

REVIEWING THE FISCAL REGIME FOR MINING



Presentation to Sheshinski II Committee

PRELIMINARY

Jerusalem, February 26 2014

Outline

1. Introduction
2. Fiscal regimes for mining—Principles and experience
3. Evaluation and options for reforming the fiscal regime
4. Pricing and segmentation issues

All preliminary....

Fiscal regimes for mining— Principles and experience

- Case for (and ubiquity of) special regimes for extractives
- Concerns and objectives
 - High sunk costs create credibility issue
 - Revenue often a major benefit
- Broad principles essentially as in Sheshinski I
- Leading to (relatively) brief discussion of core instruments, and fiscal packages
 - With current CIT unchanged

Royalties

= charge related to production but not to any indicator of profit

- Merits:
 - Early revenue (though other possibilities too)
 - Robust against cost manipulation
 - Easy to administer: but this can be overstated
- Demerits:
 - Distorting: all the way back to exploration stage
 - Not well-suited to rent capture

Rent tax

= (strictly) one that yields positive revenue if and only if the pre-tax NPV is positive at the investor's minimum required return

- Merits:
 - No distortion of marginal decision, at least under perfect certainty
 - Simplicity (?)
- Demerits:
 - ? Unfamiliar?

Focus on two types of rent tax:

- **Brown tax (a.k.a. cash flow, ROR)**
 - Expenditures fully deductible, no deduction for financial costs, losses carried forward at safe/normal rate
- **Allowance for Corporate Equity (ACE)**
 - Just as CIT except deduct imputed return on equity
 - Main form of CIT in Belgium, Italy and elsewhere

Note:

- Rent or rent-based taxes not uncommon in mining, especially in major producers
 - Net royalties in North America
 - Variable income tax in Africa
 - RRT in Australia
- Multiple objectives make a regime combining royalties and rent tax attractive
 - In a balance that must be country-specific
- We assume no change to CIT

Evaluation and options for reforming the fiscal regime—Tools

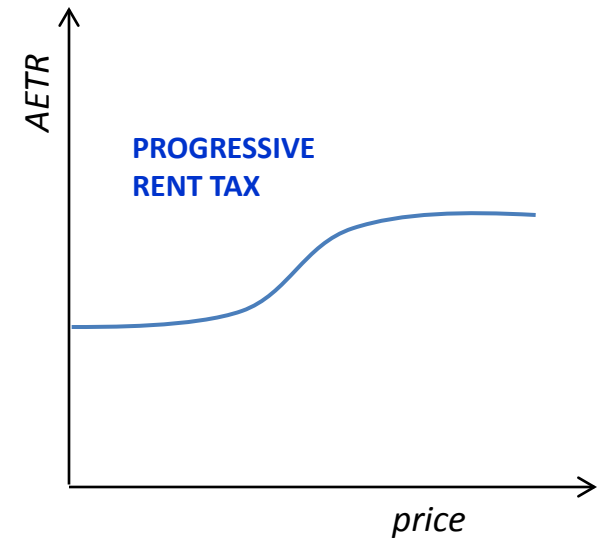
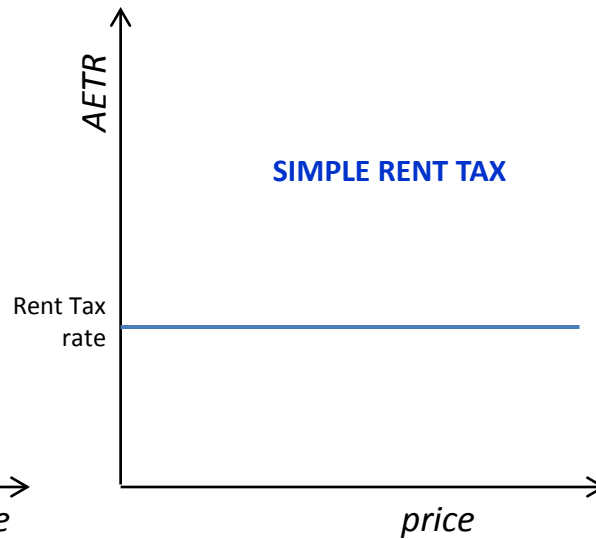
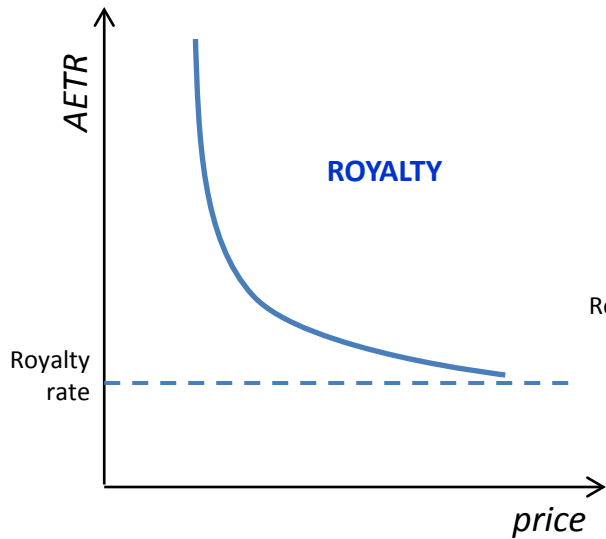
Average effective tax rate

AETR = Present value of government revenue as a proportion of pre-tax net present value

A pre-tax profitable project with AETR remains profitable after-tax—so why does AETR matter?

- Discrete choice in mining operations?
- Variation of AETR with project profitability indicates pattern of risk sharing

Different instruments imply very different responsiveness of AETR



'Progressivity'?

- Evaluate over lifetime of project?
 - same as variation of AETR
- Interest often in projects already underway
 - so we look at how revenue varies ignoring development costs
- Why does this matter? Regimes with an element of progressivity may be more robust

Marginal effective tax rate

METR = wedge between after-tax return investor requires and pre-tax return on a particular activity needed to get it

- Can be very different from AETR
 - Under a rent tax, e.g., AETR equals the statutory rate but all METRs are zero
- METR is what Mintz and Chen report

Evaluation and options for reforming the fiscal regime—Results

The current system (for potash) in an international context—description

Fiscal provision	Israel	Jordan	UK	Ethiopia	Canada (Saskatchewan)
Royalty	5% first 1.5MT, 10% for production above. Base: 90% of sales price less costs after mine gate.	JD 125/t, capped at 25% of net profits after tax (excluding royalties)	3% FOB price net of transportation and processing cost	5% of FOB sales value less transportation to point of export less smelting and refining cost	2.1%-4.5% crown royalty on production value [modeled 2.1%]
Income tax	26.5% (starting 2018, with step increases from 13.4% in 2012)	14% ¹	23% (21% in 2014, 20% in 2015)	35%	27% (combined federal and provincial)
Capital allowance	development expenditure: capitalized and amortized over useful life; capex: 7-20% SL ²	2% to 20% SL depreciation, varying by asset	8% SL to long life assets (expected useful economic life over 25 yrs); 18% SL to plant and machinery	4-yr SL for pre-production costs and capex	pre-production costs: 20% DB; capex 25% DB ²
Loss carry forward	Unlimited	Unlimited (assumed)	Unlimited	10 years	Unlimited
DWT	25% (0% under some DTAs)	0%	0%	10%	25% (assumed 15% under DTA)
IWT	15%	7%	20%	5%	25% (assumed 15% under DTA)
State equity	None	31% (assumed carried without interest until production)	None	5% (state may acquire without cost)	None
Additional tax	None	None	None	None	Two-tier production tax: 1) base payment of 35% on adjusted resource profits; 2) potash profit tax (15% if profit is less than \$59.95/t in 2010 prices, 35% for all other profits)

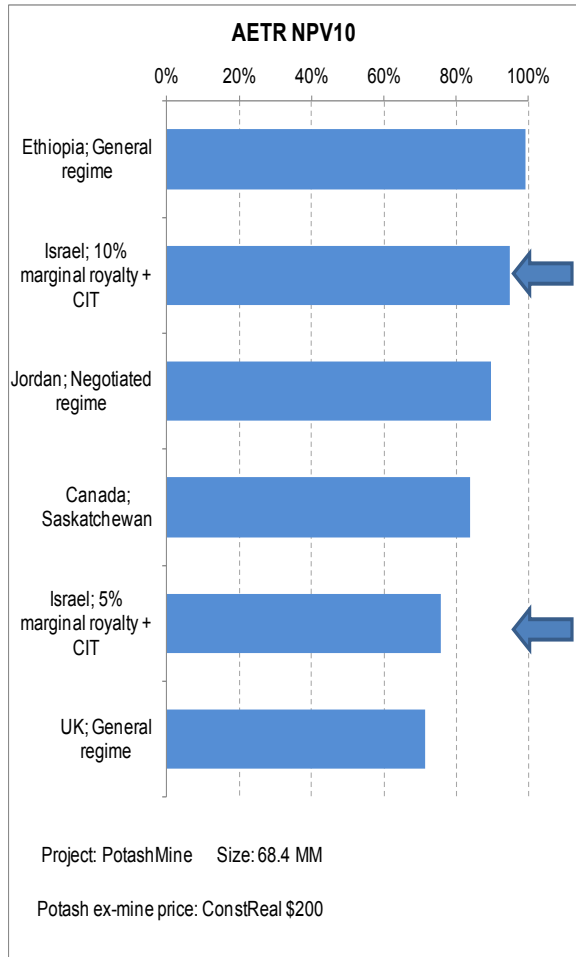
1. Draft legislation last year sought to raise the income tax rate to 35 percent starting January 2014. It is unclear at this time whether the new rate has been adopted, so these simulations assume that the original rate remains at 14 percent.

2. DB means declining balance depreciation and SL straight line depreciation. DTA means Double Taxation Agreement. Capex means capital expenditure.

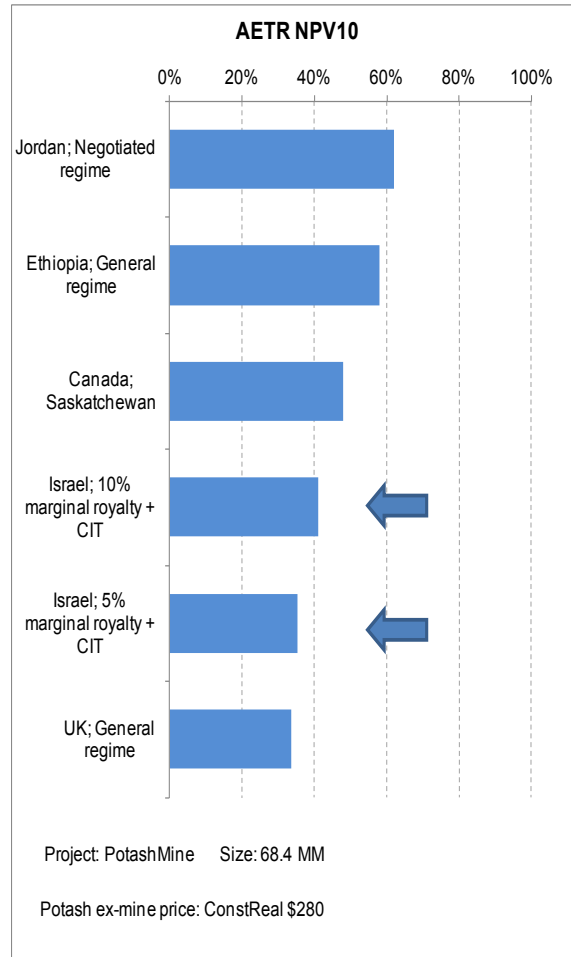
Source: Ministry of Finance, IMF FARI fiscal libraries.

...AETRs

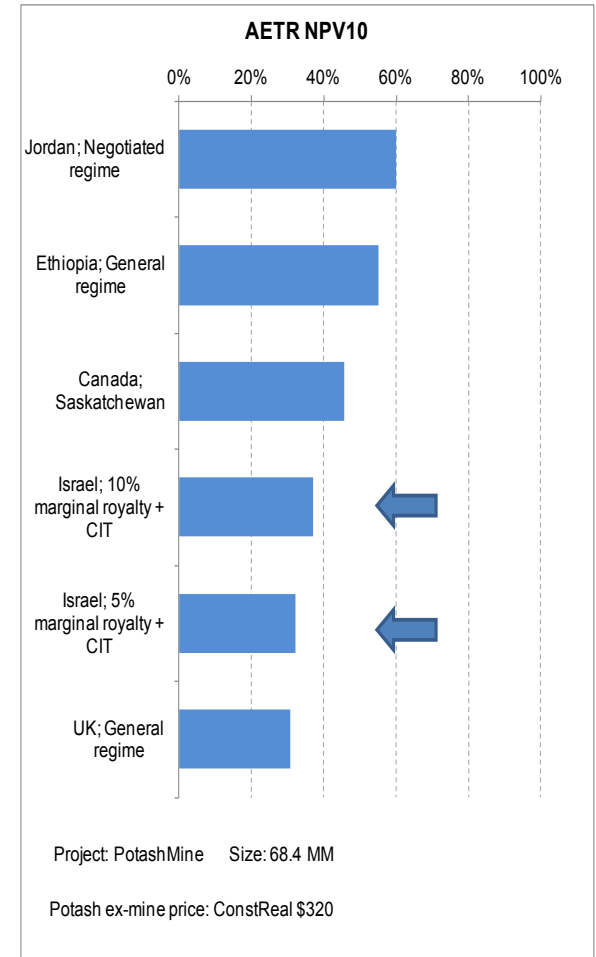
'Low' price



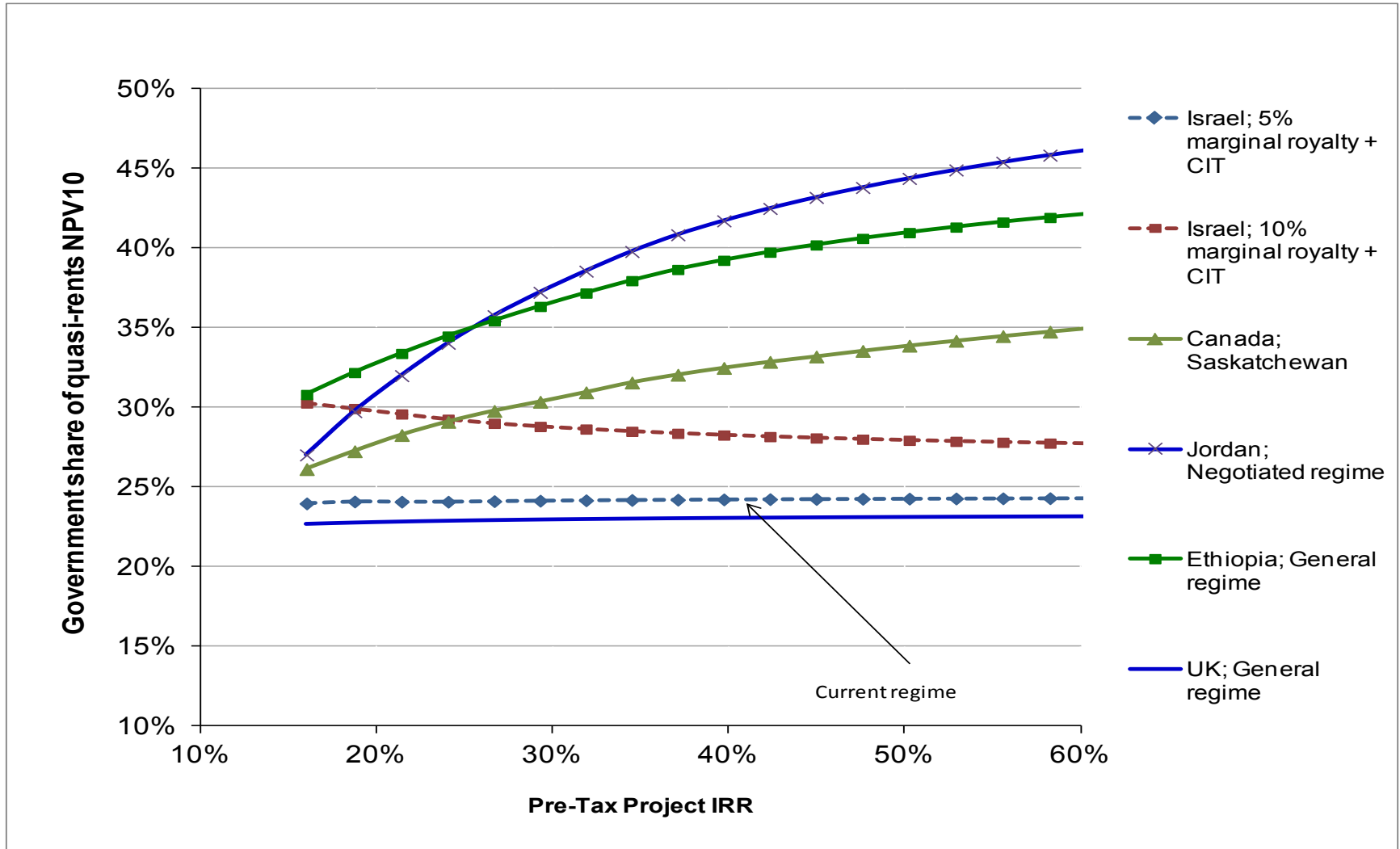
'Medium' price



'High' price



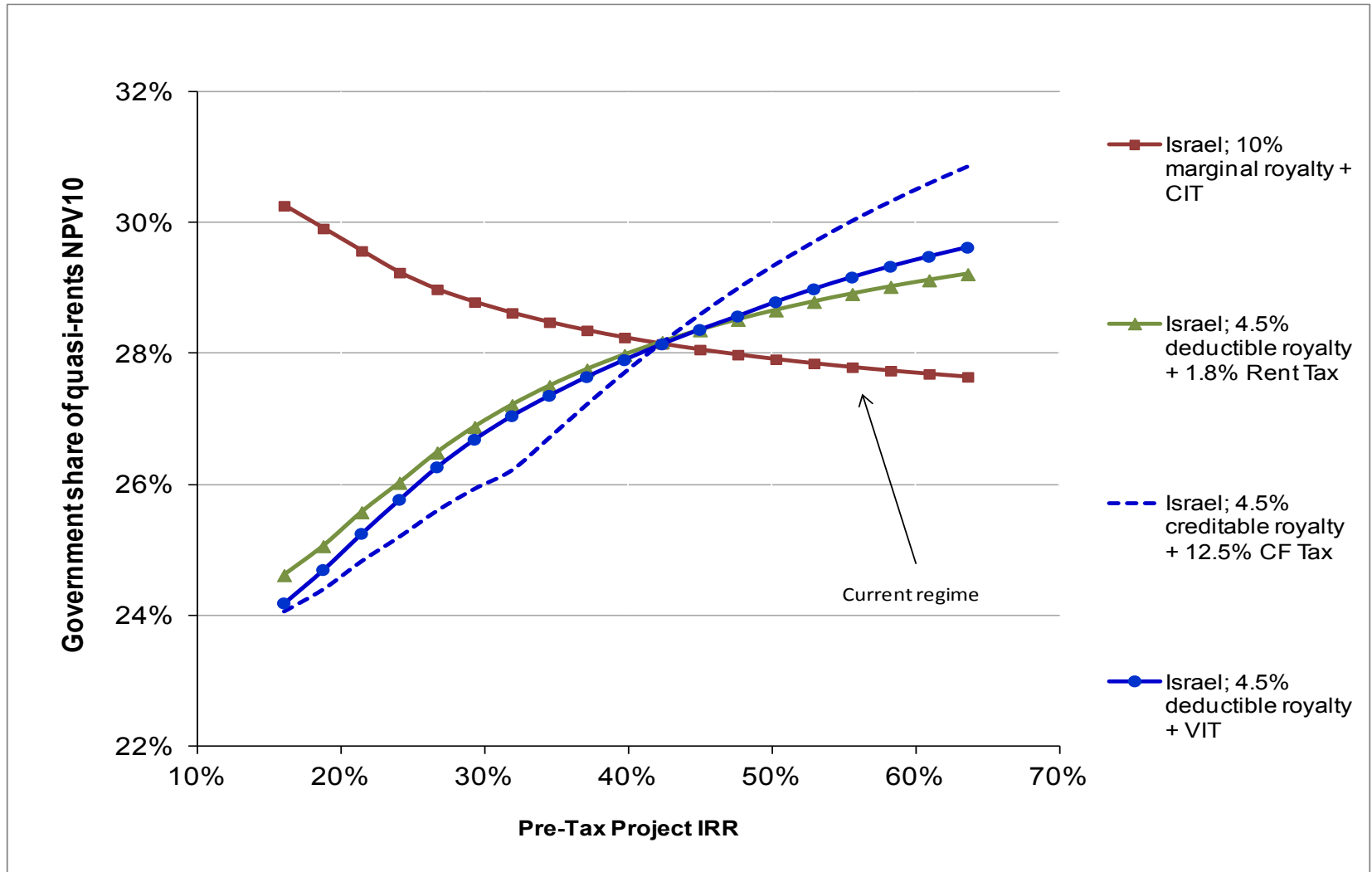
... and progressivity



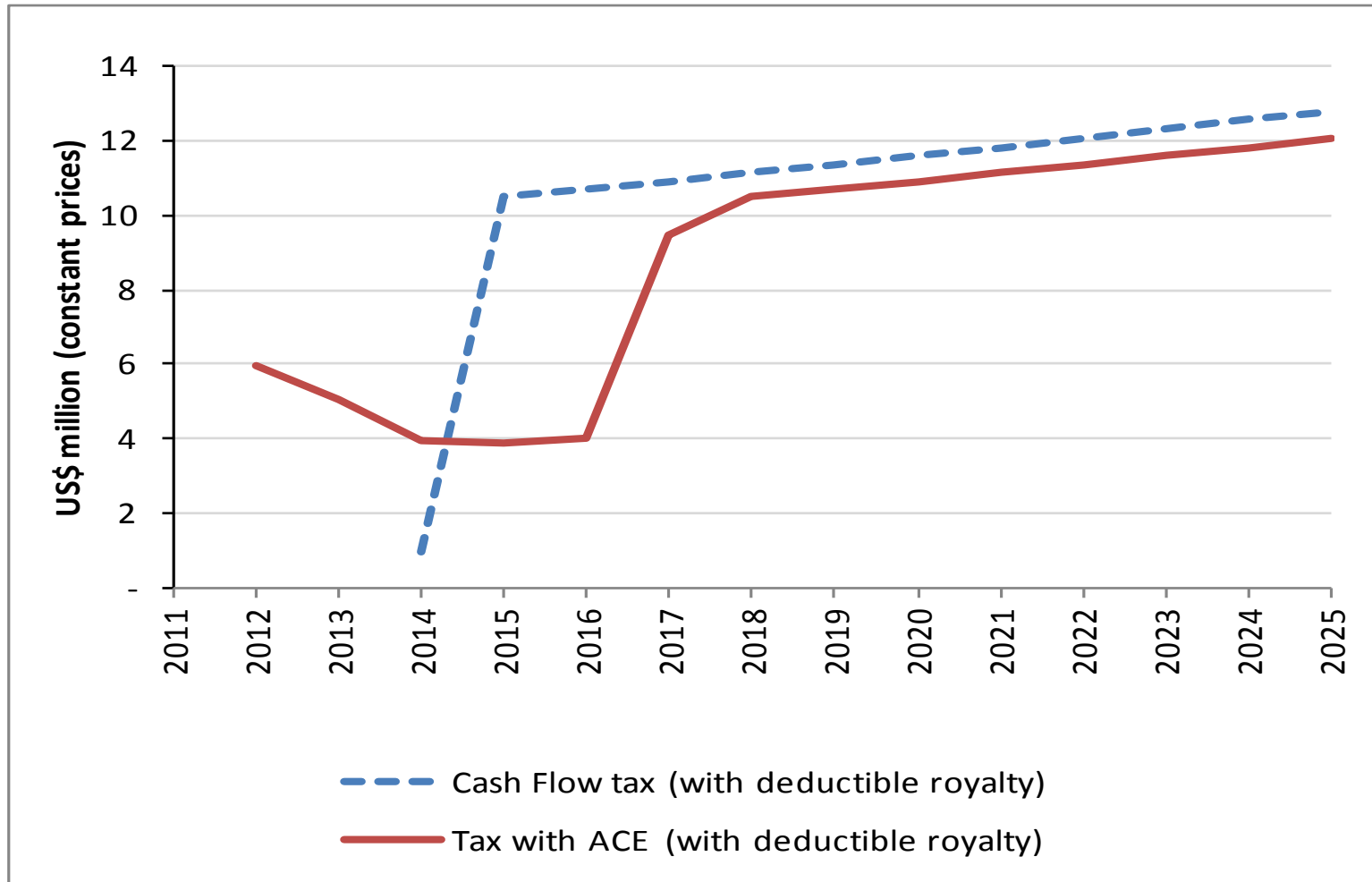
Options

- Irrespective of other reforms, flat rate royalty for potash below current average rate
 - everyone wins
- To address regressivity, consider alternatives calibrated to raise same revenue for intermediate project as current system:
 - 4.5% royalty, deductible against 1.8% cash flow tax
 - 4.5% royalty creditable (with full carry forward) against 12.5% cash flow
 - 4.5% royalty with 1.8% ACE
 - 4.5% royalty with variable income tax

These convert the regime to a progressive one



Time profile of revenue



- Makes sense to apply such a regime to all minerals
 - common rent tax rate, but different royalties
- Except where confident no prospect of significant rents: e.g. aggregates

NB:

- We do not consider progressive rent taxes
- Crediting arrangements will need thought, e.g.
 - Crediting rent tax against CIT may reduce the foreign tax credit available to (some) foreign investors) if the rent tax itself is not creditable
 - Maintaining revenue with royalty creditable with carry forward requires a higher rent tax rate, which can amplify avoidance issues

Pricing and segmentation issues

The issue

- Prices needed for royalty, rent tax and CIT
 - But differing in purpose
- Difficulty is transactions between related parties
 - Which is commonplace in mining between extraction and industrial production stages
- ‘Arms length prices’ plausibly except for bromine

Solutions?

Sorry, we have no clever answer!

Difficulties with integrating upstream and downstream:

- Conceptually: May over-tax downstream rents
- In practice: Some price needed for CIT anyway given lower rate for industrial activities—and if one entity is taxable abroad

- So apply standard OECD methods
 - Resale price: With uplift on price to unrelated parties where these are thin?
 - Cost plus...
- We note need for:
 - Clarity that transfer pricing apply domestically
 - Thin capitalization rules (?)

Thank you!

In more detail: Alternative Regimes

Fiscal provision	CF tax with deductible royalty	CF tax with creditable royalty	Income Tax with Allowance for Corporate Equity	Variable Income Tax
Royalty	4.5% of ex-mine price (without further price adjustment)	4.5% of ex-mine price (without further price adjustment)	4.5% of ex-mine price (without further price adjustment)	4.5% of ex-mine price (without further price adjustment)
Income tax	26.5%	26.5%	26.5%	See below
Capital allowance	development expenditure: capitalized and amortized over useful life; capex: 7-20% SL	development expenditure: capitalized and amortized over useful life; capex: 7-20% SL	development expenditure: capitalized and amortized over useful life; capex: 7-20% SL	development expenditure: capitalized and amortized over useful life; capex: 7-20% SL
Loss carry forward	Unlimited	Unlimited	Unlimited	Unlimited
DWT	25% (modeled 0%)	25% (modeled 0%)	25% (modeled 0%)	25% (modeled 0%)
IWT	15%	15%	15%	15%
State participation	None	None	None	None
Additional tax	1.8% Cash Flow tax. CIT and royalty are deducted from the CF tax base. Losses are carried forward with uplift equal to the nominal bond rate.	12.5% Cash Flow tax. CIT is deducted from the tax base; royalty is creditable against the tax. Losses, including from unused royalty credits, are carried forward with uplift equal to the nominal bond rate.	An ACE at the rate of 1.8%. This and the CIT not deductible against each other. Losses are carried forward with uplift equal to the nominal bond rate.	Variable Income Tax in lieu of CIT, with 31% top rate and 26.5% minimum rate. Formula: $31 - (113/x)$, where x is the ratio of taxable income to gross revenue from mining.