

Taxation of Natural Resources

Features, Principles, Issues

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London, 14 November 2013

Disclaimer

The views expressed in this presentation are those of the author and should not be taken to represent the views of the IMF, its Executive Board, or its Management.

Objectives of the Presentation

- To understand the methodologies for economic assessment of E&P projects
- To understand the investment decision-making mechanisms of private sector investors in E&P: their criteria for choosing to invest in the E & P of deposits
- To understand the concepts of oil profit sharing
- How to compare tax systems?
- How to stimulate investment in E&P by means of a progressive tax system with incentives, while also protecting the long-term interests of the country?

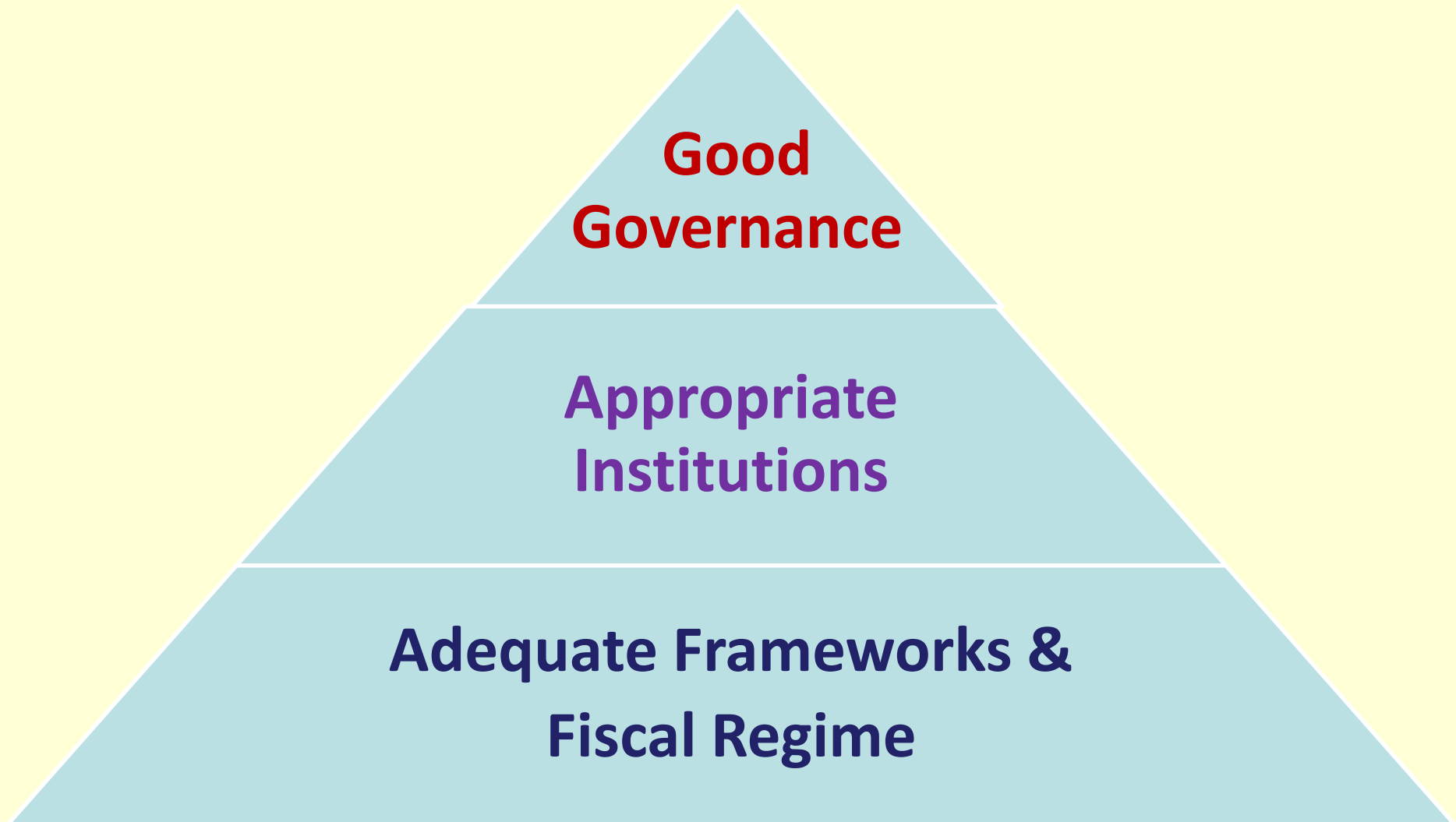
Few Questions

- What type of fiscal system? (Royalty/Taxation, PSC or hybrid)
- What should be the target Global Take
- What mix of tax instruments should be employed?
- How much of these instruments should be fixed vs. negotiable ?
- Competitive bidding rounds or not and on what elements (bonus, level of royalties, work program)
- Contract duration and Commerciality ?
- Should there be any state participation?

Outline

- Objectives
- Why Natural Resources different?
- Fiscal Regime for Oil & Gas
- Establishing the fiscal framework
- Tax instruments
- Determining the Global Take
- Progressivity
- Issues for Government
- Conclusion

Three building blocks: Frameworks-Institution-Governance

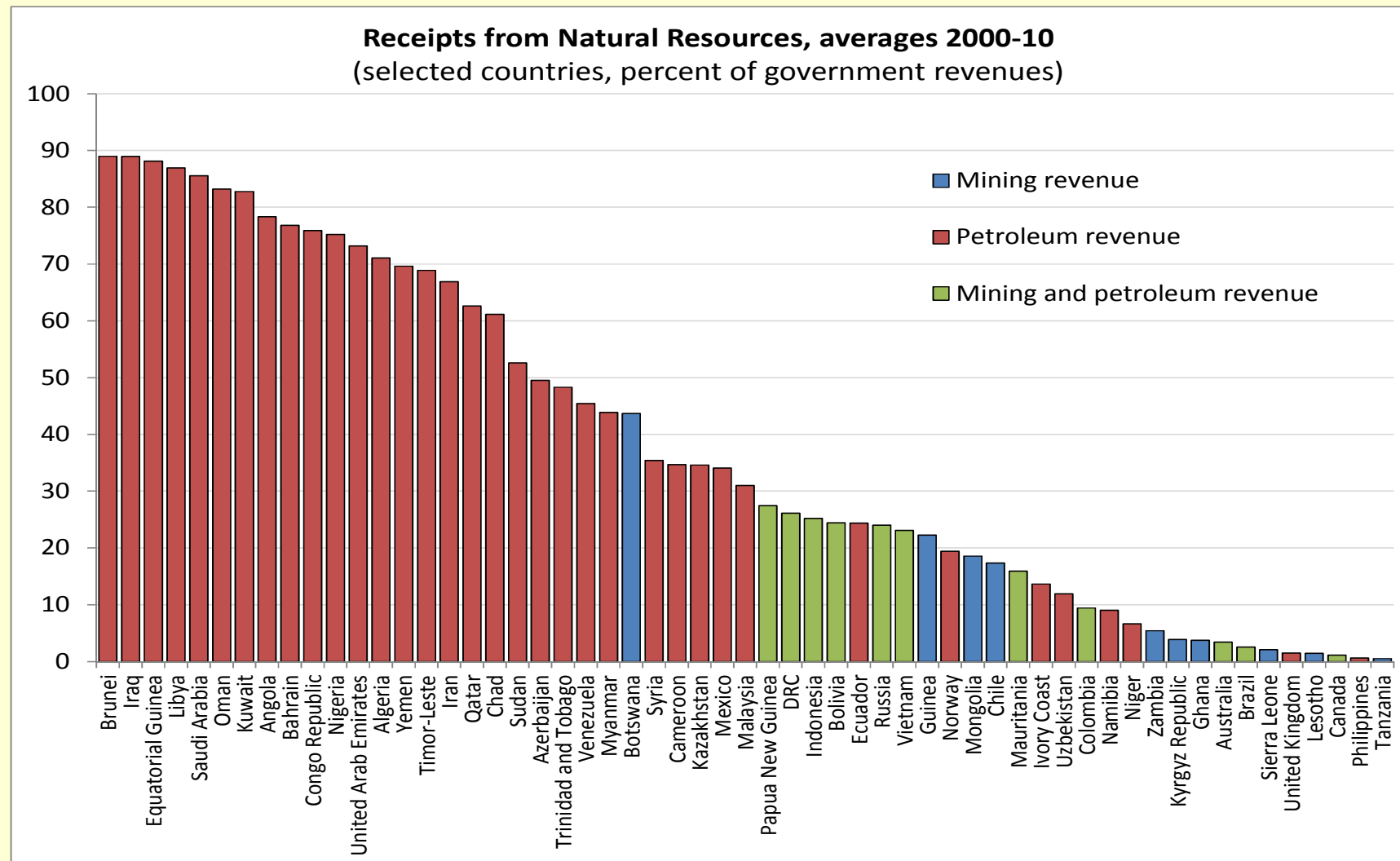


WHY NATURAL RESOURCES DIFFERENT ?

Why Natural Resources Different ?

- Natural Resources is probably the only economic sector which can, on its own, lift a country out of underdevelopment.
- If not managed properly Natural Resources have led to social inequity, social unrest, conflict and wars
- N.R. Revenues: Transformation of wealth - Exhaustibility
- Dutch-Disease (Resources Curse)
- Increasing Environmental Concerns (Decommissioning)
- Demand for fuel and mineral is still growing: Shift in bargaining power
- Tax revenue is the central benefit to host country
- Size of sector relative to the economy

Diverse Experience so far...



FISCAL REGIMES FOR OIL & GAS?

Policy considerations

- Focus on quantitative comparison of the effects of fiscal regimes
- Items that are important in policy advice:
 - Pricing and contracts for commodity outputs
 - Ease of tax design, imposition and administration
 - Regulatory and institutional arrangements
 - Modes of granting rights to resources
 - Transparency and accountability in the fiscal system
- Focus is on a fiscal regime designed for investment by companies.

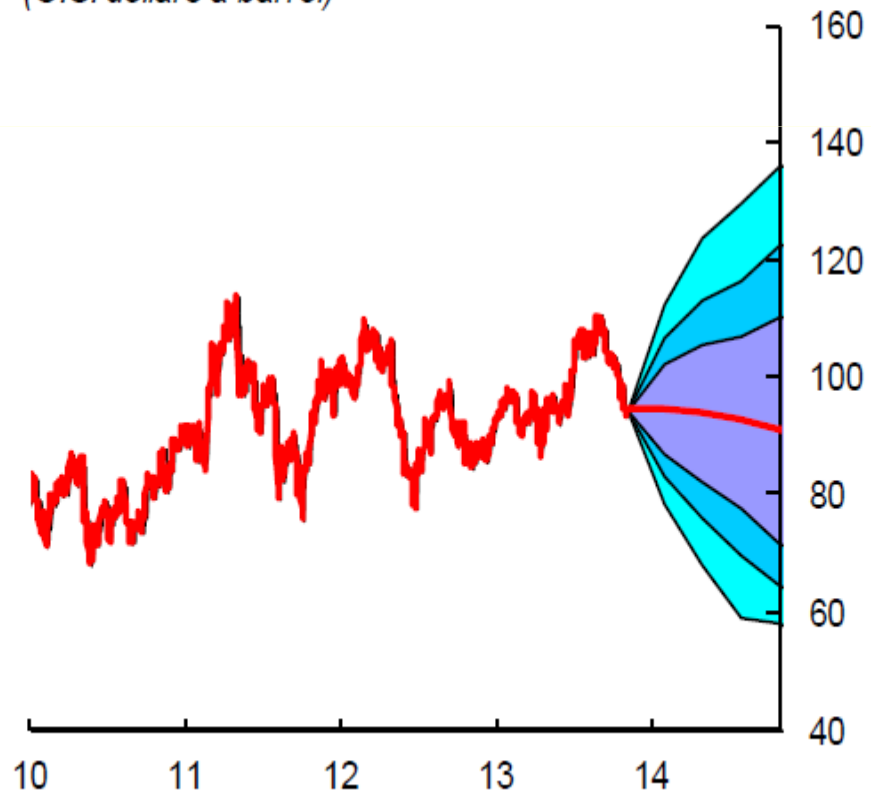
Why distinct fiscal regimes for EI?

- Substantial rents
- Pervasive uncertainty
- Asymmetric information
- High sunk costs, long production periods
- Extensive involvement of multinationals in some countries...and of State-Owned Enterprises in others
- Few of these considerations are unique to resources—they're just bigger. What is unique is:
- Exhaustibility: recognize revenues as transformation of finite assets in the ground into other assets

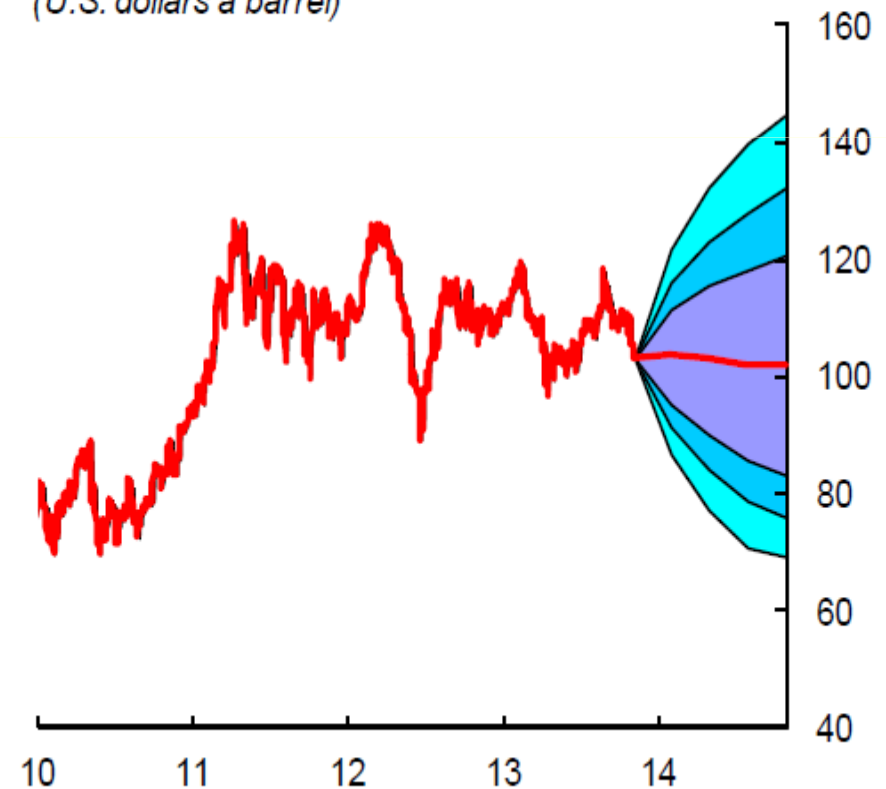
Prices Volatility

95% confidence interval 86% confidence interval 68% confidence interval Futures

WTI Crude Oil
(U.S. dollars a barrel)



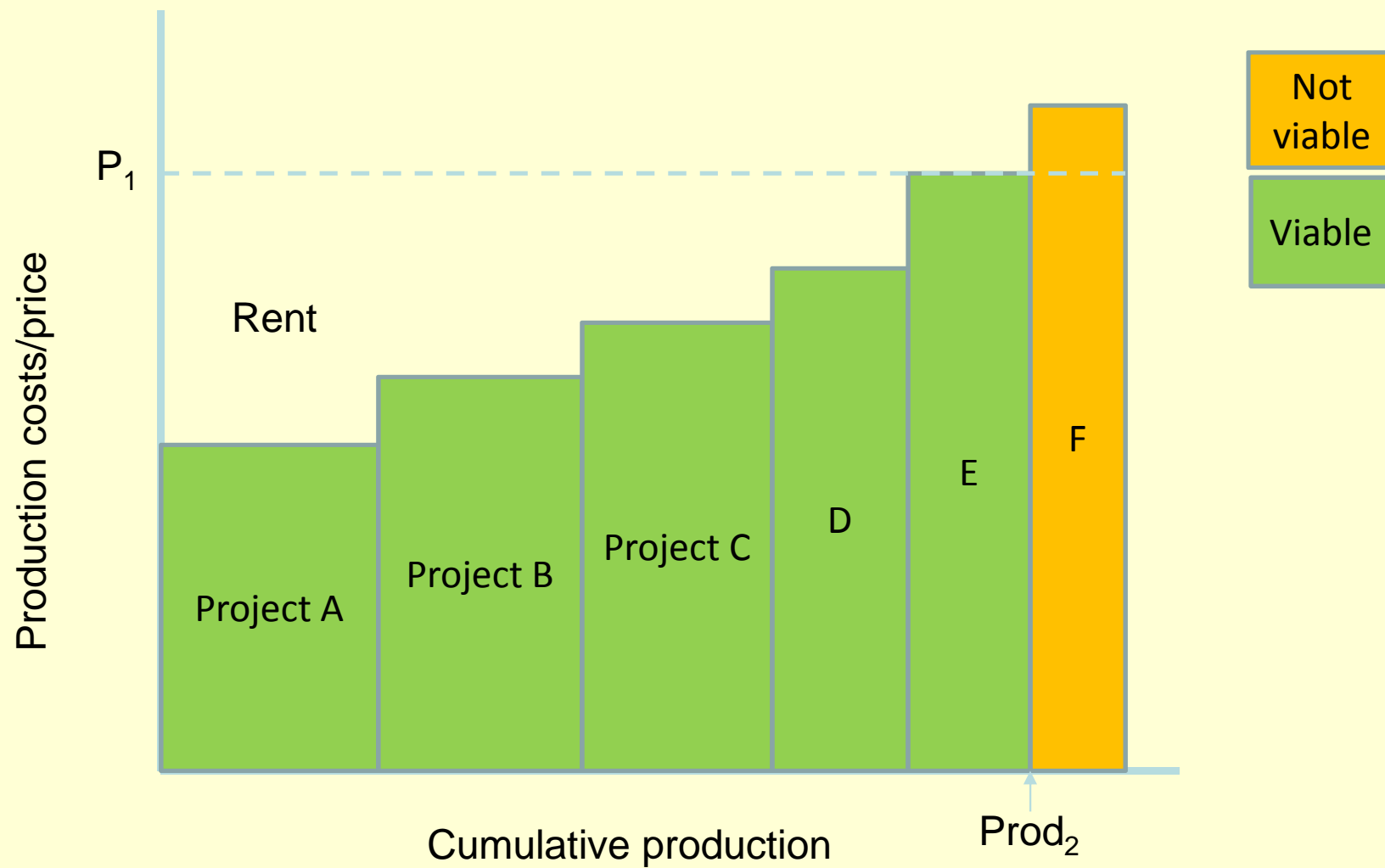
Brent Crude Oil
(U.S. dollars a barrel)



Central objectives

- Optimizing Revenue potential
- Minimize risk (administration & timing)
- Attractiveness - investor perception of risk & return
- Stability & Progressivity
- Public Opinion / local community
- Other benefits (Employment, Procurement, Infrastructure, Capacity Building)

Economic rent

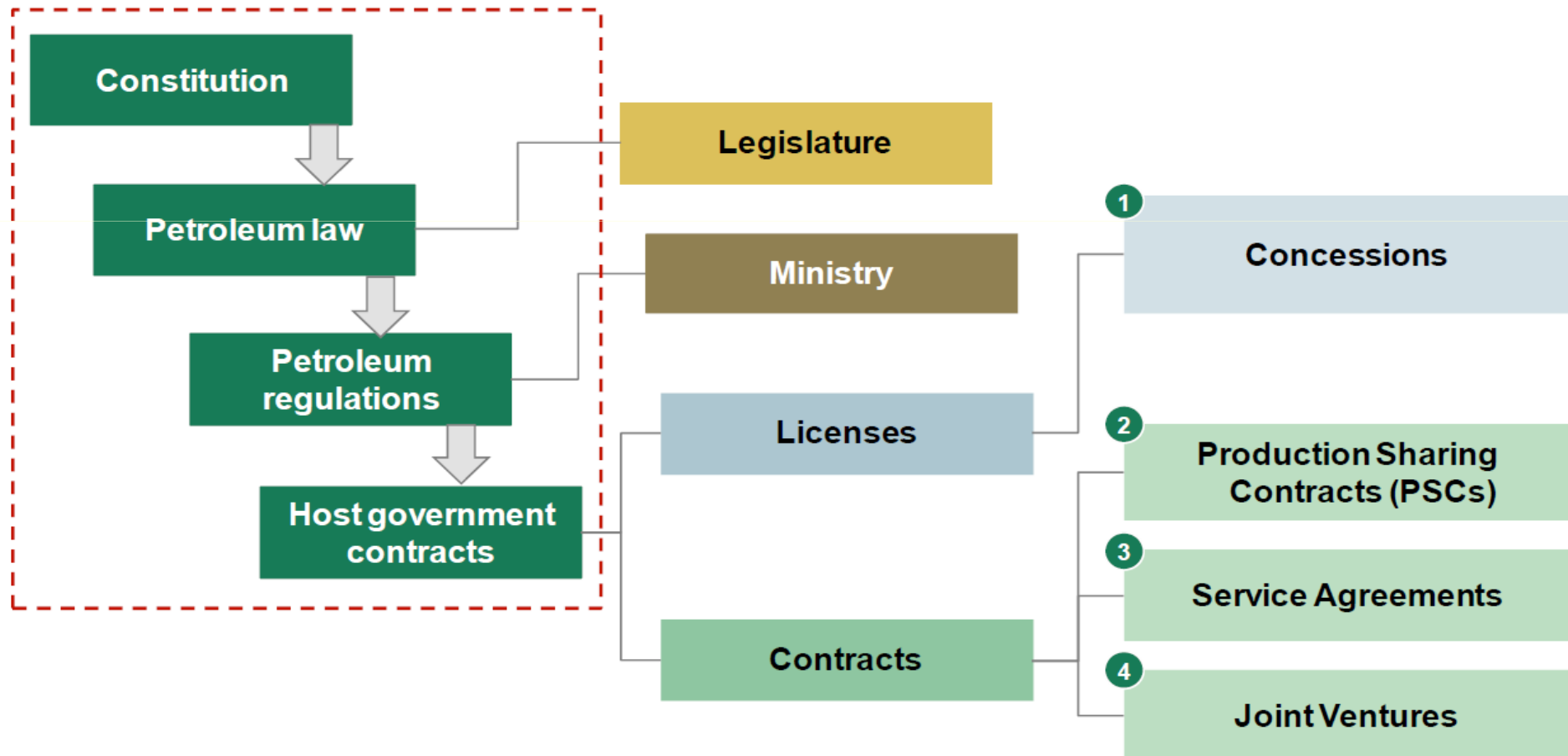


ESTABLISHING THE FISCAL FRAMEWORK

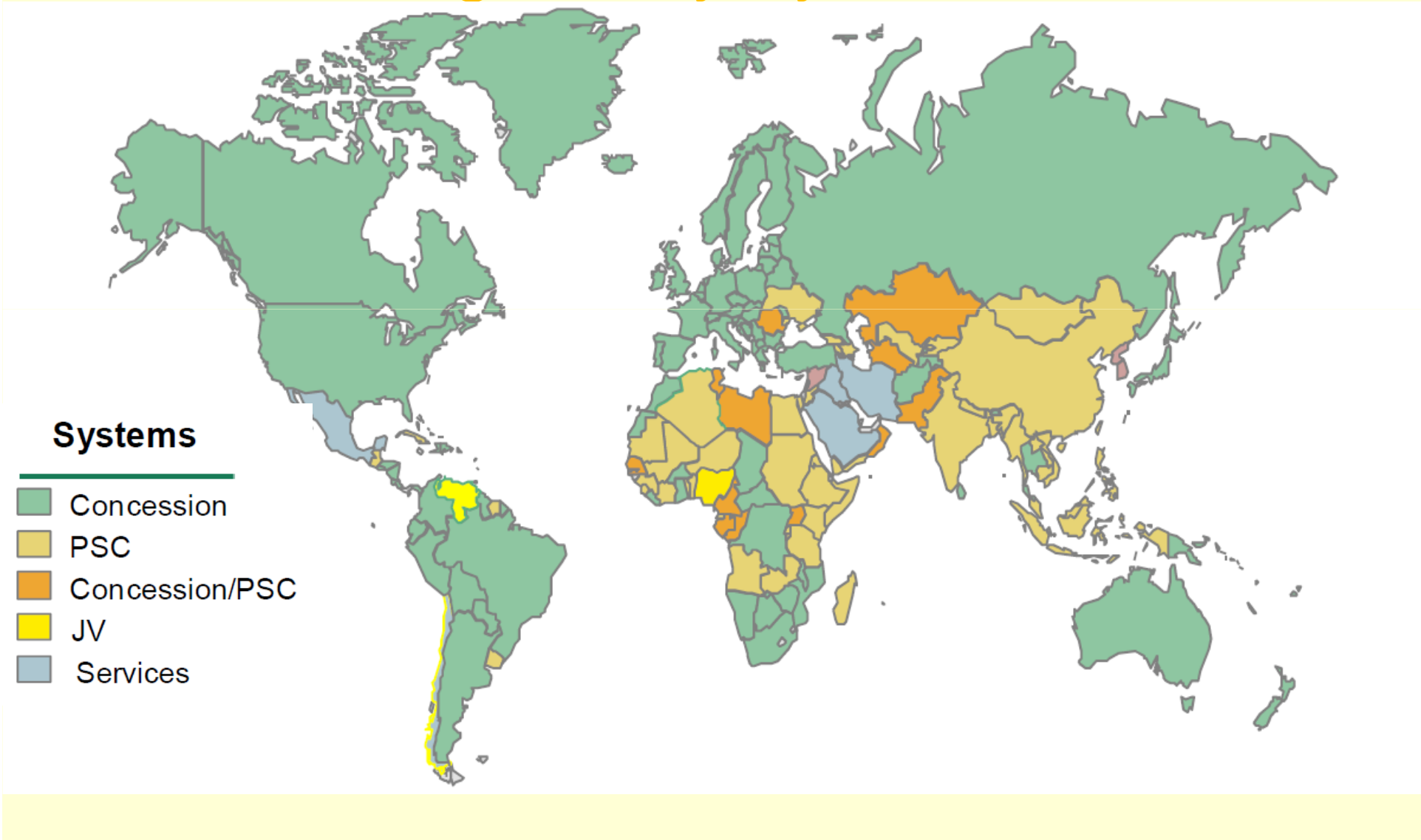
Legal Framework

Multiple layers of rules and regulations govern the overall E&P regime

Specific institutions and instruments involved



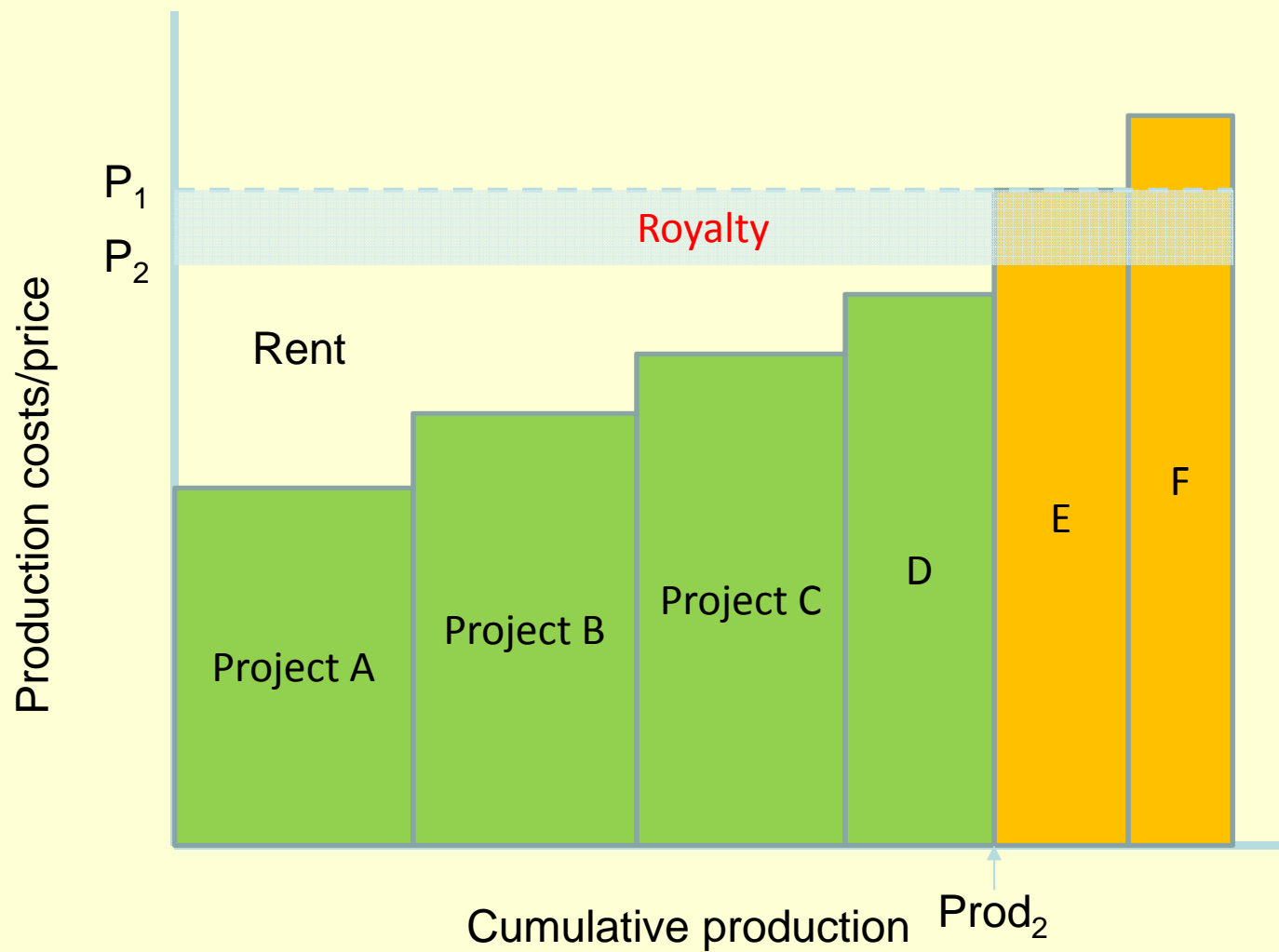
Geographic Distribution of regulatory systems



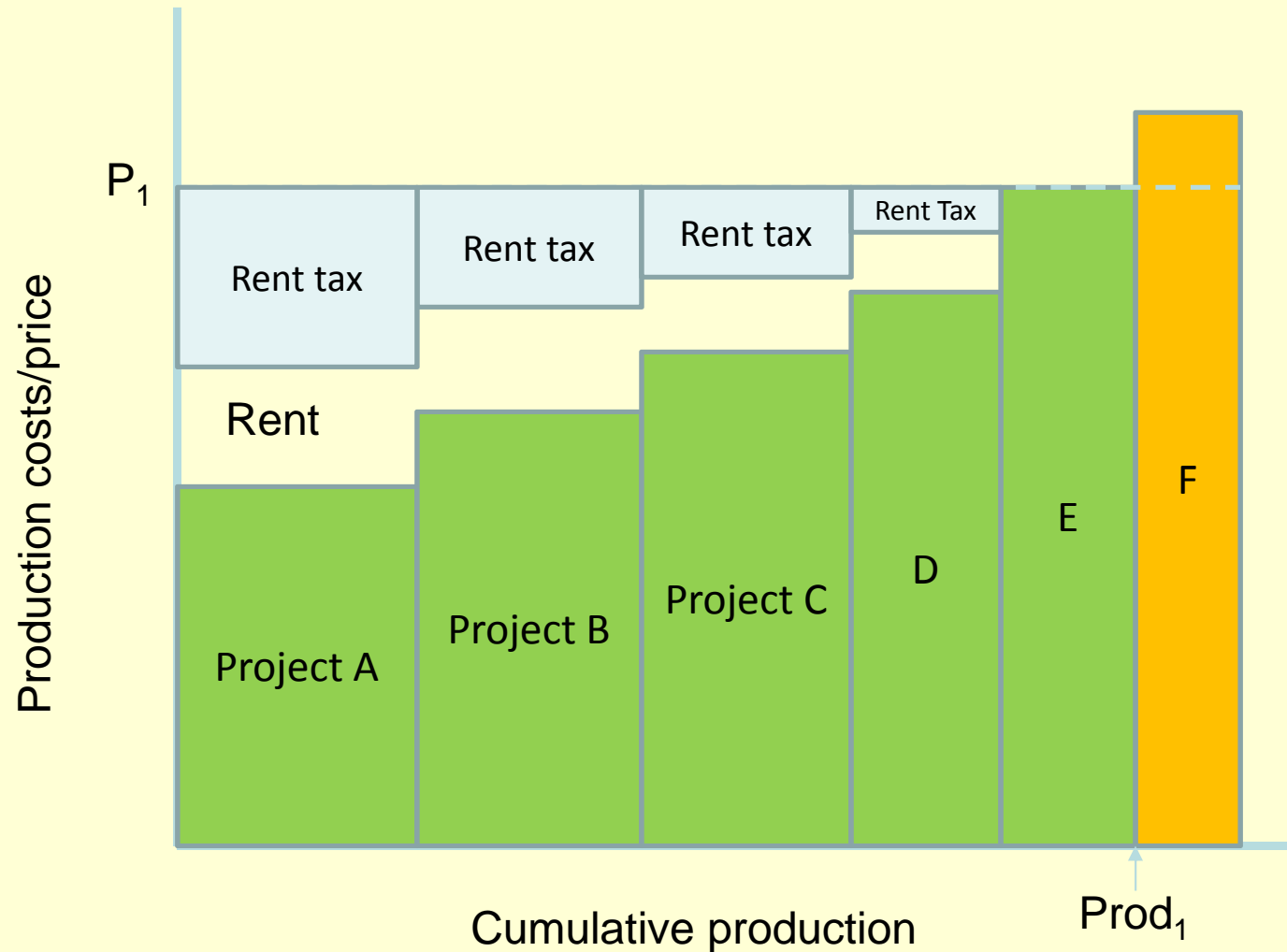
Fiscal Instruments for Petroleum

- Bonuses (with bidding)
- Royalty
- Corporate income tax
- Explicit rent taxes
- State participation
- Production-Sharing Agreement (PSA)

Effect of royalty



Resource rent tax – “neutral”



Benchmarking: Few Facts (1)*

- Most frequent type of fiscal regime?
 - Broadly, dividing by two types of fiscal regimes that apply throughout the world, (royalty/tax and production sharing)
 - Just over half the regimes (54 percent) are of PSA
 - Other royalty/tax or hybrid.
- How do corporate income tax rates compare?
 - Corporate income tax on petroleum projects is sometimes imposed at a rate that differs from the generally applicable corporate rate.
 - In 21 percent of the regimes, CIT is more than 40 percent (e.g. Cameroon, India, Trinidad and Tobago (now 50%), and Tunisia).
 - In a third of production sharing regimes, the profit shares are agreed on an after-tax basis.

* Mostly based on IHS data and analysis on more than 200 generic petroleum fiscal regimes of E&P ventures (S. Parish)

Benchmarking: Few Facts (2)

- What about base royalty?
 - Royalty is an off-the-top take from each unit of production and are very widespread, being found in 71 percent of the regimes.
 - Most royalties and bonuses are usually ad valorem but not based on profit and therefore have a regressive impact on the economics of a petroleum project.
 - Royalty is typically set in the range of 8 percent to 12.5 percent.
 - 16 % of the regimes have royalty that provide the host with 15% or more of the project's gross revenue.
 - many examples where sliding scale royalty with maximum rates reaching 20-30 %.

Benchmarking: Few Facts (3)

- Additional profits taxes?
 - Additional profits taxes are used in a number of regimes to specifically target upstream activities.
 - In the U.K. a supplemental charge was introduced in 2002 was initially set at 10 and increased within four years to 20 percent.
- Are there mandatory payments such as signature bonuses?
 - Signature bonuses are a requirement in 45 percent of the regimes, a percentage that increases to 57 percent if one looks just at the PSA regimes.

Benchmarking: Few Facts (4)

- How common is state participation?
 - Analysis shows 43 percent of the regimes provide the state with the option to participate directly in upstream projects.
 - Few of the regimes with direct state participation provide for the state to contribute its share of exploration and appraisal (E&A) costs at the time of expenditure (i.e., participate as a working interest partner from day one of a project).
- What about tax holidays?
 - Practice from the past: 20 years ago tax holidays were more frequent, especially in the mining sector.
 - This approach has led to what is now commonly referred to “the raise to the bottom”,
 - Such incentives are still present in a few jurisdictions and often for very short periods (one year in Vietnam)

The consequence of commercial / fiscal structure

- 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.

DETERMINING THE RIGHT “GLOBAL TAKE”

The Basics

WHAT IS IT?

- Comparison of fiscal terms from country to country to assess their overall taxes competitiveness

WHY IS IT IMPORTANT?

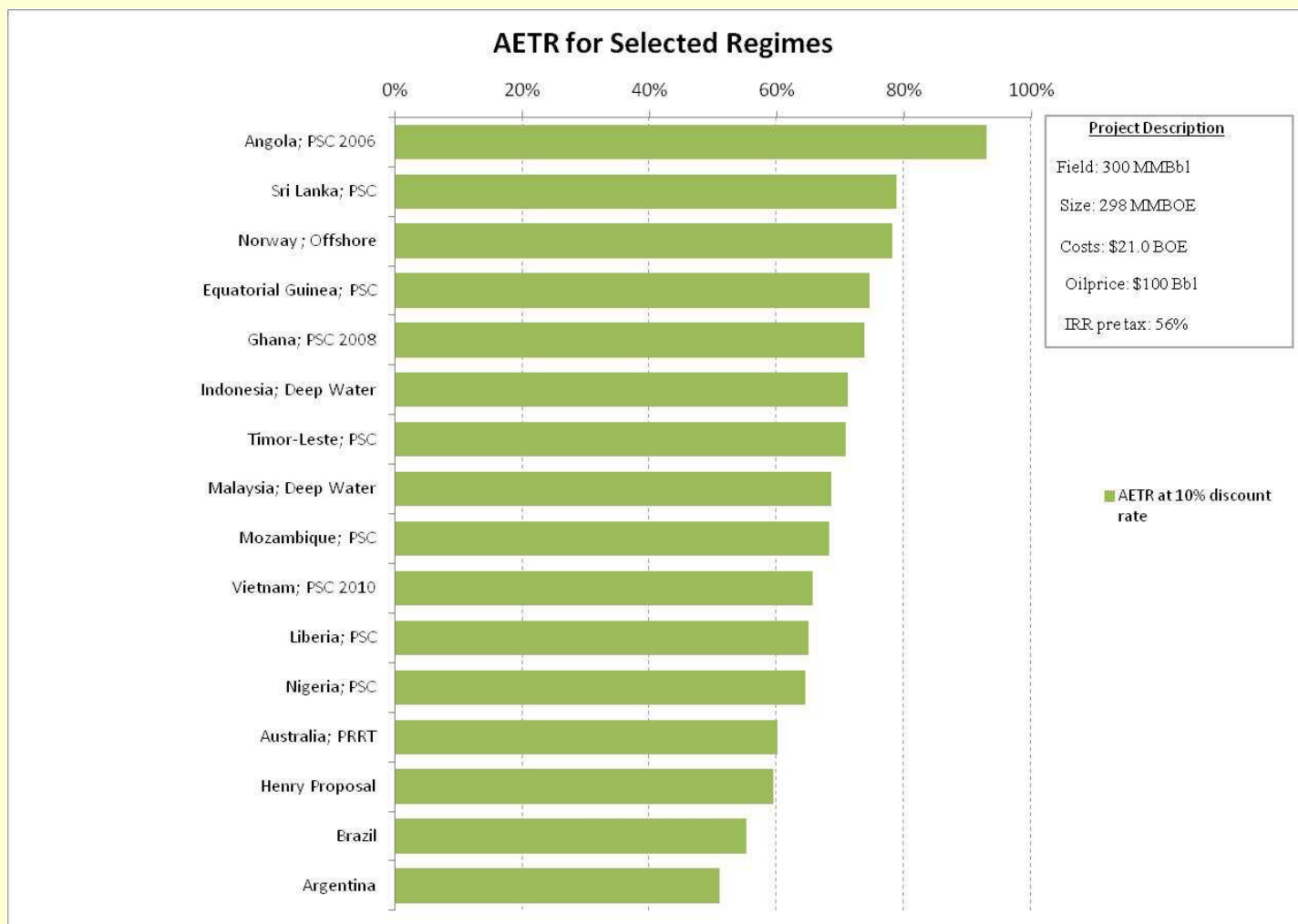
- International mobility of Capital
- Investors compare portfolio of investments opportunities in various countries.
- Fairness and competitiveness of a host country's take is relative to what is obtained elsewhere.

Comparative Analysis of Tax Systems

Effective Tax Rate: the combined impact of all taxes

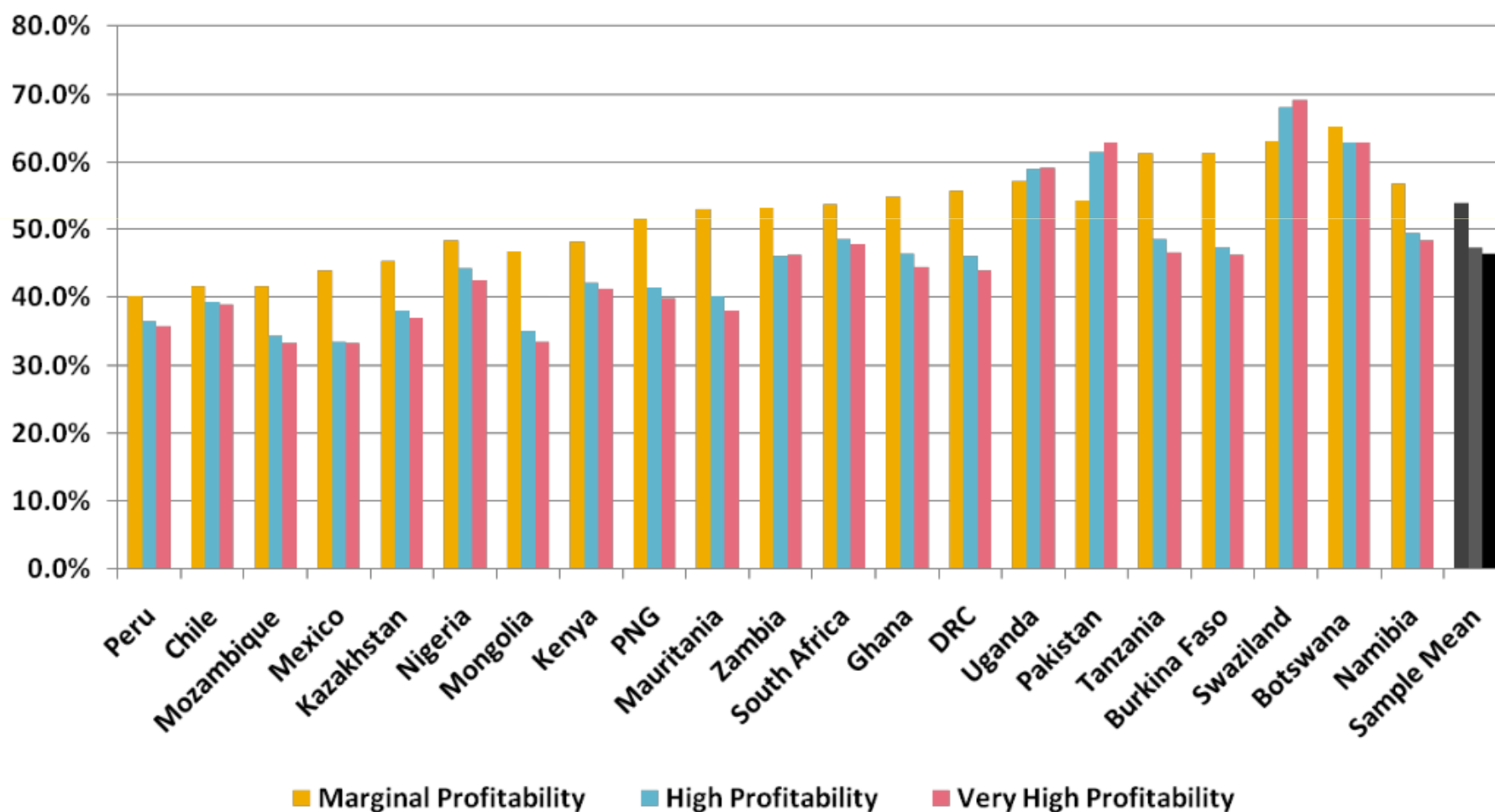
$$\text{Effective Tax Rate} = \frac{\text{value of all amounts paid to government}}{\text{value of profits before taxes are paid}}$$

Simulated petroleum fields

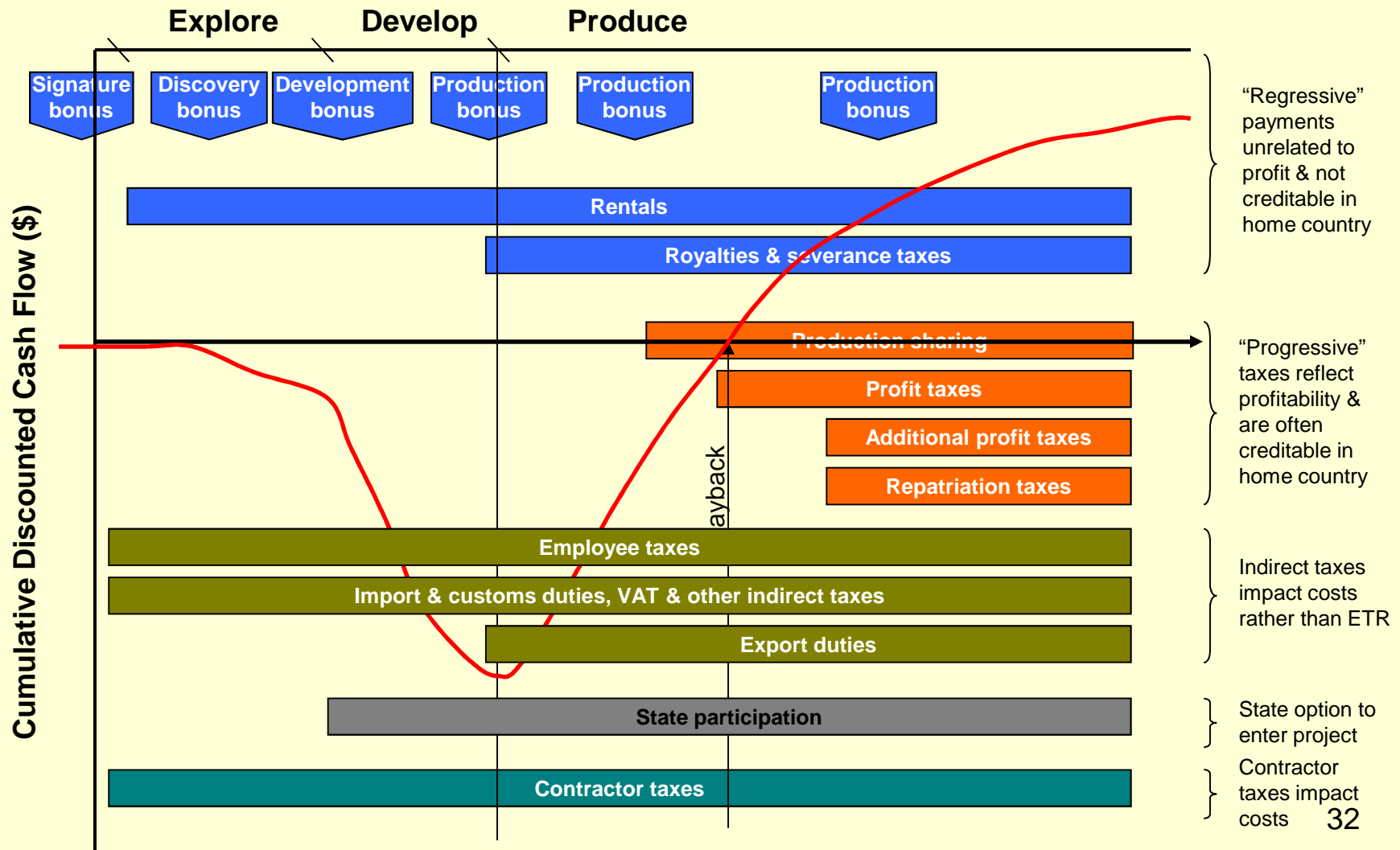


Benchmarking of fiscal regime

Government take as a percentage of pre-tax project life real net cash flow

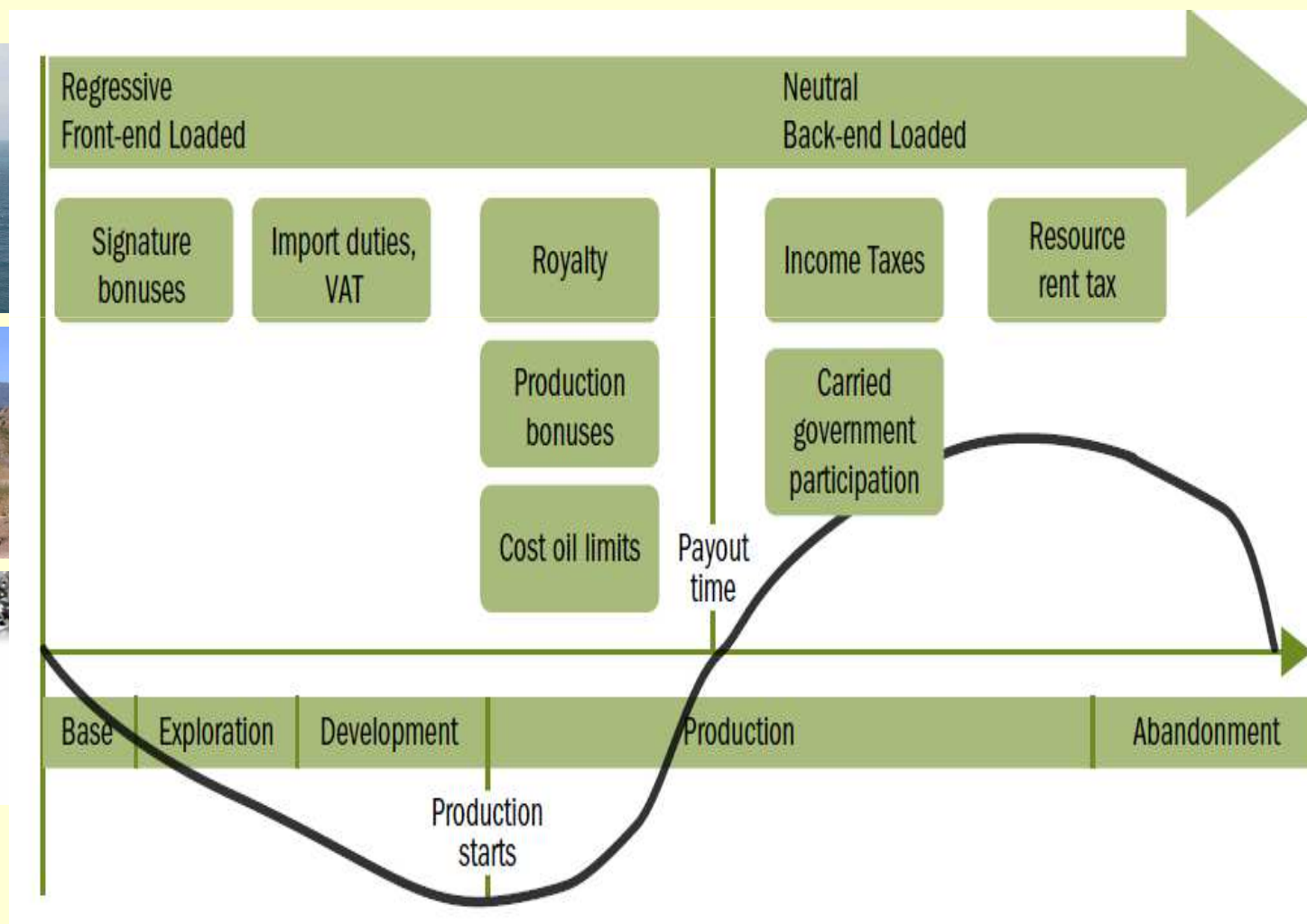


Types of Government Take

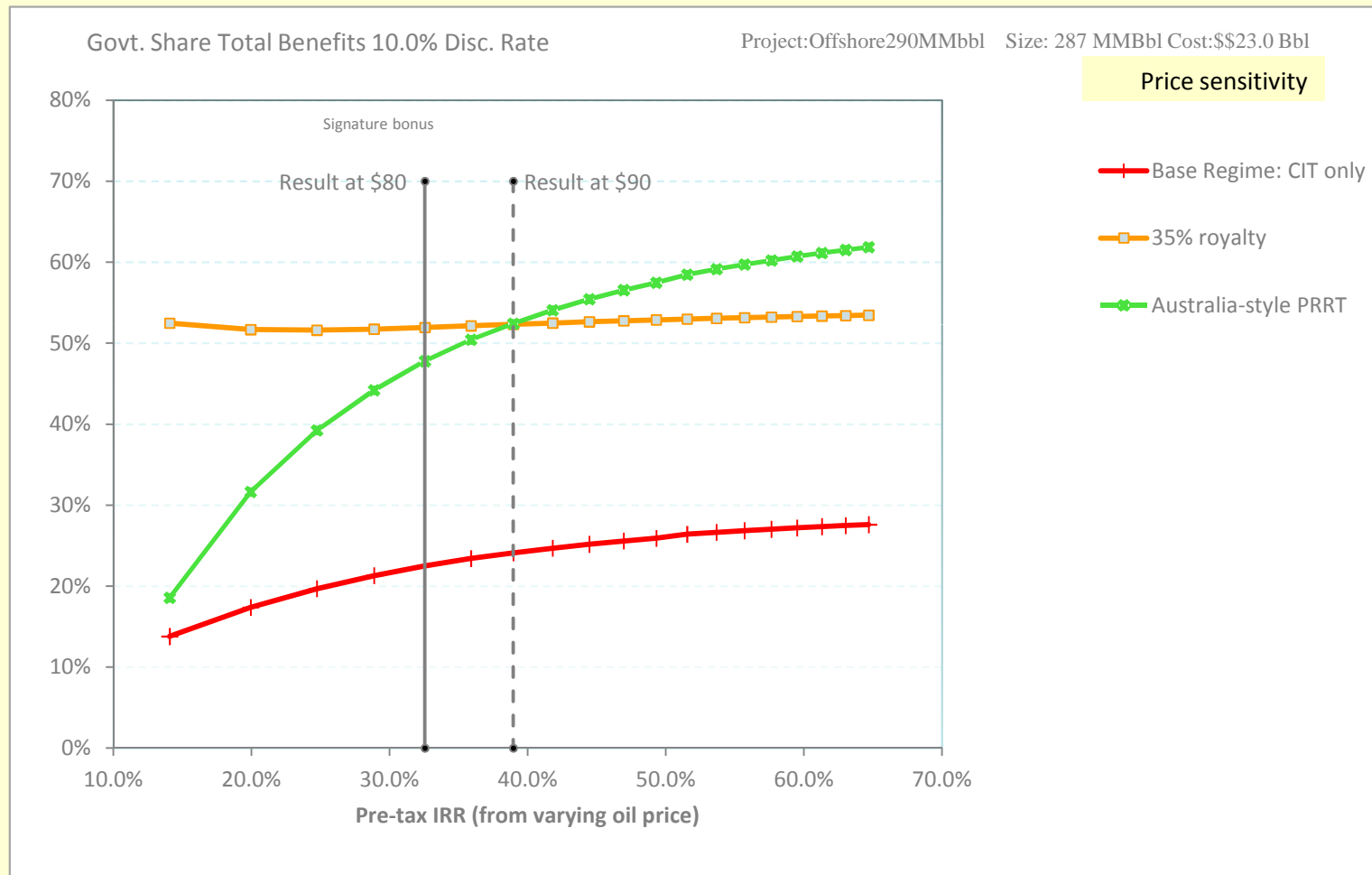


HOW TO BRING PROGRESSIVITY

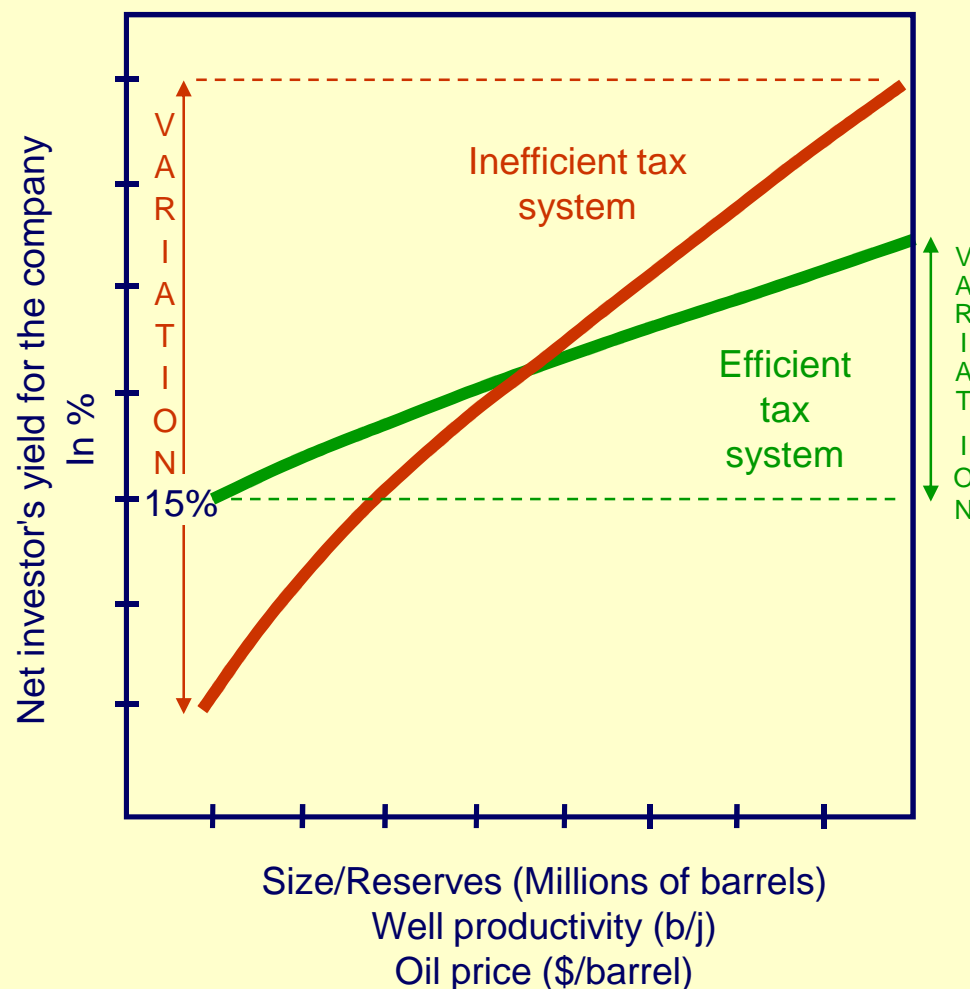
REGRESSIVITY & PROGRESSIVITY



“Progressivity” response to price changes



Efficiency of a Tax System: To encourage investment

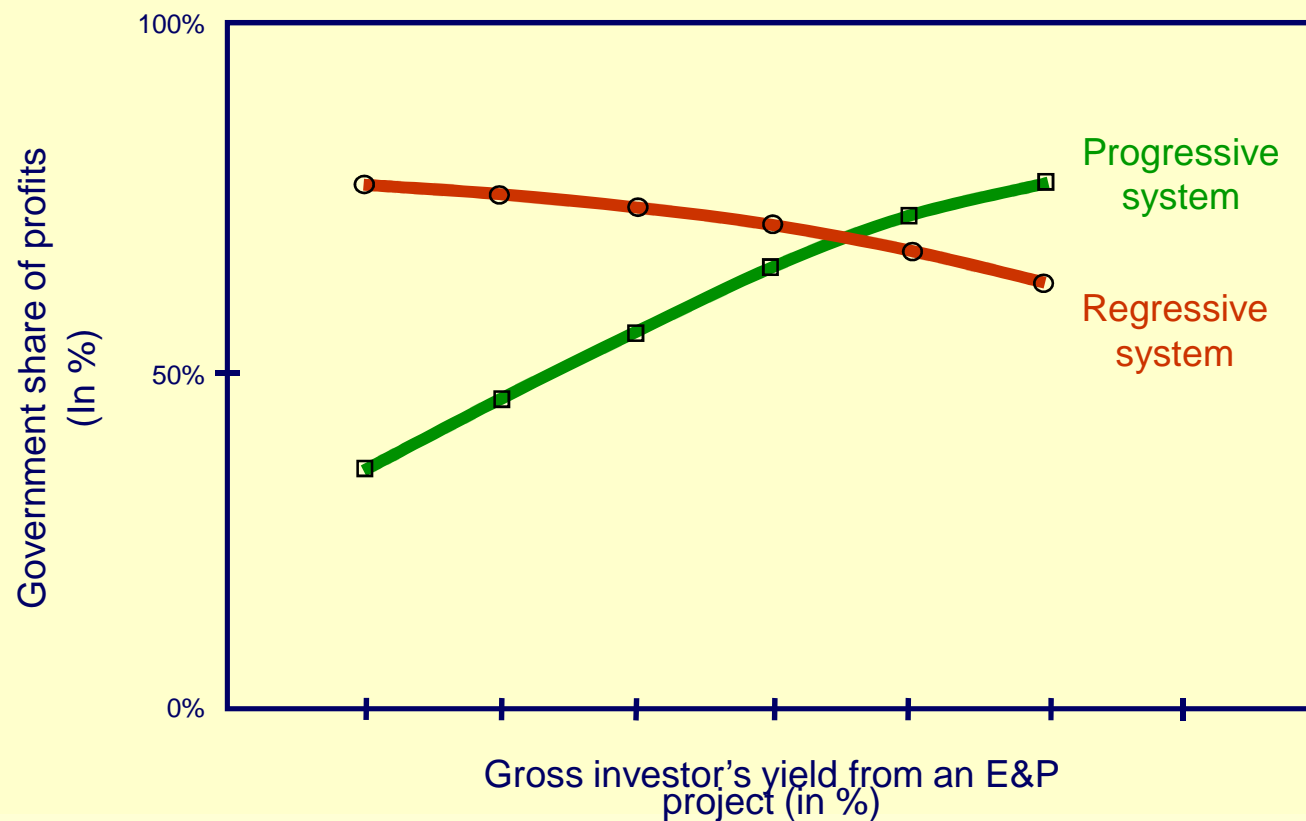


An efficient system:

- Allows for the development of smaller fields: “neutrality of taxation, compared with investment decisions”
- Increases the government share in the event of large investor's yields, thus protecting the interests of the country while preserving incentives for the investor

Objectives of a Progressive Tax System

- The government's share in profits increases in proportion to the actual profitability of projects, unlike in the case of a regressive tax system



Many ways to deal with progressivity

- Many forms of tax mechanisms exists:
 - “Brown” tax (=cashflow = equity share from day 1)
 - Resource Rent Tax: single or multiple tiers; carry forward losses at interest (Australia, Angola)
 - Allowance for Corporate Equity
 - CIT surcharge on cash flow (UK North Sea)
 - Variable Income Tax (South Africa)
- Based on yield (investor’s return)
- R-Factor

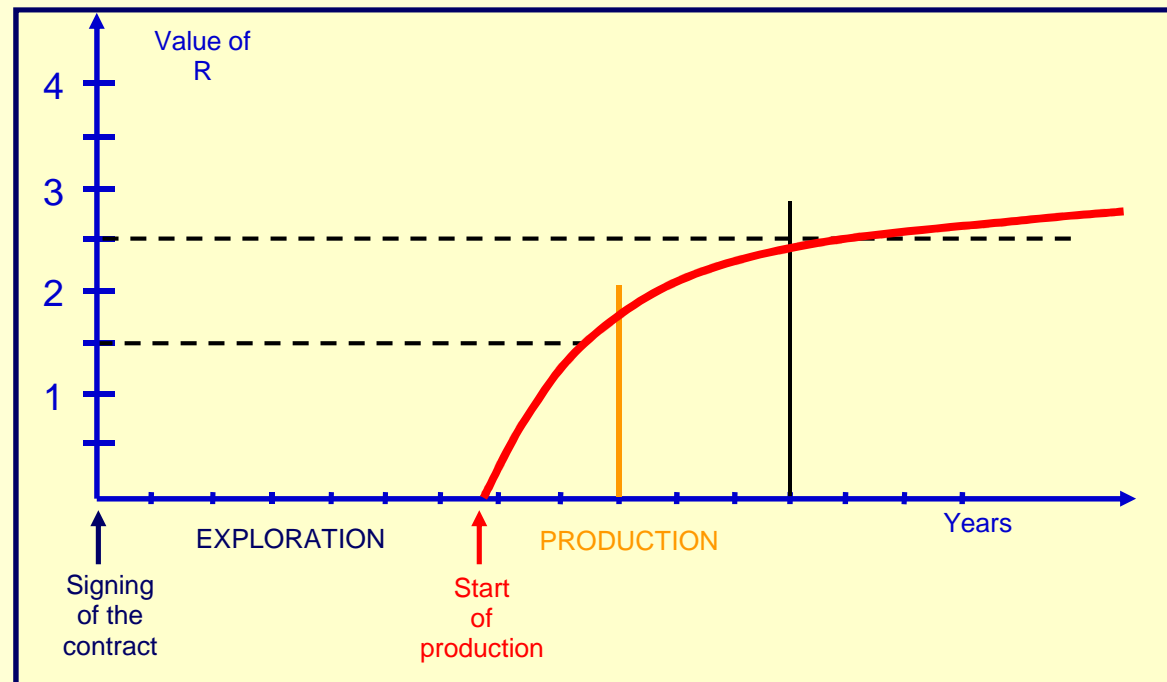
Example of a levy based on the R ratio (concession)

- Case of a supplementary levy based on the value of the R ratio

$$R = \frac{\text{Cumulative net income}}{\text{Cumulative investment}}$$

Theoretical example:

R	Supplementary levy
< 1,5	0%
1,5-2,5	15%
> 2,5	35%



Sharing Mechanism Based on the R Ratio (PSC)

- The rate at which profit petroleum is shared is determined by the value of the actual R ratio at the date of production sharing calculation.
- The contract should state, in particular:
 - The definition of the R ratio and the date of R ratio calculation
 - The shared tranches (limits of R per tranche) and the sharing rate per tranche
 - How cumulative net income is calculated
 - How cumulative investment is calculated
 - Whether the flows are expressed in current \$, constant \$, or discounted \$ (in the latter case, at what discount rate)
- The R ratio is often calculated in current \$ without discounting
 - Consequence: little impact on R of any delay in project implementation (no discounting mechanism)
- The number of shared tranches and the values of R in each tranche depend on the calculation basis used

Sharing Mechanism Based on Investor's Yield (PSC)

- The rate at which profit petroleum is shared is determined by the value of the actual investor's yield at the sharing calculation date (quarter, year)
- The contract should state, in particular:
 - The definition of the criterion of investor's yield (including the date of calculation of the actual investor's yield applicable to a quarter)
 - The number of shared tranches, the shared tranches (limits of the investor's yield by tranche), and the share rate by tranche
 - The definition and calculation of the receipts and the outlays taken into account for calculating the investor's yield (before or after tax)
 - Whether the flows used in calculating the investor's yield are expressed in current \$ or in constant \$
 - Through the discounting mechanism implicit in the calculation of investor's yield

Advantages of Progressive Tax Systems

- They strengthen contractual stability
- They stimulate exploration and development of deposits of all sizes (win/win situation)
- They encourage reinvestment in the contractual area
- And they thus foster the development of oil business in the country
- Illustrative examples :
 - Heavy oils in Alberta: progressive rate of royalties
 - Natural gas in Qatar: sharing based on the R ratio
 - Deep offshore in Angola: sharing based on investor's yield
 - And many others

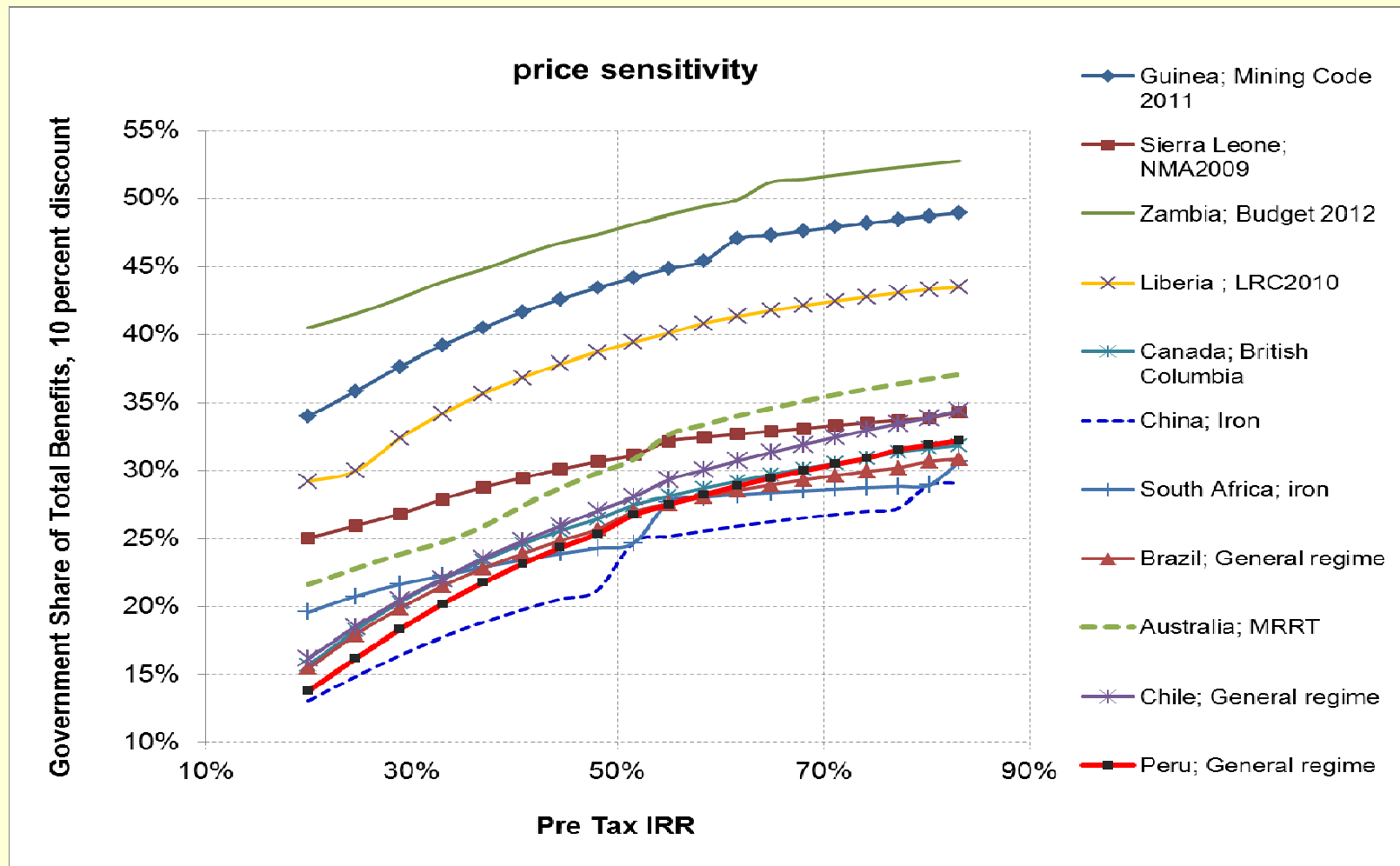
Examples of Progressive Tax Systems -Concession

Based on investor's yield (rate of return)	Based on the R ratio
<ul style="list-style-type: none">• Canada: frontier areas• Faroe Islands• Australia (1984)• Papua New Guinea (some)• Ghana• Namibia• Seychelles• Venezuela (PEG)• Saudi Arabia (gas)• etc.	<ul style="list-style-type: none">• Greece• Poland• Romania• Tunisia (royalties and taxes)• Cameroon (new system)• Senegal• Bolivia• Colombia• Peru (royalties)• etc.

Examples of Progressive Tax Systems – PSC

Based on investor's yield (rate of return)	Based on the R ratio
<ul style="list-style-type: none">• Angola (deep offshore)• Equatorial Guinea (before 1998)• Tanzania (special tax)• Kazakhstan• Russia• India	<ul style="list-style-type: none">• Albania• Malta• Qatar• Bahrain• Libya• Tunisia• Cameroon (nouveau système)• Côte d'Ivoire• Mozambique• Senegal• Azerbaijan• India• Malaysia (cost oil & profit oil split)• Nicaragua

Progressivity – tax share of total benefits



**WHAT ABOUT SIGNATURE
BONUSES ?**

Angola Signature Bonuses

1993

- Very modest bonuses reflecting exploration risk
- Blocks 14, 15, 17 and 18 later proved up ~10 Bbbl of reserves

1999

- Success of "golden blocks" led to fierce competition for the ultra deep licenses

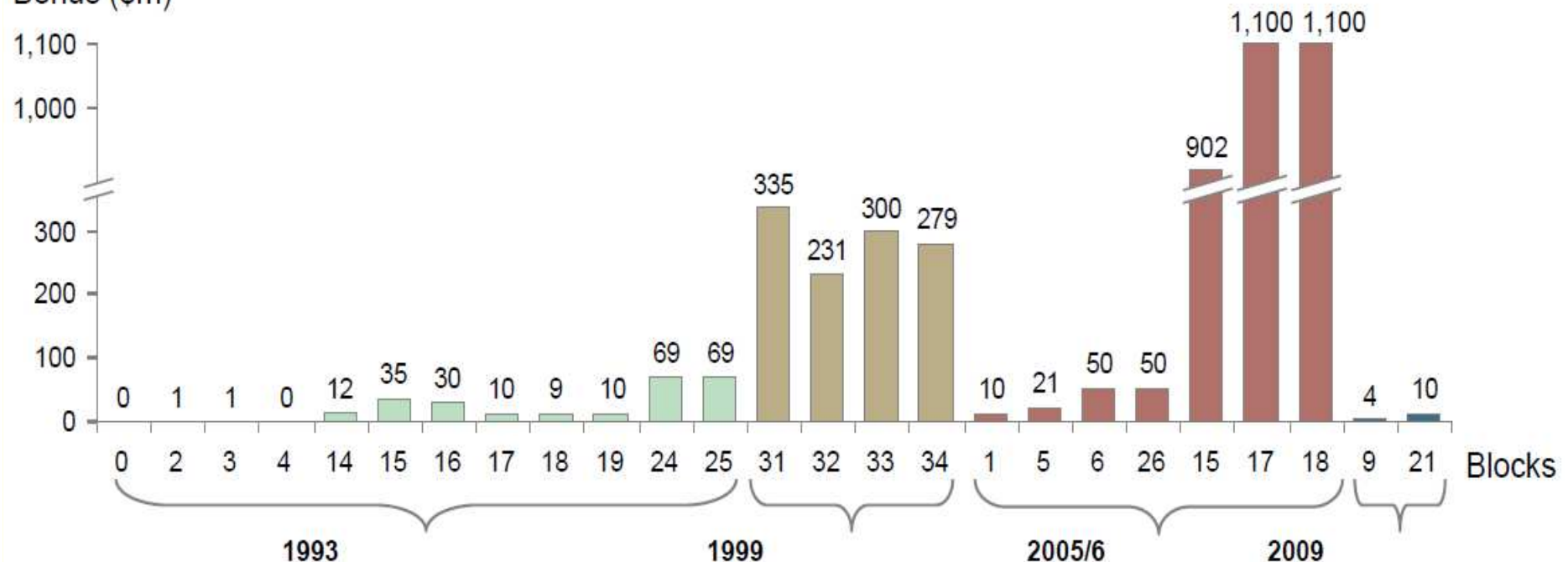
2005/6

- Exceptional bids for relinquished parts of the 1993 "golden" blocks
- Other bonuses remained moderate

2009

- Again, exploration uncertainty supports a new cycle of low bonuses

Signature Bonus (\$m)




Angola: Dutch Disease

The top ten most expensive cities

Rank	Mercer (2013)	Monthly rent, 2-bedroom luxury apartment	Hamburger meal or similar	Cup of coffee	1 liter of petrol
1	Luanda	6500.00	20.06	3.88	0.63
2	Moscow	4600.00	6.42	8.29	1.04
3	Tokyo	4513.34	7.31	6.98	1.74
4	N'Djamena	n/a	25.51	3.06	0.98
5	Singapore	3794.94	5.61	4.84	1.76
6	Hong Kong	7091.74	3.54	5.67	2.23
7	Geneva	4349.74	12.51	6.52	2.02
8	Zurich	3914.77	12.51	5.98	2.02
9	Bern	2686.51	12.51	4.86	2.02
10	Sydney	2551.42	9.20	5.16	1.51

Angola – Signature bonuses

Isabel Dos Santos, Daughter Of Angola's President, Is Africa's First Woman Billionaire

 139 comments, 52 called-out

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Over the past few years [Isabel dos Santos](#), the oldest daughter of Angolan President Jose Eduardo Dos [Santos](#), has been buying more shares of publicly traded companies in [Portugal](#), including shares in a bank and a cable TV company. Those stakes, combined with assets Isabel dos Santos owns in at least one bank in Angola, have pushed her net worth over the \$1 billion mark, according to research by FORBES, making the 40-year-old Africa's first woman billionaire.



Isabel dos Santos

ISSUES FACED BY GOVERNMENT

Detection of Transfer Pricing

- Poor results / Continuous Loss making
- Significant transactions with related parties in low tax jurisdictions.
- Transfers of intangibles to related parties
- Specific types of payments
- Excessive Debt
- Poor/Non-existent Documentation

Transfer Pricing Issues

- On Revenue / Procurement
- Significant transactions with related parties in low tax jurisdictions.
- Transfers of intangibles to related parties
- Specific types of payments
- Excessive Debt
- Poor/Non-existent Documentation

Capital gains taxation

- Taxation of transfers of interest in a resource project has become a big issue (Guinea, South Africa provisions).
- Gains on transfers of real property usually taxable (whether separate CGT or general corporate 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 (and sometimes excluded by treaties).
- Presence of large gains suggests that fiscal regime is not expected to tax rents fully.
- Acquisition costs of a mineral right usually amortized – should treatment of gains and premiums be symmetrical?

International taxation and treaties

- 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.
- Treaties on information exchange may be sufficient.
- Is a better answer to focus on royalty and rent taxation by the host?

Pricing of infrastructure

- Many petroleum & mining 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 “the mine”, but how will diversion be prevented?

Why is it so hard?

- Multinationals with high competence; technical, legal, economics & finance
- Complex fiscal regimes combining tax code and contracts signed at different times
- Revenue collection responsibilities fragmented
- Each production site a separate fiscal regime with different fiscal parameters
- Too many negotiated terms !

Oil Companies

- Maximizing return with a reasonable risk
- Most companies are doing the right thing
- Taxation:
 - What they do is not illegal
 - Use the existing rules to their advantage
 - Minimize their tax liability worldwide
 - Often benefits from terms willingly given to them
- But.....is it a fair game and why is it so hard?

Conclusions and Recommendations

- It is important for a government to understand the objectives and decision-making process of companies
- Economic assessments of E&P projects and of tax systems should also be carried out by governments
- Each government should compare the competitiveness of its tax system, compared with those of similar countries
- Progressive tax systems:
 - make it possible to safeguard the objectives of government and companies alike
 - They are also an incentive for contract stability
 - They encourage business and investment in E&P

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 increased 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.

THANK YOU !

QUESTIONS ?

HOW DOES A PSA WORKS ?

PSA FLOW CHART



COMPANY

US\$100/bbl

GOVERNMENT

Royalty
0%

US\$0.00

US\$100.00

Cost recovery
75%

US\$75.00

US\$25.00

Profit Oil Split
50%/50%

US\$12.50

US\$12.50

- US\$0.00

Tax 0%

US\$0.00

US\$87.50

Gross Revenue

US\$12.50

US\$12.50

Net Cash Flow

US\$12.50

50%

Take

50%

PSA FLOW CHART + royalty



COMPANY

US\$100/bbl

GOVERNMENT

Royalty
5%

US\$5.00

US\$95.00

Cost recovery
75%

US\$71.25

US\$23.75

Profit Oil Split
50%/50%

US\$11.88

US\$11.88

- US\$0.00

Tax 0%

US\$0.00

US\$83.13

Gross Revenue

US\$16.88

US\$11.88

Net Cash Flow

US\$16.88

41.3%

Take

58.7%

PSA FLOW CHART + royalty + income tax



COMPANY

US\$100/bbl

GOVERNMENT

Royalty
5%

US\$5.00

US\$95.00

Cost recovery
75%

US\$71.25

US\$23.75

Profit Oil Split
50%/50%

US\$11.88

US\$11.88

- US\$3.56

Tax 30%

US\$3.56

US\$79.57

Gross Revenue

US\$20.44

US\$8.32

Net Cash Flow

US\$20.44

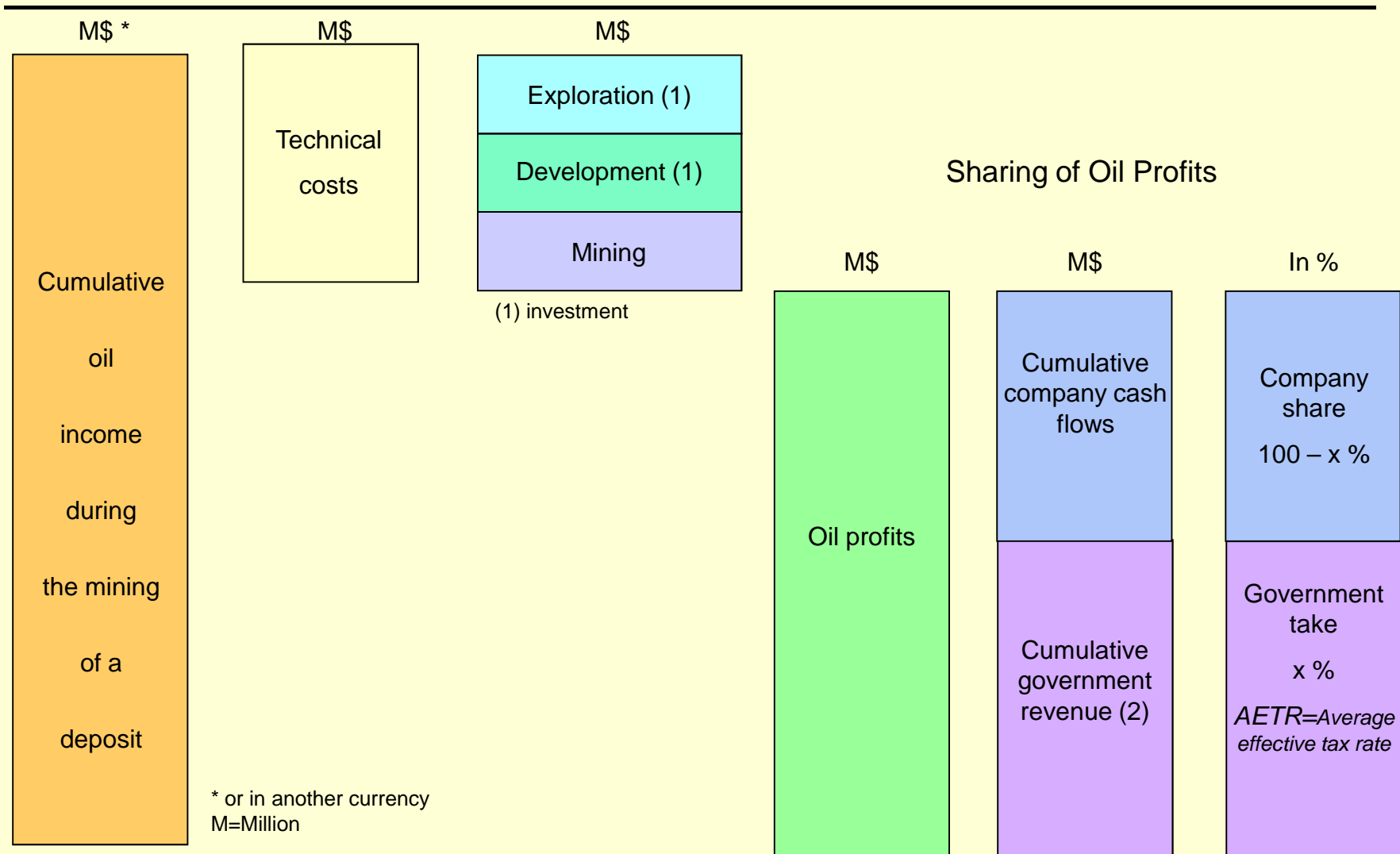
29.9%

Take

71.1%

Calculating Oil/Gas Profits

(For the “full” cycle of an E&P project)



Calculating Oil/Gas Profits –continued 1

(For a “full” project in E&P)

M\$				
Oil revenue	Technical costs			
	Oil profits	M\$		
		Cumulative company cash flows		
		Cumulative government take	M\$	Comments
			Royalties on production	<ul style="list-style-type: none">• Fixed or progressive royalties, based on a criterion (technical, economic, etc.)
			Corporate tax	<ul style="list-style-type: none">• Ordinary tax or specific oil tax• Impact of the amortization system
	Supplementary profit tax		<ul style="list-style-type: none">• Progressive rate, based on a criterion (R ratio, investor's yield, price, ...)	
Other levies	<ul style="list-style-type: none">• Bonus, surface taxes, etc.			
Government share	<ul style="list-style-type: none">• With carried interest during exploration			

Calculation of Oil/Gas Profits — continued 2

(For a “full project in E&P)

