

# *It's just a clause, isn't it?*

*clauses, contracts and their generational impacts* No. 4

## **Negotiating sliding-scale royalties - leveraging the boom, cushioning the bust**

Royalties are an important part of the mining fiscal regime, compensating host states for the loss of their finite natural resources. Their design is often crucial to the mining sector's performance and the revenues generated for host states. A royalty set too high can deter investment and production, resulting in lower government revenues. But a royalty set too low can mean the state fails to collect enough revenues from its mining sector, particularly when mineral prices are booming.

In recent years, many countries have moved from the model of a fixed percentage royalty on sales value to a sliding-scale royalty. Sliding scales vary the royalty rate based on criteria aiming to increase the royalty rate when profits are higher, and reducing it when profits are lower. These sliding-scale royalties potentially improve the fiscal regime's "progressivity", – so the state collects a larger financial share from the mine when profits are higher. This tends to reduce domestic political pressures for windfall taxes and other changes to the fiscal regime. In turn, when mineral prices are low and mining companies are under greater financial strain, the sliding-scale royalty automatically reduces the fiscal burden, helping to support investment and production.

In this version of "It's just a clause, isn't it?", Stefanie Heerwig and Iain Steel of *Econias* look at the key design issues for sliding-scale royalties using a clause from the royalty regime of a Latin American country:

*"[...] The mining concessionaire... must pay a royalty equivalent to a percentage on the sales value of the main mineral and secondary minerals of between 3% and 8%, in addition to the corresponding payment of income tax and other taxes attributed to the State in accordance with this Law [...]. In order to establish the royalty rate to be paid, criteria of progressivity, production volumes of the mining concessionaire and/or type and price of the minerals shall be observed, as established in the Regulations to this Law [...]."*

**This clause** provides for the royalty base, the range of royalty rates, and the possible criteria for the sliding scale. However, some key details are omitted and, as we set out below, these details can have significant impacts on the royalty's performance.

### **Setting the royalty base**

The royalty base in this clause is the mine's "sales value of the main mineral and secondary minerals". A royalty on sales value is relatively simple to administer, although whether deductions for items such as treat-

ment and refining charges, marketing costs, and international shipping are allowed can impact revenue generation, the ease of administration, and the risk of tax avoidance. It is important to consider carefully what deductions are permitted and to specify this clearly in the law or in contracts to remove uncertainty. The clause specifically includes sales of secondary minerals. Mines often produce more than one mineral, for example a copper deposit might also include gold and silver, and the clause ensures that the host state also receives compensation for the loss of those secondary minerals.



Implemented by  
**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH



An alternative to sales value is to use operating profits as the royalty base, as in Chile and Peru. This approach is more “efficient”, as operating profits better reflect a company’s capacity to pay royalties than revenue from sales. It is therefore less likely to deter investment and production.

However, compared to a royalty on sales value, royalties on operating profits are more complex to administer and at greater risk of tax avoidance. This is particularly important when mining companies transact with affiliated companies and can potentially inflate costs to reduce the royalty. A royalty on operating profits also does not guarantee the host state compensation on all units of minerals produced, because if operating profits are zero or negative, no royalty would be paid. To overcome this drawback, Peru, supplements the operating profits royalty with a minimum royalty on sales value.

### **Setting the royalty rate**

This royalty rate fluctuates between 3% and 8% but does not specify the sliding scale’s mechanism. Instead, regulations can establish the sliding scale based on:

- the criteria of progressivity;
- production volumes;
- and/or type and price of minerals.

### **Volume**

If the intention is to improve the royalty’s progressivity, volume is rarely used as the main criterion because production volumes do not necessarily correlate with profitability. In some cases, such as coal mining in Colombia, a lower rate is used for smaller mines. This approach could also be used as a simplification measure, for example excluding smaller operations from more complex sliding-scale royalties. However, governments should ensure that the threshold does not inadvertently provide an incentive for mining companies to artificially reduce production to remain below the threshold and benefit from a lower royalty rate.

### **Price**

Setting a sliding-scale royalty by reference to mineral prices improves progressivity. In this case, the contract applies higher royalty rates at higher prices, and lower royalty rates at lower prices. Prices are used as a

*“Governments need to consider their specific objectives and circumstances and design the royalty accordingly, rather than follow approaches used elsewhere. This should include an assessment of the royalty “in the round” with the fiscal regime’s other elements - income tax, withholding taxes, and any other general taxes or special mining imposts.”*

proxy for profitability, as it is often the case that profits increase when mineral prices increase.

The benefits of a sliding-scale royalty at higher prices are potentially large, as we have recently seen. For example, a large-scale copper mine producing 400,000 tonnes per year before Covid-19 would have paid an annual royalty of US \$120 million at 5% of sales value in 2019 when copper prices hovered around US \$6,000/t. When copper prices increased in 2021 to record highs of US \$9,300/t a fixed 5% royalty would have generated US \$185 million. However, a sliding-scale royalty with an 8% rate would have generated US \$300 million – an additional US \$115 million of government revenue to fund the country’s development.

Similarly, the sliding-scale royalty could reduce the royalty rate to 3% at lower prices, boosting company cash flows by USD \$50 million in 2019 when prices were lower. During years of sustained low prices, reducing the royalty can be the difference between a mining company remaining financially viable and continuing to invest in a project, or incurring losses that threaten the sustainability of operations.

The main advantages of the sliding-scale royalty by price are that it is relatively easy to administer and less prone to tax avoidance, especially when the rate table refers to mineral prices listed on a public exchange, and thus easy to verify. More detailed design issues include:

- setting the precise rates and price thresholds for each mineral;
- how the sliding scale applies to secondary minerals;
- how to adjust the price thresholds for

Table 1. The potential impact of a sliding-scale royalty by prices compared to a fixed-rate royalty, for a large-scale copper mine at low and high copper prices in 2019 and 2021.

Royalty Rate for Copper	5%	Sliding Scale 3% low, 8% high	Impact on royalties
2019 US \$6,000 / tonne	US \$120 million	US \$70 million	- US \$50 million
2021 US \$9,300 / tonne	US \$185 million	US \$300 million	+ US \$115 million

inflation. This approach is used in Burkina Faso, Cote d'Ivoire, Mauritania, Zambia, Zimbabwe, and elsewhere in Africa.

However, sliding-scale royalties based on prices are not always efficient. In some cases, input costs can increase by more than prices, which means a sliding-scale royalty based on prices can impose a higher royalty on a company even when profits are falling. For this reason, Peru and Chile, among others, use operating profits to determine the applicable royalty rate. Operating profits are more efficient as the royalty rate increases only when actual profits increase, but are more complicated to administer and have a higher risk of tax avoidance – especially when both the royalty rate and base are determined by operating profits that include high-risk related-party transactions.

## Conclusions

No single approach to royalties is optimal in all situations. A royalty's design involves trade-offs between different objectives, such

as efficiency and progressivity on the one hand, and simplicity and minimising avoidance risks on the other.

Governments need to consider their specific objectives and circumstances and design the royalty accordingly, rather than follow approaches used elsewhere. This should include an assessment of the royalty "in the round" with the fiscal regime's other elements - income tax, withholding taxes, and any other general taxes or special mining imposts. Sliding-scale royalties can improve the royalty's progressivity, but other options exist to improve the overall progressivity of the fiscal regime. The options include a progressive income tax or resource rent tax (a tax on accumulated cash flows of a project once the investor has made a minimum return on investment). Using financial models to assess the fiscal regime's anticipated performance and the impact of different royalty designs on overall results across a range of economic scenarios is critical to designing a modern, efficient, and progressive fiscal regime. ⚡



Stefanie Heerwig (left) is an economist and policy advisor in mining taxation and the financial modelling of mining projects and has worked with governments in West Africa, Asia-Pacific, and Latin America.

A founder of *Econias*, Iain Steel is an economist specialising in fiscal policy and the extractive industries, advising governments in Africa, Asia-Pacific, and Latin America on mining, oil and gas, and infrastructure projects.

Please note: The above article represents the views of the authors themselves and does not in any way reflect views of the CONNEX Support Unit, its Board, its employees or its funders.

Are you a government keen to discuss CONNEX's negotiation support services on a confidential basis? Let's talk....

Richard Dion, Senior Advisor  
dion@connex-unit.org

[www.connex-unit.org](http://www.connex-unit.org)

