

IGF-OECD PROGRAM TO ADDRESS BEPS IN MINING

TAX INCENTIVES IN MINING: MINIMISING RISKS TO REVENUE



IGF

INTERGOVERNMENTAL FORUM
on Mining, Minerals, Metals and
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TAX INCENTIVES IN MINING: MINIMISING RISKS TO REVENUE

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It complements action by the Platform for Collaboration on Tax and others to produce practice notes on top priority tax issues facing developing countries.

It reflects a broad consensus between the OECD and IGF, but should not be regarded as the officially endorsed view of either organization or of their member countries.

This programme builds on the OECD BEPS Actions to include other causes of revenue loss in the mining sector.

The programme will cover the following issues:

1. Excessive Interest Deductions
2. Abusive Transfer Pricing
3. Undervaluation of Mineral Exports
4. Tax Incentives
5. Tax Stabilisation
6. International Tax Treaties
7. Offshore Indirect Transfers of Mining Assets
8. Metals Streaming
9. Abusive Hedging Arrangements
10. Inadequate Ring-Fencing

OECD: <http://www.oecd.org/tax/beps/>

IGF: <http://igfmining.org/tax-avoidance-guidance-document/>

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Acronyms and Abbreviations

APA	Advance Pricing Agreement
BEPS	base erosion and profit shifting
DTA	Double Taxation Agreements
EDB	Economic Development Board
EPZ	export processing zones
IGF	Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development
IRR	internal rate of return
OECD	Organisation for Economic Co-operation and Development
PCT	Platform for Collaboration on Tax
UQCE	unredeemed qualifying capital expenditure
WHT	withholding tax relief



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1.0 Introduction

In a world of mobile capital and profits, many developing countries use tax incentives in the hope of attracting domestic and foreign investment. Their effectiveness, however, has often been disputed, not least in relation to the mining sector, which involves location-specific resources that cannot be moved. Tax incentives are also costly, leading many countries to forgo vital revenues in exchange for often illusive benefits.

Nonetheless, governments may determine that they would still benefit from introducing tax incentives for the mining sector because of some specificities in their jurisdiction. For example, changing tax arrangements may appear easier to deliver than other investment promoting actions such as infrastructure. In such cases, tax incentives need to be carefully designed to be effective (that is, they achieve their policy objective) and efficient (the policy goal is achieved at the minimum cost to government revenue).

Box 1. Efficiency? Effectiveness?*Effectiveness is when...*

- The policy objective is achieved
 - E.g., increased investment (which must also yield the desired social benefits in broader welfare terms, jobs for example).
- The investment would not have happened without the incentive.

Efficiency is when...

- Objectives are achieved at low social costs
 - E.g., low revenue losses for government, no displacement of investment, etc.
- The resource cost of administering the incentive is low.

The framework is covered in detail in the Platform for Collaboration on Tax (PCT, 2015) report *Options for Low Income Countries' Effective and Efficient Use of Tax Incentives*, which is the backdrop to this practice note.

About this practice note

This practice note looks at tax incentives in the mining sector. For many developing countries, receipts from mining are often a major source of revenue. The central task for policy-makers, therefore, is to design fiscal regimes for the mining industry that raise sufficient revenue, while providing adequate inducement to invest. Many times, governments have given tax incentives to mining investors that have turned out to be overly generous, forgoing significant tax revenues and sometimes resulting in conflict with investors. Preventing similar occurrences from happening again demands sector-specific guidance on the design and use of tax incentives.

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Building on the efficiency and effectiveness framework, this practice note focuses on the types of behavioural responses of taxpayers and unintended consequences that might flow from providing tax incentives. For example, if a mine is given a time-limited tax holiday, one response might be to speed up the rate of production to increase its tax-free revenue during the period (the “behavioural response”). When the holiday expires, there is less ore left to extract than if the mine had maintained a normal rate of production, further reducing government revenue (the “unintended consequences”).

The goal of this practice note is that governments of resource-rich countries are better equipped to identify and cost potential behavioural responses by mining investors to tax incentives.

How is it structured?

The practice note is divided into three sections.

a) A **step-by-step guide** to reviewing mining tax incentives

- What is the type of tax incentive and the related behavioural responses?
- How is the incentive designed?
- What is the cost to government revenue?

b) A **detailed risk review** of mining tax incentives: definitions, behavioural responses and recommendations for how incentives could be better designed to mitigate unintended revenue losses. To illustrate the risks, anonymised examples of real-life cases involving behavioural responses to tax incentives have been included.

c) An **information checklist** that highlights some of the information government needs to assess possible behavioural responses and the impact on revenue.

Two forthcoming elements are intended to support the application of the practice note. The first is a financial modelling tool that can assist governments in understanding the impacts of tax incentives on revenues. The second is a dataset of incentives from approximately 160 mining contracts in 22 countries.

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Who is this practice note for?

The practice note is primarily intended for use by government decision-makers to analyse tax incentives in relation to mining fiscal regime design and contract negotiations. The aim is to generate informed, well-grounded decisions particularly with respect to the potential revenue cost. It may also be used by tax administrators to identify potential risks to the tax base and shape audit priorities. Finally, the practice note may help parliamentarians and civil society to examine tax incentives in order to strengthen government accountability.

What gap is the practice note filling?

There is a wealth of information available on mining fiscal regime design. Readers should refer to the International Monetary Fund (IMF) handbook series on natural resource taxation,¹ the United Nations *Handbook on Extractive Industries Taxation* (2017), and the World Bank sourcebook for mining tax administration (Guj et al., 2013). In addition, there is authoritative guidance on the design and use of tax incentives not specific to mining. For example, the PCT (2015) report *Options for Low Income Countries' Effective and Efficient Use of Tax Incentives for Investment*, including the background document, which suggests practical ways to assess the costs and benefits of incentives, and *Rethinking Investment Incentives* by the Columbia Centre for Sustainable Investment (Tavares-Lehman et al., 2017).

These documents are important context; however, there were two gaps identified that this practice note seeks to address. The first was guidance on tax incentives in the mining sector specifically. While tax incentives feature in the literature on mining fiscal regime design, there is no guidance specifically devoted to the topic. The second was insights on how mining investors may change their behaviour in response to tax incentives to maximise the tax benefit beyond what government intended. Government decision-makers and technicians are increasingly aware of the direct impact of tax incentives on revenue collection, but less so the ways incentives may be misused.

¹ The series can be found on the IMF's Managing Natural Resource Wealth page: <https://www.imf.org/en/Capacity%20Development/trust-fund/MNRW-TTF#Analytical%20Work>



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2.0 Tax Incentives for Mining Investment

Mining is a high risk, long-lived business. It is capital-intensive, with significant investment in exploration and development mostly sourced from the private sector. It has long periods of pre-production during which no revenue is earned. It is high risk because it depends on exploration being successful, and its profit is sensitive to commodity prices and exchange rates, which can be volatile. In this light, governments sometimes choose to offer carefully designed tax incentives to induce mining investment.

On the other hand, mineral resources are finite, non-renewable and generally owned by the state (or region) for the benefit of its citizens. Thus, government has a responsibility to transform its mineral wealth into lasting development outcomes. According to *Breaking the Curse* (Darimani & Lambrechts, 2009), mining companies (especially those operating in Africa) have been granted too many tax concessions and subsidies. When combined with tax base erosion and profit shifting (BEPS) practices and weak institutional capacity, tax incentives can significantly diminish the revenue due to governments.

To break this particular cycle, government must carefully consider if or when tax incentives are necessary to attract mining investment, and how to design them in a way that minimises the cost to government revenue. Generalised assumptions for the use of tax incentive programmes must be carefully analysed through a mining-specific lens.

What is a mining tax incentive?

The analysis of tax incentives faces fundamental definitional challenges related to the determination of the relevant benchmark. The benchmark, and hence what constitutes a tax incentive, will differ from country to country.

In this practice note, a “tax incentive” is:

.....any **special tax provisions**

.....granted to **mining investors**

.....that provide **favourable deviation**

.....**from the general tax treatment** that applies to all corporate entities.

*E.g., The **benchmark** (i.e., the general tax treatment) is that all corporate entities must pay income tax at a rate of 30 per cent. The **incentive** is that mining investors pay income tax at a rate of 25 per cent.*

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The incentive need not apply to mining alone. It could be that other sectors or categories of investors also receive the same benefit provided it is not the general tax treatment. The first column in Table 1 outlines the main fiscal instruments (taxes, royalties, etc.) that determine how the revenues from mining projects are shared between government and investors. The second column lists the corresponding tax incentives that government may use to compete for mining investment, which are covered in detail later in this practice note.

Table 1. Typical mining tax incentives

Mining Fiscal Instruments	Corresponding Tax Incentives
Taxes on income (e.g., corporate income tax, resource rent taxes, withholding taxes)	<ul style="list-style-type: none"> - Income tax holiday - Accelerated depreciation - Investment allowance/tax credit - Longer loss carry forward - Withholding tax relief on interest expense dividends, services (e.g., management fees)
Taxes on production (e.g., mineral royalties)	<ul style="list-style-type: none"> - Reduced royalties - Royalty holidays - Sliding-scale royalties
Tariffs on imports and exports (e.g., tariffs on import of capital inputs)	<ul style="list-style-type: none"> - Import duty relief - Export processing zones
Others	<ul style="list-style-type: none"> - Stabilization of fiscal terms

Mining tax incentives can take many forms. The list in Table 1 is not exhaustive but includes the more typical incentives. For a full typology of tax incentives see the *Guidebook to Reviews of Fossil Fuel Subsidies* (Gerasimchuk, 2017) (many of the identified incentive types are also applicable to mining). For an overview of mining fiscal regime design, see *Fiscal Regime Design: What Revenues the Government Will be Entitled to Collect* (Natural Resource Governance Institute, 2015).

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Where are incentives found in the law?

The benchmark will always be derived from the general income tax code, because it is the law that applies to all taxpayers by default. Tax incentives, however, may be contained in additional sources of law. For mining specifically, tax incentives may be found in three types of legal instruments:

1. **The general income tax code**, which may include special provisions for mining, either in a separate schedule or chapter, or in the main part of the code.
E.g., a lower rate of corporate income tax.
2. **The mining law**,² which may contain more detail on the sector-specific fiscal regime.
E.g., a reduced rate of tax collected on imported goods for mining.
3. **The mining contract**, which may include project-specific fiscal terms.
E.g., a complete exemption from paying taxes for a period.

There are two additional potential legal instruments that may contain mining tax incentives but are not covered in this practice note. These are Double Taxation Agreements (DTAs) and national investment laws. DTAs are bilateral or multilateral agreements between countries that set out which country has the right to collect tax on different types of income. These will be covered in detail in separate guidance under the IGF-OECD cooperation.

Tax Incentives and the OECD Base Erosion and Profit Shifting Project

Tax incentives may provide an additional motivation for investors to engage in BEPS practices. According to the OECD BEPS project, which was launched in 2013, BEPS refers to tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations.

The BEPS practices mentioned in this practice note are abusive transfer pricing ([BEPS Actions 8–10](#)) and excessive interest deductions ([BEPS Action 4](#)).

- Transfer pricing is a business practice involving setting a price for the purchase of a good or service between two related parties (i.e., part of the same corporate group). These transactions can be used to shift profits away from the mining country when the related

² Mining-specific laws or contracts often expand on domestic tax law and can cover situations not found in the rest of the economy. This sector-specific law is not itself an incentive, since it may include tax treatment that does not need to be contemplated in other sectors. This practice note focuses on instances where the specific mining code contains tax provisions that override or supersede the general treatment of taxpayers, to the benefit of mining companies exclusively.

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parties set the price of a transaction in a manner inconsistent with what unrelated (“arm’s length”) parties would have done.³


- Issues around the use of excessive interest deductions arise when a company elevates the level of debt in producing countries via intra group financing above what would be commercially justified.⁴

The use of tax incentives may make government revenues more vulnerable to these BEPS practices than if the general tax treatment applied. For example, a mine receives management and administrative services from a foreign related party, located in a lower-tax country. It must pay a fee in return (the “transfer price”). Normally, this fee would be subject to withholding tax in the country where the mine is located. However, due to a withholding tax exemption, there is no tax to be paid. In response, the related party artificially increases the fee, thus stripping profit out of the local entity and transferring it offshore. This is a case of a tax incentive increasing the motivation of the group of companies to manipulate the transfer price.

In addition, the design of tax incentives has implications under [BEPS Action 5](#), which combats harmful tax practices that facilitate international base erosion and profit shifting. New incentive regimes need to comply with the Action 5 requirements, and all regimes are actively peer reviewed by the Inclusive Framework on BEPS.

³ For more information, see Readhead (2017).

⁴ For more information, see IGF & OECD (2018).

The background image shows a wide, rocky riverbed with a small pool of water in the distance. The surrounding landscape is hilly and forested, with a warm, golden light suggesting a sunrise or sunset. A semi-transparent blue rectangular box is centered over the image, containing the title text in a bold, dark blue font.

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3.0 A Guide to Reviewing Mining Tax Incentives

This practice note sets out a framework for reviewing incentives based on potential behavioural responses by investors and the unintended revenue losses that may result. However, such a review would not be complete without considering the effectiveness and efficiency of mining tax incentives as well as costs and benefits. Part One briefly outlines these threshold issues.

Part One: Measuring the Efficiency and Effectiveness of Tax Incentives

Effectiveness should be the first test for any incentive—will it deliver the sought after goal?

There is little evidence that tax incentives are effective at attracting mining investment in developing countries. The studies that have been done are for tax incentives generally. They identify three key findings:

1. There is no “compensation” effect from tax incentives if the investment climate is weak (Van Parys & James, 2009).
2. Developing countries are unlikely to attract foreign direct investment if the non-tax factors are unfavourable (Rolf & White, 1991).
3. Incentives may have a small positive effect on foreign direct investment but no effect on increasing fixed assets (e.g., machinery, equipment, buildings) (Klemm & Van Parys, 2011).

The conclusion is that tax incentives alone will not attract investment.

Effectiveness also depends on the type of foreign investment. The mining sector involves location-specific resources which cannot be moved, making investment less mobile and less responsive to incentives.

There are many drivers of investment decisions in the mining sector. Tax is just one factor, and it is arguably less important given the location-specific nature of mining investments. One survey⁵ of mining companies lists the following factors in order of priority (Fraser Institute, 2017):

1. Quality of the resource
2. Economic factors – location of the resource (i.e., transport costs, ease of export); price outlook for target minerals and technology (i.e., challenges relating to recovery of the mineral)

⁵ The Fraser Institute conducts an annual survey of mining and exploration companies. The survey is an attempt to assess how mineral endowments and public policy factors such as taxation and regulatory uncertainty affect exploration investment. In 2017, the Fraser Institute received 360 responses to the survey, providing data to evaluate 91 jurisdictions.

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3. Policy climate – enforcement of existing rules, taxation, security of tenure, infrastructure, political stability, labour issues and security, to name a few.

The OECD Business and Industry Advisory Committee notes that mining investors “will discount regimes and incentives that are ‘too good to be true’ in their investment decision process.” (IGF & OECD, 2018). Their preference is for a consistent and predictable fiscal regime. Anecdotal evidence heard repeatedly during the research for this practice note supports this: while companies will ask for and gladly accept any incentives offered, they are not the most important determinant of investment decisions.

Like effectiveness, efficiency is also a relative concept; the lower the cost of the incentive in meeting the policy objective, the more efficient it is, and vice versa. In this way, a tax incentive can be evaluated against alternative ways that the mining investment could be induced (e.g., government paying for infrastructure to reduce mine costs). The option that best meets the policy goal at the lowest cost is considered the most efficient option. Some specific indicators to test whether an incentive is efficient include:

- The investment would not have happened without it (i.e., not redundant).
- Government revenue losses and social costs are low.
- The cost of administering the incentive is also low.

In mining, as in other sectors, redundancy is more likely to be avoided if incentives are targeted to marginal investors who would not have invested otherwise. There is no one-size-fits-all approach to determining when an incentive is necessary to induce investment; however, project-specific financial modelling can help. With support from Open Oil, the Government of Cote d'Ivoire modelled the revenue impact of a five-year tax holiday given to Yaoure gold mine. Officials found that the cost to government was USD 29 million in forgone revenue in real terms. They also found that the incentive was probably unnecessary to inducing investment because, even without it, the mine's internal rate of return (IRR) was 25 per cent—still well in the range of profitability where mining companies might normally be expected to go ahead with investment (N'guessan & Esse, 2017).

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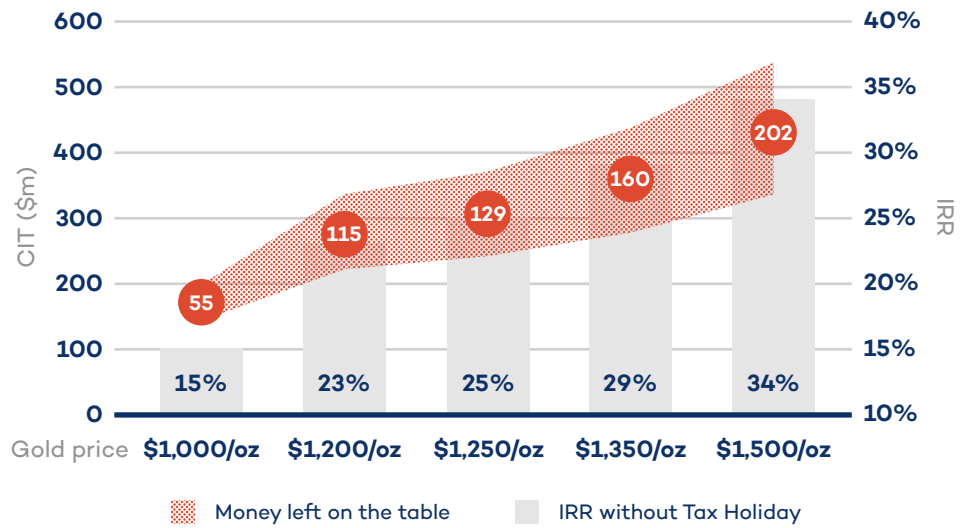
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Figure 1. Yaoure gold mine: Tax holiday analysis



Source: Open Oil

Cost-benefit analysis is a useful way to structure a discussion about the effectiveness and efficiency of tax incentives. The objective is to compare the costs and benefits of offering tax incentives to mining investors; the latter must outweigh the former for the incentive to be efficient.

The analysis should focus on direct impacts that are more easily measured—for example, jobs and taxes—versus secondary impacts such as household consumption by mine employees. It is essential that ministers be given the “full story” of the net benefits of a project in order to make an informed decision—this may mean giving difficult advice where the benefits of a project may not materialise as promised (or take time to be seen).

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Table 2. Costs and benefits of mining tax incentives

Costs	Benefits
<ul style="list-style-type: none"> • Immediate revenue loss. • Additional revenue loss due to behavioural responses (covered in detail in Part Two). • Administrative costs of implementing and monitoring incentives (which are usually incurred by the tax administration). • Economic distortions introduced due to differential treatment of certain investments (e.g., import duty exemptions for foreign mining equipment suppliers make it harder for local manufacturers to compete, potentially undermining local content goals). 	<ul style="list-style-type: none"> • GDP or gross value added: the amount of economic value the mining operation brings to the economy. • Employment: the number of jobs created by the mining operation. • Government revenues: the amount of revenue generated for the mining country government by the mining operation. <p><i>Source: Cosby et al., 2016.</i></p>

A cost-benefit analysis could also include the social and environmental impacts of mining, for example, displacement of communities, pollution of water resources and potential conflict. However, these costs relate to evaluating mining investment generally rather than tax incentives specifically. Incentives may also be used to motivate companies to invest in practices that contribute to sustainable development, creating additional benefits that could also feature in a cost-benefit analysis. Governments can use the forthcoming IGF financial model to quantify the revenue impact of tax incentives both in terms of the cost (i.e., revenue forgone) and the benefit (i.e., the amount of revenue generated by the mining operation).

Part Two: Identifying and Costing Potential Behavioural Responses

This section provides a framework for determining the likelihood that mining investors change their behaviour depending on the type of tax incentive and how it is designed, as well as the impact on government revenues.

It is important to relate analysis of tax incentives back to the broader fiscal package. There may be other investment commitments—for example, a free equity share—that call for evaluation of the fiscal regime as whole.

2(a) What is the type of tax incentive?

In Table 3, the risk ranking is based on a combination of: (i) the likelihood the incentive will trigger a behavioural response and (ii) the subsequent impact on government revenues. It is grounded in practitioners' experience and judgement rather than statistics.

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Table 3. Type of tax incentive and the related behavioural response

Tax Incentive	Potential Behavioural Response	Risk
Income tax holidays	Investors may increase their income during the tax-free period by speeding up the rate of production and shifting the profits offshore.	HIGH
Export processing zones (EPZs)	EPZs may set up a competing fiscal regime between the mineral processing facility and the mine. In response, investors may seek to reduce their taxable income by selling their mineral production at a below-market rate to its related party smelter, which is subject to a lower rate of tax in the EPZ.	
Royalty-based incentives	Investors may shift revenues into the tax-free period, like the response to a tax holiday. A sliding-scale royalty may encourage tax planning strategies to avoid falling into a higher royalty bracket.	
Fiscal stabilisation assurances (i.e., the mining fiscal regime is frozen)	Fiscal stabilisation does not trigger a specific behavioural response. But combining incentives with excessive use of broad and long-term fiscal stability provisions will magnify the adverse impact of tax incentives, including the unintended consequences, by potentially cutting off government's ability to correct mistakes and unexpectedly large revenue losses.	
Withholding tax relief on interest and services	Investors may increase the amount of interest expense and charges for administrative services paid to foreign affiliates, usually in low tax jurisdictions.	MEDIUM-HIGH
Cost-based incentives (e.g., accelerated depreciation)	Investors may inflate their capital expenditure (i.e., money spent on assets, building and equipment) above what is needed in order to maximise the tax benefit. This may be in actuality ("gold plating") or merely on paper in related party transactions. Note that investment tax credits are higher risk than other cost-based incentives. If not well designed, such a regime may also encourage companies to export fully depreciated assets to claim further deductions in other mining jurisdictions (i.e., the same asset may cycle through multiple countries).	MEDIUM
Import duty relief	Investors may increase the cost of machinery and equipment purchased from related parties to increase their deductible expenses.	

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2(b) How is the tax incentive designed?*Does the tax incentive create parallel fiscal regimes side-by-side?*

- Incentives that apply to one segment of the mining value chain (e.g., processing) and exclude others may create opportunities for abusive transfer pricing.

Is the cost base to which the tax incentive applies clearly defined?

- Where the starting point for the incentive is expenditure (i.e., in the case of an investment allowance), it is necessary to clarify: (i) what type of expenditure is included, (ii) whether losses can be carried forward to be offset against income in future years and (iii) if they can be added to the deductible expenditure.

Does the incentive create cliff edges?

- The abrupt ending of a tax incentive may create an incentive to shift profits forward to avoid paying taxes when the incentive ends. E.g., in the case of sliding-scale royalties where the rate adjusts depending on price (or other variables), investors near the boundary of a rate change may be induced to underprice sales.

How does the tax incentive interact with other tax incentives?

- When combined, certain groupings of incentives may increase the government revenue forgone. E.g., combining an income tax holiday with an exemption from withholding tax on shareholder dividends will result in significant profits going completely untaxed.

Is the fiscal stabilization clause limited in time and scope?

- E.g., stabilisation could be limited to specific fiscal terms relating to capital recovery, income and withholding tax rates, royalty rates, the maximum rate on import duties, and local charges. All other changes in tax law that apply generally and do not discriminate against mining would apply.

Is the tax incentive open ended?

- There should be clear parameters for review as well as sunset clauses to reduce the potential costs of badly designed tax incentive programmes. E.g., government could specify that an investment tax credit be carried forward for the first three “profitable” years, thus preventing the deferral of tax payments for long periods.
- Tax incentives should not exceed the time it takes to recover the investment (i.e., the pay-back period of the mine).

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2(c) What is the potential impact on government revenues?

Table 4 describes the steps involved in modelling the fiscal cost of tax incentives, including the behavioural responses.⁶

As noted earlier, it is essential that ministers have complete information on the financial modelling analysis, including the assumptions on which the model is based, that materially affect the conclusions reached and their sensitivity to changes in key inputs (e.g., prices).

Table 4. Modelling the fiscal cost of tax incentives

Description	
Step 1	<p>Estimate government revenue under the benchmark fiscal regime</p> <ul style="list-style-type: none"> • The benchmark fiscal regime depends on the purpose of the model. <ul style="list-style-type: none"> ◦ When modelling the mining fiscal regime, the benchmark will be the general tax treatment that applies to corporate entities. ◦ When modelling an individual mining contract, the benchmark will be the mining fiscal regime found in tax law and/or mining law. • Benchmark revenue is the revenue that flows to government under the benchmark fiscal regime.
Step 2	<p>Estimate the direct cost of tax incentives</p> <ul style="list-style-type: none"> • Tax incentives are added to the model to estimate incentive revenue (government revenue under the incentive fiscal regime). • The difference between benchmark revenue and incentive revenue is the direct cost of tax incentives.
Step 3	<p>Estimate the behavioural cost of tax incentives</p> <ul style="list-style-type: none"> • Assumptions about how investors change their behaviour are incorporated into the financial model to estimate behavioural revenue. • The difference between behavioural revenue and incentive revenue is the behavioural cost of tax incentives.
Step 4	<p>Estimate the revenue forgone from tax incentives</p> <ul style="list-style-type: none"> • The direct cost and behavioural cost added together is revenue forgone.

Finally, good governance of incentives is critical for their efficiency and effectiveness. Transparency is necessary to facilitate accountability for decisions to grant incentives and to limit the potential for corruption. Tax incentives should therefore be based on clear, measurable policy objectives clearly prescribed in law and subject to regular monitoring and review (see Box 2).

⁶ For more information see IGF (2018).

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Box 2. A checklist for good governance and tax incentives

- The government should have clear, measurable policy objectives for the incentives regime that are publicly stated, subject to public consultations and monitored regularly.
- There should be a “whole-of-government” approach to granting tax incentives; of particular importance is the involvement of the Ministry of Finance.
- Incentives should be available to all mining investors based on clearly articulated eligibility criteria prescribed in the law.
- Mining contracts and licence agreements should be public so that project-level tax incentives can be monitored.
- The final authority to grant incentives should not be given to officials or government entities with performance targets (i.e., their remuneration or bonuses) that are linked to attracting projects without review by other ministries (particularly the Ministry of Finance and/or tax administration).
- The government should regularly calculate and publicly report the amount of revenue loss attributable to incentives.

A surveyor wearing a white hard hat and a high-visibility yellow vest is operating a total station on a tripod. The background shows a mining site with a large pile of material and a yellow dump truck. The text is overlaid on a semi-transparent white box.

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4.0 Risk Review of Mining Tax Incentives and Related Behavioural Responses

Taxes on income

1. Income tax holidays

Definition: A tax holiday is a tax-free period. The duration may vary from one year to the entirety of the project. It may take the form of a complete exemption from profits tax, or a reduced rate, or a combination of the two (Zolt, 2015).

1.1 Behavioural Responses

a) High-grading

“High-grading” involves companies increasing the rate of extraction or preferentially extracting high-grade ore compared to what they would otherwise do absent tax considerations. The result is that the amount of tax relief is well above that originally envisioned by government. This is most likely to occur when the tax holiday is time-limited (e.g., five years) and unconstrained (i.e., not linked to the level of production).

However, while high-grading with the express purpose of avoiding tax is a possibility, it is also not unusual for a company to want to mine high-value, easy-to-access ore first to improve its cash flow, rather than the other way around. For example, if there is a gold dome on a copper deposit, the company will mine the gold first. Therefore, it is important to closely examine the circumstances surrounding high-grading, to determine whether it is a behavioural response to the tax regime or simply a mechanism to improve the profitability of the mine.

In practice, it is very difficult for governments to definitively establish high-grading. All they can do is: (i) not have tax-holidays or other “cliff-edge” fiscal changes and (ii) ensure appropriate technical review of mining plans at the time development plans are approved and then close monitoring of actual production against these. The bottom line is that any fiscal regime will affect cut-off grade, particularly royalties.

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b) Abusive transfer pricing

Transfer pricing has been described as the “Achilles heel of tax holidays” (McLure, 1999). It is common for mining investors to have two or more operations within a country or derive income from more than one activity (e.g., mineral extraction and processing). If one of those operations or one type of income is subject to a tax holiday, profits will tend to be allocated to the preferred activity (Zolt, 2013).

Box 3. Transfer pricing risks at the domestic level

All mines in Country A enjoy a five-year income tax holiday once production commences. MineCo has two gold mines in Country A. The first gold mine is much older than the second: it finished its tax holiday in 2016. However, the second mine’s tax holiday runs until 2022.

Between 2016 and 2022, MineCo is incentivised to shift as much profit as possible from the older mine to the newer mine to reduce its overall tax bill. It might do this by arranging for the older mine to purchase technical services from the newer mine at an above-market rate. A more extreme measure would be to physically move mineral production, so it is counted as part of the newer mine’s production, thereby minimising the group’s overall tax bill.

The example above is distinct from ring-fencing, or, more accurately put, sideways relief. “Sideways relief” is the consolidation of income between two or more operations controlled by the same investor or group of investors. Using the fact pattern from Box 3, the newer mine would offset its exploration and development costs against the older mine’s income, thereby reducing the group’s overall taxable income in Country A. While sideways relief is not affected by tax holidays, it has the effect of deferring government revenue, which merits concern from policy-makers. This issue will be covered in detail in separate guidance under the IGF-OECD cooperation.

More reasons not to grant income tax holidays⁷

Irrespective of the potential behavioural responses, income tax holidays are an inefficient and ineffective incentive for mining. Table 5 outlines the various reasons why governments should avoid granting tax holidays to mining investors.

⁷Tax holidays can also be harmful to other countries, particularly where they facilitate international profit shifting. For this reason, they were an important focus of BEPS Action 5. In the context of this practice note, however, it is less of a focus as most of the incentives contemplated aim to attract substantive local activity (i.e., mining or related value adding).

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Table 5. Reasons not to offer income tax holidays to mining investors

Reason	Explanation
Mining is location-specific	The resource is available only or primarily in a particular place, making it difficult for investors to move where they are offered better fiscal terms.
Marginal mines benefit less from tax holidays than more profitable mines	E.g., if a mine's gross profit is \$200 and its operating costs are \$50, a tax holiday means it keeps \$150 in revenue; whereas for a mine that has the same costs but only \$100 in profits, it keeps just \$50 in revenue. Assuming a corporate tax rate of 20 per cent, the government forgoes more tax from the profitable project (\$30), which is less likely to require tax incentives, than the marginal project (\$10), whose viability may depend on favourable fiscal terms.
Tax holidays have no impact on the cost of investing	Tax holidays are only relevant once a mine is profitable, and in a tax-paying position, which may be years after the decision to invest.
Tax holidays are lower priority for mining companies	Mining companies would prefer countries to improve other aspects of their mining fiscal regime to make it more competitive (personal communication, International Council on Mining and Metals Tax Network, October 2017).

1.2 Recommendations

If government regards tax holidays as essential, they should include these conditions:

a) A minimum amount of investment or the creation of new jobs.

Governments should bear in mind that these conditions may be “gamed” by investors by overvaluing the assets contributing to the investment or increasing the number of employees by hiring staff with minimal duties at low wages. A substantial activity requirement such as this is also essential in helping ensure the incentive will comply with BEPS Action 5.

b) Taxable income should be calculated as normal and taxed at zero per cent.

The taxable income calculation should be done as normal during the tax holiday period, with a zero tax rate applied. This includes deducting the depreciation cost of the mining plant and equipment. Otherwise companies may accumulate these deductions and offset them against taxable income once the holiday expires. In effect, the tax holiday is extended, reducing future tax collection (Guj et al., 2013).

c) Limit the holiday to the time anticipated for a specified tonnage to be extracted.

Government may reduce the risk of high-grading by agreeing to a tax holiday on a tonnage-of-ore-extracted basis, which is to say, once the agreed tonnage has been extracted the tax holiday expires (Guj et al., 2013). The 2012 Mali Mining Code states that, if production exceeds the

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levels approved annually by the company's board of directors by 10 per cent, the generally applicable corporate income tax rate is applied to the excess. An alternative would be to benchmark production to the feasibility study, rather than the decision of the board.

Box 4. "Pioneering status" in Singapore

The Government of Singapore offers a concessionary tax rate or complete exemption to "pioneering" investors for 5–15 years, provided they fulfil certain conditions on an annual basis, including total business expenditure, the creation of jobs, payments to local suppliers, and knowledge and technology transfer. The incentive in the law is available to all investors that fall into the category of "pioneering." If the conditions aren't met, the tax rate steps up. At the end of the incentive period, the investor may have their profits taxed at a concessional rate if certain conditions are met.

The incentive is monitored by the Economic Development Board (EDB). Investors that are granted the incentive must submit regular progress reports to the EDB for the evaluation of performance. If there is any breach of conditions, the incentive may be revoked, and associated benefits recovered.

d) Ensure that transactions between related parties that are both assessable within the mining country are subject to transfer pricing rules.

The bulk of related party transactions take place across international borders. However, there may be instances where both related parties are assessable in a single country. If one is subject to a lower tax regime—for example, a tax holiday—there will be an incentive to shift profits to the preferred activity, i.e., international BEPS techniques imported into a purely domestic setting. An adjustment will only be possible if transfer pricing rules cover domestic related party transactions as well as those that occur internationally.

Box 5. Guidance on transfer pricing rules

- [BEPS Actions 8–10](#) contain transfer pricing guidance
- [OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations](#) (updated in 2017)
- [United Nations Practical Manual on Transfer Pricing for Developing Countries](#) (updated in 2017)
- [Suggested Approach to Drafting Transfer Pricing Legislation](#), African Tax Administration Forum

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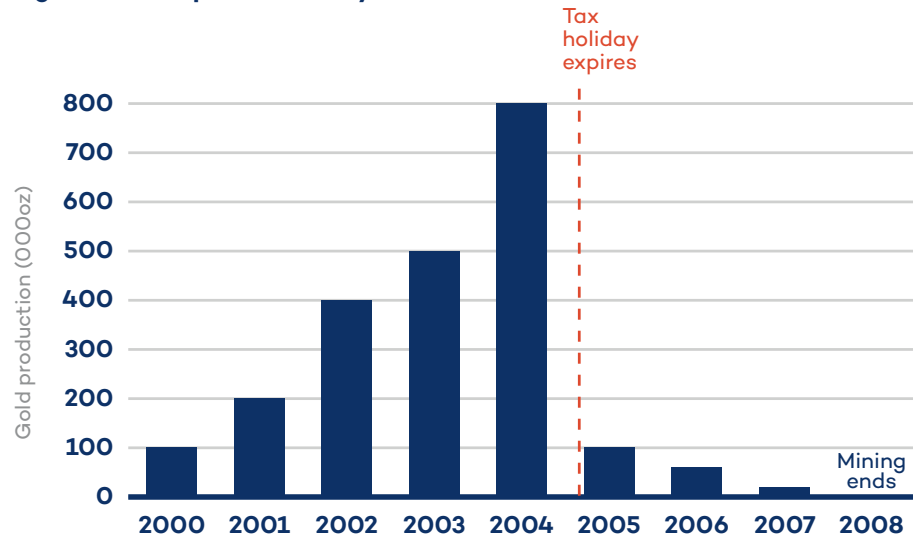
Example 1: High-Grading in Gold Mining

MineCo is a gold mine in Country D. It is subject to a corporate income tax holiday for the first five years of production, per Country D's mining law.

MineCo started production in 2000. According to the feasibility study, MineCo was expected to continue to produce until 2015. However, in 2008, mining stopped, and the site was converted into a stockpile retreatment operation. There are two strong reasons to suspect MineCo was engaged in high-grading:

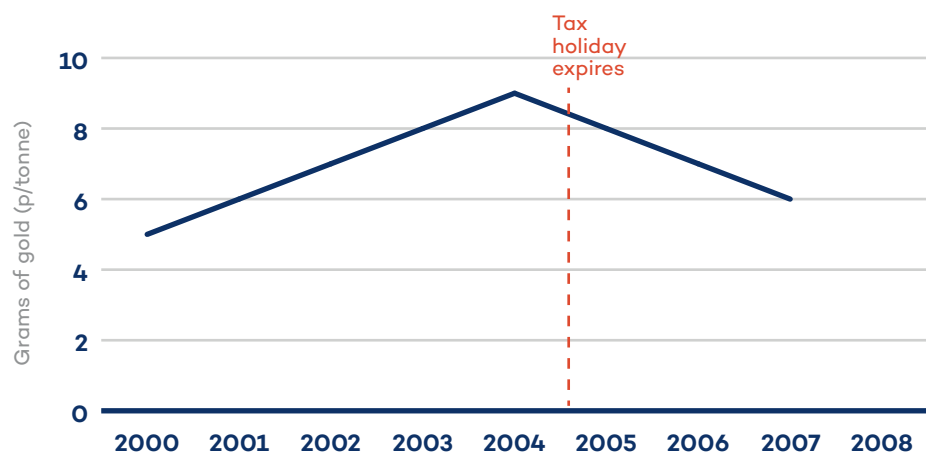
1. MineCo reached peak production in the first five years from when production started. Between 2000 and 2005, MineCo produced 2,000,000 (oz) of gold, roughly 92 per cent of the mine's total production.

Figure 2. Gold production by MineCo



2. The grade of ore extracted during the tax holiday was significantly higher than after, suggesting MineCo had brought forward higher-grade production during the holiday period.

Figure 3. Grade of ore produced by MineCo



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2. Withholding tax relief

Definition: Withholding tax (WHT) requires the taxpayer to withhold some income tax on outbound payments. For example, a taxpayer in Country A borrows \$1,000 from a lender in Country B; the lender requires 10 per cent interest on the loan, which is \$100. The WHT rate in Country A is 5 per cent, meaning the borrower must withhold \$5 income tax on the \$100 interest it pays to the lender.

WHT is usually levied on management charges, shareholder dividends and interest expense on foreign loans. The significance of these costs to mining operations make administration of WHT critical to revenue collection; conversely, this may be used to justify exemptions, for example, a reduced WHT rate on interest payments.

2.1 Behavioural Responses

WHT applies to payments to foreign entities, primarily related parties, and includes:

- Payments of interest
- Management or administrative charges
- Shareholder dividends

BEPS risks are significant with respect to the first two types of outbound payments. Dividends, on the other hand, cannot be deducted from taxable income (unlike interest expenses or service payments), in which case, there is less incentive for investors to artificially inflate dividends to maximise WHT concessions. Notwithstanding, WHT is the last chance for governments to tax profits before they leave the country, as such it may be unwise to offer a reduced rate of WHT on dividends irrespective of the low tax risk. Governments that offer tax holidays should be wary of also giving WHT relief on dividends, as this may result in profits going entirely untaxed.

a) Excessive interest deductions

Mining requires significant upfront finance during construction and pre-production phases, and additional financing throughout the mine's life to maintain operations and fund expansions. While parent companies can attract commercial lenders at the global level, this may be more difficult for mining subsidiaries based in developing countries, primarily due to country risk. In most cases, debt is provided by a related party that is resident in a low-tax jurisdiction. If WHT is reduced or exempt, the mining country ends up with interest allowed as a deductible expense and no tax on the interest income received by the related party. Moreover, it encourages the group to highly leverage its mining subsidiary to strip profits out via interest expense.

For a more detailed discussion of affiliate debt, which is one of the principal ways that BEPS is happening in the mining sector, please refer to the IGF & OECD (2018) publication *Limiting the Impact of Excessive Interest Deductions on Mining Revenues*.

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b) Inflated management charges

Mining subsidiaries can access a range of administrative and technical services from their parent company or, in some cases, from a specially designated related party services company. In most instances, the parent or services company covers the cost of delivering these services, then charges it as management service fees to its subsidiaries.

The behavioural response is that companies use management fees to transfer profits from the mine to a foreign affiliate, usually in a low-tax jurisdiction. Provided that WHT applies, there is a cost to companies inflating management fees (e.g., if WHT is 15 per cent and the taxpayer increases the fee from \$100 to \$200, the tax cost also increases from \$15 to \$30) that may reduce dividends and increase financing costs. However, if WHT is lowered or exempted, any safeguard against profit shifting is eliminated, and it is highly likely that management fees will increase.

In some cases, there may be an additional incentive which relates to how the management charge is calculated. Rather than enforcing the arm's length principle, which requires taxpayers to price transactions between related parties as if they were taking place between unrelated parties, the government agrees to the taxpayer deducting a fixed amount or percentage for management service charges. It is not uncommon to see mining companies operating in Africa charging a percentage of the mine's total sales revenue, which has no relationship with the actual service that has been provided. These combined incentives make profit shifting highly likely.

2.2 Recommendations**a) Limit excessive interest deductions.**

Refer to the IGF & OECD (2018) publication *Limiting the Impact of Excessive Interest Deductions on Mining Revenues* for an in-depth review of potential policy responses.

b) Consider legislating the cost-plus method for management fees.

Governments should consider implementing OECD BEPS Action Items 8–10, which state that, in the case of routine services—for example, management services—the charge should be the cost of providing the service, plus a markup of 5 per cent. This is because management services are low value adding (i.e., supportive in nature, not part of the core business of the multinational group; they do not involve the use of intangibles or the assumption of significant risk by the service provider).

c) Adopt laws that protect against tax base erosion.

Countries that choose to offer withholding tax cuts will have to spend significantly more time defending the tax base, thus increasing the human and financial resources required for tax administration. Specifically, countries will need to rigorously apply additional base protection rules, particularly those relating to transfer pricing, and thin capitalisation (i.e., debt-to-equity ratios and limits on interest deductions).

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Example 2: Fixed Percentage for Management Fees

In 2010, MineCo signed an Investment Agreement with Country C to develop a gold mine. The agreement states that fees paid by MineCo to its parent company HeadCo in return for a range of management and administrative services will be calculated as follows:

- 4 per cent of all capital and operating costs incurred from the beginning of the agreement until production starts
- 7 per cent of capital and operating costs incurred after commencement of production.

The provision deviates from Country C's general tax code, which states that the transfer of goods and services between related parties should be made at the "market price." It also prevents the tax authority in Country C from making any adjustments should the charges be found to be non-arm's length.

HeadCo is the majority shareholder of MineCo. Since 2011, it has been the manager of the MineCo gold project. The services provided by HeadCo include mining expertise and technical services, procurement and logistics, risk and compliance, commercial services and human resources services. Most of these services would be defined as "low value adding"⁸ according to OECD BEPS Actions 8–10 and should be charged on a cost-plus basis with a markup of approximately 5 per cent. Cost-plus refers to the cost of providing the service, not the capital and operating expenditure of the mine, which is the basis for calculating management charges paid by MineCo to HeadCo.

In addition to questioning the cost-base, Country C should review HeadCo's use of fixed percentage fees. It is unlikely that independent parties would agree to a fixed percentage for service charges over an extended period, for example the life-of-mine. Service charges should be calculated each year, the expectation being that the value of the charge will change because companies are becoming more cost efficient.

⁸ Services that are of a supportive nature; not part of the core business of the group; not dependent on contributing to unique and valuable intangibles; and do not involve substantial or significant risk.

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3. Cost-based incentives

Cost-based incentives include investment allowances, investment tax credits, accelerated depreciation and loss carryforwards, all of which decrease the capital cost. These types of incentives are better suited to mining investments than tax holidays because:

- They allow taxpayers to recoup their investment through appropriate deductions from their taxable income or directly from their tax bill.
- They defer tax to later stages in a project's life and therefore do not eat into cash flows in the initial critical years when capital is most needed.
- It is easier to anticipate the revenue cost of the incentive because it is based on the amount of investment.

Box 6. Types of cost-based incentives

a) Accelerated depreciation: Capital expenditures result in assets—for example, a drilling rig—that has a useful life of several years. Resource accounting and tax systems usually spread the cost of the asset over its useful life (known as depreciation or amortization), rather than upfront when the expenditure is made. Mining companies may be allowed a faster rate of depreciation on assets to recoup their costs sooner.

E.g., If the asset costs \$200 and the standard depreciation period is 10 years, the company can deduct \$20 from its taxable income each year for 10 years. An accelerated depreciation rate of five years would allow \$40 to be deducted each year for five years. This means the project will pay less tax in the first five years and therefore recover its costs quicker.

b) Investment allowances: An investment allowance gives the taxpayer the right to offset a percentage of its capital expenditure against its taxable income in the year the expenditure is made, rather than spread over time through depreciation.

E.g., If the taxpayer spends \$200 and the allowance is 50 per cent, it can deduct \$100 from its taxable income in the first year. Applying a 20 per cent corporate income tax rate means the taxpayer's liability is reduced by \$20. This enables even quicker cost recovery than accelerated depreciation, although standard depreciation rates would still apply for the other half of the investment.

c) Investment tax credits: An investment tax credit enables a taxpayer to reduce the amount of *tax payable* by a portion of its investment expenditure in the first year, rather than reduce its *taxable income*, as with investment allowances.

E.g., if the investment is \$200 and the investment credit is 50 per cent, the taxpayer can reduce its tax liability in that year by \$100. If the tax payable is \$40, the taxpayer can apply this \$100 investment credit to reduce its tax liability to minus \$60. This balance could be paid back to the investor from the tax authority, carried forward to offset tax liabilities in future years or expire. The investment credit is four times more generous than the investment allowance (minus \$60 versus a \$20 tax liability).

d) Longer loss carryforward: The general tax code usually allows operating losses to be carried forward to offset taxable income in a future year, with a limit on the loss carryforward period. The large, upfront costs involved in mining mean that a longer loss carryforward period may be appropriate. This reduces tax revenues where losses that would have otherwise expired can continue to be carried forward to reduce taxable income.

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3.1 Behavioural Responses

The behavioural response to cost-based incentives can be broken down into four types:

1. Investments that were not intended to be eligible or fall outside the time period of the incentive are included.
2. Taxpayers inflate the cost of capital items purchased from related parties; sometimes referred to as “gold plating.” Cost-based incentives may induce companies to spend more on capital investment, which involves related parties, to defer tax for longer and thus claim a greater share of project revenues.
3. Investment allowances and credits may pose a further base erosion risk depending on how they interact with the standard depreciation regime, specifically, whether they provide an opportunity for the same capital costs to be deducted twice: once through the investment allowance/credit and again through depreciation. In principle, costs should only be deducted once. For example, if the investment allowance provides for 100 per cent of capital costs to be deducted in the first year, the asset’s costs should not also be deductible via depreciation; if the investment allowance is 50 per cent, only the remaining 50 per cent of the asset’s value should be deducted through depreciation.
4. Assets that get the accelerated treatment are then exported and transferred to another country to be offset against income tax there (see the section on import duty relief).

However, it is important to recognise that inflating expenses to get a tax benefit has a cost for investors. First, if the cost of investment goes up, so will the cost of financing. Assuming the investor uses debt to finance the additional cost, it will have to pay tax on interest expense. Second, the additional finance cost will reduce available profits from which to pay dividends. These costs may outweigh the tax benefit of inflating expenses.

3.2 Recommendations

Governments that wish to provide cost-based tax incentives to mining investors should adopt the following complementary measures to protect against the risk of base erosion:

a) Clearly define the assets and asset categories to which the cost-based incentive applies as well as the time-period.

E.g., in Mongolia, the government offers an investment tax credit for depreciable capital assets during the construction of a mine but caps it at 80 per cent of taxable income, and only allows the expenditure to be carried forward for three profitable years before it expires.

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b) Consider that both an investment tax credit and an investment allowance enable taxpayers to recoup their costs, but the former significantly reduces tax revenue.

An investment allowance reduces the amount of income available to tax, whereas an investment credit reduces the amount of tax. Both incentives enable investors to recoup their costs, although the credit will wipe out government revenues in the near term and may encourage greater cost overstatement due to the more generous tax benefit.

c) Ensure that uplift amounts are not compounded.

The uplift of exploration, development and other capital costs should not form part of the cost-base that is uplifted the following year (see Example 3).

d) Monitor import duty concessions for mining imports.

Monitoring revenue forgone from import duties is always advisable, but, in the context of cost-based incentives, there is an even greater need to ensure mining investors are not using their duty-free status as an added opportunity to inflate the value of imports to increase the tax benefit (see the section on Import Duty Relief).

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Example 3: Capital Allowance Uplift

MineCo is a gold mine located in Country A. It benefits from a Capital Allowance Uplift (“uplift”) for mining expenditures. The provision in the general tax code states that:

- All expenditure is deductible in the year it is incurred.
- An uplift of 10 per cent is allowed on unredeemed qualifying capital expenditure (UCQE), which includes development costs but not exploration costs.
- The “allowance base” for calculating the uplift includes the uplift earned in the previous year. This final feature means the incentive is compounded. As a result, the date on which the first tax is due from a mining operation can be deferred for a long time.

Figure 4. Impact of capital allowance uplift on deductions

Note: Tax income should be read as taxable income before deduction of UCQE.

		WITHOUT UPLIFT	WITH UPLIFT	UPLIFT IS COMPOUNDED
Year 1	UCQE	82	82	82
	Tax Income	18	18	18
	Deduction	64	64	64
	Uplift (10%)		6	6
Year 2	UCQE (Yr 1)	64	64	70
	Tax Income	18	18	18
	Deduction	46	46	52
	Uplift		5	5
Year 3	UCQE (Yr 2)	46	46	57
	Tax Income	18	18	18
	Deduction	28	28	39
	Uplift (10%)		3	4
	Total expenses	24	31	43

With uplift + compounding deduction increases by 56%

Uplift of 10%

Allowance base includes the uplift earned in previous year, hence it is compounded

Governments must clearly define the base to which the tax incentive applies. It is unlikely that Country A intended the uplift to be compounded year-on-year, as the effect was to defer income tax for a considerable period. The provision was repealed only three years after it was introduced; however, due to fiscal stabilisation, investors could retain the incentive.

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Taxes on imports and exports

4. Export processing zones

Definition: A common characteristic of EPZs is the provision of special incentives to attract investment, mostly foreign, for export production. Incentives may include tax holidays, duty free export and import, and free repatriation of profits.

4.1 Behavioural Responses

EPZ status is usually granted to a company's mineral processing operations, which may be an important factor in encouraging value addition in the mining country. The fiscal terms generally include tax holidays, duty-free export and import, value-added tax and withholding tax relief. The mine itself, responsible for extracting the product for export but outside the EPZ, may be obliged to pay tax on profits, as well as mineral royalties, depending on the applicable fiscal regime. Consequently, there is an incentive for the company to shift profits from the mine to the processing facility to reduce its overall tax bill. The most obvious way to do this is by under-pricing the intermediate mineral product sold to the processing facility for smelting and refining, thus reducing the company's taxable income.

Box 7. Spillover effects of EPZs

Countries using poorly designed incentives risk contravening the OECD initiative on Harmful Tax Competition launched in 1998 and, more recently, BEPS Action 5.

An EPZ may be a "harmful preferential regime" if:

- The regime is preferential (i.e., it offers some form of tax preference in comparison with the general principles of taxation in the relevant country, for example, a lower corporate tax rate).
- The preferential regime is potentially harmful (some key factors include the regime imposing no or low effective tax rates, or being ring-fenced from the domestic economy).
- The preferential regime is *actually* harmful (i.e., the tax regime shifts activity from one country to the country providing the preferential tax regime).

Where a preferential regime is found to be actually harmful, the relevant country will be required to abolish it or remove the features creating the harmful effect.

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In addition to forgone government revenue, there are also costs for establishing EPZ infrastructure and providing subsidised services, for example, cheaper power and water. These subsidies may trigger behavioural responses, which lead to inefficiencies and wastage that consequently result in a higher-than-intended overall burden to the state. These should be estimated and included in financial modelling of the incentive.

4.2 Recommendations

Governments that wish to extend EPZ status to mineral processing operations should adopt the following measures:

- a) **Constrain the application of EPZ status to customs and indirect tax exemptions or to areas that are closely supervised—excluding upstream activities.**
- b) **Monitor all transactions with affiliates with EPZ status to ensure they comply with the arm's length principle.**

Transfer pricing rules will need to cover instances of transfer pricing manipulation at the domestic level, as well as cross-border transactions.

- c) **Establish an Advance Pricing Agreement (APA) for related party sales contracts, sourcing external expert advice to determine an appropriate benchmark price.**

An APA is an agreement, usually for a fixed period, between a taxpayer and at least one revenue authority. The agreement specifies the chosen transfer pricing method that the taxpayer will apply to a particular related party transaction. The revenue authorities commit to not making any adjustments during that period, provided key assumptions that underpin the agreement continue to hold (e.g., the mine continues to produce the same product). The main advantage is that an APA locks in a method for determining the transfer price upfront, reducing the need for complex transfer pricing analysis. Also, during the negotiation, the tax authority will get access to detailed pricing information from the taxpayer that should build its industry knowledge.

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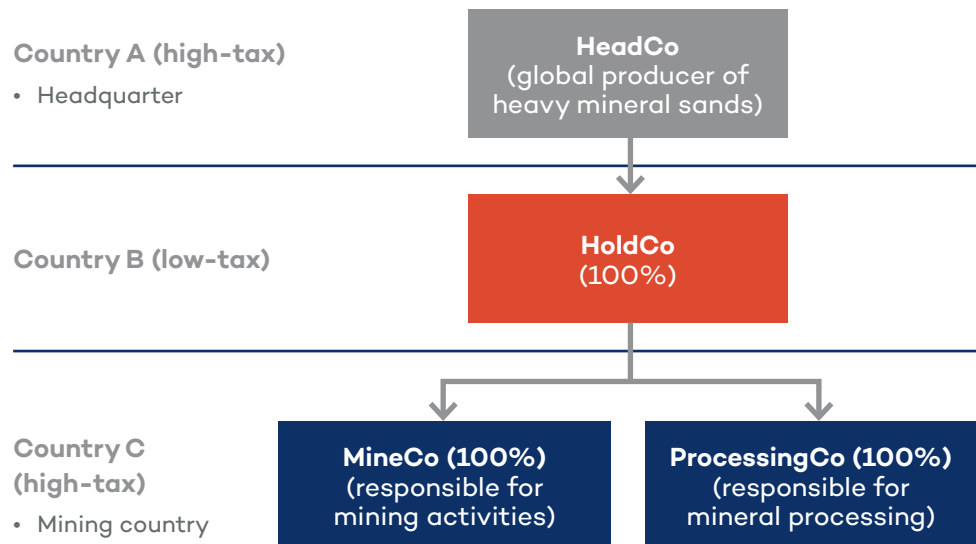
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Example 4: Mineral sales to EPZ

HeadCo is a major global supplier of heavy mineral sand products located in Country A. It operates HoldCo, a 100 per cent owned subsidiary in Country B (a low-tax country), which operates through branches MineCo and ProcessingCo in Country C (a mining country).

Figure 5. Structure of HeadCo

In 2000, Country C granted ProcessingCo EPZ status, which means it is exempt from corporate income tax. Its only tax liability is a revenue tax of 1 per cent charged after six years of operation, which became payable in 2013. By contrast, MineCo, also in Country C, is subject to a 3 per cent royalty plus corporate income tax at a rate of 17.5 per cent for the first 10 years of production (2007 onwards), thereafter transferring to the standard rate of 35 per cent.

MineCo sells 100 per cent of its production to ProcessingCo. Between 2007 and 2013, when the latter is tax exempt, MineCo is found to have sold its mineral production to ProcessingCo at a below-market rate, thus reducing its taxable income, as well as royalties, which are calculated on the sale price received.

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5. Import duty relief

Definition: Import duties are taxes collected on imported goods. The tax is usually based on the value of the good. For example, if import duty is 10 per cent on mining inputs, a company that brings in drilling equipment valued at \$500,000 will have to pay \$50,000 in tax.

5.1 Behavioural Response

The main tax risk from import duty exemptions is companies increasing the cost of imported equipment and material procured from related parties to reduce taxable income in the mining country. Import duties reduce the incentive to artificially inflate the cost of imported equipment and machinery, as the duty is a direct financial cost to importing goods at higher prices. Import duty relief reduces that direct financial cost, while a waiver removes it altogether.

Companies could artificially inflate prices by:

- Paying the retail price for older equipment and machinery that has been used by an affiliate company in operations elsewhere and should therefore be purchased at a lower price that reflects the reduction in the value of the asset, particularly due to wear and tear.
- Paying a higher markup on the cost of equipment and machinery purchased through a corporate services hub located in a low- or zero-tax jurisdiction.

5.2 Recommendations

Despite the risks, import duty relief is a common feature of the mining fiscal regime. It reduces input costs and risks for mining projects, which is especially important to investors given the substantial amount of capital investment required during the development of a mine.

While import duty relief may be necessary to attract mining investment, government should still protect its import duty base by adopting the following measures:

a) Levy a partial import duty (e.g., half the standard rate).

This avoids raising the cost of investment to the level of a full import duty while discouraging over-invoicing. It also creates an incentive for customs authorities to verify the cost of mining imports, which they may not if there is no revenue to collect.

b) Issue a “mining list” that identifies goods intended for mining that are subject to duty concessions, versus goods for general use (e.g., photocopiers used incidentally by mining companies).

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c) Require taxpayers to apply for an import permit for equipment and machinery on the mining list.

Customs would verify the value of the import, giving it the opportunity to make an adjustment upfront rather than when the item is re-exported. To avoid operational delays, taxpayers should be encouraged to engage customs in advance of the equipment and machinery arriving.

d) Assess the value of the duty as usual under customs legislation and reduce the duty payable, or set it to zero, as required by the mining law.

This allows the duty to be levied later if the item is exported or used for purposes other than those which attract the mining concession (e.g., a 4-wheel drive sold to a non-mining company).

e) Revalue second-hand equipment to determine the residual value, considering the wear and tear over time.

It is common in the oil and gas sector for Production Sharing Agreements to contain standard rules for costing used equipment. E.g., in the case of materials purchased from affiliates, the price may be between 50 per cent and 75 per cent of the current international price of the material, depending on whether it requires reconditioning before it can be reused.

f) Ensure there is a legal basis for the tax authority to adjust the taxable income of the taxpayer in the event that an asset is transferred between related parties at a non-market price.

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Example 5: Sale of Assets

MineCo operates an iron ore mine in Country A. According to the mine development agreement, the tax incentives given to MineCo also apply to its subcontractors. The relevant incentives are an exemption on import duties and accelerated depreciation.

Three years ago, MineCo's subcontractor, ServiceCo, imported a fleet of dump trucks to transport the ore from the mine site to the port of export. The total cost of the trucks was \$1 million. ServiceCo was exempt from paying import duties (10 per cent), which means the government forwent \$100,000 in tax revenue.

Over the next three years ServiceCo depreciated the capital costs of the trucks at a rate of 30 per cent. The table below sets out the value of the trucks each year minus depreciation (the "adjusted value") and the depreciated cost, which is deducted as capital allowance.

Table 6. Adjusted value of the dump trucks

	Adjusted value	Capital allowance (30%)
Year 1	\$1,000,000 (import value)	\$300,000 (i.e. \$1 million*0.3)
Year 2	\$700,000 (i.e. \$1 million - \$300,000)	\$210,000
Year 3	\$490,000	\$147,000
Year 4	\$343,000	Depreciation period ends

At the end of year three, ServiceCo had claimed a total of \$657,000 in capital allowances, and the trucks had a remaining adjusted value of \$343,000. In year four, ServiceCo transferred the dump trucks to its affiliate company in neighbouring Country B.

During an audit in Country A, the tax authority discovered two problems.

1. The dump trucks had been second hand when brought into Country A, although ServiceCo assigned high market values to the trucks to increase their depreciable value, and hence the amount of capital deductions.
2. Instead of transferring the trucks to its affiliate at the adjusted value of \$343,000 in year four, it used an inflated "fair market value" of \$850,000. (Note that the market value of the trucks as determined by ServiceCo was 85 per cent of the assets' import value).

The tax authority's response was to adjust ServiceCo's chargeable income by adding back the inflated capital allowances it had deducted over the past three years. According to the law in Country A, the transfer of assets to affiliates must be at fair market value and the profits subject to tax. Because the tax authority lacked the expertise to determine the actual market value of the trucks, it deemed the sale of the trucks at ServiceCo's own inflated "fair market value" of \$850,000.

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The tax authority made the following adjustment:

$$\begin{aligned} \text{Sale value (\$850,000)} & - \text{remaining adjusted value (\$343,000)} \\ & = \$507,000 \end{aligned}$$

The \$507,000 is the difference between the sale value and the remaining adjusted value of the trucks after depreciation (i.e., the “balancing charge”). The tax authority added the balancing charge back to ServiceCo’s taxable profits. The amount neutralised the excess capital allowances claimed (a total of \$657,000 in the three years), except \$150,000. A rate of 30 per cent corporate income tax was levied on the \$507,000, resulting in \$152,000 in additional tax revenue.

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Taxes on production

6. Royalty-based incentives

Definition: Royalties are charged on mineral sales, most commonly as a percentage of the sales value (“ad valorem”). Royalty-based incentives could be provided by:

- Royalty holiday – the royalty is reduced (or waived) for a period
- Royalty deferral – the payment date is extended (usually no more than three months)
- Sliding scale – the rate varies depending on sales, production, price or cost.

Total exemption of royalties is generally infrequent (Hartley & Otto, 2008).

6.1 Behavioural Responses

a) A royalty holiday provides an incentive to shift revenues into the tax-free period, like the response to an income tax holiday.

For most countries, royalties are applied at a constant rate, either to the value of production (“ad valorem”) or a physical unit of production (e.g., dollars per tonne of iron ore), thus imposing a fixed cost on investors regardless of their profitability. To increase the responsiveness of royalties to profitability, particularly during low commodity price periods, governments may offer a partial or complete royalty holiday for a period of years. Another reason government might agree to reduce royalties is to prevent early termination of mineral production as the natural resource approaches exhaustion.

These may be reasonable trade-offs, depending on the circumstances; nevertheless, governments should be mindful that investors may respond by speeding up the rate of production and extracting the highest value ore, to maximise sales revenue during the tax-free period. In this regard, the behavioural response to royalty-based incentives is like that for income tax holidays, but potentially more significant given the regressive nature of a royalty. There is also no guarantee that such measures will make royalties more responsive to profit, whereas an increase in administrative complexity is assured (Calder, 2014).

b) A sliding-scale royalty may encourage taxpayers to adopt tax planning strategies to avoid falling into a higher royalty bracket.

There may be merits to sliding-scale royalties insofar as they tax companies more in times of high profits and allow some relief in periods when gains are low. The intention is not to evaluate these merits here, but to highlight the potential behavioural responses to sliding-scale royalties that may undermine government revenue.

Sliding-scale royalties can have an “incremental” or an “aggregate” structure:

- An **incremental structure** operates like progressive income tax regimes in many countries around the world, with a different marginal royalty rate applied to each increment of the mineral price.
- An **aggregate structure** applies the royalty rate to the entire price of the commodity.

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An aggregate structure is easier to calculate and simpler to administer, but it can also distort investor behaviour due to the step-change in the average tax rate at each boundary of the royalty rate table.

Unlike other tax incentives included in the practice note, this incentive exists even in sales to unrelated parties, as both parties may be better off pricing just below the boundary and not in the price bracket above (i.e., the seller pays less in royalties and the buyer gets a cheaper product).

Box 8. Sliding-scale royalties: “Incremental” versus “aggregate”

A sliding-scale royalty has the following rate table:

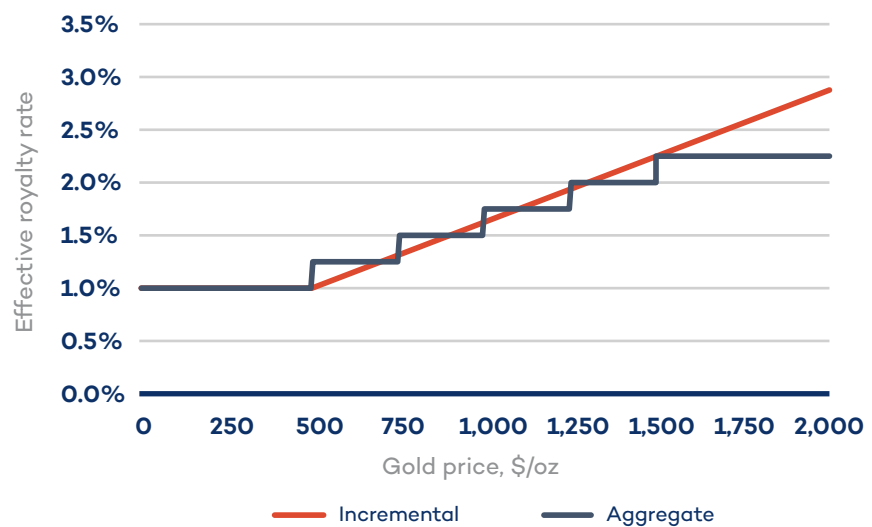
Commodity price from...	...up to	Royalty rate
0	99.99	1%
100	199.99	2%
200	299.99	3%
300	unlimited	4%

Under an incremental structure, the royalty on sales at a price of \$250 would be calculated as $(\$100 * 1 \text{ per cent}) + ((\$200 - \$100) * 2 \text{ per cent}) + ((\$250 - \$200) * 3 \text{ per cent}) = \4.50 . The effective royalty rate is 1.8 per cent (calculated as $\$4.50 / \250).

Under an aggregate structure, the 3 per cent rate would be applied to the entire \$250 price, giving a royalty of \$7.50. The effective royalty rate, 3 per cent, is higher than the effective royalty rate of 1.8 per cent under the incremental structure.

The average tax rates of the incremental and aggregate structure royalties are shown in the chart below. The tax rate in the incremental structure increases in a relatively smooth line, whereas the tax rate in the aggregate structure jumps at each price boundary. This creates an incentive to set prices just below the boundary, as set out below.

Figure 6. Average tax rate of sliding-scale royalties



Consequently, the seller has an incentive to price up to the boundary change but not beyond this, where extra revenue gained from selling at a higher price is offset by the additional royalty due from paying the higher rate.

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6.2 Recommendations

Countries that would like to provide royalty-based incentives to mining investors should adopt the following complementary or alternate measures to limit potential behavioural responses:

a) Establish clear and objective criteria, and procedures to waive or exempt royalty payments.

Criteria may include:

- Cash flows must be negative.
- The mine does not have the funds to pay the royalty by the due date.
- The cash flow difficulties are temporary and capable of being overcome (i.e., waiver or exemption should be short [a few months]).
- The mine may have to close with job losses if royalties were demanded.

b) Offer a sliding-scale royalty that uses an “incremental structure,” which is less likely to lead to undercharging for mineral exports.

Because the average tax rate increases gradually, taxpayers get less of a tax benefit from setting the mineral price just below the rate boundary than under an aggregate structure (see Box 8).

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Other incentives

7. Stabilization of fiscal incentives

Definition: Fiscal stabilization is intended to preserve the taxation, production-sharing, pricing, and/or state participation rules that govern the division of proceeds from a resource project at the time of contract. The primary justification for this is to ensure the bankability of projects in countries with higher levels of political risk. The clauses thus assist financial institutions in assessing the relative risks of projects. There are generally three approaches to stabilization:

- The laws (or contract terms) in force on the date of agreement are frozen.
- Any future tax policy changes that would increase the tax burden on the project won't apply, although the project can benefit from tax decreases.
- Changes in the tax regime will apply but the government is required to negotiate. There is an agreement with the company to negotiate to maintain the preceding economic equilibrium if there are any adverse changes (Daniel & Sunley, 2008).

7.1 Behavioural Response

Most sectors of the economy are subject to changes in domestic law as they arise. But, for mining, oil and gas, and some other sectors, because of the size and long-term nature of the investment, some companies request, and some governments grant, a legal guarantee that part of or all fiscal terms will not change adversely for the duration of the investment, or a shorter period, depending on how the clause is designed.

Where such clauses are used, and depending on how they are drafted, they may extend beyond standard fiscal terms and also apply to tax incentives provided for in domestic law and at the contract level as of the date the mining agreement is signed or ratified by parliament when this is required by law in developing countries (e.g., Liberia and Sierra Leone).

If there is a significant change in circumstances, for example, commodity prices rise making it easier to attract investment or a tax incentive is used in a way that government didn't anticipate, unsustainable benefits may result. The risk is that fiscal stabilization also locks in all the aforementioned behavioural responses linked to incentives.

More broadly, stabilisation may prevent governments from applying reasonable changes to laws, regulations and rulings on matters intended to prevent abuse. Following the OECD BEPS project, many countries are updating domestic law to better protect their tax base, for example, capping interest deductions as a percentage of pre-tax earnings. However, investors may claim that these changes in global tax standards do not apply to them. The result is that government's ability to address tax leakages is restricted.

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7.2 Recommendations

There is significant risk that the use of fiscal stabilization clauses may exceed the goal of ensuring bankability of projects. Some clauses are very broadly drafted, often extending well past the financing stages. When this occurs, stabilization clauses become more akin to rent-seeking tools than necessary financial assurances.

However, countries that want to include a fiscal stabilisation provision in their mining agreements should consider the following:

- a) **Limit the time period and scope of the fiscal stabilisation provision.**
- b) **Avoid stabilisation clauses that provide a blanket exemption from fiscal changes.**
- c) **Include an express right to implement international best practice/ standards relating to operations, taxation and accountability.**
- d) **Exclude fiscal stabilisation for mining companies' subcontractors and affiliates that do not assume the same long-term capital and financing risks.**

These recommendations will be elaborated on in forthcoming guidance from the IGF and OECD on stabilisation clauses and investment treaties.

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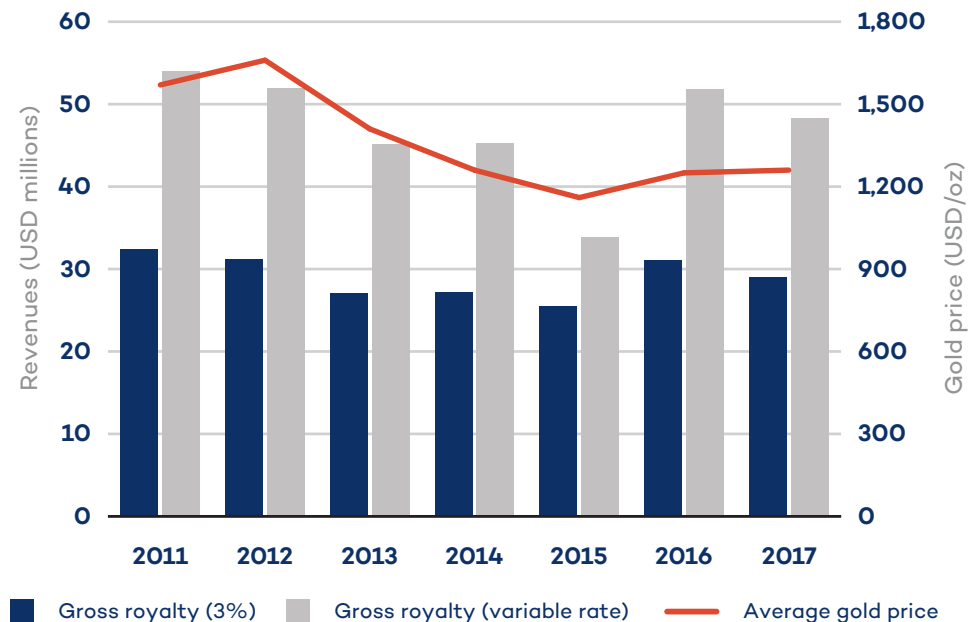
Example: Fiscal Stabilisation Clause Freezes Royalty Rate


In 1995 gold prices were low, and Country D was desperate to attract investment. In exchange for commitments to develop gold mines, investors were given a low royalty rate of 3 per cent, which was subsequently stabilised in numerous mining contracts. MineCo was one of the many companies that rushed to invest in Country D and was granted the fixed royalty rate of 3 per cent for 25 years.

A few years later, gold prices rose. By 2010 the government was under pressure to change the fiscal regime due to concern that the country was not benefitting enough from the commodity. It introduced a new variable royalty in line with the world gold price. When the world gold price was less than \$1,000 per ounce, the existing 3 per cent royalty would be maintained. But if prices went above \$1,000 per ounce, the rate would rise to four per cent. Above \$1,200, companies would pay a 5 per cent royalty. At the time of the new arrangement, the world gold price was more than \$1,400 per ounce.

MineCo’s rate stayed at 3 per cent due to the fiscal stabilisation clause in its contract. According to Country D’s gold production data, between 2011 and 2017, MineCo produced approximately 5,000,000 ounces of gold. Applying the variable royalty rate introduced in 2010, MineCo should have paid the state approximately \$300 million in gross royalties. In reality, it paid only \$203 million due to its fixed rate of 3 per cent. As a result, Country D missed out on nearly \$100 million in potential revenue.

Figure 7. Comparison of revenues under a fixed versus variable royalty rate





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5.0 Sources of Information for Reviewing Tax Incentives

This section sets out the information government needs to assess possible behavioural responses and their impacts on mining revenues. The availability of information and its relevance may vary depending on the stage of the project. During contract negotiation, the feasibility study will be the basis for estimating the revenue cost of tax incentives. Once the mine is operational, additional information such as tax returns, transfer pricing documentation and company reports can be used to monitor the revenue cost of tax incentives and investor compliance with performance conditions (e.g., production targets, jobs). Financial modelling seeks to bring these sources of information together to determine the overall impact on government revenues.

General Information to be collected:

Legal regime

- Income tax law
- Mining law
- Mining contract
- Investment promotion law
- DTAs

Company documentation

- Mine feasibility study
- Investor's financial model, especially the internal rate of return
- Production profile (e.g., tonnes of copper concentrate per year)
 - Prices: historical and future
 - Quality adjustments
- Costs: exploration, development and operating
- Financing (volume of debt, interest rate, repayment schedules)
- Company annual reports, filings to stock exchanges
- Tax returns and financial statements (e.g., turnover, earnings before income tax, depreciation and amortisation)
- Transfer pricing documentation (e.g., intercompany loan agreements, mine offtake agreements, service agreements)

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Table 7. Information checklist

Tax Incentive	Specific Sources of Information
Income tax holiday	<ul style="list-style-type: none"> - Mine feasibility study: information to pay attention to includes production and price forecasts, the mine planning process, specifically how the investor will mine the ore body to maximise returns (i.e. “pit optimisation”). - Price data, historical prices (e.g., World Bank Pink Sheets), as well as forecasted prices. - Depreciation schedule and loss carryforward allowance; these provisions must be closely monitored to prevent investors from deducting accumulated costs once the tax holiday expires. - Ring-fencing rules, these may affect the extent to which costs and income can be transferred between related mines in the same country.
Withholding tax relief	<ul style="list-style-type: none"> - Thin capitalisation rules (e.g., debt-to-equity ratio, limit on interest deductions). - Intercompany loan agreement (key terms include the interest rate, the payment schedule, loan instalments, guarantees, financial or non-financial covenants). - Treasury policy documents. - Operational expenditure plan. - Management services agreement (key terms are the cost allocation method, and the markup). - Dividend policy.
Cost-based incentives and import duty relief	<ul style="list-style-type: none"> - List of mining inputs eligible for cost deduction. - Capital and operating expenditure plan. - Depreciation schedule (i.e., what’s the rate of depreciation). - Import duty rates. - Loss carryforward (i.e., eligibility and time limit). - Relevant intercompany service agreements, especially those relating to purchasing.
EPZs	<ul style="list-style-type: none"> - Fiscal regime for EPZ, pay special attention to any relief or exemption on profit-based taxes (e.g., income tax, withholding tax), as this will significantly increase the risk of profit shifting. - Value chain analysis, which activities have EPZ status (e.g., downstream mineral beneficiation – smelting and refining). - Offtake agreement between the mine and the mineral beneficiation facility (key terms include price, volume, payment terms, quotation period, and quality). - Sales agreement between the smelter/refinery and the next customer; if it is an independent customer (i.e., not related), the agreement may be a useful benchmark for the offtake.

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Tax Incentive	Specific Sources of Information
Royalty-based incentives	<ul style="list-style-type: none"> - Royalty regulations, including terms and conditions for incentives. This is especially relevant if the government is contemplating offering a sliding-scale mechanism where the different royalty rates will need to be applied to various price scenarios to calculate the potential revenue loss should the taxpayer deliberately underprice its mineral exports. - Royalty returns, including production volumes, grade and quality adjustments. - Third-party sales invoices. - Mine feasibility study, including production and price forecasts, and the mine planning process, specifically how the investor will mine the ore body to maximise returns (i.e., “pit optimisation”). - Price data, historical prices (e.g., World Bank Pink Sheets), as well as forecasted prices.
Fiscal stabilisation	<ul style="list-style-type: none"> - Specific wording of the fiscal stabilisation provision (i.e., which fiscal terms it applies to, what it excludes, the duration and opportunities for review).

A yellow excavator is shown in a construction site, positioned on a dirt embankment next to a body of water. The excavator's arm is extended, and its bucket is resting on the ground. The background features a line of green trees under a clear blue sky. The word "CONCLUSION" is overlaid in large, bold, blue capital letters across the center of the image. The entire scene is framed by a thin blue border.

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Conclusion

Governments control the design and use of tax incentives to attract mining investment, and, despite their risks, they are a part of the international policy landscape in the mining sector (as elsewhere) and actively pursued by many companies.

Where tax incentives are being considered, decision-makers need to be well informed as to their relative merits and realistic about how much they will cost the budget. If incentives are overly generous or poorly drafted, governments should not be surprised to find that investors have maximised the tax benefit in ways they did not anticipate.

For this reason, careful thought must be given to how investors are likely to respond to incentives, and whether unintended revenue losses may ensue. These potential costs should be factored into an assessment of the efficiency and effectiveness of tax incentives in the mining sector. The pursuit of a competitive tax regime should be carefully designed to respond to the specific realities of the mining sector and not simply replicate economy-wide incentive programmes.

However, policy choices about tax incentives are not solely technocratic. There will be trade-offs between securing revenues for public spending and a competitive tax regime for mining investors. There are no easy answers to how to balance these goals. But at a minimum, governments should have clear, transparent, measurable policy objectives that are subject to public consultation and regular monitoring.

The following conclusions are intended to help governments of developing countries make informed, grounded decisions about mining tax incentives, considering the direct costs of such incentives and the unintended revenue losses that may flow from granting incentives.

1. **Before agreeing to any tax incentives, governments should use a financial model to estimate the cost of incentives and their impacts on investment decisions.** Cost estimates should include potential behavioural responses. Combinations of incentives being considered should always be analysed together to determine the collective effect on revenues forgone. For example, reduced royalty rates will increase profits that go untaxed when combined with an income tax holiday.
2. **Avoid tax incentives that create parallel domestic fiscal regimes, which may lead to abusive transfer pricing.** Tax incentives that apply to one segment of the mining value chain—for example, processing—and exclude others may create opportunities for profit shifting.
3. **Abolish the most damaging incentives, notably tax holidays.** Tax holidays create an incentive to shift profits forward into the holiday to avoid paying taxes when it ends. They are poorly suited for mining given the location-specific and long-term nature of investments.

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If government is considering offering an incentive, a more efficient approach may be to offer accelerated depreciation schemes and investment allowances.

4. **Clearly define the investment expenses to which cost-based incentives apply.** Cost-based incentives lower the cost of capital, and thus may make a great number of mining projects more profitable at the margin. However, it is necessary to clearly specify the types of mining expenditures that are eligible for allowances, whether these expenses can be carried forward to future years and for how long.
5. **Carefully consider the BEPS risks of incentives that lower the rate of tax on outbound payments to foreign entities.** Lowering or exempting withholding taxes on outbound payments may motivate investors to artificially increase the volume and price of related party debt, as well as service fees, to erode the tax base of the mining country and shift profits offshore.
6. **Avoid tax incentives that create cliff edges.** Sliding-scale royalties that use an aggregate structure may incentivise companies near to the boundary of a rate change to underprice sales or defer sales when prices are falling to benefit from the lower royalty rate. This also applies to tax holidays, as mentioned previously.
7. **Tax incentives should be reviewed annually (or on a regular basis).** There should be opportunities for review as well as “sunset” clauses (e.g., a limit to how long a tax credit can be carried forward) to reduce the potential costs of badly designed programmes.
8. **Finally, invest in stronger government expertise and seek capacity-building opportunities.** Governments should continue to build their capacity with respect to mining tax policy and administration. Particular attention should be paid to developing commercial and financial modelling skills to aid the decision-making process.

References

Calder, J. (2014). *Administering fiscal regimes for extractive industries: A handbook*. Washington, D.C.: International Monetary Fund.

Cosbey, A., Mann, H., Maennling, N., Toledano, P., Geipel, J., & Braunch, M. (2016). *Mining a mirage: Reassessing the shared-value paradigm in light of the technological advances of the mining sector*. International Institute for Sustainable Development and the Colombia Centre for Sustainable Investment. Retrieved from <https://www.iisd.org/sites/default/files/publications/mining-a-mirage.pdf>

Daniel, P. & Sunley, E. M. (2008, September 25–27). *Contractual assurances of fiscal stability*. Presentation to IMF Conference on Taxing Natural Resources. Retrieved from http://www.imf.org/external/np/seminars/eng/2008/taxnatural/pdf/sunley_pr.pdf

Darimani, A. & Lambrechts, K. (2009). *Breaking the curse: How transparent taxation and fair taxes can turn Africa's mineral wealth into development*. Retrieved from <http://link.library.ibfd.org/portal/Breaking-the-curse--how-transparent-taxation-and/OzPEc1TNXMA/>

Fraser Institute. (2018). *Annual survey of mining companies: 2017*. Retrieved from <https://www.fraserinstitute.org/studies/annual-survey-of-mining-companies-2017>

Gerasimchuk, I. Wooders, P., Merrill, L., Sanchez, L., & Kitson, L. (2017, September). *Guidebook to reviews of fossil fuel subsidies*. Retrieved from <https://www.iisd.org/sites/default/files/publications/guidebook-reviews-fossil-fuels-subsidies.pdf>

Guj, P., Bocoum, B., Limerick, J., Meaton, M., & Maybee, B. (2013). *How to improve mining tax administration and collection frameworks: A sourcebook*. Washington, D.C.: World Bank. Retrieved from <http://documents.worldbank.org/curated/en/576391468330004326/How-to-improve-mining-tax-administration-and-collection-frameworks-a-sourcebook>

Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development Development & Organisation for Economic Co-operation and Development. (2018). *The hidden cost of tax incentives on mining: Public comments*. Retrieved from <https://www.oecd.org/tax/beps/hidden-cost-of-tax-incentives-in-mining-oecd-igf-public-comments.pdf>

Klemm, A. & Van Parys, S. (2011). Empirical evidence on the effects of tax incentives. *International Tax and Public Finance*, 19(3), 393–423. doi:10.1007/s10797-011-9194-8.

McLure, Jr., C. E. (1999). Tax holidays and investment incentives: A comparative analysis. *Bulletin for International Fiscal Documentation*, 53, 326–327.

Natural Resource Governance Institute. (2015, March). *Fiscal regime design: What revenues the government will be entitled to collect*. Retrieved from https://resourcegovernance.org/sites/default/files/nrgi_Fiscal-Regime-Design.pdf

N'guessan, E. K. & Esse, B. (2017). *Yaoure Gold Mine Project: Narrative report*. Open Oil. Retrieved from http://openoil.net/wp/wp-content/uploads/2014/09/oo_ci_yaoure_narrative_v1.0_20170727_iv_2014_Reals.pdf

Organisation for Economic Co-operation and Development. (2015). BEPS Action Items 8–10. Retrieved from <http://www.oecdilibrary.org/docserver/download/2315351e.pdf?expires=1509455502&id=id&accname=guest&checksum=9ED19718016EC691837E4434702AF91E>

Otto, J., Andrews, C., Cawood, F., Doggett, M., Guj, P., Stermole, J. & Tilton, J. (2008). *Mining royalties: A global study of their impact on investors, government, and civil society*. World Bank. Retrieved from <http://siteresources.worldbank.org/INTOGMC/Resources/336099-1156955107170/miningroyaltiespublication.pdf>

Platform on Tax Collaboration. (2015). *Options for low income countries' effective and efficient use of tax incentives for investment: A report to the G-20 Development Working Group by the IMF, OECD, UN and World Bank*. Retrieved from <https://www.imf.org/external/np/g20/pdf/101515.pdf>

Readhead, A. (2017). *Toolkit for transfer pricing risk assessment in the African mining industry*. GIZ and the African Tax Administration Forum. Retrieved from https://www.bmz.de/rue/includes/downloads/2017_GIZ_Transfer_Pricing_Risk_Tool_EN.pdf

Rolfe, R.J. & White, R.A. (1992). Investors' assessment of the importance of tax incentives in locating foreign export-oriented investment: An exploratory study. *The Journal of the American Taxation Association*, 14(1), 39.

Tavares-Lehman, A. T., Toledano, P., Johnson, L., & Sachs, L. (2017). *Rethinking investment incentives*. New York: Columbia University Press.

Van Parys, S. & Sebastian, J. (2009). Why tax incentives may be an ineffective tool to encouraging investment? The role of investment climate (SSRN Scholarly Paper ID 1568296). Rochester, NY: Social Science Research Network. Retrieved from <https://papers.ssrn.com/abstract=1568296>.

Zolt, E. (2013). *Tax incentives and tax base protection issues*. United Nations. Retrieved from http://www.un.org/esa/ffd/wp-content/uploads/2014/10/20140604_Paper3_Zolt.pdf

Zolt, E. (2015, April 23–24). *Tax Incentives: Protecting the tax base*. Paper for Workshop on Tax Incentives and Base Protection, New York.

Additional Reading

Daniel, P., Keene, M., Swistak, A., & Thuronyi, V. (2017). *International taxation and extractive industries*. London: Routledge and New York: IMF.

Daniel, P., Keen, M., & McPherson, C. (2010). *The taxation of petroleum and minerals: Principles, problems, and practice*. London: Routledge and New York: IMF.

Dixon, R., Maier, M., Sandilya, A., & Schneider, T. (2012). *Qualifying environmental trusts as financial security for oil sands reclamation liabilities* (OSRIN Report No. TR-24). Edmonton, AB: Oil Sands Research and Information Network, University of Alberta, School of Energy and the Environment.

Hartley, J. & Otto, J. (2008). *Managing mineral resources: From curse to blessing, in Post-Stabilization Economics in Sub-Saharan Africa: Lessons from Mozambique*. Paris: International Monetary Fund.

International Monetary Fund. (2012). *Philippines: Reform of the fiscal regimes for mining and petroleum*. Retrieved from <https://www.imf.org/external/pubs/ft/scr/2012/cr12219.pdf>

International Monetary Fund. (2012). *Fiscal regimes for extractive industries: Design and implementation*. Retrieved from <https://www.imf.org/external/np/pp/eng/2012/081512.pdf>

Johnson, L. & Toledano, P. (2013, November 13–14). *Background paper for the Eighth Columbia International Investment Conference on Investment Incentives: The good, the bad and the ugly assessing the costs, benefits and options for policy reform*. Columbia University, New York. Retrieved from http://ccsi.columbia.edu/files/2014/01/VCC_conference_paper_-_Draft_Nov_12.pdf

Keen, M. & Mansour, M. (2009). *Revenue mobilization in Sub-Saharan Africa: Challenges from globalization* (International Monetary Fund Working Paper). Paris: IMF.

Organisation for Economic Co-operation and Development. (2007). *Tax effects on foreign direct investment, recent evidence and policy analysis* (OECD Tax Policy Studies No. 17). Paris: OECD.

Osmundsen, P. (2005). Optimal petroleum taxation subject to mobility and information constraints. In S. Glomsrød & P. Osmundsen (Eds.), *Petroleum industry regulation within stable states*. (pp. 12–25). Aldershot: Ashgate.

Scurfield, T. (2017). *The challenge of adding value in Tanzania's mining sector*. NRGi. Retrieved from <https://resourcegovernance.org/blog/challenge-adding-value-tanzania's-mining-sector>

Sebastian, J. (2009). *Incentives and investments: Evidence and policy implications*, 58816. The World Bank. Retrieved from <http://documents.worldbank.org/curated/en/945061468326374478/Incentives-and-investments-evidence-and-policy-implications>

United Nations. (2017). *Handbook on extractive industries taxation*. Retrieved from http://www.un.org/esa/ffd/wp-content/uploads/2018/05/Extractives-Handbook_2017.pdf

Vu, X. N. H., Ngo, M. T., & Ho, C. H. (2008). *Sustainable development impacts of investment incentives: A case study of the mining industry in Vietnam*. NRGi. Retrieved from <http://archive.resourcegovernance.org/fr/node/5159>



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