FISCAL REGIMES FOR EXTRACTIVE INDUSTRIES: KEY DESIGN ISSUES

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A key revenue source for (increasingly) many
Overview

• Why a distinct fiscal regime for extractives industries?

• What are we trying to do?

• What fiscal tools do we have?

• How can we best use them?

• What’s FAD doing to provide tools and training to EMDE?
WHY A DISTINCT FISCAL REGIME FOR EXTRACTIVE INDUSTRIES?
• Substantial rents

• Pervasive uncertainty, esp (but not only) prices
• Asymmetric information
• High sunk costs, long production periods
• Extensive involvement of multinationals in some countries...and of SOEs in others

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

• Exhaustibility—Revenues are the transformation of finite assets in the ground into other assets, linking to the design of the macroeconomic framework
WHAT ARE WE TRYING TO DO?
• **Maximize PV** of net government revenues

• **Timing** of receipts

• **Riskiness** of receipts
  – Many developing countries may be less able to bear risk than large MNEs...

• “**Progressivity**”
  – Meaning? Responsiveness to current prices?
  – But more progressive means more risk

• **Ease of administration** (for authorities) and **compliance** (for taxpayers)
WHAT FISCAL TOOLS DO WE HAVE?
Three main fiscal schemes (sometimes blended)...

- **Contractual**, including production sharing or service contracts
- **Tax and royalty**, with licensing of areas
- **State ownership or participation**
These can be made fiscally equivalent

For instance:

- **Cost recovery limit and minimum government share under PSC is equivalent to a royalty**
  - E.g. With minimum government share at 50%, limiting cost recovery to 80% of revenue is equivalent to a royalty of $(0.5) 	imes (1 - 0.8) = 10\%$

- **A tax on cumulative cash flows levied at a higher rate at higher realized rates of return is equivalent to a PSC with government share increasing in same way**
A wide range of possible instruments

• **Explicit rent taxes**
  – Non-distorting in principle
  – Many forms, with different timing of receipts

• **Royalties**
  – Distort extraction (and, hence, exploration) decisions
  – Can be used in principle to control extraction path
  – Revenue from day 1
• **Bonuses** (with bidding)
  – More common in petroleum than mining

• **Corporate income tax**
  – To ensure equity income not favorably treated

• **State participation**
  – Can help resolve asymmetric information
  – But potential governance issues
What is adopted in practice?

- Fiscal regimes for EI vary greatly

Survey of 67 Countries

<table>
<thead>
<tr>
<th>Fiscal Instrument</th>
<th>No. of Countries</th>
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<tr>
<td>Signature bonus</td>
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<td>Production bonus</td>
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<td>Social investments/infrastructure</td>
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HOW CAN WE BEST USE THEM?
Evaluation of alternatives is essential...

- **Scenario analysis** – the FARI modeling system

Use indicators related to objectives and criteria, e.g.

- Average effective tax rate
- Progressivity in prices
- Breakeven prices
FARI: Simulated Petroleum Field for Selected Regimes

Average Effective Tax Rate (AETR)

Discount Rate: 10.0%

Project Description
Field: Oil field
Size: 809 MMBOE
Costs: $26.1 BOE
Oil price: $100 Bbl
IRR: pre-tax: 30%
FARI: Assessing “Progressivity”
Tax share response to price changes

Govt. Share Total Benefits 10.0% Disc. Rate

Project: Offshore290MMbbl Size: 287 MMBbl Cost: $23.0 Bbl

Price sensitivity

- Base Regime: CIT only
- 35% royalty
- Australia-style PRRT

Pre-tax IRR (from varying oil price)
Fiscal regimes for EIs vary widely

• Simulations suggest government shares of 65 to 85 percent in petroleum—but collection data suggest lower in practice

• For mining, simulated shares are lower: 40 to 60 percent

• Achieved shares below this are cause for concern, or regret
An attractive framework

Country circumstances require tailored advice, but generally within a framework that combines

- A royalty on gross revenue
- A tax targeted explicitly on rents (and thus on the achieved results of extraction)
- Together with normal corporate income tax
- Bonus-bidding may have a role in promising environments
WHAT’S FAD DOING TO PROVIDE TOOLS AND TRAINING to EMDE?
Expansion of IMF TA on EI fiscal regimes

- Large increases in demand for TA on EI fiscal regimes
- Doubling of supply since start of MNRW TTF in 2012
- New bilateral program with NORAD
- Shift to medium-term projects
- No direct involvement in negotiations, but in policy context
FAD’s Fiscal Analysis of Resource Industries (FARI) model

- An internally consistent modeling framework to analyze how cash flows are shared between investors and government over the life of resource project
- It has three main uses:
  1. Fiscal regime design and evaluation (core)
  2. Revenue forecasting (increasingly)
  3. Revenue administration (potentially)
- The model will be made publicly available at the IMF’s annual meetings in Lima, along with a technical note and manual
IMF (FAD) TA actively engaged and research-based

- Board paper on “Fiscal Regimes for the Extractive industries”

Forthcoming:
- International tax issues for the extractive industries
Thank you!

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