

What Mining Can Learn from Oil

A Study of Special Transfer Pricing Practices in the Oil Sector, and their Potential Application to Hard Rock Minerals

Alexandra Readhead

Abstract

Governments of mining countries are vulnerable to investors manipulating transfer prices as a means of avoiding paying taxes. The two main risks are mining companies undercharging for mineral exports sold to related parties, and overpaying for goods and services. The “solution” has been to apply the “arm’s length principle,” which gives governments the right to adjust the value of a related party transaction so that it accords with similar transactions carried out between independent parties. However, it has been apparent for many years that the arm’s length principle, with its reliance on “comparables” that in practice can rarely be found, is an inadequate response.

This paper looks at whether special practices in the oil sector that provide materially greater protection against transfer pricing risk could be applied to hard rock minerals. These are (1) administrative pricing, where government, rather than the taxpayer sets the price for crude oil; and (2) the no-profit rule, which prevents joint venture partners from charging a profit mark-up on the cost of providing goods and services to the group. The paper finds that administrative pricing may be effective at curtailing undercharging of specific mineral products, for example, base and precious metals. The no-profit rule is a less obvious “fit” for mining given the lack of joint ventures, and alternative rules to limit cost overstatement may be required instead.

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Preface

For many developing countries, a critical challenge for development is capturing a fair share of the financial benefits from the exploitation of their finite, non-renewable natural resources. This involves implementation of complex international tax rules such as over intra company ‘transfer pricing’ transactions.

Over recent years there has been rising concern about the problem of tax avoidance and profit shifting by multinational companies, and the international guidelines have been reformed. However these reforms (which saw the guidelines grow by 50 percent to 600 pages) create greater complexity and challenge for resource-constrained tax administrations to implement.

Simpler methods of administering taxes on international business are possible, and may be more workable for developing countries. One potential approach comes from the oil sector where governments set the price for crude oil and apply a simple “no-profit” rule on the mark-up of goods and services provided by joint venture partners. Such sector-specific, incremental approaches may have greater chance of immediate success than schemes to fundamentally redesign the international tax system. To better understand the potential of this option, we invited Alexandra Readhead to contribute this paper. She draws on the experiences of Norway, Angola, and Indonesia to explore the potential for transferring these practices from the oil sector to other industries, particularly mining as a practical way to reduce transfer pricing risk

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1. Introduction

There is big money in minerals—not only in absolute terms, but relative to the size of many resource-rich economies. In a study of ten mining countries, the International Monetary Fund (IMF) found that mining’s share of total government revenue was 11 percent on average,¹ and as high as 40 percent in the case of Botswana.² It follows, therefore, that effective taxation of mining companies is critically important to domestic revenue mobilisation, especially in developing countries³ which comprise 63 of the top 70 mining countries by contribution of the sector to the economy.⁴

However, whilst mining has the potential to significantly increase government revenues, it also has features that combined with the international tax system, offer opportunities for corporations seeking to avoid taxes. In developing countries—which typically lack the capacity to tackle complex avoidance techniques—large-scale mining operations are carried out mainly by foreign-owned multinational companies (MNEs). These corporations create subsidiaries that may sell most of their mineral production to affiliate marketing centres or purchasing companies. The subsidiary may also receive financing, administrative services, equipment and machinery from a parent or affiliate company. The process for determining the value of these related party transactions is called “transfer pricing.”

Transfer pricing is a normal business practice, provided the terms and conditions (including the price) of the controlled transaction are comparable to the “arm’s length” terms and conditions at which the transaction would have taken place between unrelated parties. However, transfer pricing can become abusive when the related parties distort the price of a transaction outside an arm’s length value to make higher profits in lower-taxed jurisdictions and lower profits in higher-taxed ones, as a means of reducing the MNE’s overall tax bill. There are two main transfer pricing risks in the mining sector:

1. **Undercharging** for mineral products exported and transferred to related parties
2. **Overpayment** for a range of both routine and specialised goods and services

These transfer pricing risks are not unique to mining, the same issues can arise in the oil industry. For example, the Australian tax office recently collected \$286 million from Chevron on the basis that it was paying an above-market-interest-rate on a loan from its

¹ IMF Fiscal Affairs Department, *Fiscal Regimes for Extractive Industries – Design and Implementation*, 15 August 2012, pg.33, available at <http://www.imf.org/external/np/pp/eng/2012/081512.pdf>

² Mining revenues as a percentage of total government revenues were around 40 percent in 2015. See Magnus Ericsson and Olof Lof, *Mining’s contribution to low- and middle- income economies*, UN WIDER Working Paper 2017/148, pg.16, available at <https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2017-148.pdf>

³ Based on country rankings in the Human Development Index.

⁴ See International Council on Mining and Metals, *The role of mining in national economies*, 2nd Edition, October 2014, pg. 30, available at https://www.icmm.com/website/publications/pdfs/social-and-economic-development/romine_2nd-edition

affiliate in Delaware.⁵ However, although the risks might be similar, there are two special practices applicable to oil that make it less vulnerable to transfer pricing risks than mining. These are administrative pricing, and the no-profit rule.

- **Administrative pricing** is where the *tax authority* rather than the taxpayer determines the sale price of crude oil. This determination is usually based on the benchmark price adjusted for quality differences, and other cost deductions.
- **The no-profit rule (NPR)** is a feature of unincorporated joint ventures (JV) (see below). The operator is limited to billing the JV (whose costs are shared by partners based on their percentage interests in the project) for the original cost of goods and services procured for the group, *excluding a profit mark-up*. The theory is that the operator should neither gain nor lose by assuming the role. To the extent that other JV partners bill the group for related party costs, the NPR also applies.

To understand the NPR, and its potential application to mining, it is necessary to know the key features of unincorporated JVs and production sharing arrangements.

Joint ventures and production sharing contracts

JVs are more common in oil than mining because of the scale of investment, and the need to share risk. The NPR is a specific feature of unincorporated JVs. In an unincorporated JV, one of the partners will be appointed as operator. The operator carries out operations and allocates costs to its JV partners. Each partner must submit a tax return, which includes its share of costs paid to the operator, as well as any expenses it incurs separately at the “partner level.” The NPR is designed to prevent the operator profiting from providing goods and services to the group. In this regard, the interest of non-operator partners (to keep costs low) aligns with government, especially in the context of production sharing contracts (PSC).

Under a PSC, the contractor is entitled to take a share of total oil production to cover its exploration and development costs (“cost oil”), and what oil is left is then split between the contractor and the government (“profit oil”) according to some formula set out in the PSC.⁶ Profit oil is the main source of revenue for non-operator partners and government. In most cases, there is a shared interest to limit cost oil. However, costs incurred outside the unincorporated JV, which are not recoverable via cost oil, may be offset separately by partners against their individual tax bill. As these costs are a matter for each partner, they are not subject to the NPR; thus, the risk of overstatement is increased.

Key differences between mining and oil

Hard rock minerals differ from oil with respect to the type of resource, industry practices, as well as the fiscal regime. These differences determine whether special transfer pricing

⁵ Sonali Paul, “Australia puts multinationals on notice after Chevron drops tax appeal,” *Reuters*, August 18 2017, accessed 10th July 2018 <https://www.reuters.com/article/us-australia-chevron-taxavoidance-idUSKCN1AY0DV>

⁶ For more information on the different types of petroleum fiscal regimes please see Chapter Six. Fiscal Regime design and Administration in *Oil, Gas and Mining: A Sourcebook for Understanding the Extractive Industries*, 2017.

practices in the oil sector are appropriate, and would indeed be successful, if applied to the mining sector. There are four key differences that are relevant for this paper.

1. **Unincorporated JVs** are significantly more common in oil than mining. In mining, companies own majority stakes in locally incorporated vehicles, although JVs are increasing.
2. **Benchmark prices** are available for a range of widely traded crudes, for example, Platts, and Argus. In mining, benchmark prices are only available for some commodities (e.g., precious metals, copper, aluminum, iron ore etc.), but not all.
3. **Quality variation** between oil reservoirs is more limited than in mining, where the same mineral product, for example, diamonds, may differ widely in terms of quality.
4. **Sharing physical production (i.e. the PSC)** is less common in mining than in oil because the degree of processing required makes separation of raw production before sale more difficult. Mining fiscal regimes generally comprise profit-based taxes and royalties.

Scope of the paper

The paper seeks to answer two questions: 1) do administrative pricing and the NPR reduce the risk of transfer pricing manipulation in the oil sector; and, if so, 2) could these special transfer pricing practices be applied to hard rock minerals. To answer the first question the paper draws on the experiences of Norway, Angola, and Indonesia; three oil-producers using the administrative pricing approach.

2. Administrative pricing in the oil sector

In developing countries, multinationals often carry out large-scale mining operations, selling their production either directly to affiliated smelters or refineries, or to an associated marketing or trading company, created for the sole purpose of receiving ownership of the product. Companies may deliberately distort the price of related party sales to pay less tax in the country where the minerals are extracted, allowing profits to accumulate offshore, usually in a low-tax jurisdiction. Many countries lack facilities to test the quality and quantity of exports, putting them at a further disadvantage when assessing the price of related party sales.

In the oil sector, the practice of administrative pricing has been designed specifically to address the risk of undercharging of crude oil sold to related parties. This section will describe and evaluate administrative pricing in three countries—Norway, Angola, and Indonesia. In addition, it will highlight the conditions for successful implementation of administrative pricing, and the extent to which these can be found in the mining sector.

Before continuing, it is worth noting that Angola, Indonesia and Norway have different petroleum fiscal arrangements. Indonesia operates a PSC regime. Angola operates both a PSC, and a concession regime (i.e. tax and royalty). Norway is exclusively a tax and royalty regime. The distinction is relevant because oil-producers that rely primarily on regular

corporate income tax are arguably more vulnerable to transfer pricing manipulation than those using contractual systems where the challenges are more to do with auditing costs, and verifying prices.

2.1 How administrative pricing works

Oil is generally valued for tax and royalty purposes according to realized sale prices. However, some major producing countries such as Norway, Angola, and Indonesia, have chosen to value oil at administrative prices set by government. 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 (PPB) has been appointed to determine the administrative price, which is set retroactively four times a year. The PPB meets every quarter to set the daily “norm price” (their version of administrative pricing) for each oil producing field for the previous quarter.⁷

Norway pioneered the administrative pricing approach in 1974 for three reasons. First, upstream petroleum activities were taxed at a much higher rate (85 percent) than midstream petroleum (35 percent) creating an incentive for upstream petroleum companies to sell their crude oil to a related refinery at below market rate so that more of the profit is realized at the lower tax rate. Second, the tax authority had limited expertise and resources to apply transfer pricing rules; it needed a simplified approach. Third, at the time petroleum production began in Norway, there were very few companies, and no spot market. Oil is now a much more liquid market, and there are numerous price indices. However, the Norwegian government chooses to retain administrative pricing because it saves the tax authority from having to determine whether sales transactions are arm’s length. Angola and Indonesia followed Norway’s lead, adopting administrative pricing to simplify tax collection, bypass complex and costly transfer pricing audits, and limit opportunities for transfer pricing manipulation.

The governments of all three countries take a similar approach to determining administrative prices:

- Government appoints a taskforce, or agency to set the price;
- Daily prices are published retrospectively. In Indonesia, this is done every month, whereas in Norway and Angola it is done quarterly;
- Companies are invited to submit a report on each sale. They are also invited to present relevant market information and a recommendation of what the administrative price should be.
- Because of quality differences, a price is set for each oil block, which means that companies operating multiple blocks will be dealing with multiple prices;

⁷ See an example of the norm price for crude oil produced on the Norwegian Continental Shelf <https://www.regjeringen.no/contentassets/8ccca86020534bb79c63cce89f9ef53e/np-q4-2016-eng-final-normprices.pdf>

- Companies can dispute the administrative price. Typically, this will be adjudicated by a panel of independent experts, with the party submitting the case bearing the fees.

There are two differences between the countries' approach to administrative pricing:

a) The first relates to the basis for valuation of crude oil.

In Indonesia, the government-posted price is linked to the Indonesia Crude Price (ICP). The ICP is calculated monthly according to the moving average spot price of a basket of eight internationally traded Indonesian crudes. For the other crudes not sold on the international market, the government-posted price is based on the ICP, adjusted for differences in quality. There is no specific price index for crude oil produced in Norway or Angola, which means the basis for developing the administrative price begins with the relevant benchmark price from indices such as Platts or Argus.

b) The second difference relates to the role of third party sales in setting administrative prices.

In Angola, third party sales are valued according to the actual Free-on-Board (FOB) sale price achieved, whereas related party sales are based on the administrative price, which approximates many factors (this is the same in the UK). In Norway and Indonesia, no distinction is made between sales to related parties and third parties; all sales are valued according to the relevant benchmark price (or ICP), adjusted for differences in quality, as well as terms and conditions. There are two reasons for this policy choice. The first is that government avoids having to verify if it is a real third party sale, which may be complex and time consuming. The second is that third party sales are usually priced by reference to the relevant benchmark, which, in turn, underpins the administrative price (plus or minus some adjustments), thereby achieving a comparable outcome had the actual sale price been used.

2.2 Does administrative pricing prevent undercharging of crude oil?

There are three clear benefits to using administrative pricing. The first, and most significant benefit is that the tax authority has the first mover advantage in setting an arm's length price. If the taxpayer disagrees, the onus is on them to demonstrate that the government's valuation is incorrect.⁸ The second benefit is simplifying administration. The third benefit is that administrative pricing may reduce taxpayer disputes, to that extent that the rule is applied consistently and credibly. This section will explore the last two benefits.

a) Simplifying administration

Administrative pricing does not bypass transfer pricing analysis entirely. Governments require demonstrable tax as well as industry expertise to set a credible price. However, it is a simplification measure that allows government to determine the arm's length value for every

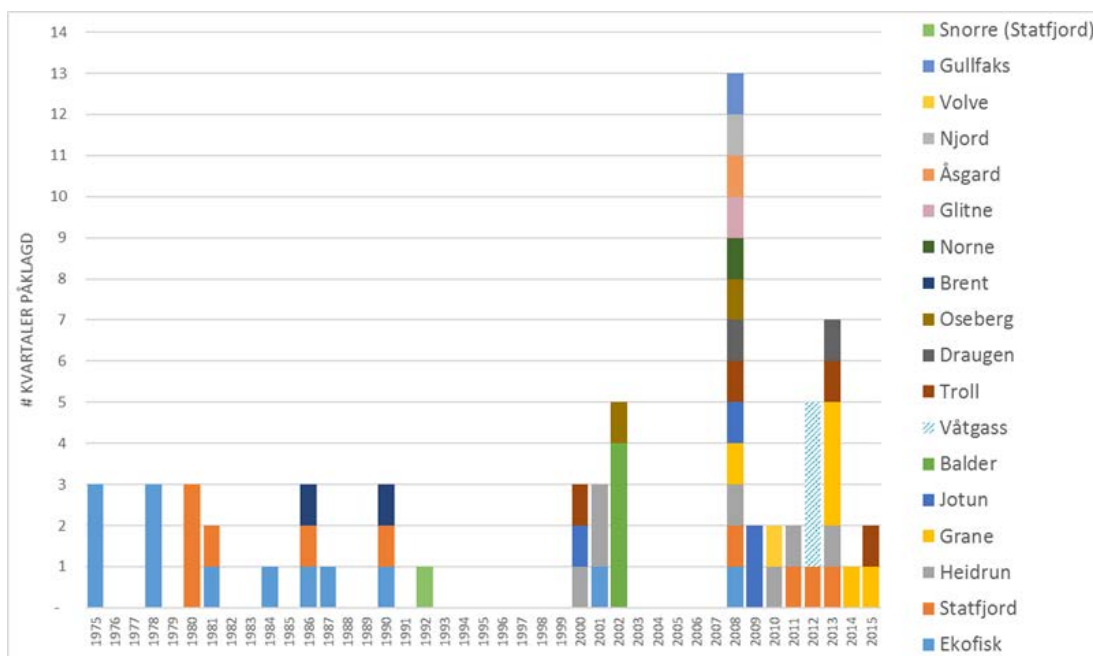
⁸ Michael Durst. *Improving the Performance of Natural Resource Taxation in Developing Countries*, ICTD Working Paper 60, November 2016, pg. 19

product up front, rather than verify the price of each sale; thus, freeing up limited audit resources to focus on other transfer pricing risks. The relative ease of administration is reflected by the fact that in Norway, the tax authority does not allocate any tax officials to review crude oil sales, whereas six out of 48 employees in the oil and gas tax unit work fulltime monitoring the sale of natural gas which is not subject to administrative pricing. In Indonesia, the number of staff involved in determining the oil price is higher, around 35. However, this is due to the additional work involved in setting the Indonesian Crude Price (ICP), which is the basis for the government posted price.

b) Less taxpayer disputes over pricing

Since 1985, Norway has never had a crude oil pricing dispute go to court. There have been instances where taxpayers have appealed the administrative price, as shown in figure 1, but these have been resolved internally. By contrast, there are 70 ongoing tax disputes with taxpayers regarding the transfer price of natural gas (see Table 3). Indonesia has also avoided oil pricing disputes. According to officials at SKK Migas (the petroleum regulator), this because it sets the ICP in consultation with contractors. In this regard, administrative pricing can benefit governments by increasing certainty, and avoiding costly and time consuming disputes. However, for taxpayers, uncertainty may be increased, especially where the price is set retrospectively, although presumably disputes would have been higher in Norway had there been a significant difference of opinion between taxpayers and government.

Figure 1. Crude oil administrative pricing appeals in Norway, 1975 to 2015⁹



⁹ The increase in pricing appeals in 2008 was due to the sharp drop in world oil prices, which meant the monthly average price did not reflect what was possible for some companies to achieve, especially those with less volume.

2.3 Conditions for successful implementation of administrative pricing

There are four conditions upon which implementation of administrative pricing are predicated:

i) A deep liquid market from which benchmark prices can reliably be derived

Crude oil is one of the most widely used and actively traded commodities in the world. There are many benchmark crudes which serve as a reference price for buyers and sellers of crude oils (e.g., West Texas Intermediate (WTI), Brent Blend, and Dubai Crude). Once a similar quality benchmark crude has been identified, standard formulae can be used to adjust the price to reflect differences in physical quality, as well as transport costs depending on the point of sale. Benchmark pricing is consistent with commercial practice. For example, most traders will use the “dated Brent” as their marker, which is a cargo of North Sea Brent blend crude oil that has been assigned a date when it will be loaded onto a tanker.¹⁰ Electronic exchanges such as Platts project the price of the specific crude oil.

ii) Limited quality variation

Crude from one reservoir is usually comparable in quality with crudes from other locations.¹¹ For most Norwegian grades, the quality difference varies between a few USD. Given the relative homogeneity in quality, small adjustments can be made such that these crudes are “good comparables” to determine the approximate value under administrative pricing. The pricing method is also similar across commercial transactions. The two quality differentials are the density of the oil relative to water (“API gravity”), and the sulfur content. As a rule of thumb, the price of crude increases the lighter it is, and the less sulfur it has (often described as being “sweeter”). These two factors are the extent of the variation in physical composition of crude oil, thus making it comparatively easy to price.

iii) Strong government institutions capable of implementing administrative pricing

Oil companies are concerned that in an administrative pricing regime, any deviation from an arm’s length price will be higher, not lower, than a true third party price. The fact that some countries, Nigeria, for example, only use the administrative price when it is greater than the price set by the parties,¹² may legitimize this concern.¹³ It is vital, therefore, that governments implement administrative pricing consistently and credibly to avoid the perception amongst investors that it is an attempt to “grab” additional revenue.

In 2010, the PPB changed the regulation to set administrative prices daily, rather than monthly, to reflect the high volatility of oil prices.

¹⁰ John van Schaik. *Selling the Citizens’ Oil: When the Price Is Right*, Revenue Watch Institute, 2012, pg.3, available at <https://resourcegovernance.org/sites/default/files/OilSales-PriceisRight.pdf>

¹¹ Jack Calder, in *International Taxation and the Extractive Industries*, 2017, pg.91

¹² Jack Calder, *Administering Fiscal Regimes for Extractive Industries—A Handbook*, IMF, 2014, pg. 73

¹³ Interview with the International Tax and Investment Center, 9th of February 2018.

In all three countries, there is a taskforce mandated to set prices. In Angola and Indonesia, the taskforce is made up of representatives from the relevant sector ministry and/or petroleum regulatory agency, finance ministry, and tax authority. In Indonesia, the state finance and development body, and the state-owned oil company, Pertamina, are also involved. In both countries, all price determinations are done by government; there are no external consultants.

In Norway, the Petroleum Price Board (PPB) is governed by regulations set by the Ministry of Petroleum, as opposed to the Ministry of Finance. This was a deliberate decision to distance the arm of government that sets the price, from the arm that collects taxes, to avoid administrative pricing appearing as an attempt to raise revenues. Unlike Angola and Indonesia, the PPB is comprised of three independent experts, in addition to representatives from the ministries of finance, and energy and petroleum. It is reconstituted every two years, although in most cases the independent experts are retained due to the need to maintain consistency. The operation of the PPB, and the two consultants that support it, cost government approximately \$210,000 per year.

(iv) Appropriate technical expertise to set the price

Price determination requires significant technical expertise. At present, the independent experts on the PPB in Norway are senior academics drawn from business schools, and economic and law faculties. The PPB is also assisted by oil market consultants whose role it is to provide market information and analysis, including price information, and, in limited cases, detailed oil assays to verify quality. In Angola, the government officials that set the price are specialists in oil taxation. In Indonesia, the technical team is comprised of experts in marketing and refining processes, as well as crude oil price analysis.

The main technical challenge is to account for the different quality of each type of crude when setting the price. To determine the ICP, the pricing team in Indonesia takes the monthly average Brent price for each of the eight internationally traded crudes, and adjusts it for any premium (higher sale price), as well as the value of the products available from the crude (the “gross product worth”). This is called the “Alpha” adjustment factor, and it is determined monthly. The final price for each of the eight crudes is aggregated to give the monthly ICP. For the other crudes produced in Indonesia that are not sold internationally, each is priced according to the ICP, and adjusted for quality. In Norway, the PPB makes quality adjustments for the price for each field using information of actual sales, sales involving similar quality crudes, and oil assays.

3. The application of administrative pricing to hard rock minerals

This section will determine whether the conditions for effective implementation of administrative pricing, in particular, a deep liquid market, and limited quality variation, exist in the mining sector to the extent that the practice might be applied to related party sales of hard rock minerals.

i) Benchmark prices

Not all mineral products have a benchmark price, in which case it may not be possible to generate average prices. For example, gemstones are sold via tenders on specialised markets, based on confidential producers' price lists (e.g., De Beers Price Book). Similarly, intermediate products such as metal concentrates (e.g., copper, and nickel) are sold direct to smelters or refineries, with limited spot sales.¹⁴ In these cases, administrative pricing may not be feasible.

However, 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 (LME) and London Metals Bulletin). Bulk commodities, such as iron ore, and manganese, also have daily quoted prices. Therefore, administrative pricing may be applicable to some, but not all mineral products (see Table 1).

ii) Limited quality variation

Even where benchmark prices are available, the diversity of mineral products may prove to be a barrier to administrative pricing. For the same mineral, quality specifications can vary significantly depending on the standards set by the customer. In the case of non-metallic industrial minerals (e.g., industrial diamonds), the standard is defined by the customer based on 'value-in-use,' which is the value of the product to them, rather than the cost. Specifications for gemstones are based on multiple quality attributes, as well as fashion trends. Valuations involve complex judgement of the rough stones based on size, depth of colour, and structure of the crystal, hence, valuations by government and companies may differ significantly. Although in the case of diamonds, it is standard practice for governments (e.g., Canada and Western Australia) to have an in-house diamond valuer, or contract an independent appraiser, to determine the value of each stone. Notwithstanding, the diversity of mine products, and the varying extent to which they are processed prior to sale, means the market may not be deep enough to derive an administrative price in all cases.

¹⁴ A "spot sale" is the sale of a mineral product for immediate delivery, according to the current price. Spot sales most frequently take place between unrelated parties, making them a good source of price information.

Table 1. Application of administrative pricing depends on mineral product

	Applicable	Possibly Applicable	Applicable in limited circumstances
Mineral Type	Base & Precious Metals E.G. Copper, gold, lead, zinc, silver, platinum group metals.	Bulk Commodities E.G. Iron ore, manganese, coal.	Gemstones¹⁵ E.G. Rough diamonds, other gemstones.
Quality specifications	Standard, stringent and inflexible.	Multiple standards, flexible, & subject to discounts and premia 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 re-negotiated at frequent intervals.	Tenders on specialised markets in assortments or as individual stones.
Prices	Daily quoted prices.	Daily prices for selected grades.	Producers' price lists & tender prices.

Adapted from World Bank Transfer Pricing in Mining Sourcebook.

In summary, while administrative pricing may not be appropriate for all minerals, it could be used for those that have daily quoted prices (e.g., base and precious metals, as well as bulk commodities). The approach would require governments, most likely tax authorities, in collaboration with the ministry of mines, to adjust the relevant benchmark price for differences in quality, transport costs, and contract terms. The resulting price would be published retrospectively for each month, with the opportunity for companies to challenge it. This would need to be done for each mineral produced by each mine, for example, in addition to copper, a mine may produce by-products such as gold and silver.

3.1 Alternative simplification measures

An alternative advocated by oil companies, and used by many oil-producers, is index pricing. “Index pricing” requires taxpayers to use publicly available benchmark prices to determine the arm’s length price for the sale of oil. The approach increases certainty for taxpayers by knowing the price, and therefore their tax liability, at the date of sale, rather than having to wait for government to stipulate an administrative price later. Provided benchmark prices are

¹⁵ Administrative pricing could be used for gemstones if government has access to an in-house valuer, or an independent appraiser to determine the value of each stone.

adjusted to take into account the specifics of the actual sale, the approach should comply with the arm's length principle.¹⁶

Turning to the mining sector, governments are already using a version of index pricing referred to as the sixth method. The “sixth method” requires taxpayers selling commodity products to offshore related parties to use the publicly quoted price of the traded goods on the date the goods are shipped. It has become a popular way for resource-rich developing countries, particularly in Latin America, to simplify the application of the arm's length principle to mineral sales.¹⁷

However, while index pricing and the sixth method are both viable options for pricing oil and minerals, they have one major disadvantage for governments compared to administrative pricing—the taxpayer sets the price. The government, as first mover in setting forth an arm's-length price, obtains what amounts to a substantial presumptive advantage—it is the taxpayer that must demonstrate that the government's price determinations fall outside a reasonable range of correctness, rather than the reverse.

The claim that administrative pricing breaches global tax norms may be overstated. There is no single ‘arm's length price’ for an oil cargo or a shipment of minerals. All three methods are ways of approximating the arm's length price. The main difference for administrative pricing is that government makes the approximation and not the taxpayer. Mandating that administrative prices apply to independent sales, as well as related party transactions (as in Norway and Indonesia) may be a step too far. However, the risk that taxpayers create an arrangement to maximise the tax benefit if there are two different methods of valuing exports,¹⁸ plus the added complexity for tax authorities, may be sufficient grounds to apply a uniform valuation approach to all sales. That way, the only incentive for companies is to achieve a sale price higher than the administrative price to maximise tax-free sales revenue.

4. The no-profit rule in the oil sector

Goods and services, including financing, are commonly provided to locally based mining companies by foreign affiliates. For example, many multinational mining groups centrally procure equipment and machinery on behalf of mine subsidiaries, in return they charge a fee

¹⁶ Interview with the International Tax and Investment Center, 9th of February, 2018.

¹⁷ Alexandra Readhead, *Special Rules for Commodity Sales: Zambia's Use of the Sixth Method*, Natural Resource Governance Institute, 2017, available at <https://resourcegovernance.org/sites/default/files/documents/special-rules-for-commodity-sales-zambia-sixth-method.pdf>

¹⁸ In the UK, in the past, companies had 45 days to decide whether to sell internally, and be subject to the administrative price, or to a third-party. In a rising market, there was an incentive for integrated companies to sell internally, since the average price assessed by the tax office lagged behind, and then resell to a third party at the spot price; thus, accumulating profits offshore. The opposite was true when prices were falling. Oil companies were in full compliance with the law, which, it turned out, was badly designed. Now, companies in the UK have 24 hours to decide whether to nominate a cargo for the administrative price, or sell to a third party.

for service. In most countries, these costs can be deducted from taxable income, creating an incentive to inflate the expense incurred with related parties.

In the oil sector, cost claims could be an even greater risk given that a PSC regime typically divides oil production between the government and the producer only after the producer has recovered its costs. However, the no-profit rule (NPR) is used by JV partners—and governments—to prevent any partner from inflating the cost of goods and services charged to the group, and thus reducing each partner's, and the government's, share of production.¹⁹ This section will describe and evaluate the NPR. In addition, it will highlight the conditions for successful implementation of the NPR, and the extent to which these can be found in mining.

4.1 How the NPR works

According to the NPR, any good or service provided to the JV group must be charged at the original cost without a profit margin or mark-up. The origins of the NPR can be found in the United States Model Joint Venture Agreement developed by the American Association of Petroleum Landmen (AAPL) from 1956. The agreement requires that JV partners only seek cost reimbursement for services provided. "Reimbursement" implies that partners can seek compensation for out-of-pocket expenses, but only for an amount of money equal to what was spent (i.e. without a profit mark-up). In 1990, the American International Petroleum Negotiators (AIPN) published a model contract; Article 4.2.B.5 provides that a partner shall "neither gain a profit nor suffer a loss as a result of being the Operator."²⁰ The philosophy is that the operator should be compensated for costs, but not make a profit, thus protecting the economic interest of each partner.

The NPR applies to any charge, from any partner, that is billed into the JV group. Typically, most goods and services are provided either by third parties or by the operator, who is responsible for the day-to-day management and operation of the field. The costs charged to the group are broken into two categories:

- **Direct costs** include third party goods and services, as well as services provided by related parties such as technical support and engineering, as well as operator personnel located on site within the country.
- **Indirect (overhead) costs** include costs of the operator to compensate for items not directly charged, and may include costs such as headquarter or other affiliate support for project management, accounting, procurement, and other administrative activities. These may be based on actual cost allocations, or an approximation of such costs based on an agreed sliding scale percentage of the spend of the project,

¹⁹ In many countries, a national oil company will also be a partner in the joint venture.

²⁰ A good history of this can be found in transactional evolution of operating agreements in the oil and gas industry available at <http://washburnlaw.edu/profiles/faculty/activity/fulltext/pierce-david-2007-1rockymountainminerallawfdn.pdf>

usually around three to four percent in the exploration and development phases, and lower amounts as the project goes into operation.²¹ In some instances, other partners may also contribute goods and services, in which case the NPR also applies.

The Joint Operating Agreement (JOA) will stipulate the types of services that are eligible to be charged to the JV; any other service must be paid for independently by the relevant partner. There is no charge for the value of intangibles (i.e. know-how and expertise) brought to the group. Thus, experienced personnel provided by the operator are charged at cost (i.e., salary and benefits), without any profit mark-up for special skills. In cases where the operator, or one of the partners, enters a technology research agreement, such as a research cost sharing arrangement, the partner cannot charge the group for the value of existing technology, nor a profit mark-up. However, partners may bear a proportionate share of future research costs from which they may benefit.

4.2 Does the NPR prevent overcharging for goods and services?

This question must be asked in relation to two potential sources of government revenue: the government's share of physical production, and corporate income tax.

a) Government's share of production

Cost recovery generally includes all expenses charged to the JV, depending on eligibility. Because the costs are charged to the JV, the NPR applies, which makes overpayment less likely as it would not only erode the government's share of production, but that of the non-operating partners. The National Oil Company (NOC) may act as a further safeguard, assuming it is participating in the JV, by exercising its voting rights with respect to approval of major purchases.

Box 1. The role of NOCs in controlling costs²²

The NOC and the host country regulator are involved in the technical evaluation of proposed bidders (to ensure they have the technical and operational capabilities to deliver the goods or services) and later in the commercial phase (where qualified bidders submit pricing and commercial terms for the work). NOCs frequently use their voting rights to influence the selection of the service provider, once candidates have passed the technical evaluation, and the associated costs.

One of the main arguments in favour of JVs is that the tax authority benefits from the conflicting interests between the non-operator partners, and the operator, with respect to

²¹ Note the basis for the indirect costs is established and documented in the governance agreements before the venture begins and the protections that derive from both non-operators and government audits apply.

²² Interview with the International Tax and Investment Center, 9th of February, 2018.

costs. While largely true, it may not always be the case that non-operator partner and government interests align.

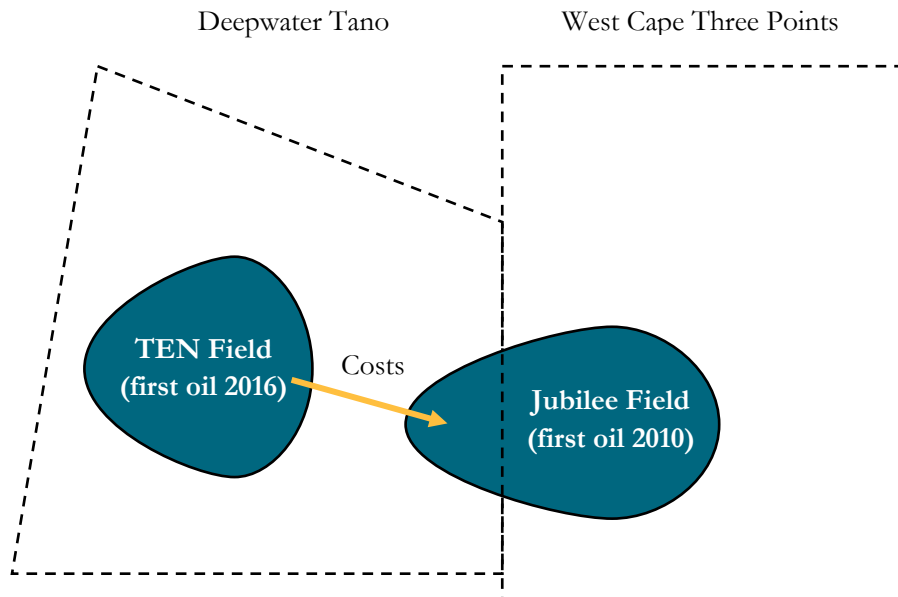
In Ghana, the Jubilee Field first began to pump oil in 2010. It straddles two contract license areas, West Cape Three Points (WCTP) and the Deepwater Tano (DWT). In addition to a portion of Jubilee, the DWT contract license area contains the Tweneboa-Enyenra-Ntomme (TEN) Field, which achieved first oil in 2016. The two license areas are owned by the same contracting parties, but according to different equity shares (see Table 2).

Table 2. Equity participation in DWT and WCTP

JV Partner	DWT	WCTP
Tullow	35.48% (operator)	25.66% (operator)
Anadarko	24%	30.02%
Kosmos	24%	30.02%
PetroSA	2.52%	1.80%
Ghana National Petroleum Company (GNPC)	14%	12.5%

Between 2012 and 2013, the Ghana Revenue Authority found that the contractor for DWT had offset exploration and development costs from the TEN Field against its share of profits generated from the portion of the Jubilee Field in DWT (see figure 2). Cost deductions for TEN were made again in 2014.

Figure 2. Offsetting costs from TEN against profits from Jubilee



The consolidation of income and losses within DWT impacted the government's take in three ways:

1. **Deferred corporate income tax.** By transferring costs incurred in the development of the TEN Field to Jubilee, the contractor could postpone payment of tax on its share of Jubilee income.²³ The deferred revenue amounted to approximately \$50 million.²⁴
2. **Lower net income from the sale of government's share of production.** The government's equity share is held by GNPC. After the royalty on gross production is paid to government, the remaining crude oil is shared between the contracting partners according to their equity share (i.e. GNPC gets 14 percent). Each partner sells their share and uses the proceeds to reimburse the operator's costs. Because the costs were consolidated, GNPC (the government) was left with less net income than if the two fields had been ringfenced.
3. **Additional Oil Entitlement (AOE) was not triggered.** AOE is an extra payment to government if the post-tax rate of return exceeds a targeted level. Increasing the level of costs relative to income meant the post-tax rate of return stayed below the required level, which meant the AOE was not triggered (the costs from TEN were not the only factor).

The non-operator partners to DWT were willing to consolidate the income and losses of the two fields, and reduce their net income, because in doing so they could delay payment of taxes on their share of Jubilee income. The contractor did nothing illegal; the petroleum law provided for "sideways relief" on a contract area basis. Consolidation may even encourage exploration and investment by deferring taxes. Notwithstanding, the case demonstrates that the interest of non-operator partners may not always align with government—assuming its goal is early revenues, which is usually the case for cash-strapped developing countries.

b) Profit-based taxes

Transfer pricing risks are higher in the case of profit-based taxes, which, in an unincorporated JV, are paid separately by each partner on its share of profit oil. Each partner will submit a tax return, which includes its share of costs paid to the operator, as well as any expenses it incurs separately at the "partner level." Costs paid to the operator, which for major oil projects will constitute the bulk of the total costs, have undergone scrutiny by non-operators and the government for purposes of cost recovery, and thus those same costs pose limited transfer pricing risk for profit tax purposes. However, for those costs that fall outside the scope of the JV and which are not recoverable, partners may nevertheless choose to offset them against their individual tax bill depending on the provisions of host country tax laws. The lack of oversight by JV partners means that, to the extent that such costs are

²³ Alexandra Readhead, *Getting a Good Deal: Ring-fencing in Ghana*, Natural Resource Governance Institute, 2016, available at <https://resourcegovernance.org/sites/default/files/documents/getting-a-good-deal-ring-fencing-in-ghana.pdf>

²⁴ Best estimate based on interview with Ghana Revenue Authority, February 2018.

incurred with related parties, transfer pricing risks remain and those costs should be scrutinized. Some examples follow:

i) Partner-level tax deductions

One area of transfer pricing risk relates to finance. In most JVs, each partner is expected to access finance independently, which means the payment of interest on loans is not cost recoverable.²⁵ Similarly, in the case of insurance, each partner is expected to self-insure, or to arrange and pay for it independently. Because these charges are not billed into the JV the NPR does not apply, instead it is assumed that partners will price related party transactions according to the arm's length principle.

However, there is evidence to the contrary. In 2017, the Federal Court of Australia upheld an \$286 million tax adjustment levied on Chevron Australia by the Australian Tax Office. The case centered on the level of interest rate that an affiliate in Delaware set for a loan to its Australian arm. The court found that the loan was not a genuine arm's length transaction and could be used to artificially reduce the company's profits and tax. In Norway, the tax office is disputing financial costs worth \$288 million (see table 3). These are a major source of transfer pricing disputes in the country, second only to intercompany services.

Table 3. Ongoing transfer pricing disputes in the oil and gas sector in Norway

Topic	Total Disputes	Transfer Pricing Disputes	Amount (NOK millions)
Dry gas	51	51	4 848
Wet gas	19	19	1 187
Crude oil/condensate	9	2 ²⁶	753
Insurance	21	21	3 086
Intercompany services	79	79	3 440
Financial services	67	58	2 394
Timing/accrual	15	0	47
Uplift	10	0	371
Onshore/Offshore	16	0	1
PTA section 10	27	0	668
Others	63	12	628
	377	242	17 423

Source: data presented by presented by the Oil Taxation Office director Mr. Torstein Floystad to industry at the annual Oil Tax Night Nov. 22, 2017

²⁵ Uganda is an exception, it includes finance expense as part of cost recovery provided that the associated interest rates and charges do not exceed prevailing commercial rates, and that the quantum of debt does not exceed fifty percent (50%) of the total financing requirement. See Annex C of the Uganda Model Production Sharing Contract available at <http://www.eisourcebook.org/cms/Feb%202014/Uganda%20Model%20PSA%20,%201999.pdf>

²⁶ The two transfer pricing disputes for crude oil relate to condensate sold to related parties.

The table provides a summary of the status of transfer pricing disputes in the oil and gas sector at 2017. On average each case covers 3.5 income years. It was not possible to get detailed information on how these disputes were resolved, however the OTO was able to provide some numbers for illustration purposes. In 2017, ten rulings were made by the Appeals Board (eight related to transfer pricing issues). In five cases the OTO's assessments were upheld. In two cases the Appeals Board increased the tax adjustment compared to the OTO's assessments. In two cases the companies' claims were partially sustained, and in one case the company's claim was fully sustained. The result was an additional \$58 million in taxes paid.²⁷ Relative to the \$8 trillion in petroleum taxes received in 2017,²⁸ the adjustment contributed less than one-one-thousandth of one percent. It is important to note that adjustments may vary substantially between years, both in absolute values and in relative sizes.

ii) Operator profit mark-ups

In the case of the operator, although it is prohibited from applying a profit mark-up on costs charged to JV partners, there is nothing to stop it including a mark-up as part of its deductible expenses. For example, if a related company provides services to an operator, the operator may allocate parts of these costs to its JV partners (according to their relative share). However, if the service provider includes a mark-up on the costs, the NPR will prevent the mark-up from being passed on to JV partners. However, the full mark-up will then be deducted separately for tax purposes by the operator, but the amount of the markup would not have been scrutinized by JV partners.

iii) Misalignment between JV partners and government

According to the Norwegian tax authority, there have been instances where operating companies and JV Partners have been willing to pay above market price to independent service providers in order to get a tax benefit. In the case of insurance, both the operator and non-operator partners are legally obliged to buy insurance for their respective share of the license. The tax authority has seen cases where the operator, as well as JV partners, purchase a fraction of their total insurance program (e.g., five percent) at above market price from an independent insurance provider. They then use the same above-market-level-premium from the independent insurance policy as a basis for the remaining 95 percent of their insurance program provided by a related captive insurance provider. The operator, or the JV partners, will claim that the whole insurance premium (100 percent) is within arm's length range and should be deductible for tax. The cost to each partner of paying above market rate on five percent of their total insurance program, is outweighed by the tax benefit from the inflated premium on the remaining 95 percent.

²⁷ Interviews with the Norwegian Oil Tax Office, 12th June 2018.

²⁸ See information on the total tax revenues from the petroleum industry in Norway <https://www.norsketroleum.no/en/economy/governments-revenues/>.

In conclusion, the NPR generally reduces transfer pricing risks in relation to cost recovery, which means government's share of production, the most significant source of revenue in a PSC regime, is to a large extent protected. However, depending on the fiscal regime, and JV structure, income tax remains vulnerable, which, according to the Chevron Australia case and cost disputes in Norway, is not immaterial. In this regard, governments may wish to prioritize tax audits of costs incurred at the partner level, which are not policed by the JV, and therefore pose a higher transfer pricing risk.

4.3 Conditions for implementation

There are two conditions upon which effective implementation of the NPR are predicated:

- each party has its own economic interest to protect, creating an internal policing mechanism;
- knowledge and expertise to monitor compliance with the NPR.

a) Separate economic interests

JV arrangements characterize the petroleum sector. A study by Ernst and Young of 365 oil and gas megaprojects showed as much as 71 percent of upstream investment is spent through alliance of JV relationships.²⁹ Participants share assets, capital, unique expertise or labor to access advantages such as scale, risk sharing, market entry, tax benefits and access to others' unique capabilities. However, each JV partner still has its own economic interest to protect; as a result, there exists a tension between partners, which the NPR is intended to address.

b) Capacity to monitor compliance

Unlike the information asymmetry that can exist between tax authorities and taxpayers, most JV partners know what various goods and services cost to provide because they have been, or are, operators on other oil fields. Consequently, they can easily benchmark the operator's costs, creating a check and balance on cost overstatement. In practice, at the beginning of each year, the JV Accounting and Audit Committee meets to agree on the budget for the program of work. The budget will include all the costs that are expected to be charged to the JV. The committee will approve the costs, including the cost allocation methodology. During the year, the operator will issue "cash calls" to the partners, which are requests for reimbursement for services. At each point, partners will check the validity of the cash calls to make sure the costs appear reasonable, and that there is no mark-up. In addition to JV audits, the contractor will also contract an external auditor, for example, Price Waterhouse Coopers, or KPMG, to certify costs coming from the operator, as well as the amount claimed for cost recovery.

²⁹ Ernst Young, *Joint Ventures for Oil and Gas Mega Projects*, 2015, available at [http://www.ey.com/Publication/vwLUAssets/ey-joint-ventures-for-oil-and-gas-megaprojects/\\$FILE/ey-joint-ventures-for-oil-and-gas-megaprojects.pdf](http://www.ey.com/Publication/vwLUAssets/ey-joint-ventures-for-oil-and-gas-megaprojects/$FILE/ey-joint-ventures-for-oil-and-gas-megaprojects.pdf)

State participation in petroleum JVs whilst not necessary, may be conducive to effective implementation of the NPR. Usually, the state is represented by a NOC. Under an equity arrangement, the NOC will participate with private investors in the conduct of operations, including checking the reasonableness of the operator's cost estimates. Under a PSC regime, a NOC may oversee operations from a regulator's point of view, which again includes assessing cost recovery insofar as it affects the production share due to the state.³⁰

5. The application of the no profit rule to hard rock minerals

This section will determine whether the conditions necessary for effective implementation of the NPR (i.e. separate economic interests, and capacity to monitor compliance) exist in the mining sector, to the extent that the practice might be legislated with respect to payment for goods and services.

a) Separate economic interests

Like a JV, the tax authority and mining company each has its own interest to protect. Therefore, by legislating the NPR, the tax authority would be preventing the mining company from making a profit on services it provides to itself. For example, the cost of providing human resource services would be allocated based on the number of employees at the mine site, without a mark-up.

b) Capacity to monitor compliance

In a JV, non-operator partners closely monitor the operator to ensure it adheres to the NPR. They are well placed to do this having been involved in other projects, potentially as operators themselves. This is more difficult for government to do given the asymmetry of information. However, whilst governments may be comparatively disadvantaged when it comes to monitoring compliance with the NPR, arguably, this is no different to the difficulties governments already face with respect to verifying mining costs. At least the NPR should, in principle, reduce costs, and act as deterrent against transfer pricing risk.

However, while the conditions are broadly satisfied, it is not clear that the NPR is the most effective solution to overpayment for goods and services in the mining sector. First, the NPR, at least in its most common form, excludes interest expense, marketing fees, transportation, and insurance charges (i.e. costs not eligible for cost recovery). To omit these costs from the NPR in the case of mining would leave significant transfer pricing risks unresolved. Second, governments are likely to face a backlash from taxpayers on the basis that excluding a profit mark-up is not "arm's length." For example, when an independent supplier procures tyres on behalf of a mine it charges the direct cost of the tyres, plus a mark-up; if it didn't do this it wouldn't make any profit. In oil, while the NPR prohibits a

³⁰ Jack Calder, "Resource tax administration: Functions, procedures, and institutions," in *The Taxation of Petroleum and Minerals: Principles, Problems and Practice* (Ed. Philip Daniel, Michael Keen, and Charles McPherson), International Monetary Fund 2010, pg265-267

mark-up on costs charged to the group, JV partners can still offset a mark-up independently against income tax. In this regard, taxpayers may argue that legislating the NPR would contravene the arm's length principle. But as long as the NPR applies to all related party costs, it is a 'market condition' which determines the arm's length price in that jurisdiction, consequently, there is no breach of global standards.

5.1 Alternative simplification measures

An alternative to legislating the NPR is to develop targeted anti-avoidance measures for specific costs. For example, in the case of debt financing, governments could limit the amount of interest taxpayers can deduct from their earnings before income tax, depreciation, and amortisation (EBITDA). For example, South Africa limits interest deductions to 40 percent of EBITDA.³¹ The OECD has adopted a similar approach in BEPS Action 4, although the suggested limit is 10-30 percent. Governments could also legislate an allowable interest rate (e.g. the London Interbank Lending Rate (LIBOR) plus two percent).

In the case of marketing fees, governments could legislate a safe harbour based on a reasonable return on the operating costs of the marketing hub. For example, the Australian Tax Office has issued guidance that a return to the marketing hub that is equal to or less than 100 percent is low risk; above this, taxpayers may be subject to investigation.³² Whilst a safe harbour is different to a cap, it sends a strong message to taxpayers that excessive marketing fees are not acceptable.

Finally, in relation to routine corporate services, for example, human resources, and accounting, the OECD BEPS Actions 8-10 suggest capping the mark-up on low-value intra-group transactions to five percent of the cost of the service.³³ None of these rules align perfectly with the arm's length principle, however, they represent a trade-off between ease of administration, and accuracy, which is particularly relevant for resource constrained developing countries.

6. Conclusion

Administrative pricing is a valuation method that should be applied to hard rock minerals. While producing a similar outcome to the sixth method, it has the advantage of giving governments greater control over price determination. It reduces the risk of undercharging of related party sales, as well as the need for complex transfer pricing analyses. It may also limit costly, and time consuming disputes. The one downside is that the time lag between the

³¹ For more information see Alexandra Readhead. *Preventing Base Erosion: South Africa's Interest Limitation Rules*, NRGI, 2017, available at <https://resourcegovernance.org/sites/default/files/documents/preventing-base-erosion-south-africa-limitation-rule.pdf>.

³² Australian Taxation Office, ATO compliance approach to transfer pricing issues related to centralised operating models involving procurement, marketing, sales and distribution functions, Australian Government (2017).

³³ OECD. 2015. BEPS Actions 8-10.

sale and when the price is stipulated by government may create uncertainty for taxpayers with respect to taxes owed. The method should only be applied to hard rock minerals traded into terminal markets that have publicly quoted benchmark prices (e.g., the London Metals Exchange), and limited quality variation, for example, base and precious metals, and potentially bulk commodities. Having minimized the transfer pricing risk in relation to sales, limited audit resources can then be allocated to more complex minerals exempt from administrative pricing.

It is less clear, however, that legislating the NPR is a good option for the mining sector. The NPR originates from unincorporated joint ventures; it is a measure designed to protect the interests of each partner. It works because the partners have experience and expertise to effectively police the charges brought into the group. The same cannot always be said for governments. However, arguably governments already have difficulties verifying mining costs, in which case the challenge of enforcing compliance with the NPR would be no different. An NPR for mining would restrict any increase over the direct cost of most deductions. Items not covered by the NPR, for example, management fees, finance expense, marketing services, could then be covered by targeted anti-avoidance rules.

Table 4. The pros and cons of applying administrative pricing and the NPR to hard rock mining

Risk for Government	Policy Proposal	Pros	Cons
Undercharging of outbound minerals sold to related parties	Administrative pricing	<ul style="list-style-type: none"> - The price is set up front, thereby avoiding complex transfer pricing analyses for each sale; - Government has the first mover advantage—the onus is on the taxpayer to disprove; - Provides certainty, and reduces taxpayer disputes, if administered objectively. 	<ul style="list-style-type: none"> - Not suitable for all minerals especially intermediate products, gemstones etc. - May deviate from the arm’s length standard depending on how the rule is applied.
Overpayment of inbound goods and services from related parties	No-profit rule	<ul style="list-style-type: none"> - Protects the mining tax base against overstatement of some costs; - Reduces the need for complex transfer pricing analyses. 	<ul style="list-style-type: none"> - Companies may end up with stranded costs; - Corporate tax remains vulnerable to some transfer pricing risks, which require targeted anti-avoidance rules; - Asymmetry of information may prevent government from effectively policing compliance.

Neither measure is a silver bullet. However, they represent concrete steps that governments of resource-rich developing countries can take to limit transfer pricing risks in relation to related party mineral sales, and payments for goods and services. The “big fixes” to fundamentally re-design international tax law get the most attention, but it is a combination of sector-specific, incremental legal reforms that have the greatest chance of success, particularly at the political level. While the policy solutions may not always perfectly adhere to the arm’s length principle, the trade-off is that governments are better equipped to capture a fair share of the financial benefits from their finite, non-renewable natural resources.

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