Fiscal Regimes for Petroleum and Minerals: Developing the Agenda

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The views expressed in this presentation are those of the author and not of the IMF, its Executive Board, or its Management.
“There are few areas of economic policymaking in which the returns to good decisions are so high – and the punishment of bad decisions so cruel – as in the management of natural resource wealth.”

Preface
Dominique Strauss-Kahn
Managing Director, IMF
Agenda - Asia Tax Forum 2010

- What’s special about taxing natural resources?
- Key principles of natural resource taxation.
- Themes for development:
  - How far should resource taxes be progressive?
  - How do we assess the economic and institutional framework?
  - Distinctions between minerals and petroleum.
  - Resource rent taxes and equity participation.
  - Administration – how tough can it be?
  - Royalty as an implied depletion policy.
  - Capital gains taxation, bonus bidding, and rent taxes.
  - International taxation and treaties.
  - Pricing of infrastructure.
What’s special about taxing resources?
• Tax revenue a/the central benefit to host country
  ▫ Especially hydrocarbons (70 percent of government receipts in Algeria, Yemen), but not only (minerals 9 percent in Chile).

• High sunk costs, long production periods
  ▫ Create ‘time consistency’ problem.

• Substantial rents
  ▫ The ideal of a non-distorting tax base!

• International considerations loom large
  ▫ Foreign tax rules matter;
  ▫ Tax competition.
• Uncertainty
  - from technology, geology, price volatility...

...and political risk
Two Oil Price Booms

Oil Prices: Spot and Projections


Note: Solid lines on the left chart are spot WTI oil prices, on the right chart are WEO average of WTI, and Fateh. The dashed lines are price projections.
• **Asymmetric information**

Few of these are unique to resources—they’re just bigger. What is unique is:

• **Exhaustibility**
  ▫ Opportunity cost of extraction includes future extraction forgone;
  ▫ Affects impact of taxation;
  ▫ Views differ on how important this is in practice.
Key principles of natural resource taxation

- see, for example, *The Taxation of Petroleum and Minerals*
- and...the draft *Natural Resource Charter.*
The key points...

- Fiscal terms must be robust in the face of changing circumstances.

- Should provide government with a revenue stream in all production periods, but also with an increase share of revenues as profitability increases (progressivity).

- Establish by law, or published contracts. Minimize discretionary and negotiated elements.

- Specialized incentives should be avoided.

- Stability and credibility.
The key points...

• Tax and royalty, production sharing, and state equity can all be made fiscally equivalent.

• Different contract structures can apportion risks differently, and affect stability and credibility.

• Need to make data for key assessments in the regime observable and/or verifiable.

• Opportunities for aggressive tax planning should be minimized

• Overall fiscal regime must take account of relative capacity to bear risk.
Themes for development
(1) How far should resource taxes be progressive?

...in sense of government’s share being larger the higher are prices/profits/lifetime project return?

- Yes, if government better able to bear risk than investor
  - But opposite likely true in many developing countries.

- Political pressures may make progressive systems more robust and credible.

- Issue is “How much?” Contrast Norway or Mexico with flat, single rate rent taxes, with Angola or Azerbaijan, multi-tiered systems.
(2) How do we assess economic and institutional framework?

- What national and country-specific features should go into design of natural resource fiscal regimes?
- Key question is the relative ability to bear risk: partly a fiscal issue, and partly related to likely diversity of portfolio of resource projects.
- Uncertainty over this also argues for flexible regimes with multiple instruments.
- If regimes are to “evolve over time”, how is this done? Change terms for all, or only for existing projects?
- Evident that countries have very different fiscal schemes – for example, for mining.
Comparison measures

- Average effective tax rate (AETR): the tax share of net cash flow discounted at a chosen rate. Should be calculated only for a project that exceeds the required “normal” return capital.

- Marginal effective tax rate (METR): the “wedge” of tax between the pre- and post-tax rate of return as a percentage of the pre-tax rate of return.

- The breakeven price: the output price required, on given project assumptions, to yield a specified rate of return to capital.

- The tax share of total benefits: measures the progressivity of the fiscal regime –
  - Where “total benefits” equals discounted revenues after deducting operating costs and replacement capital (the “cake” to be shared.)
Simulated gold project - average effective tax rate

Project

• 2 million ounces gold produced over 12 years @ 200 thousand oz. per year
• Exploration and Development costs $485 million
• Operating costs $150 per ounce

Note:

• Outcome dependent on application of withholding taxes, that may be varied by treaties.
Gold project - marginal effective tax rate, breakeven price
Progressivity - tax share of total benefits

![Graph showing the government share of total benefits as a function of the discount rate for various countries. The graph includes data points and lines for different countries such as Australia, Ghana, Indonesia, Liberia, Mozambique, PNG, Peru, Sierra Leone, South Africa, Suriname, and Tanzania 2004 and 2010. The x-axis represents the pre-tax IRR, and the y-axis represents the government share of total benefits. The graph illustrates the relationship between the discount rate and the government's share of total benefits.]
(3) Distinctions between minerals and petroleum?

- Appears to have been easier for governments to impose and collect high rent taxes on petroleum than on minerals. Why?

- Recent Australian debate is a case in point.

- Are there systematic differences in the risk profiles? For example, higher exploration risk in petroleum, higher development risk in mining?

- Does petroleum on average yield higher rents than mining (cost proportions lower).

- Does the commercial structure matter? Petroleum projects commonly UJVs with adverse interests, mining projects not.

- Related issue – why is bidding for rights less common in mining?
(4) Resource rent taxes and equity participation

- All rent taxes in cash flow form involve some “refund” of the tax value of losses.
- Either directly (the “Brown Tax” or “R-based” cash flow tax) when the state shares proportionately in positive and negative cash flows – effectively the same as “working interest” participation.
- Or indirectly, when losses are carried forward with uplift, or transferable to other operations of the tax payer.
- Regular corporate income tax also has this form, with distortions caused by depreciation, interest deductions, and loss-carry-forward restrictions.
- Problem for pure rent taxes in low income countries.
- Australian government tried to address directly, Norwegian system comes closest.
Mineral tax reform in Australia

• Existing scheme combines state royalties with federal corporate income tax of 30 percent.

• Henry Review (Dec 2009)* recommended new Resource Rent Tax scheme for both mining and petroleum projects, and reduced corporate income tax.

• Government first adopted the proposal, calling it “Resource Super Profits Tax”.

• After resistance from industry, modified Mineral Resource Rent Tax scheme negotiated, and now in process of detailed design:
  • Reduced rate and increased return threshold
  • Applies only to iron ore and coal projects
  • Existing PRRT scheme to apply to all petroleum projects
  • Existing state royalties will be recoverable credits against MRRT.

* Australia’s Future Tax System, Report to the Treasurer December 2009
### Australia: RSPT and MRRT compared

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<thead>
<tr>
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<th>RSPT</th>
<th>MRRT</th>
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<tbody>
<tr>
<td>Additional Tax rate</td>
<td>40%</td>
<td>22.5% effective rate</td>
</tr>
<tr>
<td>Uplift on unrelieved losses</td>
<td>Bond rate</td>
<td>Bond rate + 7%</td>
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<tr>
<td>Depreciation for additional tax</td>
<td>Max. 20 years S.L.</td>
<td>Immediate deduction</td>
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<tr>
<td>(as for CIT)</td>
<td></td>
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<tr>
<td>Corporate Income tax</td>
<td>25% (eventually)</td>
<td>29%</td>
</tr>
<tr>
<td>Maximum marginal tax rate</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>Government guaranteed payout of accumulated losses</td>
<td>Yes</td>
<td>No</td>
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Existing terms for coal in Western Australia:
Royalty 7.5%; CIT 30%; depreciation, straight line, maximum 20 years
Tax share of total benefits; comparison of tax regimes for a coal project

Project
- 400 million tonnes over 30 years @ 14 million tonnes per year;
- 70% coking coal
- Exploration and Development costs $750 million
- Operating and transport costs $48 per tonne

Note
- Assumes that all royalty credits are recovered under MRRT scheme
(5) Administration— How tough can it be?

- Helps that commodity prices readily observable...
  ...but dealing with complex international companies always hard.
- Production sharing still requires assessment of costs.
- Royalties not as easy to administer as may seem (USA?)...
  ...but rent taxes maybe not as hard.
- If it is necessary to administer a corporate income tax, rent taxes require no more information.
- Go for simplicity and get the basics of administration right.
(6) Royalty as an implied depletion policy

- A project that cannot cross the royalty hurdle cannot go ahead
- Take case of Bolivia; effective royalty is 50 percent. Government is clear that if projects cannot meet the charge, the resource should stay in the ground. (Also Libya: new draft petroleum law proposes 67.16 percent royalty.)
- At other extreme is Norway: no royalty, but active depletion policy anchored on release of exploration acreage & scrutiny of development plans.
- Is it feasible for low income countries to have a depletion policy?
- If so, how should it be derived?
- General point is that any regime with a positive marginal effective tax rate reduces the number of projects, feasible pre-tax, that can go ahead.
(7) Capital gains taxation, bonus-bidding, and rent taxes

- Taxation of transfers of interest in a resource project has become a big issue (Ghana, Uganda, South Africa provisions).
- Gains on transfers of real property usually taxable (whether separate CGT or general income tax).
- What happens when real property is an asset held by foreign companies who sell shares to other non-residents?
- CGT then very difficult to enforce.
- Presence of large gains suggests that fiscal regime is not expected to tax rents fully.
- Will combined bonus bidding with a progressive tax system help?
  - Probably not for “early stage” projects, but perhaps for later ones.
Border withholding is the main way to tax flows (dividends, interest, service fees, royalties) to non-residents.

Modern tax treaties have eroded permissible rates – sometimes to zero.

Raises questions about value of tax treaties to capital-importing countries.

Treaties will be of value if they establish host country’s right to border withholding, and taxpayer’s right to credit in home country.

“Treaty shopping” has increased difficulty in effectively taxing flows to parent companies.

Is a better answer to focus on royalty and rent taxation by the host?
(9) Pricing of infrastructure

• Many resource projects cannot develop without large ancillary investment in infrastructure.
• Fiscal regime usually deals with “upstream” production.
• Important to see that rent is not diverted to transportation and processing investments.
• Key is appropriate transfer pricing between facilities.
• May also be an opportunity for transit countries to extract rents through transit fees.
• Conventional view is that resource rent is attributable to “upstream”, but how will diversion be prevented?
IMF (FAD) TA actively engaged and research-based
What next?

Thank you!