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Using the Sixth Method to Simplify the Pricing of Related-Party Mineral Sales and Safeguard Mining Revenues

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This policy paper was written by IGF and ATAF, with inputs from the Government of Ecuador and the Government of Zambia.

1.0 Introduction

In the mining sector, government revenue depends on mineral products being valued and priced accurately. However, pricing is not always straightforward. It may be complicated by the different quality or grades of mineral products, the stages of beneficiation, and contractual terms. These factors are further complicated in the case of related-party sales, where there is often an incentive for companies to set artificially low prices to reduce taxable income in the source country and shift profits offshore.

The international standard to respond to this risk is to apply the arm's-length principle, which requires the price of the controlled transaction (i.e., between related parties) to be similar to a comparable transaction between independent parties. According to the Organisation for Economic Co-operation and Development (OECD) Transfer Pricing Guidelines (TPGs) (2022), five recognized transfer pricing methods can be used to determine whether a transaction is consistent with the arm's-length principle. These methods generally require that tax authorities have access to substantial information from taxpayers and their affiliates, as well as comparable data and international tax expertise. These administrative challenges—alongside the finite, non-renewable, and often publicly owned nature of mineral resources—have prompted some resource-rich developing countries to look for alternatives..

The Sixth Method approach was developed by resource-rich countries in Latin America as a measure to address abusive tax-planning schemes in transactions involving raw materials or commodities. By using commodity prices quoted on a relevant exchange (e.g., the London Metals Exchange), often with few or no adjustments, it sought to provide a clear and transparent standard for determining the price of related-party mineral sales that would be easier for tax authorities to apply and less vulnerable to tax avoidance. Other approaches include administrative or norm pricing, which was pioneered by Norway in the oil sector, and safe harbours, most recently used by the Republic of Guinea with respect to bauxite.

The 2017 OECD TPGs endorsed the use of quoted prices as a basis for determining related-party mineral sales. Specifically, it endorsed the use of quoted prices for applying the Comparable Uncontrolled Price (CUP) method. This raises the question of whether there is still a need for the Sixth Method. The CUP method requires that the conditions of the transaction from which the quoted price is obtained are comparable to the related-party transaction. Consequently, taxpayers must adjust the quoted price for any differences in the quality and grade of the mineral, period of sale, timing, and terms of delivery, as well as factors such as transportation, insurance, and payment terms. While there are different versions of the Sixth Method, in many cases, it requires few or no adjustments, thus making it simpler to implement and harder to manipulate.

This chapter aims to provide greater insight into the workings of the Sixth Method, particularly for minerals that are harder to price. It starts by briefly explaining how the method works. It goes on to set out the challenges and opportunities associated with the Sixth Method, the different legislative and regulatory approaches that countries have taken, and the practical experience of countries implementing the Sixth Method. Finally, it discusses two alternative pricing approaches: (i) administrative (or norm) pricing and (ii) the use of safe harbours based on a version of the Sixth Method or CUP method, depending on the comparability adjustments allowed.

2.0 A Brief Overview of the Sixth Method

The Sixth Method originated in Argentina in 2003, when the government was seeking to evaluate the sale of raw materials to related parties in countries with lower tax rates. It is designed specifically to limit the risk of transfer pricing abuse in commodity transactions. Argentina's legislation requires that taxpayers selling commodity products to offshore related parties use the quoted price of the traded goods on the date the goods are shipped unless the price the related parties agree to is higher than the quoted price.

Many resource-rich countries have followed Argentina's lead, especially in Latin America. The Sixth Method has been legislated by Bolivia, Brazil, Costa Rica, the Dominican Republic, Guatemala, Honduras, Peru, and Uruguay.[1] Outside Latin America, the Sixth Method has also been adopted by Zambia, Malawi, and India (Grondona, 2018). Each country takes a slightly different approach, resulting in no single version of the Sixth Method. However, they all use quoted prices as a starting point for determining the price of related-party mineral sales.

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[1] Ecuador recently modified its version of the Sixth Method to be more closely aligned with the CUP method, using reference prices as the starting point.

A quoted price typically reflects an agreement between independent buyers and sellers for a specific type and amount of commodity traded under certain conditions at a certain point in time. In Zambia, for example, taxpayers are required to use quoted prices on the London Metals Exchange or London Metal Bulletin to set the price of base and precious metals (see Box 1). The advantage of a quoted price is that it can be observed by the tax authority and taxpayer, as opposed to the actual sale price, which is vulnerable to manipulation.

Box 1. Zambia specifies the source of quoted prices to be used for applying the Sixth Method

"(14) For the purposes of subsection (13), "*reference price*" means -

a. the monthly average London Metal Exchange cash price;
b. the monthly average Metal Bulletin cash price to the extent that the base metals or precious metal prices are not quoted on the London Metal Exchange;
c. the monthly average cash price of any other metal exchange market as approved by the Commissioner-General to the extent that the base metal price or precious metal price is not quoted on the London Metal Exchange or Metal Bulletin; or
d. the average monthly London Metal Exchange cash price, average monthly metal market exchange cash price approved by the Commissioner-General, less any discounts on account of proof or low quality or grade."

Source: The Income Tax Act, 2017.

3.0 The Difference Between the Sixth Method and the CUP Method

The main difference between the Sixth Method and the CUP method is the extent to which taxpayers are required to adjust the quoted price to make it comparable to the conditions of the related-party transaction. In the case of the CUP method, adjustments must be made for the physical features and quality of the commodity, volumes traded, period of the arrangement, timing and terms of delivery, and other factors, such as transportation, insurance, forging exchange, and payment terms. Owing to the difficulties some tax authorities experience in verifying these adjustments, the Sixth Method, on the other hand, may require limited or no comparability adjustments. Zambia's version of the Sixth Method only permits adjustments for quality differences, for instance. While some countries choose to align the Sixth Method more closely to the CUP—to deal with the challenges highlighted below—the key difference remains the level of comparability required, with the Sixth Method generally intended to be a simpler way of pricing related-party mineral sales.

4.0 General Opportunities and Challenges Related to the Sixth Method

The main advantage of the Sixth Method is that a quoted price can provide a clear and objective point of reference for determining the related-party sale price and thus prevent companies from engaging in underpricing—a key concern for many resource-rich developing countries (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development [IGF] & OECD, 2018). It was underpricing that prompted Zambia to adopt the Sixth Method in 2008. The tax authority found that Mopani Copper Mines Plc was selling copper to its related party, Glencore International AG (GIAG), for much less than it was selling to third parties. The Supreme Court agreed with the tax authority's assessment, and as a result, Mopani was required to pay a total of ZMW 240 million (USD 13 million USD) in taxes assessed for the 2006/07, 2007/08, and 2009/10 tax years (African Tax Administration Forum [ATAF], 2020). Zambia adopted the Sixth Method in 2008, shortly after these transactions occurred.

The Sixth Method also has the potential to simplify tax administration with respect to mineral sales, freeing up valuable time and resources to focus on other transfer pricing issues. In the case of Zambia, when a mining company enters its tax return online, the system automatically inputs the relevant quoted price for related-party sales and calculates the tax accordingly. This significantly reduces (but does not eliminate) the need for detailed transfer pricing analysis. The objective and verifiable nature of quoted prices can also help to limit disputes with taxpayers by providing a common frame of reference and greater certainty with respect to tax liability (Zambia, 2022). Ecuador also cited improved compliance and tax certainty as key benefits of using quoted prices (Cecilia Morella Pacheco, personal communication, July 26, 2022). To summarize, the Sixth Method offers governments a practical way to increase revenue from the mining sector that requires relatively limited audit activity (United Nations, 2021).

One practical challenge is that investors may refuse to comply with the Sixth Method because it is not one of the traditional transfer pricing methods used to implement the arm's-length principle. The OECD's and ATAF's endorsements of quoted prices for the application of the CUP method may have weakened this argument. What is more, investors have reported positive experiences with the Sixth Method. One mining company in Zambia called it a "pragmatic approach" that has made the Zambia Revenue Authority's (ZRA's) treatment of mining sales revenue more predictable (Readhead, 2018). Likewise, government officials in Ecuador did not foresee any negative impact on investment provided that the use of quoted prices is transparent and predictable and investors are informed (Cecilia Morella Pacheco, personal communication, July 26, 2022). It is also worth noting that mining investors are also typically less responsive to taxation because of the location-specific nature of the resource (Daniel et al., 2010).

However, where these concerns become more material is if the Sixth Method results in unresolved double taxation. Because the Sixth Method is not one of the traditional transfer pricing methods, it may not be recognized by the country of the related-party buyer of the commodity. If that is the case, the buyer may be unable to access double tax relief, increasing the overall cost of the investment and raising a potential legal challenge under Article 9 (Associated Enterprises) of the United Nations Model Double Tax Convention and the OECD Model Tax Convention. Countries could mitigate this challenge by aligning the Sixth Method more closely to the arm's-length principle by allowing a range of comparability adjustments, for example. Alternatively, they could classify the Sixth Method as a domestic anti-abuse rule rather than a transfer pricing method, putting it outside the scope of the arm's-length principle and, importantly, Article 9 (this is discussed in Section 5.4).

Finally, while the Sixth Method is simpler and more robust than other transfer pricing methods, it still leaves the taxpayer with the first-mover advantage in determining the sale price, albeit starting from a quoted price. This puts the burden of proof on the tax authority to disprove the taxpayer's price, which may be difficult considering a lack of access to information, particularly comparable data, and limited technical expertise. An alternative is for the tax authority, rather than the taxpayer, to set the price. This practice is called administrative or norm pricing and is explored later in the chapter.

The opportunities and challenges are summarized in Table 1. These are general and will vary depending on how the Sixth Method is designed.

Table 1. General opportunities and challenges of the Sixth Method

Opportunities	Challenges
Simplifies tax administration related to intercompany commodity trading. Reduces the risk that mining companies will sell their minerals to related parties at below-market prices to reduce their taxable income in the host country. Increases tax certainty for investors and, in doing so, reduces the risk of disputes.	Investors may challenge the use of the Sixth Method to the extent that it diverges from the arm's-length principle. May result in unresolved double taxation, depending on how the method is applied and characterized (i.e., domestic anti-abuse rule or transfer pricing method). The tax authority has the burden of proof to disprove the price set by the taxpayer. This may be complicated by a lack of access to information and technical expertise.

5.0 Different Legislative and Regulatory Approaches to the Sixth Method

There is no one version of the Sixth Method. Instead, there are numerous variations across different jurisdictions.[2] This section briefly analyzes some of the main differences and their implications for revenue collection, investment, and implementation. In particular,

- The date of the quoted price to be used
- The condition that the sale be to an intermediary that lacks economic substance
- The range of comparability adjustments accepted
- The legal characterization of the Sixth Method.

5.1 Pricing Date

The Sixth Method usually specifies the date or period from which the quoted price should be taken. Many countries using the Sixth Method prefer the date of shipment, which can be observed, as opposed to the date of sale, which is easier for taxpayers to manipulate. For example, Ecuador, Paraguay, the Dominican Republic, and Zambia all require taxpayers to use the relevant quoted price on the date of shipment. Zambia and Peru go a step further to prevent taxpayers from gaming the system by requiring that they use the average quoted price either in the month of shipment, during the four months prior, or, in the case of Peru, four months after the date of shipment. The advantage of using the average price is that it removes any opportunity for taxpayers to pick the lowest price point within the month of loading. Also, in the case of index prices that lack liquidity and may be subject to sudden spikes or drops, the average smooths the price, which is better for both the government and taxpayers. The new OECD guidance supports tax authorities imputing a pricing date (e.g., the shipment date) in circumstances where there is no evidence of the actual date used by the parties (OECD, 2022).

Some countries have chosen to remain more flexible with respect to the date or time period. For example, following the release of the new OECD guidance, Peru has given taxpayers the option to use the date of execution of the sales agreement or the average price within the 30-day period immediately after. Brazil also uses the date of sale (OECD, 2022). This is advantageous for the taxpayer, as it gives them the option of using the quoted price on the actual date of sale. However, it increases the risk that taxpayers will choose a date that gives them the most advantageous quoted price, requiring close monitoring by tax authorities. A compromise might be to create a rebuttable presumption that the average quoted price in the month of shipment will be used

[2] For an exhaustive account see Gómez Serrano et al., 2019, as well as the CIAT database on transfer pricing rules and practices in Latin America and Caribbean countries: https://www.ciat.org/transfer-pricing/?lang=en

unless the taxpayer can provide reliable evidence of the price date agreed between related parties (e.g., bill of lading), and the tax authority cannot determine a different date following transfer pricing analysis.

5.2 Economic Substance of Foreign Intermediaries

Countries such as Argentina have adopted the Sixth Method to target transactions where a mine ships its goods to a different jurisdiction (and entity) to the related entity it invoices. Typically, the related party is a trading entity that takes title to the goods for a limited period. Considering this objective, Argentina, and some other countries, only apply the Sixth Method to sales to an intermediary that is not the effective recipient of the merchandise and does not have economic substance. Ecuador also limits the use of quoted prices to transactions with related parties in low- or no-tax jurisdictions and/or an intermediary that is not a resident in the export destination. The advantage of this approach is that it selectively targets high-risk related-party sales, particularly those involving marketing hubs, which are a common source of tax avoidance in the mining sector. This makes it more of an anti-abuse rule than a transfer pricing method, which may alleviate potential double taxation issues elaborated below.

Other countries, such as Zambia, Paraguay, and Guatemala, have chosen to apply the method to all exports (and imports) regardless of the involvement of foreign related intermediaries. This avoids the need to determine whether the related-party buyer has economic substance, which can be highly subjective, and, if the taxpayer refuses to cooperate, require significant information from a foreign jurisdiction. As one study of the Argentine approach noted, "companies have found ways … to provide the intermediary with substance and avoid the application of the Sixth Method," although this had not prevented the tax authority from settling transfer pricing disputes (Grondona, 2018). It also avoids the risk of taxpayers gaming the system by interposing a third party between two related parties. Of course, tax authorities must still determine whether the parties are related, which may be challenging for those with weak information-gathering powers, and ensuing penalties. The downside of applying the method to all related-party sales is that, depending on how the legislation is drafted, it is more likely to be viewed as a transfer pricing method, which could result in legal challenges.

Notwithstanding the difficulties of verifying economic substance, countries that make this a condition of the Sixth Method could reduce the administrative complexity by setting out clear eligibility criteria and evidentiary requirements. For instance, in its regulation on transfer pricing (Resoluciones NC-DGERCGC16-00000531, 2018), Ecuador sets out the following conditions for companies:

1. The company must have a real presence in the territory of residence; have a commercial establishment there where their businesses are managed and comply with the legal requirements of incorporation and corporate and tax registration and presentation of

financial statements and their assets; risks and functions are consistent with the traded volumes of operations.

2. The sum of income from passive income and intermediation in the commercialization of goods from or to Ecuador does not exceed 50% of their total income.
3. The value of the company's international trade operations with related parties by direction, management, or control does not exceed 20% of the value of its international trade operations carried out in the corresponding fiscal year.

5.3 Comparability Adjustments

A comparability adjustment is an adjustment made to the conditions of transactions between third parties to eliminate the effects of material differences that exist between them and the related-party transaction being examined. For mineral sales, this means that economically relevant characteristics of the quoted price must be comparable to the actual sales price. To that end, the OECD TPGs (2022) require taxpayers and tax authorities to take into account all of the relevant comparability factors—for example, the physical features and quality of the mineral, volumes being traded, timing and terms of delivery, transportation, insurance, foreign exchange, and payment terms.

The more comparability adjustments a tax authority allows, the closer the Sixth Method will be to the application of the arm's-length principle. However, considering the lack of access to taxpayer information and comparable data, some countries have chosen to limit allowable adjustments to those that they can more readily observe and verify. Zambia, for example, only allows adjustments to the quoted price on account of proof of low quality or grade. If the quoted price is for copper cathode, which contains 99.999% copper metal, but the product being sold is concentrate, which contains 30% copper metal, taxpayers can adjust the quoted price downward to reflect the percentage of metal contained in the concentrate. This approach is simpler to implement, although not without its challenges (Section 6.3), and can be justified by the fact that the price of a mineral is primarily a function of its physical features and quality. However, the outcome may not be fully aligned with the arm's-length price.

5.4 Legal Characterization of the Sixth Method

As stated in Section 4, one of the challenges with the Sixth Method is that if double taxation arises because of its application, taxpayers may be prevented from accessing relief under bilateral tax treaties. The Associated Enterprises article, usually Article 9 of a treaty, is generally understood as enshrining the arm's-length principle, which requires related-party transactions to be priced according to comparable transactions between unrelated parties. To the extent that the Sixth Method diverges from the arm's-length principle, by limiting comparability adjustments, for example, it may not be recognized by the country of the related party purchasing the commodity, in which case double tax relief may not be available.

There are various ways to increase the likelihood that the Sixth Method is accepted by treaty partners as a legitimate transfer pricing method under Article 9. Generally, they involve giving taxpayers the right to prove that the related-party sale price is arm's length, thereby excluding the application of a quoted price—for example, by giving taxpayers the right to prove that their intermediary has economic substance or permitting them to make appropriate and reasonable adjustments to publicly quoted prices on account of product and transaction differences. Lack of information, particularly comparable data, may make these approaches difficult for some tax authorities to implement.

A simpler way to address the issue of double tax relief may be through the legal characterization of the Sixth Method. For there not to be a treaty issue, the Sixth Method should be treated as a domestic anti-abuse tax rule, not as a provision within the transfer pricing rules, thus putting it outside the scope of Article 9. This approach is similar to the OECD's BEPS Action 4, which limits the deduction of interest and other financial expenses to a percentage of tax earnings before interest, tax, depreciation, and amortization (OECD, n.d.). BEPS Action 4 does not conform to the arm's-length principle. However, because it is a domestic measure designed specifically to target excessive interest deductions—a major source of profit shifting—most countries do not consider it a contravention of Article 9, thus preventing taxpayers from successfully claiming the avoidance of double taxation. If, however, a country chooses to have a Sixth Method as a provision in its transfer pricing rules, it should get treaty partners to give a clear commitment that the treaty can be relied upon to reduce possible double taxation arising from the Sixth Method (United Nations, 2021).

6.0 Lessons Learned From Implementation of the Sixth Method

Tax authorities must carry out several steps when implementing the Sixth Method. These steps will vary depending on how the legislation is drafted and what mineral it is being applied to. The steps are briefly summarized in Box 2. The discussion that follows is based on Zambia's experience of implementing the Sixth Method, as shared by key government officials in interviews with the IGF Development and the ATAF.

Box 2. Key steps in applying the Sixth Method

1. Determine the relevant index.
2. Verify the quality of mineral exports, including adjustments for quality differences.
3. Verify any allowable deductions.
4. Determine the quotation period.
5. Determine whether intermediaries have economic substance.

6.1 Determining the Value of Mineral Exports

Mineral prices are primarily a function of the value or quality of the mineral. Therefore, governments must be able to determine the value before they can verify the price. For example, index prices for iron ore are based on the material containing a certain percentage of iron. If the percentage is below or above that baseline or it contains impurities, the price will need to be adjusted, minus any deductions for transport and insurance costs.

Many governments of resource-rich developing countries lack access to independent information on the quality of their mineral exports. They do not have the testing facilities, equipment, or technical expertise needed to verify the quality reported by companies, leaving them vulnerable to undervaluation, especially in the case of sales to related parties as a consequence of underpricing (IGF & OECD, 2018). The ZRA has highlighted the difficulty it has accessing independent information on the grade of copper leaving Zambia, as well as the lack of experts that can make an accurate determination of the value (Kalale Mambwe, personal communication, August 2, 2022).

This implementation challenge is not unique to the Sixth Method, but it does underscore the importance of countries being able to independently determine the value of their mineral exports if it is going to deliver the anticipated benefits with respect to revenue collection. Governments should have access to expertise and equipment to test the grade and quality of mineral exports. In this regard, Zambia has found it useful to have a dedicated mining audit unit containing specialist expertise within the tax authority (Kalale Mambwe, personal communication, August 2, 2022). There should also be strong coordination between the tax authority and the mining regulatory agency to ensure the consistent valuation of mineral sales for the calculation of royalties and income tax (to the extent that they employ different valuation approaches).

Box 3. Strengthening access to information on the quality and grade of Zambia's mineral exports

The ZRA and the Ministry of Mines and Mineral Development have taken steps to improve the availability of information on the value of mineral exports in Zambia. The Mineral Output Statistical Evaluation System records all base/precious metal export assay results. It gives the ZRA access to real-time information it can use to crosscheck any adjustments taxpayers make to quoted prices. However, there is still a challenge that companies provide the assay results rather than have results come from an independent source. Zambia is working to establish a mineral laboratory that will produce an independent analysis of the quality and grade of mineral exports.

Source: United Nations Conference on Trade and Development, 2020.

6.2 Lack of Benchmark Prices for Some Mineral Products

Having verified the grade or quality of the mineral, governments must next identify a quoted price to apply the Sixth Method. However, not all minerals have a quoted price or one that is sufficiently developed to be used as a basis for pricing commercial sales. For example, gemstones are sold via tenders on specialized markets based on confidential producers' price lists (e.g., De Beers Price Book). Similarly, intermediate products such as bauxite are sold direct to alumina smelters, with limited spot sales, and lithium carbonate (for use in batteries for electric vehicles) has yet to develop a quoted price. While price indexes are beginning to emerge for both bauxite and lithium, it may be some time before there are enough independent sales from which to derive reliable average prices. In general, the Sixth Method works best for minerals that are traded into terminals or stock markets and priced on an international index (see Table 1).

However, many minerals and metals have publicly quoted prices. Base and precious metals—for example, gold, silver, and copper—are all traded into terminal markets with publicly quoted prices (e.g., the London Metals Exchange and London Metals Bulletin). Bulk commodities, such as iron ore and manganese, also have daily quoted prices. Tax authorities could triage the mining sector: apply the Sixth Method to minerals with quoted prices—simplifying and safeguarding revenue collection from some mineral products—thus freeing up time and resources to ensure accurate pricing of more opaque and hard-to-value commodities. For example, according to its Income Tax Act (2017), Zambia only applies the Sixth Method to base and precious metals and not to other commodities they produce, such as gemstones.

Table 2. Application of Sixth Method depends on the mineral product

	Applicable	Possibly applicable	Applicable in limited circumstances
Mineral type	**Base/precious metals and metal concentrates** E.g., Copper, gold, lead, zinc, nickel, silver, platinum metal groups.	**Bulk commodities** E.g., Iron ore, coal, bauxite.	**Gemstones** E.g., Rough diamonds, other gemstones
Quality specifications	Standard, stringent, and inflexible.	Multiple standards, flexible, and subject to discounts and premiums for quality.	Based on multiple quality attributes and/or on trends in fashion.
Markets	Terminal commodity markets and over-the-counter sales.	Medium- to long-term off-take contracts with prices renegotiated at frequent intervals.	Tenders on specialized markets in assortments or as individual stones.
Prices	Daily quoted prices.	Daily prices for selected grades.	Producers' price lists and tender prices.

Source: Adapted from Guj et al., 2017.

6.3 Determining the Price of Intermediate Products

The Sixth Method reduces the risk of underpricing by providing a transparent starting point—a publicly quoted price—as a basis for pricing related-party mineral sales. However, quoted prices are often for processed or refined mineral products such as gold bars or copper cathode, whereas many developing countries export unrefined products, making it necessary to adjust the quoted price downward. Many tax administrations lack the information and expertise to verify these adjustments, which often reduces the price substantially.

Zambia's main mineral exports are copper concentrate and copper anode. Neither product has a quoted price, although there is an emerging market for metal concentrates. According to The Income Tax Law (2017) in Zambia, taxpayers must adjust the quoted price for copper cathode to account for differences in quality and grade. There may also be processing costs incurred in transforming copper concentrate and copper anode into copper cathode. These costs are typically netted off the sale price the buyer pays to the mine. However, in Zambia, the law does not allow these deductions for the purpose of calculating sales revenue. The ZRA highlighted several challenges it faces in verifying adjustments for quality (Kalale Mambwe, personal communication, August 2, 2022). These challenges include

- Verifying the payable metals contained. This includes:
    - Determining the percentage of copper metal contained in the concentrate or anode (see the previous discussion about valuing mineral exports).
    - Verifying the "recovery rate." This is the amount of copper metal the smelter can economically recover from the concentrate or anode and that the mine will be paid for. The same challenges apply to byproducts (e.g., gold and silver).
- Verifying penalties for impurities. Smelters and refineries charge penalties for undesirable elements above a certain level, as agreed upon in the contract of sale. There is no independent source of information on penalties.
- Verifying transport and insurance costs. The terms of sale of the quoted product may differ from the actual sale. For example, if the quoted product is sold Cost Insurance and Freight and the actual product is sold Free on Board, the mine will be paid the quoted price net of transport and insurance. While there is public data on freight costs (e.g., Baltic Freight Index), countries may need to adjust this for different volumes/contents and shipping routes.

Some countries allow further deductions for the cost of transforming intermediate products into semi-finished or finished products. For some products, tax authorities can use benchmark data to verify (e.g., copper); however, this is not the case for all commodities (e.g., gold).

Tax authorities may face significant challenges in verifying adjustments to quoted prices in the case of intermediate products. However, they face these challenges regardless of the Sixth Method. At least quoted prices provide a transparent starting point and basis to challenge taxpayers. Countries could simplify the application of the Sixth Method to intermediate products by providing guidance to taxpayers on what adjustments are allowed and how they should be made. Continuing the example of copper, taxpayer guidance could prescribe a standard range for recovery rates and penalties, the source of benchmark data (if it exists) for determining processing and transport costs, and any formulas to adjust these costs. Such guidance would need to be set out in a regulation or equivalent legal instrument so that it could be updated periodically to reflect changes in the industry.

A more prescriptive approach has pros and cons. It would make the Sixth Method easier to apply and reduce the risk that companies deliberately overstate deductions, but it might also mean that they lose out on additional revenue—for example, if the smelter can achieve better recoveries than the standard rate prescribed in the regulation. Even so, forgoing some revenue may be worthwhile considering the administrative benefits of a simpler, more robust approach (Table 3 contains an example of the potential impacts of different recovery rates on the price per tonne of copper concentrate). Alternatively, countries could give companies the option of negotiating a pricing formula via an Advance Pricing Agreement (Guj, 2017). This would require a lot of resources from the tax authority, but in the process, they would have the opportunity to learn more about the value chain of each company.

Table 3. Impacts of different recovery rates on the price per tonne (t) of copper concentrate

	Copper metal contained (%)	Recovery rate (%)	Payable amount	Price (USD/t) of copper cathode	Value (USD/t) of copper concentrate
Scenario 1	30	95	0.285	4,000	1,140
Scenario 2	30	96	0.288	4,000	1,152
Scenario 3	30	97	0.291	4,000	1,164
Scenario 5	35	98	0.343	4,000	1,372

6.4 Verifying Discounts for Marketing

Some countries allow taxpayers to discount the quoted price for marketing services (e.g., Ecuador). In the mining sector, the term "marketing" often describes the process of negotiating, selling, and delivering minerals, as well as the functions that support those activities. It is common for mining companies to locate marketing, sales, and distribution functions in centralized operating models ("hubs"). Related-party marketing hubs are generally based in low-tax jurisdictions. An important reason for this choice is to take advantage of tax-planning opportunities. Consequently, allowing taxpayers to discount quoted prices on account of marketing services provided by related parties raises a high risk of transfer pricing abuse that may be difficult to verify due to a lack of information. The ability to negotiate a different price is limited for many commodities, raising questions about the legitimacy of marketing fees in general.[3]

Many countries adopted the Sixth Method to avoid the difficulty of having to verify deductions for high tax-risk services such as marketing, instead limiting adjustments to those more directly linked to the price of a mineral. Countries that choose to allow marketing discounts from the sale price (and even those that do not) should require that taxpayers provide third-party sales contracts. Zambia recently introduced this requirement (see Box 4). Argentina, Paraguay, and Uruguay also require the registration of contracts involving the export and/or import of commodities, detailing the conditions agreed in such transactions (Grondona, 2018). The OECD guidance emphasizes the importance of taxpayers providing third-party end-user contracts to aid tax authorities in examining transfer pricing practices (OECD, 2022). They could also issue guidance on how

[3] For more on this topic, see Guj et al., 2017.

marketing costs should be calculated. For example, Australia limits marketing costs to a return on the operating expenses of the hub.

Box 4. Zambia requires taxpayers to submit third-party sales contracts and invoices on request

"(15) Where the base or precious metal is sold by a resident or a non-resident person to a related or associated person who sells that base or precious metal to an unrelated person –

(a) the resident person or non-resident person, shall provide to the Commissioner-General on the Commissioner-General's request, all third-party sales agreements and all third-party sales invoices relating to that sale."

The penalty for failure to comply with the request is ZMW 240 milllion.

Source: The Income Tax Law, 2017.

7.0 Alternative Approaches to Pricing Mineral Exports

7.1 Administrative Pricing

Administrative pricing or norm pricing is another approach to pricing commonly seen in the oil and gas sector. Under an administrative pricing regime, the government, rather than the taxpayer, determines the value of the oil. For example, in Norway, the Petroleum Price Board has been appointed to determine the administrative price, which is set retroactively four times a year. The Petroleum Price Board meets every quarter to set the daily "norm price" (their version of administrative pricing) for each oil-producing field for the previous quarter.

The main benefit of administrative pricing over to the Sixth Method is that the tax authority has the first-mover advantage in setting the price for tax purposes. If the taxpayer disagrees, the onus is on them to demonstrate that the government's valuation is incorrect. The intention of norm pricing is to achieve a reasonable approximation of arm's-length sales values.

The main challenge of administrative pricing is having the necessary information and expertise to set a credible price per oil field. These challenges may be even greater for mining, considering the diversity of mineral products. Notwithstanding, the information and expertise that governments would require to determine an administrative price are also arguably needed to verify the transfer price. Tax administrations and taxpayers might find it easier to determine a price in advance rather than undergo costly, time-consuming audits with the potential for disputes.

7.2 Safe Harbour Approach

Countries with limited administrative resources may be interested in a safe harbour approach, which can be based on the CUP method or the Sixth Method, depending on the number of adjustments allowed. Under a safe harbour regime, companies that apply prices in related-party transactions at or above the pricing method defined by the government do not attract scrutiny from tax administrations. Companies that do not comply are required to justify their pricing method to the tax administration. This reverses the burden of proof from the tax administration to taxpayers.

Safe harbours are a common tool used by tax administrations around the world to protect low-risk transactions, reduce compliance costs, and save audit resources. "Transfer pricing compliance and administration is often complex, time consuming, and costly. Properly designed safe harbour provisions, applied in appropriate circumstances, can help to relieve some of these burdens and provide taxpayers with greater certainty" (OECD et al., 2018, p. 16). They are recommended, in particular, to define maximum cost markup for intragroup services.

Publicly communicated safe harbours for commodity prices are not yet common, but tax administrations often use similar approaches in their audit risk-assessment processes to choose which taxpayers and transactions to audit. From this perspective, a safe harbour on commodity prices is not substantially different from the publication of taxpayer guidance on accepted transfer pricing methods by a tax administration. It provides transparency and added certainty to taxpayers when selling minerals to related parties.

Safe harbours could be useful for countries with limited audit resources and large mineral sectors. For example, the Republic of Guinea adopted a safe harbour regime for bauxite prices in related-party transactions in July 2022. This was motivated by the repeated assessment that export prices of bauxite, the principal ingredient in aluminum and Guinea's main export, were far below the international market price. Under this regime, called the "bauxite reference price," companies are required to sell their bauxite at or above a reference price or demonstrate what the correct arm's-length price for the mineral they sell is. The reference price is calculated by a formula from international price indices, quality, and transport adjustments, as recommended by the TPG (OECD, 2022).

The risk in this approach is that taxpayers get to choose either to apply the safe harbour price—which cannot be challenged by the tax authority even if it is different from the arm's-length price—or be more aggressive and price outside the safe harbour and contend with the price that unrelated parties would pay. Some countries may consider this a risk worth taking, considering the time and resources they potentially save by administering a safe harbour. Alternatively, some countries may prefer the Sixth Method, which offers simplicity (depending on adjustments) without the need to be tied in by a safe harbour.

8.0 Conclusion

Applying the arm's-length principle to related-party mineral sales is difficult, requiring tax authorities to make complex adjustments for which they lack comparable data or industry expertise. To simplify the pricing of related-party mineral sales, governments should consider adopting the Sixth Method, reflecting the fact that quoted prices play a key role in the normal commercial pricing of many minerals. While it may not work for all minerals, the Sixth Method can be used to triage the sector, freeing up time for tax officials to focus on minerals with more complex value chains. Depending on the information and expertise that tax authorities have available to them, they may vary the level of comparability adjustments required. In the case of intermediate products, it may be helpful to issue guidance to taxpayers on how the Sixth Method should be applied, including ranges for standard adjustments. Finally, countries should consider characterizing the Sixth Method as a domestic anti-abuse rule rather than a transfer pricing method to increase the likelihood that taxpayers can access relief for any double taxation they incur as a result.

References

African Tax Administration Forum. (2020, June 1). *Zambia court ruling against copper mining company is a victory against abusive tax practices*. https://www.ataftax.org/zambia-court-ruling-against-copper-mining-company-is-a-victory-against-abusive-tax-practices

Daniel, P., Keen, M., & McPherson, C. (Eds.). (2010). *The taxation of petroleum and minerals: Principles, problems and practice.* International Monetary Fund.

Gómez Serrano, C. P., Bolado Muñoz, E., & Arias Esteban, I. G. (2019). *Cocktail of measures for the control of harmful transfer pricing manipulation, focused within the context of developing countries*. Inter-American Center of Tax Administrations.

Grondona, V. (2018). *Transfer pricing: Concepts and practices of the 'Sixth Method' in transfer pricing* (Tax Cooperation Policy Brief No. 2). South Centre. https://www.southcentre.int/wp-content/uploads/2018/05/TCPB2_Transfer-Pricing-Concepts-and-Practices-of-the-%E2%80%98Sixth-Method%E2%80%99-in-Transfer-Pricing_EN.pdf

Guj, P., Martin, S., Maybee, B., Cawood, F., Bocoum, B., Gosai, N., & Huibregtse, S. (2017). *Transfer pricing in mining with a focus on Africa*. World Bank. https://openknowledge.worldbank.org/handle/10986/26036

Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development & Organisation for Economic Co-operation and Development. (2018). *Monitoring the value of mineral export: Policy options for governments.* https://www.oecd.org/tax/beps/monitoring-the-value-of-mineral-exports-oecd-igf.pdf

Organisation for Economic Co-operation and Development. (n.d.). *Action 4: Limitation on interest deductions.* https://www.oecd.org/tax/beps/beps-actions/action4/

Organisation for Economic Co-operation and Development. (2022). *OECD transfer pricing guidelines for multinational enterprises and tax administrations.* https://www.oecd.org/tax/transfer-pricing/oecd-transfer-pricing-guidelines-for-multinational-enterprises-and-tax-administrations-20769717.htm

Organisation for Economic Co-operation and Development, Special Department of Federal Revenue of Brazil, & Government of Brazil. (2018). *Call for input on transfer pricing issues related to the design of the safe-harbour provisions and other comparability considerations.* https://www.oecd.org/tax/transfer-pricing/oecd-brazil-transfer-pricing-call-for-input-on-issues-related-to-the-design-of-safe-harbour-provisions.docx

Readhead, A. (2018). *Special rules for commodity sales: Zambia's use of the 'Sixth Method.'* Natural Resource Governance Institute. https://resourcegovernance.org/sites/default/files/documents/special-rules-for-commodity-sales-zambia-sixth-method.pdf

Resoluciones NC-DGERCGC16-00000531: Establécense las medidas técnicas y metodológicas para evitar el abuso de los precios de transferencia (2017) [The technical and methodological measures are established to avoid the abuse of transfer prices]. Republic of Ecuador. https://vlex.ec/vid/establecense-medidas-tecnicas-metodologicas-657780585

The Income Tax Act (2017). Chapter 323 of the laws of Zambia. https://www.parliament.gov.zm/sites/default/files/documents/acts/Income%20Tax%20Act.pdf

United Nations. (2021). *Practical manual on transfer pricing for developing countries 2021*. https://www.un.org/development/desa/financing/document/un-practical-manual-transfer-pricing-developing-countries-2021

United Nations Conference on Trade and Development. (2020). *Mineral tracking tool helps Zambia combat illicit financial flows.* https://unctad.org/news/mineral-tracking-tool-helps-zambia-combat-illicit-financial-flows

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