that revenues are collected, the tax administration should audit selected mining companies to:

- Check payments of surface rents and royalties.
- Perform physical controls (generally the responsibility of the ministry of mining), including control of physical output,

Box 2: Why Should Governments Provide Incentives for Mining?

Accelerated depreciation allowances and loss carry-forward provisions for mining may cause government officials to wonder why they should provide such incentives. Both are widely accepted ways of attracting investment and create fewer distortions than tax holidays. Such incentives can also result in marginal investments being undertaken and maximize the level of resources being exploited in a country.

More important, accelerated depreciation allowances and loss carry-forward provisions help ensure the financial stability and sustainability of mines by postponing their tax payments from early to later years. After all, the financial health of mines is of mutual interest to governments and investors.

Having a large geological endowment does not guarantee a healthy mining industry.

imported or re-exported production assets, and inventories.

- ❑ Provide for better traceability and matching of amounts assessed with amounts collected, in some cases by creating a specialized unit in the ministry of finance to track mining taxes.

In addition, the government, investors, and civil society need to continue implementing the Extractive Industries Transparency Initiative, which publicly discloses payments from mining companies to governments and government receipts of those revenues.

CONCLUSION

The mining industry can have a significant development impact—creating jobs, generating revenue, developing domestic expertise, stimulating downstream and upstream investment, and supplying local industry with needed materials.

But having a large geological endowment is insufficient for ensuring a healthy mining industry. Countries compete for investment and expertise to extract resources in a socially and environmentally responsible way. Government tax policies, through royalties, windfall taxes, depreciation allowances,

and loss carry-forward provisions, are key to the industry's success.

Still, there are no prescribed practices that governments should follow. Country variations will depend on the maturity of their mining industries, each country's short- and long-term goals, and the state of global commodity markets.

Investors weigh risks and rewards when making investments. Perhaps more important than tax rates and allowances is for investors to have clarity, transparency, and predictability. That way they can effectively assess mining opportunities and generate the confidence needed to commit to investments.

The recent financial crisis has left governments with plummeting revenues and rising debts. Although crises present opportunities to revisit fiscal policies and regulations, policy should not be developed in isolation or on impulse. Simply raising taxes or reducing allowances may not have the intended effect of reducing a revenue shortfall. When revisiting fiscal policy for mining, all stakeholders—including investors—should be involved so that they can understand the varying perspectives, goals, and challenges and achieve optimal outcomes. Governments also need to ensure that they have the capacity to collect what is due.

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IN PRACTICE

The *Investment Climate IN PRACTICE* note series is published by the Investment Climate Advisory Services of the World Bank Group. It discusses practical considerations and approaches for implementing reforms that aim to improve the business environment. The findings, interpretations, and conclusions in this note are those of the authors and do not necessarily reflect the views of the Executive Directors of the World Bank or the governments they represent.

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