# NATURAL RESOURCE TAXATION IN THE ASIA-PACIFIC REGION

## PRICING AND VALUATION POLICIES FOR FISCAL AND ROYALTY PURPOSES

By Pietro Guj

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# Fiscal significance of mineral pricing

<table>
<tr><th>TYPE OF TAX</th><th>PRICING SIGNIFICANCE</th><th>RELEVANCE</th></tr>
<tr><td>Specific/Unit-based royalties</td><td>None</td><td>Not price-dependent</td></tr>
<tr><td>Value-based royalties</td><td>Very High</td><td>To determine the royalty value base at different possible taxing points along the mining value chain and related royalty rates</td></tr>
<tr><td>Profit-/rent-based royalties</td><td>Low to Occasionally Medium</td><td rowspan="2">To asses whether transfer prices used in related-entity transactions comply with the arm’s length principle and lead to an appropriate:<br>i) royalty base and/or<br>ii) taxable income</td></tr>
<tr><td>Corporate Income Tax</td><td>Low to Occasionally High</td></tr>
</table>

# Value-based (*ad-valorem*) royalties

- A percentage rate (2 to 10%, mostly 2.5 to 5%) applied to a realised or estimated sales value base
- *Ad-valorem* royalties:
  - Most widely applied worldwide
  - Reasonably economically efficient
  - Administratively simple to complex
  - Revenue varies with commodity prices but is received as long as a mine operates
  - Provide choice of different taxing points

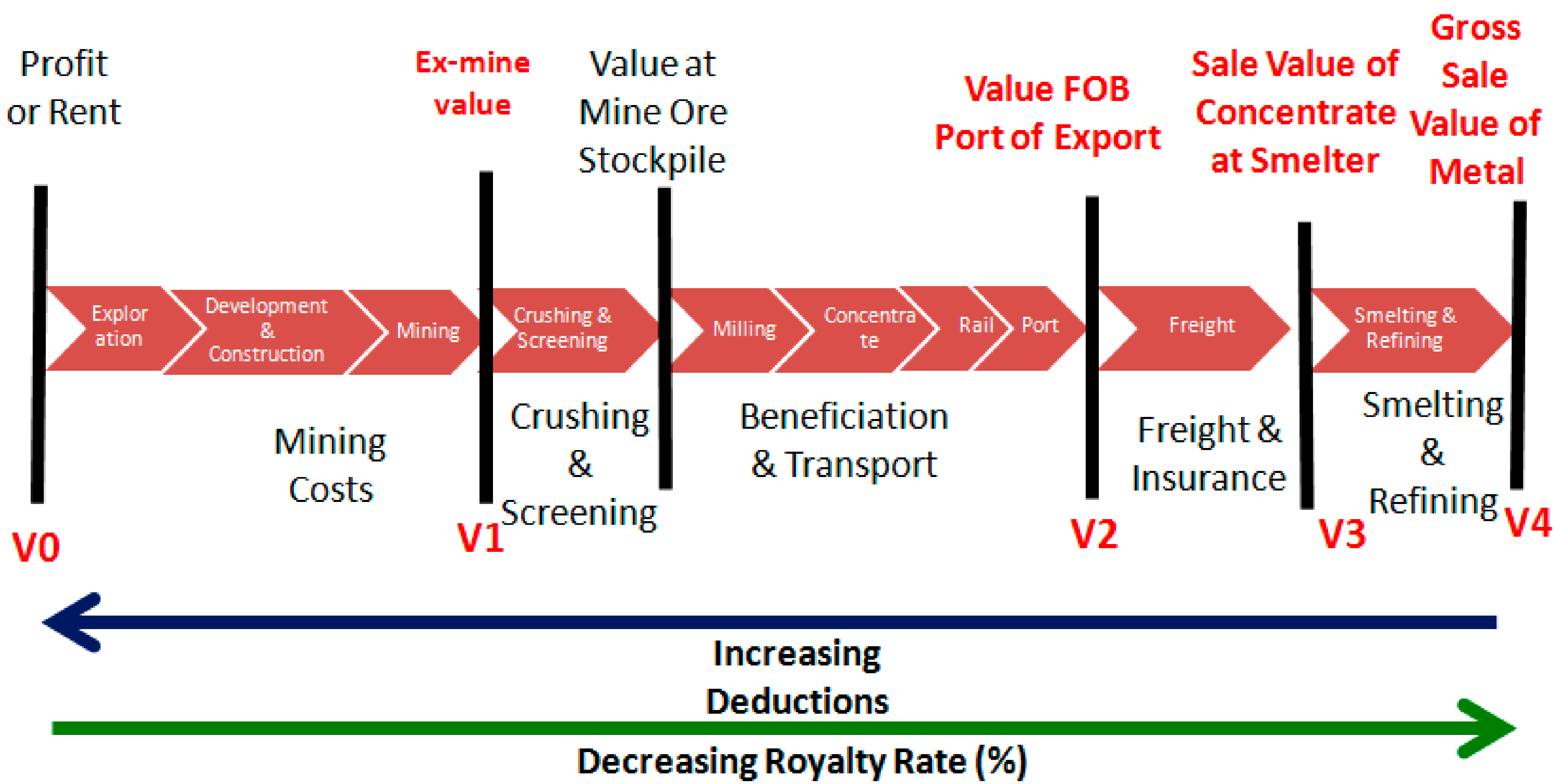
# Determining a royalty value base

- Most mineral products are sold after some value has been added by downstream processing e.g.:
  - Crushed and screened ores
  - Concentrates (physical) and Intermediate (metallurgical) products and
  - Refined metals
- Transparency and administrative efficiency dictate that the royalty value base be derived with reference to the price realised in the arm's-length sale of the first mineral product sold along the mining value-adding chain

# Single or multiple royalty rates?

- Many jurisdictions apply a single royalty rate to each mineral irrespective of the form in which it is sold. This approach:
  - under-taxes mineral products to which little value has been added and
  - over-taxes more highly processed products downstream the value-adding chain
  - Encourages high-grading and discourages investment in downstream processing
- Some jurisdictions apply multiple royalty rates:
  - Decreasing rates from ore, to concentrate and to metal sales, e.g. Western Australia or
  - Increasing rates progressively as commodity prices increase, e.g. Queensland

# Mining value-added chain and possible taxing points



# Applying a royalty rate to the value base

- Royalty is a **payment to the community for its non-renewable resources**,
- Hence it should be based on the value of the minerals at the mine head, before any value is added to them
- Economic efficiency and equity require a choice between:
  - **Decreasing royalty rates** the further downstream from the mine head the sale takes place or
  - **Netting back** from the price realised from the sale of the first mineral product all costs incurred downstream to bring the royalty value back to the mine head.
- Failing to do so would tax value-added and discourages investment in downstream processing

# Western Australian policy compromise

- WA's objective: mineral royalties equivalent to 10% of ex-mine value,
- To improve efficiency WA standardised royalty rates to:
  - 7.5% for bulk crushed and screened **ore**
  - 5% for **concentrates** and
  - 2.5% for refined **metal**
- A recent recommendation for a 3.75% rate for intermediate products* not yet implemented

*Gold, alumina, uranium oxide, titanium slag, vanadium pentoxide and lithium carbonate

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# Netback derivation of WA royalty values

| TAXING POINT | VALUE | RATE | PRICING | APPLICATION |
|---|---|---|---|---|
| **Refined metal** | **V4** | **2.5%** | LME, LBMA etc. | Gold, base metals |
| Less smelting and refining | Standard TC - RC contracts, company data | | | |
| **Concentrate (CFR smelter)** | **V3** | **5.0%** | % of LME, LBMA, specialised sources | Base metals and nickel concentrates, Au and Ag credits. Intermediates |
| Less concentrating, and freight | Confidential company data | | | |
| **Bulk ore (FOB port of export)** | **V2** | **7.5%** | Platt's IONEX – TSI, GlobalCOAL | Bulk minerals, iron ore, coal, bauxite |
| Less crushing, screening, railing | Confidential company data | | | |
| **Ex-mine** | **V1** | **10%** | Rare mine-gate ore sales. Netback | |
| Less mining | Confidential company data | | | |
| **In situ** | **V0** | **N.A.** | | |

# Gross sale value of refined metal (V4)

- Invoices easy to administer and audit with reference to metal prices on LME, LBMA etc.
- Revenue relatively predictable and stable
- Transparent and easy to explain as revenue closely linked to mine activity
- Disincentive to invest in value-adding if a single royalty rate applies to all products
- Encourages high grading at high rates

# Sale value of concentrate at smelter (V3)

- Smelter and refining contracts easily audited as payments linked to LME, LBMA's prices
- Need company data or to make use of benchmark smelter costs
- Revenue relatively predictable and stable
- Relatively easy to explain as revenue still closely linked to mine activity
- More equitable to companies than gross (V4) if single royalty rate applies
- Lower incentive to high grade than gross

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# Value of ore/concentrate at export port (V2)

- Royalty base obtained from sales invoices after netting freight and insurance costs that can be easily audited
- Revenue relatively predictable
- Slightly more administratively complex than V3 as may require more confidential company data
- Transparent as revenue closely linked to mine activity
- More efficient and equitable for companies if single rate applies, hence reduces incentive to high grade

# Value at mine ore stockpile (V1)

- Commercial sales unlikely at this point hence no independent market prices available
- More deductions from revenue realised from first arm's length sale reliant on confidential company data, hence less transparent
- Revenue less predictable
- Closer to value of resource and closely linked to mine activity with greater consistency with royalty principles
- More economically efficient and equitable to companies in case of single royalty rate and as a consequence lower incentive to high grade
- This taxing point was used by the Australian MRRT

# The issue of Transfer Pricing

- A mining company may not sell its mineral product in a contestable market but transfer it to a related party for further processing and/or marketing
- The company's royalty value base and taxable income will then be a function of the transfer price used
- Which must be set in compliance with the arm's length principle

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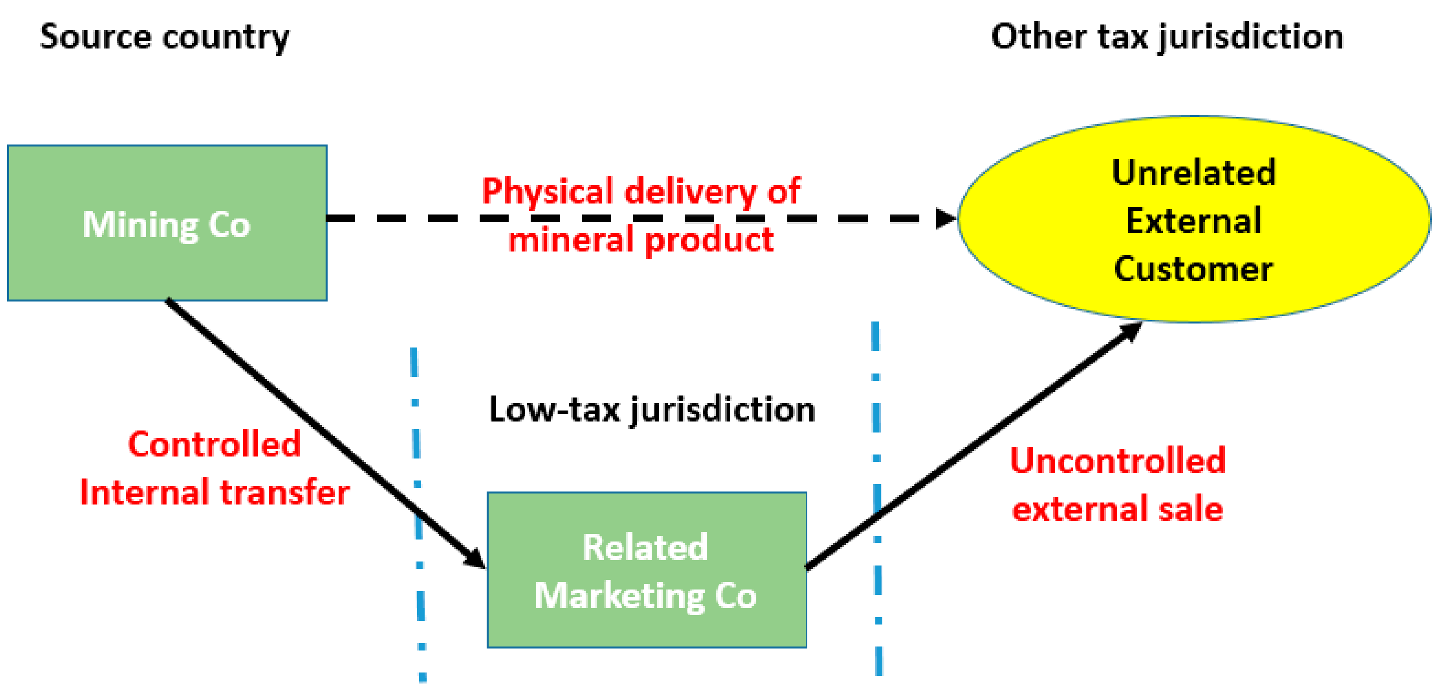
# Marketing Hubs

- Multinational enterprises (MNEs) frequently establish marketing hubs in foreign jurisdictions to be closer to customers, shipping/warehousing facilities etc.
- Their Marketing Co. subsidiary charges the Mining Co. for marketing services which has the effect of **shifting profits** from the mineral-producing country
- If Marketing Co. resides in a jurisdiction with a tax rate lower than that of the source country the MNE's **consolidated taxation is minimised**

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# Mispricing risk

- Where the tax rate in the country of residence of the processing or marketing subsidiaries of an MNE is low, some may yield to the temptation to:
  - under-charge for their minerals and/or
  - over-pay for services received from an associated entity

thus further avoiding taxes

# Auditing challenge

- Auditing whether the transfer prices used are arm's length involves determining whether unrelated parties would have agreed to such prices in an uncontrolled sale of similar products/services under comparable circumstances
- This may be challenging particularly if the services included use of hard-to-value intangibles, e.g. technical or marketing IP and specialised expertise.

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# Pricing challenge

Transfer prices are determined:

- easily for all mineral products which are traded on terminal markets requiring stringent standards, e.g. LME, LBMA etc.
- but with difficulty for most other mineral products which have non-standardised, unique quality characteristics for which no regular price quotations are obtainable

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# Mineral products and their unique market specifications

| **MINERAL PRODUCTS** | **Refined Base and Precious Metals** | **Bulk Commodities** | **Intermediate Products** | | **Non-metallic Industrial Minerals** | **Gemstones** |
|---|---|---|---|---|---|---|
| | | | **Physical concentrates** | **Metallurgical products & Specialty** | | |
| **TYPICAL MINERAL PRODUCTS** | Cu, Pb, Zn, Ni, Co, Sn, Al, Au, Ag, Pt, Pl | Iron ore,coking and steam coal, manganese ore, phosphate rock | Cu(Au) ,Zn(Ag), Pb(Ag), Zn-Pb, Co, Mo, Ni, heavy minerals (Ti, Zr), magnetite, titano-magnetite, chromite, cassiterite, tantalite-columbite | Blister copper, nickel matte, alumina, dore', mixed rare earth oxides, vanadium pentoxide, titanium sponge, zirconia and dioxide, alumina, ferroalloys, $U_3O_8$, lithium carbonate, chromite | While there is a vast array of non-metallic minerals used domestically, only a minority is subject to cross-border trading, e.g. barite, fluorite, graphite, industrial diamonds, beryl, etc. | Rough diamonds, other gemstones |
| **SPECIFICATIONS** | Standard, stringent and inflexible | Multiple standards, flexible,and subject to discounts and premia for quality | Multiple standards, flexible,and subject to discounts and premia for quality | Multiple standards, flexible,and subject to discounts and premia for quality | Customer-defined and based on value-in-use | Based on multiple quality attributes and/or on trends in fashion |

# Mineral products markets and pricing

| MINERAL PRODUCTS | Refined Base and Precious Metals | Bulk Commodities | Intermediate Products | | Non-metallic Industrial Minerals | Gemstones |
|---|---|---|---|---|---|---|
| | | | Physical concentrates | Metallurgical products & Specialty Metals | | |
| **MARKETS** | Terminal commodity markets and OTC sales | Medium-to long-term off-take contracts with prices re-negotiated at frequent intervals, subordinately spot sales | Multi-annual contracts with individual smelter/refiners under reasonably standard contract formulae, limited spot sales | Sales to individual smelter/refiners under less standardased contract formulae | Off-take and/or spot sales to individual end users | Sold through tenders on specialised markets in assortments or as individual stones |
| **PRICES** | Daily quoted prices | Daily price indices for selected grades | Negotited hybrid prices, i.e. LME less TC/RC | Negotited prices | Producers' price lists and negotiated prices with significant traders intermediation | Producers' price lists and tender prices |
| **SOURCES** | Easily obtainable from the LME, NYMEX, LBMA, LPPM, John Mathey and Kitco etc. | Easily obtainable from Platts, Metal Bulletin, Metals and Minerals, globalCOAL....etc. | Reported in industry journals and specialised magazines, CRU, AME, Reuters, Bloomberg | Specialised trading magazines, World Bureau of Metal Statistics | Specialised trading magazines, e.g. Industrial Minerals and Mineral PriceWatch | Diamond Trading Corporation (DTC) (De Beers) Price Book, Rapport diamond price list, Gemmological Institute of America (GIA), |
| **VALUE OF MARKETING SERVICES AND INTANGIBLES** | Low | Low to medium | Medium | Medium to high | High | Extremely high |

# Price adjustments

Circumstances surrounding a transaction and specifications are often diverse and significant adjustments may be required for:

- Proportional metal content,
- Processing and transport costs and
- Credits and impurities

even for mineral prices quoted daily in:

- terminal markets (e.g. precious and base metals on the LME, LBMA) or
- specialised indices for standard products (e.g. iron ore in Platt's IODEX)

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# Conclusions

- Determination of royalty values and taxable income should ideally be based on the price realised in the arm's length sale of the first mineral product as displayed in relevant invoices
- A choice of different taxing points along the mining value chain is possible in establishing the royalty value base as long as the corresponding royalty rate is set so that it does not tax the value-added by downstream processing

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# Conclusions

- Transactions between related parties create potentially significant transfer pricing issues
- The process of determining whether a transfer price is at arm's length is manageable:
  – for precious and base metals products and
  – for the main bulk commodities

  with reference/adjustments to daily LME, LBMA and to specialised daily prices indices
- Most of the other commodities require highly specialised expertise

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