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Key Issues in Natural Resource Taxation in Developing Countries


RESOURCE MOBILIZATION IN SUB-SAHARAN AFRICA

Nairobi, Kenya, March 21-22, 2011



“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



**THE TAXATION OF
PETROLEUM AND
MINERALS: PRINCIPLES,
PROBLEMS AND PRACTICE**

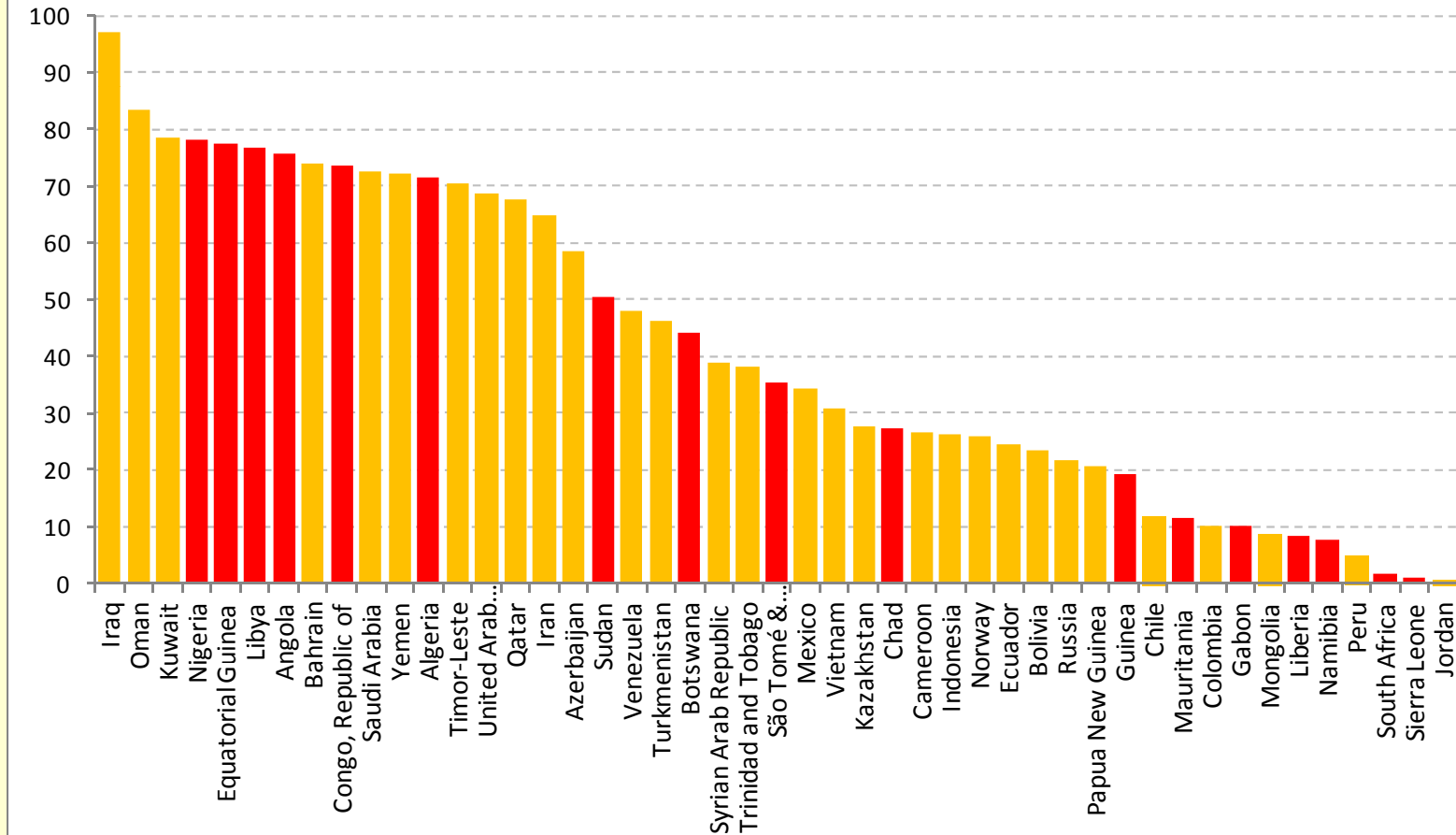
Edited by Philip Daniel,
Michael Keen
and Charles McPherson



Diverse Experience so far...



Receipts from Natural Resources, averages 2000–07
(selected countries, percent of government revenues)



Significant Potential



- Only 20% of Africa's natural resources discovered so far (Collier)
- If correct, flows from natural resources may dwarf other sectors
- Potential for Transformative Projects
 - **Oil**: Ghana, Uganda, Niger, (Sierra Leone? Liberia? Tanzania?)
 - **Iron Ore**: Guinea, Liberia; Sierra Leone; Tanzania
 - **Nickel**: Tanzania, Burundi
 - **Uranium**: Niger, Tanzania, Namibia



Mobilizing Revenues from Natural Resources

1. Identify the resources
 2. Allocate rights
 3. Design the fiscal regime
 4. Administer the fiscal regime
 5. Manage the revenues
- All of these need to be done right
 - Focus today on (3) - resource tax design



What's So Special About Resources?

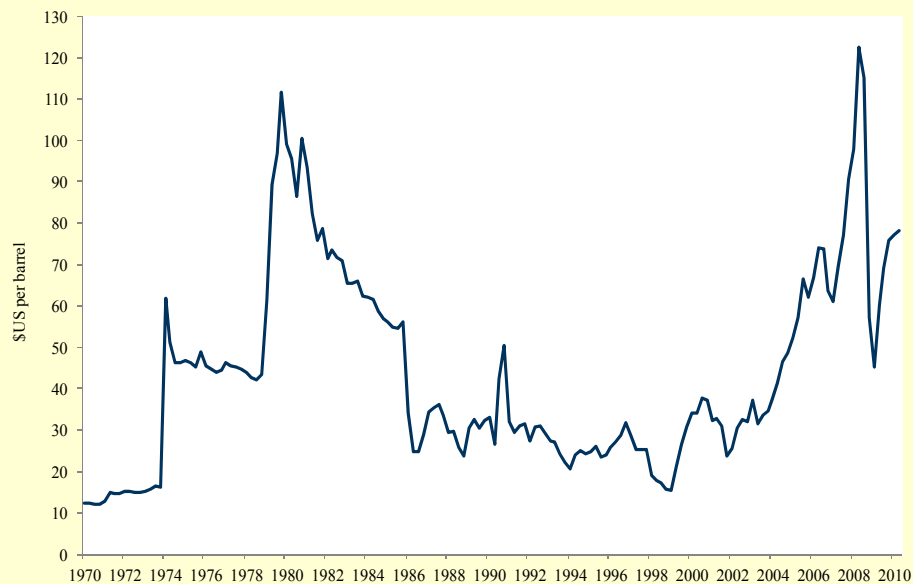
- Size of sector (even individual projects) relative to the economy
- Tax revenue is the central benefit to host country
 - Leveraging other economic development an ongoing challenge
- High sunk costs, long production periods
 - Create 'time consistency' problem
- Substantial rents
 - The ideal of a non-distorting, immobile tax base!
- International considerations loom large
 - Foreign tax rules matter
 - Tax competition



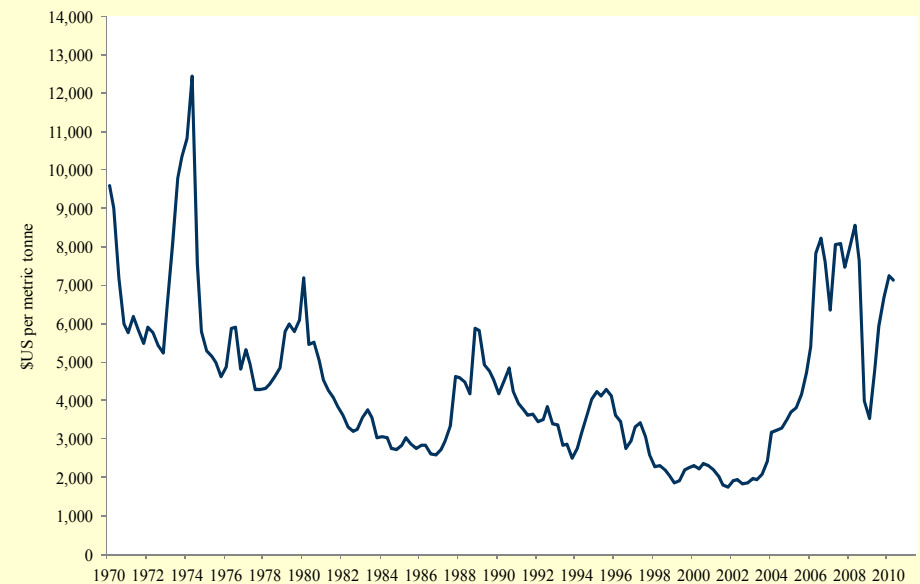
Uncertainty

- From geology, technology, price volatility...

Crude oil (real 2010 prices)



Copper (real 2010 prices)

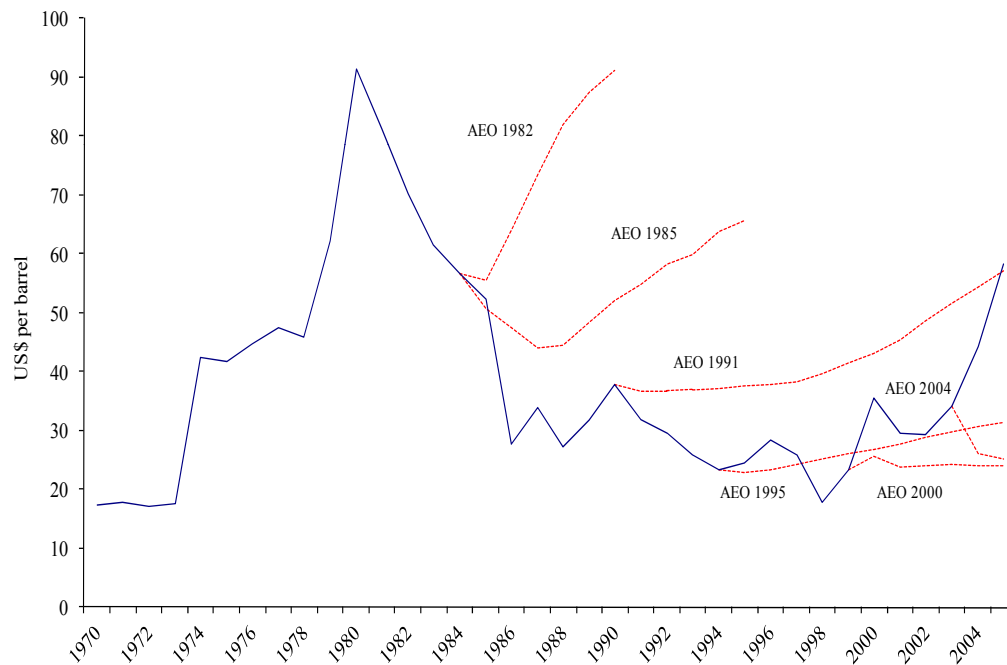


- ...and political risk

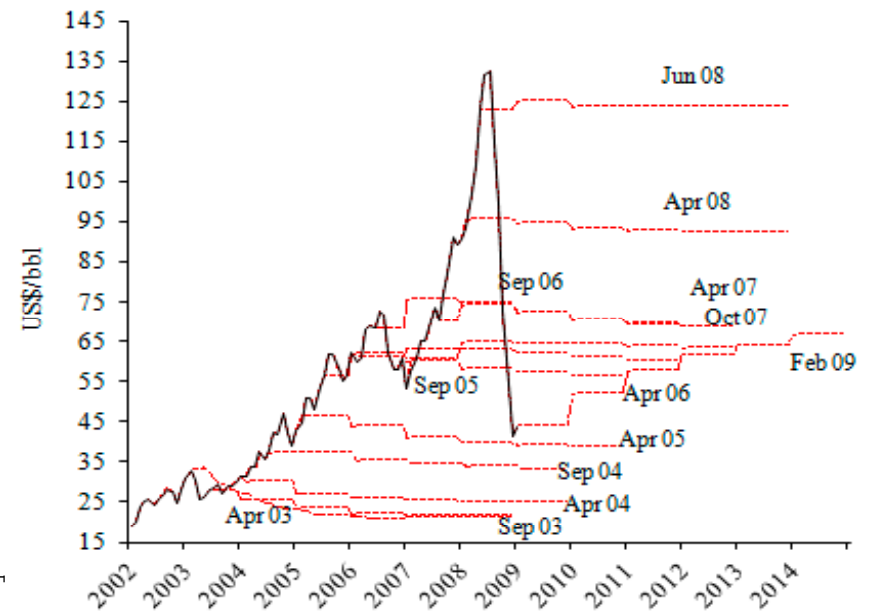


Forecasting Prices is Hard...

U.S. Department of Energy Annual Energy Outlooks (AEO) 1982-2004
(2006 U.S. Dollars per Barrel)



WEO Oil price Forecasts, 2003-2009
(U.S. Dollars per Barrel)



Sources: U.S. Department of Energy Outlook (1982,1985,1991, 1995, 2000 and 2004); and IMF World Economic Outlook (2003,2004,2005,2006,2007, 2008, and 2009). After Ossowski et. al. (2008)

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.



What Else?

- 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
- Views differ on how important this is in practice
- Ideally: recognize revenues as transformation of finite asset in the ground into financial asset

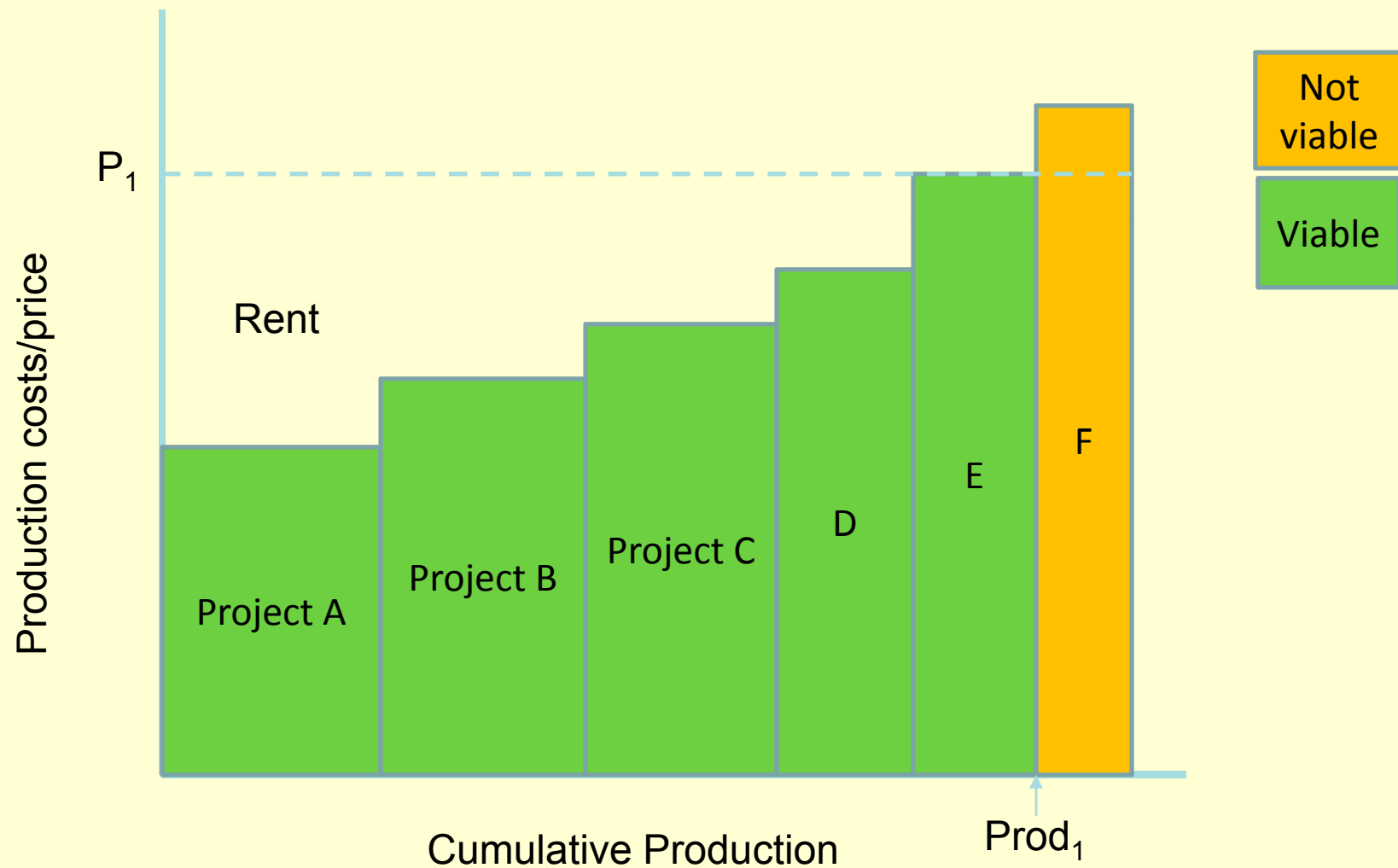
Menu of Mechanisms



- Taxes on *inputs* – import duties, excises
- Taxes on *revenues* – royalties
- Taxes on *profits* – corporate income tax
- Taxes on *rent* – resource rent tax
- State *equity* participation
- Many variations on each theme
 - progressive royalties, windfall taxes, variable income tax, free equity vs. carried equity, etc.
- Production sharing (petroleum)

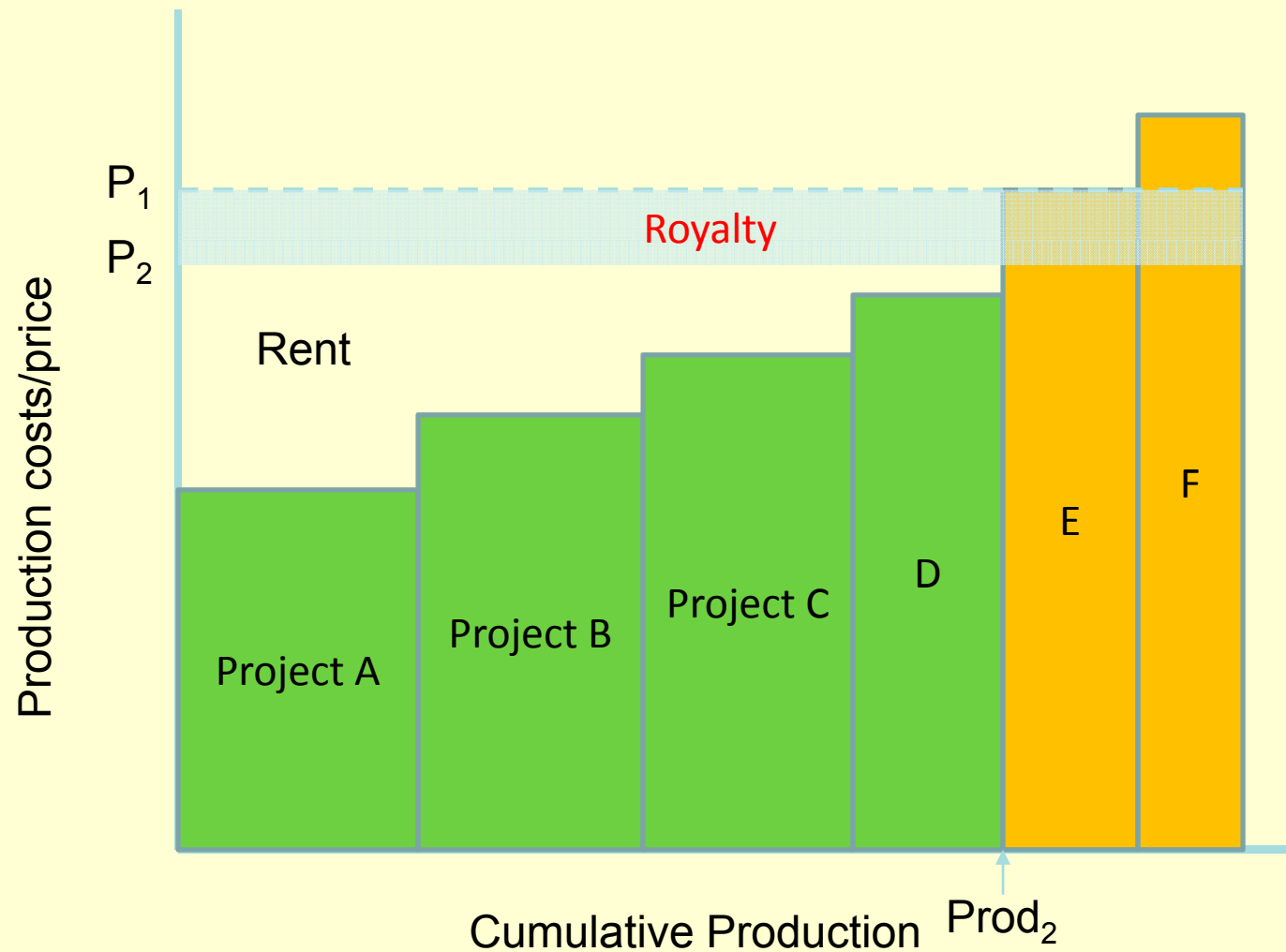


Economic Rent



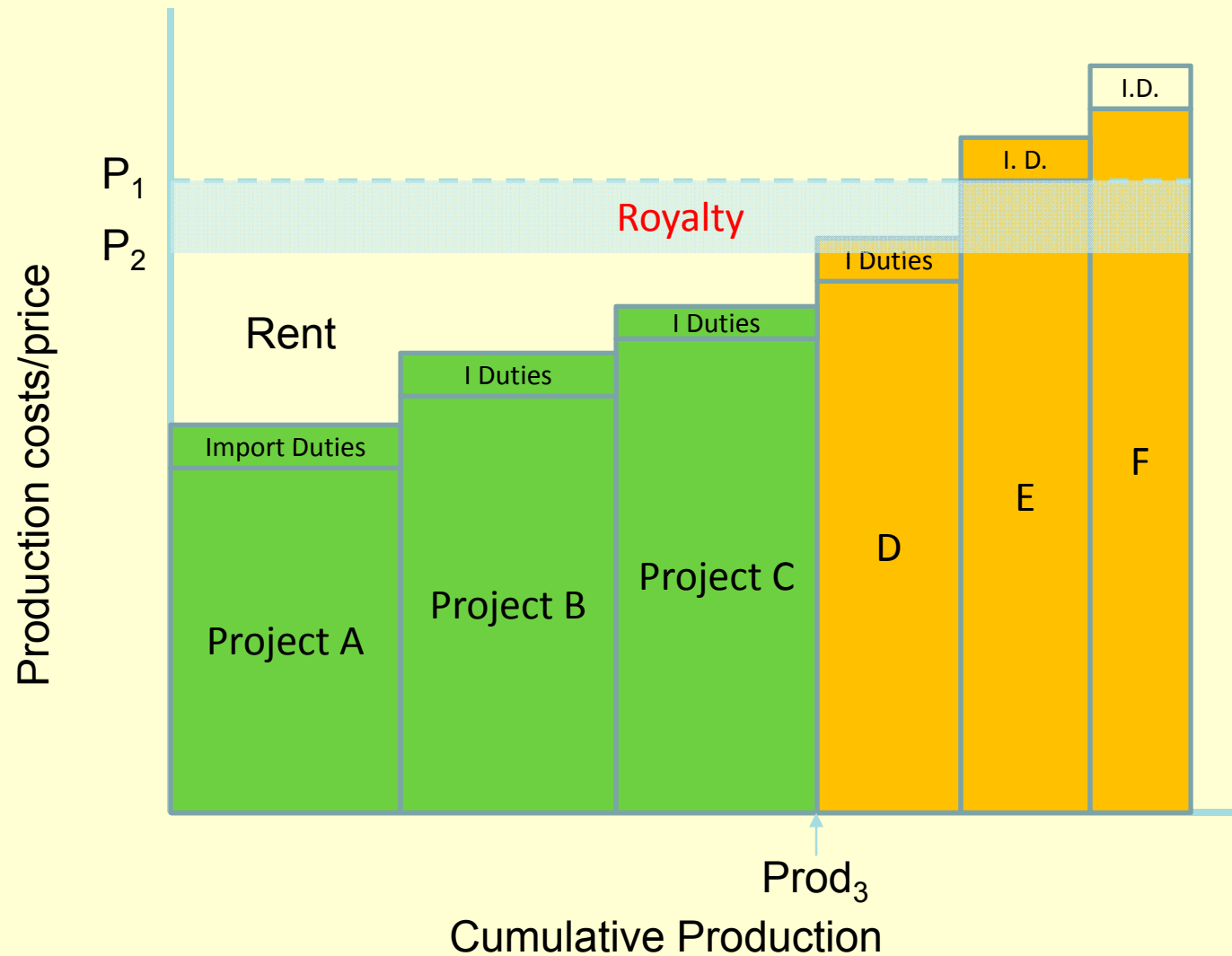


Effect of Royalty

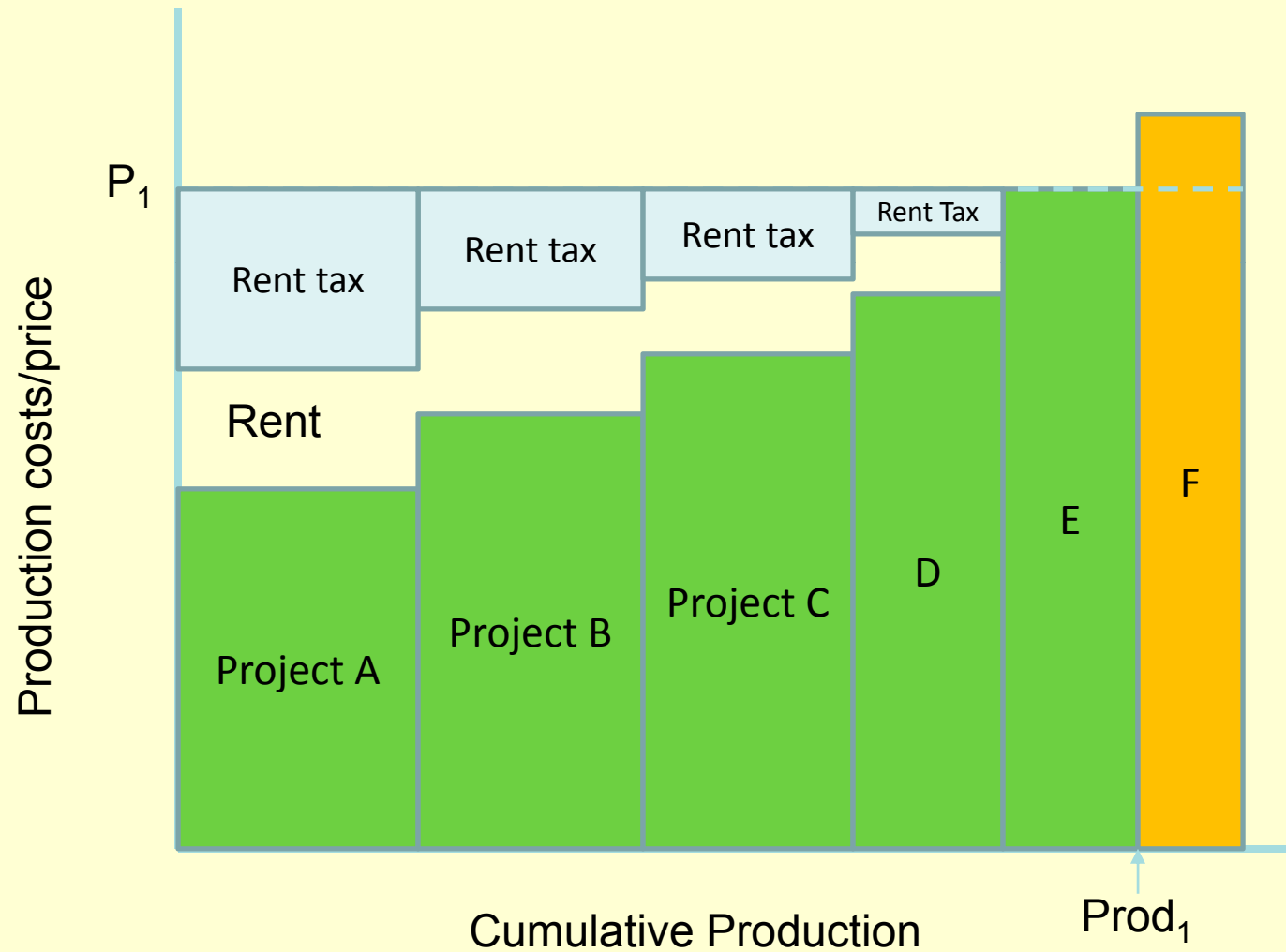




Effect of Import Duties



Resource Rent Tax – “Neutral”





Rent Taxes

- Various possible forms, with differing revenue paths and risk sharing
 - Brown tax, Resource Rent Tax, ACE*
- For true neutrality, relief required for exploration costs and loss-making projects
- Government taking on risk, and deferral of revenue
- Norway perhaps closest today
- Australia's proposed RSPT; now MRRT
- For a developing country RRT useful, but maybe not as the primary fiscal share

* Allowance for Corporate Equity



How Important Is Progressivity?

...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
 - Long accepted objective in Petroleum fiscal systems
 - Increasingly recognized in Mining



Multiple Instruments Needed

- In order of efficiency taxes on: (1) Rent (2) Profits (income tax) (3) revenues (royalties) (4) inputs
- Taxes on inputs usually exempted
- Royalties distort but may still have an important role:
 - Revenue from day 1 of production
 - Easier to administer – no need to measure costs
- CIT usually applied
 - Create creditable tax and consistent treatment with other sectors
- Common framework: (1) Royalty + (2) CIT + (3) rent capture mechanism (RRT)
- But significant diversity in detail...



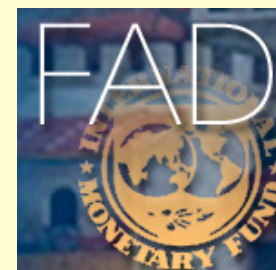
Careful Evaluation is Critical

- Developing countries do not do this well
- Project economic modeling is vital

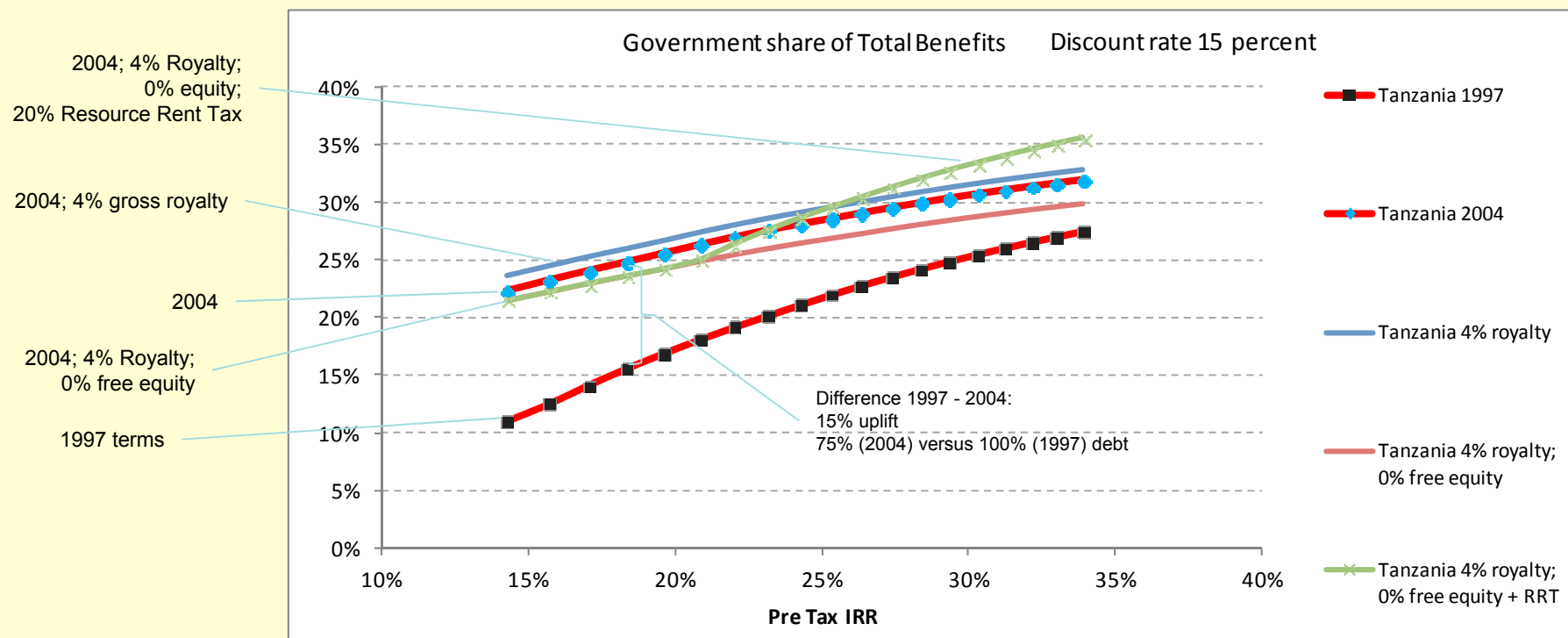
Four key indicators

- *Average effective tax rate* (AETR): the tax share of net cash flow discounted at a chosen rate
- *Marginal effective tax rate* (METR): the tax “wedge” between the pre- and post-tax rate of return
- *Breakeven price*: the output price required to yield a specified post-tax return to capital
- *Progressivity*: E.g. variation of government’s share with project return

... plus measures of effects on risk sharing



Detail matters



- FAD's models can be used for detailed evaluation of fiscal terms changes:

- Depreciation rules
 - Royalty rates and basis
 - Indirect taxes (import duties, VAT)
 - Government equity participation

22 April 2010 □ Thin capitalization/Debt leverage

□ Ring fencing



The Pros and Cons of Auctioning

- Get investors to compete with each other, not the government
- Use auctions to soak up perceived rent
- But, requires a competitive situation with enough players
- Design matters—including bid variables
- Implementation matters as much (or more)
- Why so little used for minerals?



Set Generally Applicable Terms

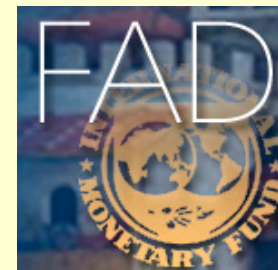
- Developing countries often end up negotiating deals for major projects case by case
 - Lack of legal framework and effective fiscal regime
 - Huge burden on technicians and decision makers
 - An uneven contest...
- FAD advice: set generally applicable terms and avoid case by case negotiation
 - Cross reference generally applicable terms (e.g. tax law) in development agreements



Administration— is it That Hard?

- Technical complexity, new to administrators
- Dealing with complex MNCs always hard
- Use reference commodity prices
- Do the simple things right; exercise audit rights!
- Royalties not as easy to administer as may seem...
- ... But rent taxes maybe not as hard
- Building capacity:
 - Specialize – Large Taxpayer Office
 - Hire in experts

Stability and Credibility

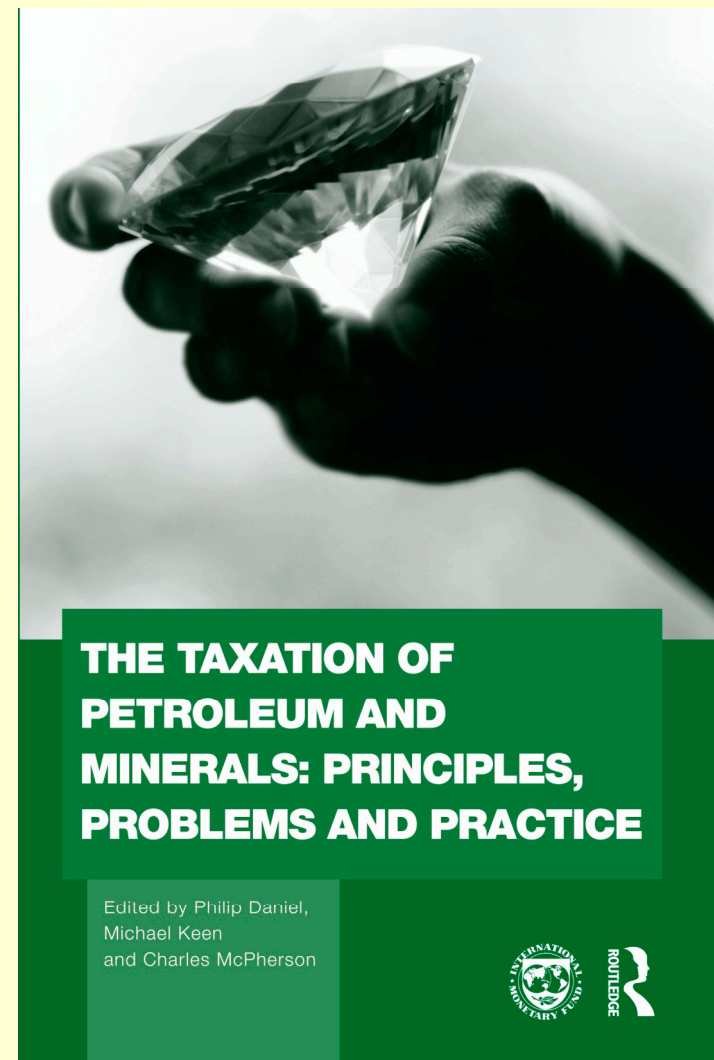


- Takes years to develop (Norway)
- Easy to lose (Australia?)
- But credibility does not mean no change (UK)
- Potential for future discoveries may help
- Fiscal stability agreements?
 - Can be over-generous and create administrative problems
 - Effectiveness unclear—renegotiation always possible
- Some designs more credible than others
 - Flexibility and Progressivity?

The Book...



- Overview: Concepts and low income country issues
- Sectoral issues (oil, minerals, gas)
- Special topics (evaluation, RRT, state participation, auctions)
- Implementation (administration, international tax)
- Stability and credibility



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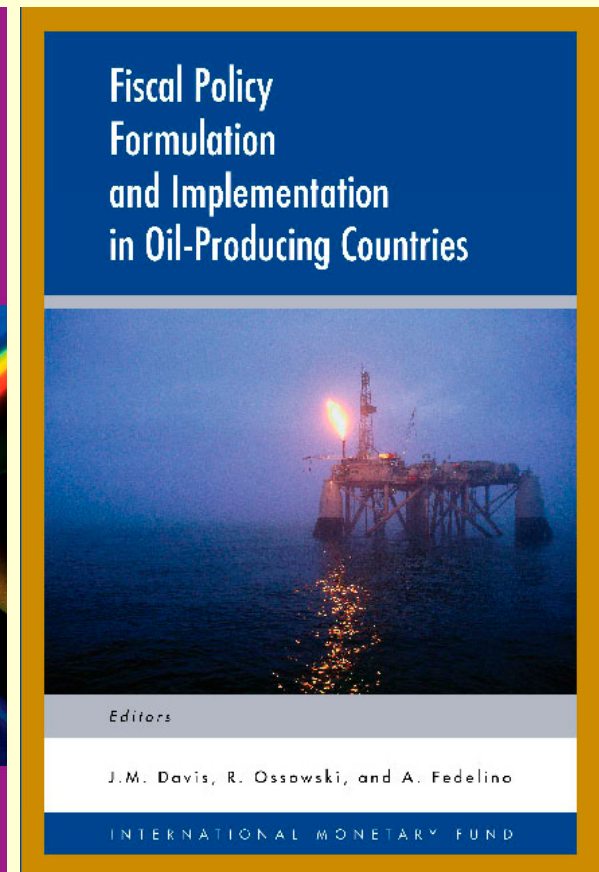
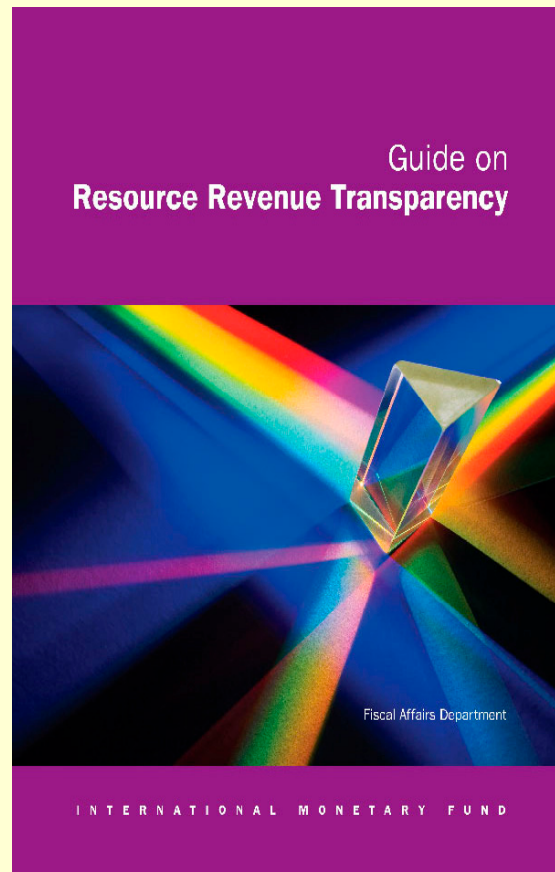
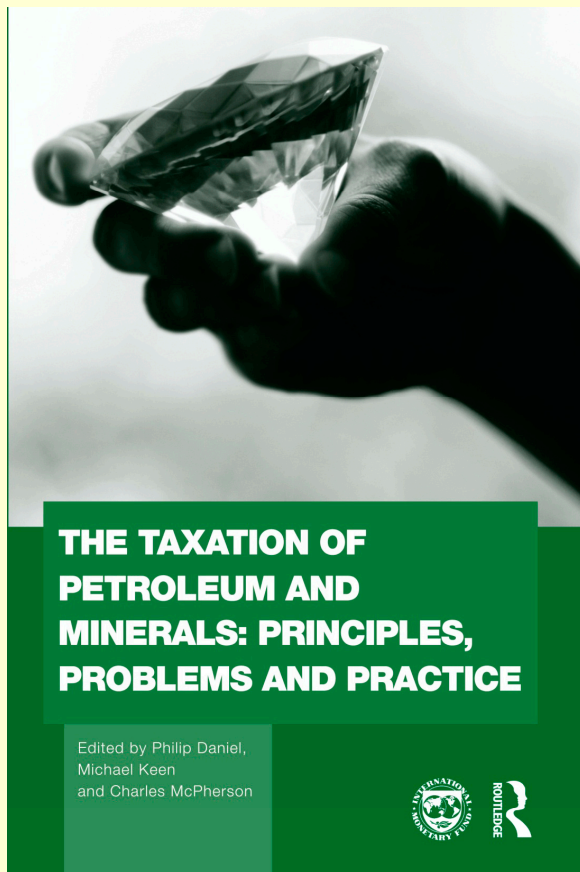


Aims



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- Consolidate and take forward current knowledge in the field (topic fell out of fashion).
 - Link public finance and resource taxation literature
 - Wide audience: academics, practitioners, companies, government and civil society.
 - Best practice? No – concentrates on principles, criteria and methods to apply in different circumstances.
 - Combines theory and practice

IMF (FAD) Actively Engaged



Thanks



The Taxation of Petroleum and Minerals:
Principles, Problems and Practice

Edited by Philip Daniel, Michael Keen,
and Charles McPherson

Routledge / IMF, 2010

www.imfbookstore.org

www.routledge.com/978-0-415-56921-7