

# General aspects of petroleum fiscal regimes

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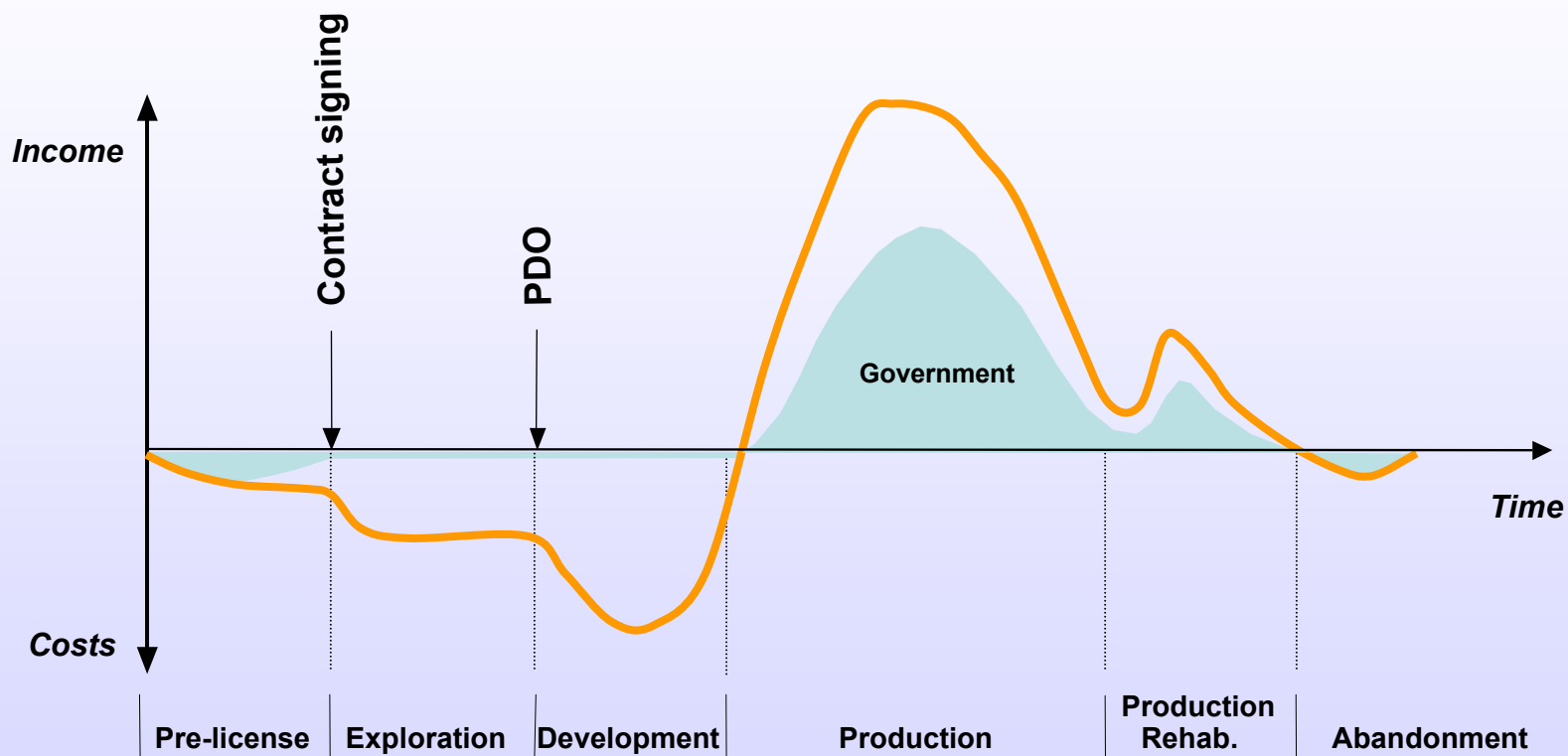
# Opening Statements

- The fiscal arrangement is the Government's most important tool for managing petroleum resources
- It is mandatory for all managers and technical personnel in the Government and industry to understand the basics of fiscal arrangements

# Government Options

- Value of National Resources -  
Determining Factors
  - The resource base
  - The market – oil price
  - Terms and regulations

# Activities and cash flow



# The role of the authorities

- *Definition of policy*
- *Setting of terms*
- *Promotion*
- *Licensing*
- *Monitoring and supervision*
- *Adjustment of terms as required*
- *Managing the impact*

# Petroleum Fiscal Regimes

- Covers :
  - Legislative issues
  - Tax issues
  - Contractual issues
- There are more fiscal systems in the world than there are countries due to:
  - Negotiation of Terms
  - Numerous vintages

# Legal/Contractual Framework

## **The Constitution**

The Constitution is the highest law in the country

## **The Law**

E.g. tax law

## **Petroleum Law and Legislation**

Not all countries have a separate petroleum law. If that is the case the contract has to cover all aspects

## **Production sharing Contract**

Concessionary agreement in countries using that system

## **Joint Operating Agreements**

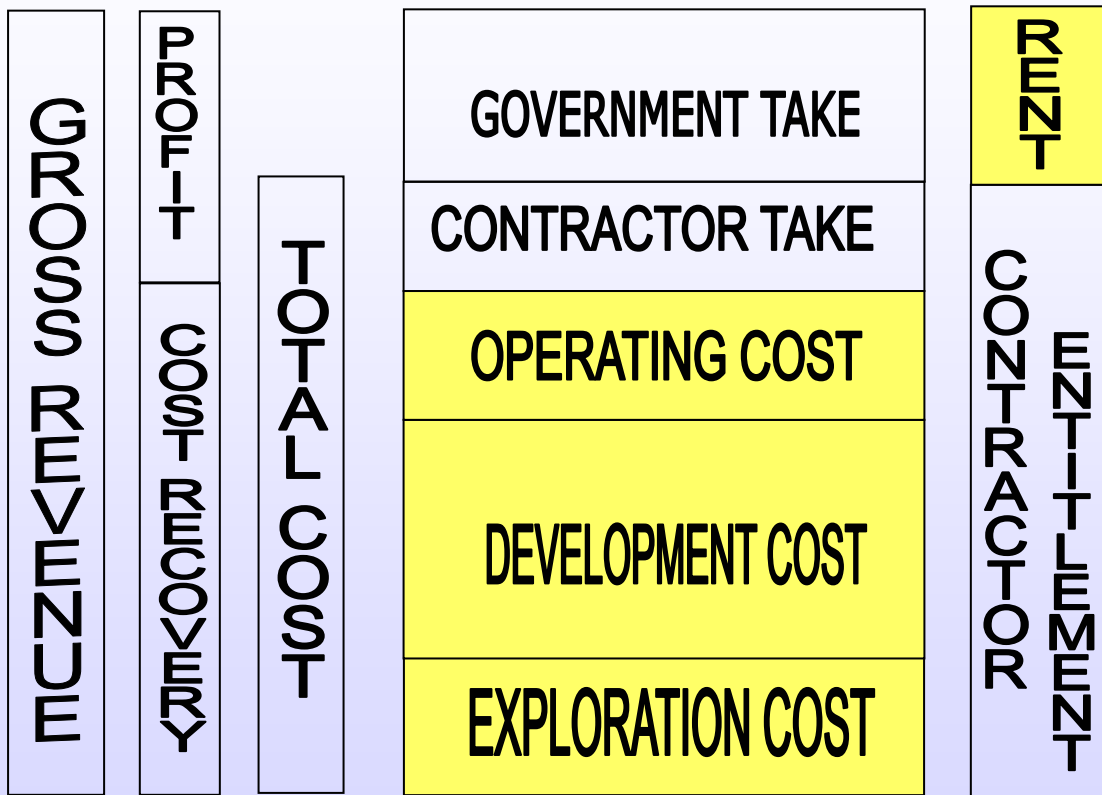
Between partners in a field (can also be the state company)

# Economic Rent

- The Classic Definition by Economists
    - The produce of the earth derives from labour and capital
    - The produce is divided between:
      - Labourers (Wages)
      - Owners of Capital (Profit)
      - Owners of Land (Rent)
- Rent = Value – Cost
- Rent = Gross Revenue – Total Cost

# Resource Rent

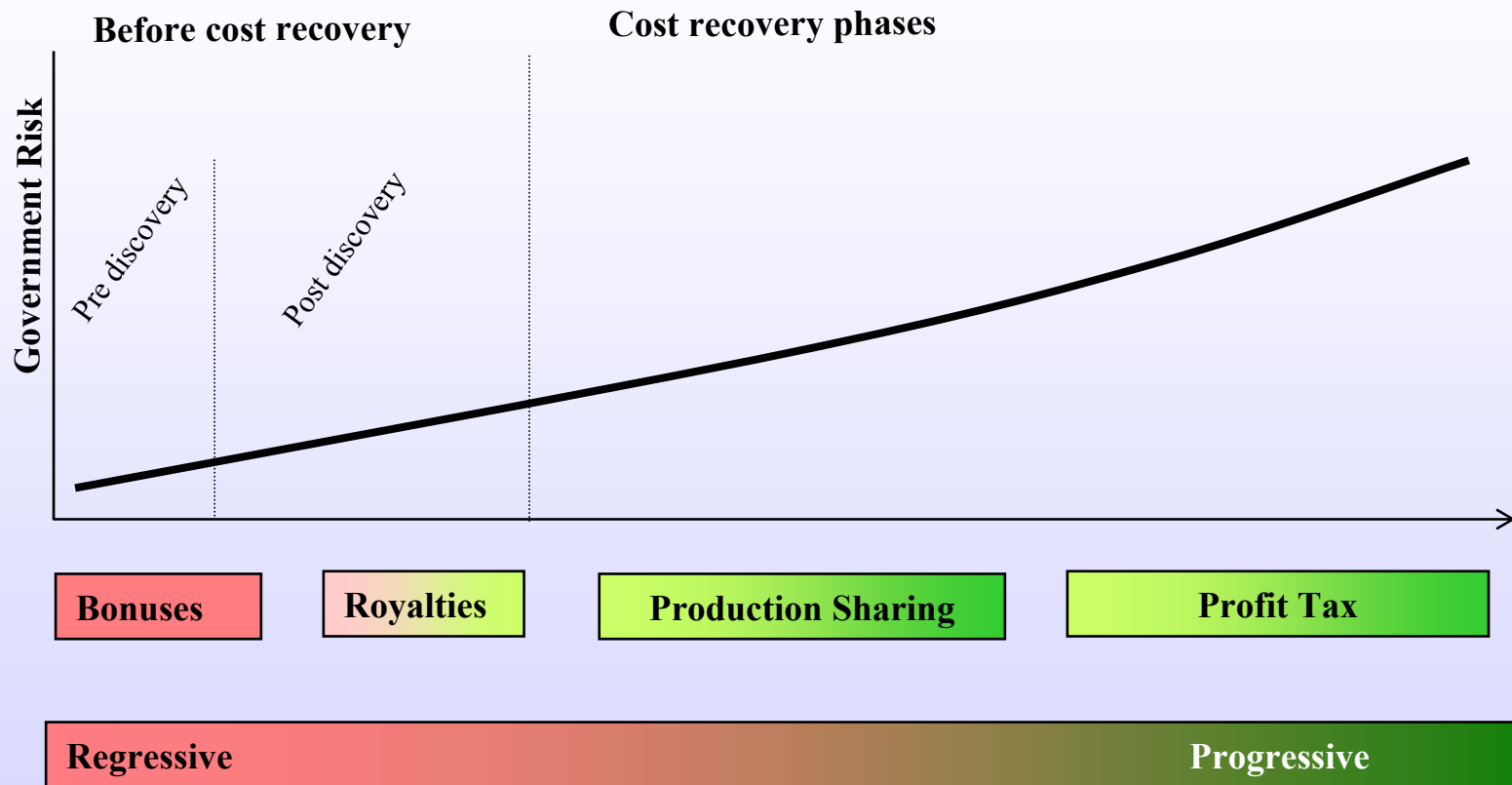
## Allocation of revenues from Production



- Bonuses
- Royalties
- Prod. Sharing
- Taxes
- Gov. Participation

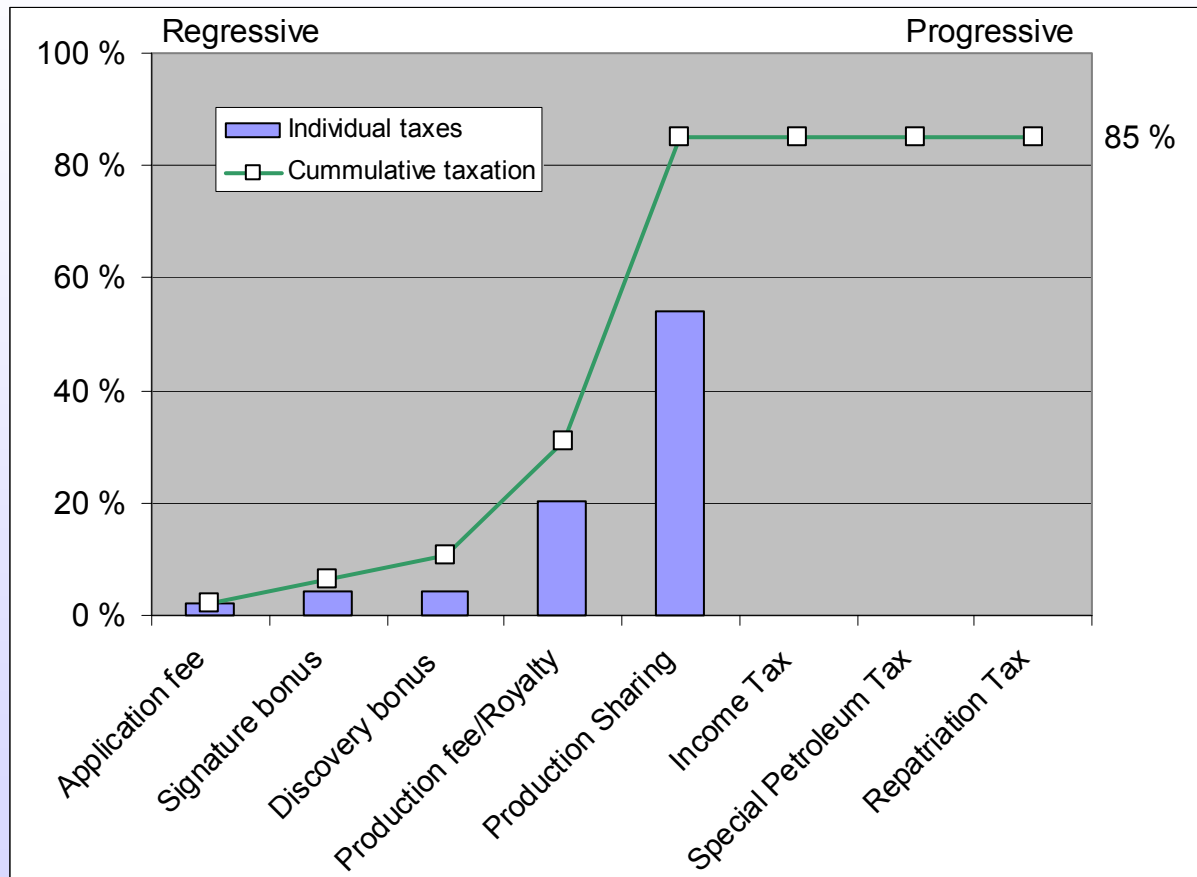
After Johnston (1995)

# Regressive - Progressive

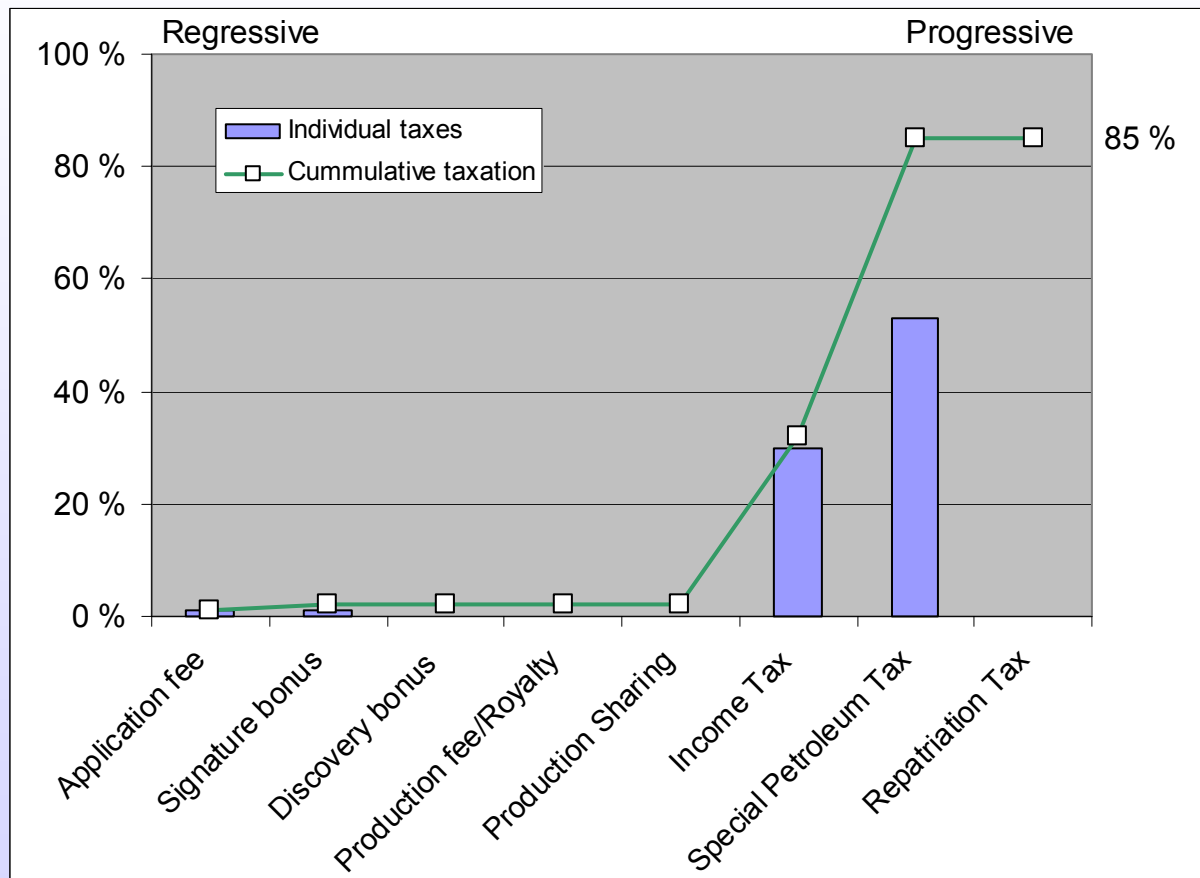


The non profit based government takes are regressive i.e. the lower profitability the higher effective tax

# Regressive system



# Progressive system



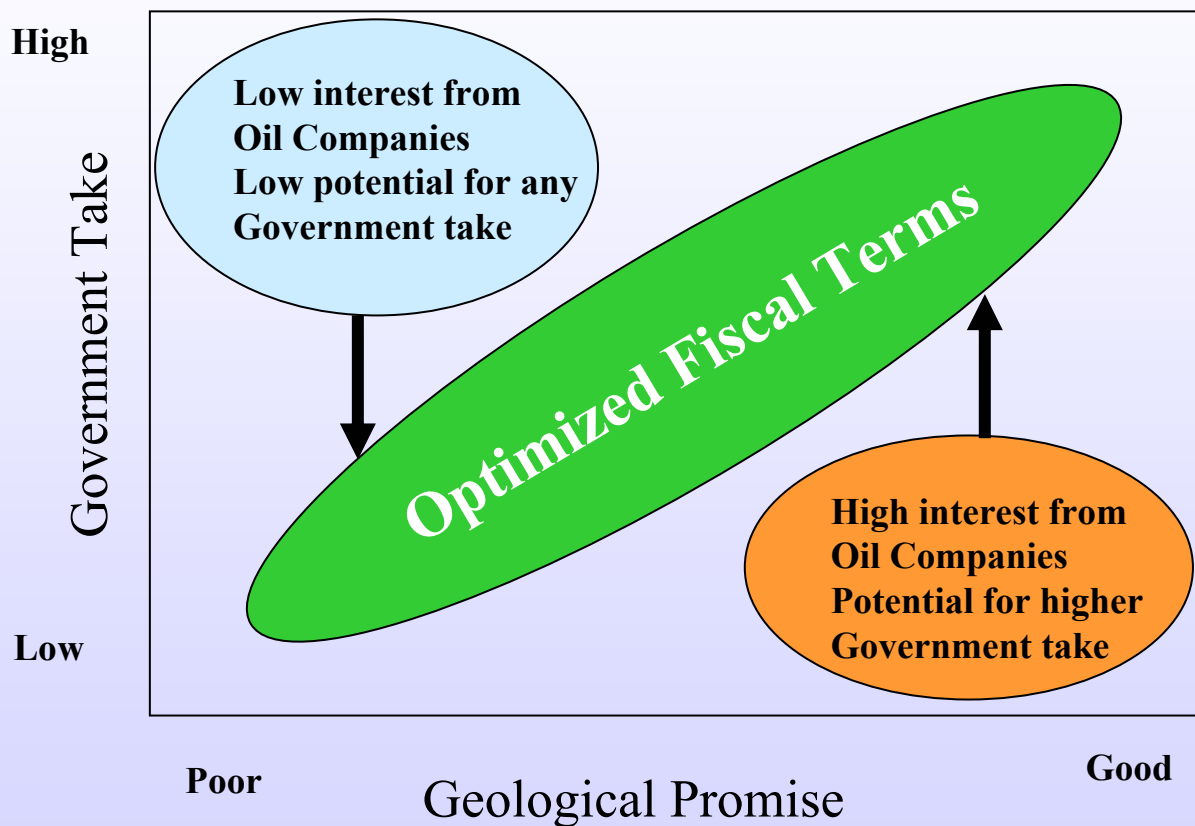
# Rent vs. Risk

- The Profit Margin for the Oil Companies must be large enough to accommodate failures
  - A majority of the exploration possibilities are unsuccessful

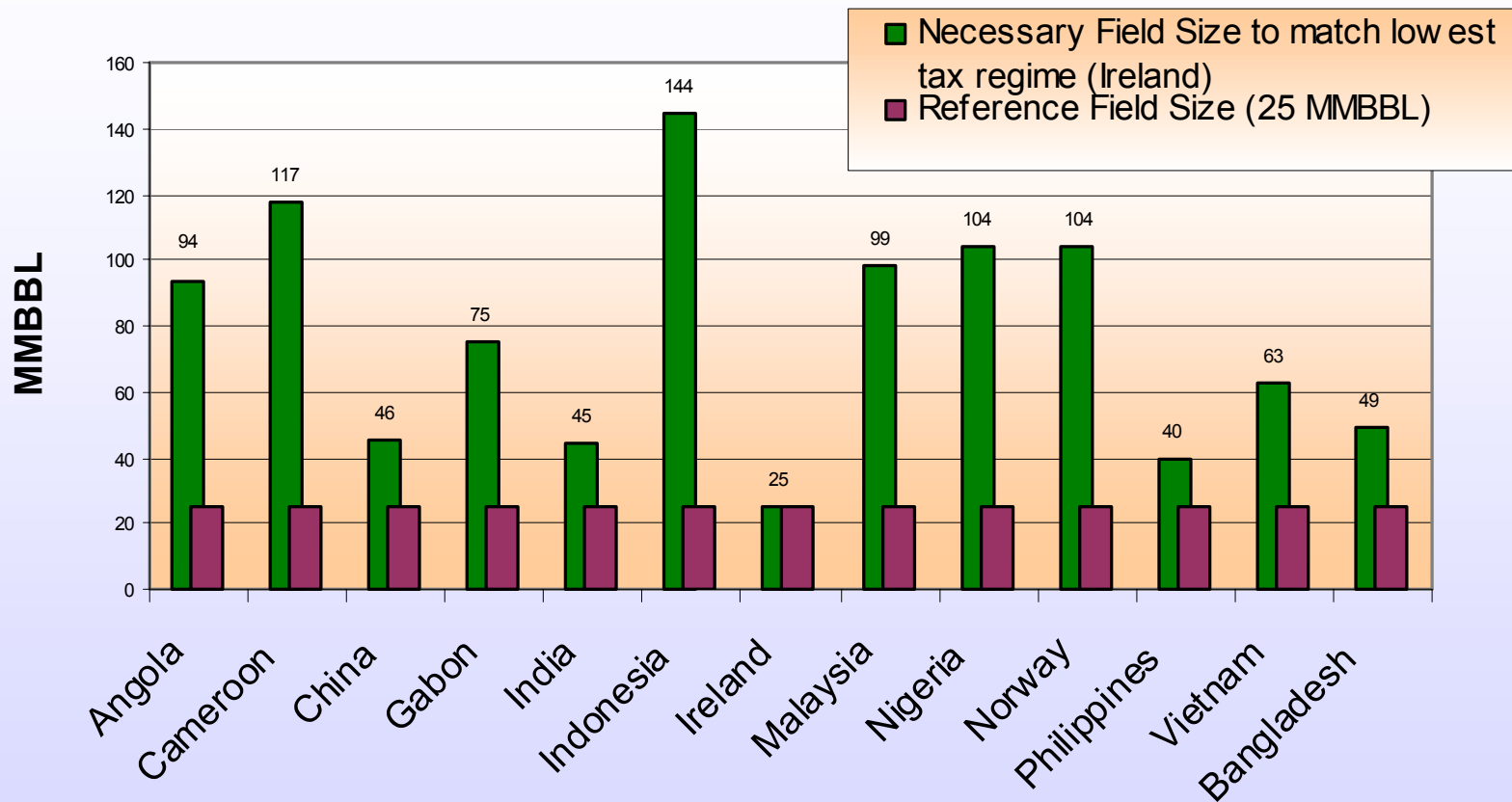
# Risk- & Non Risk-Takers

- Fiscal Terms must account for the large Risk in the Oil Business
  - Oil Companies are High Risk Takers  
Companies can reduce risk by diversification
  - Governments are Low Risk Takers  
Governments can reduce risk by introducing a Regressive tax system (Bonuses and Royalties)

# Global Exploration Market



# Value of Discovery after Tax Illustrated as Field Size



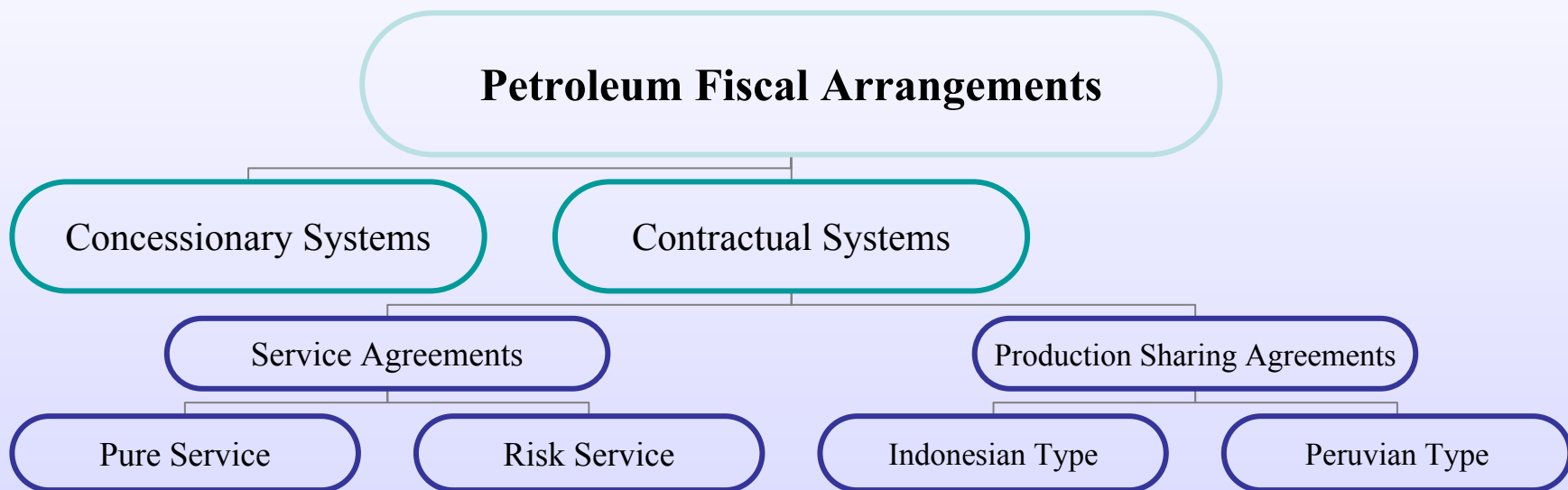
A 25 million bbl field in Ireland gives the same profit after tax for the oil company as a 144 million bbl field in Indonesia

## The Importance of Fiscal Regimes

# Petroleum Fiscal Systems

- Two Families
  - Concessionary system
    - Allows private ownership to mineral resources
  - Contractual systems
    - The State retains ownership to mineral resources

# Fiscal Systems Classification



# Systems around the World

	Concessions (R/T System)		PSC		SC
Far East	Australia Brunei Korea, South New Zealand	Pakistan (On) PNG Thailand Timor Gap B	Bangladesh Cambodia China India Indonesia Laos Malaysia	Mongolia Myanmar Pakistan (Off) Timor Gap A Vietnam Nepal Sri Lanka	Philippines
Former Soviet Union			Azerbaijan Georgia Kazakstan Kyrgyzstan	Russia Turkmenistan Uzbekistan	
Latin America	Argentina Bolivia Colombia Costa Rica	Falkland Is. Paraguay T&T (On)	Belize Cuba Guatemala Guyana Jamaica	Nicaragua Panama T&T (Off) Uruguay	Brazil Honduras Chile Panama Ecuador Peru Haiti Venezuela
Middle East	Abu Dhabi Ajman Dubai Fujairah	Neutral Zone Sharjah Turkey	Bahrain Iraq Joran Libya	Oman Qatar Syria Yemen	Iran Kuwait (OSA) Saudi Arabia
North America	Canada United States				

# Systems around the World

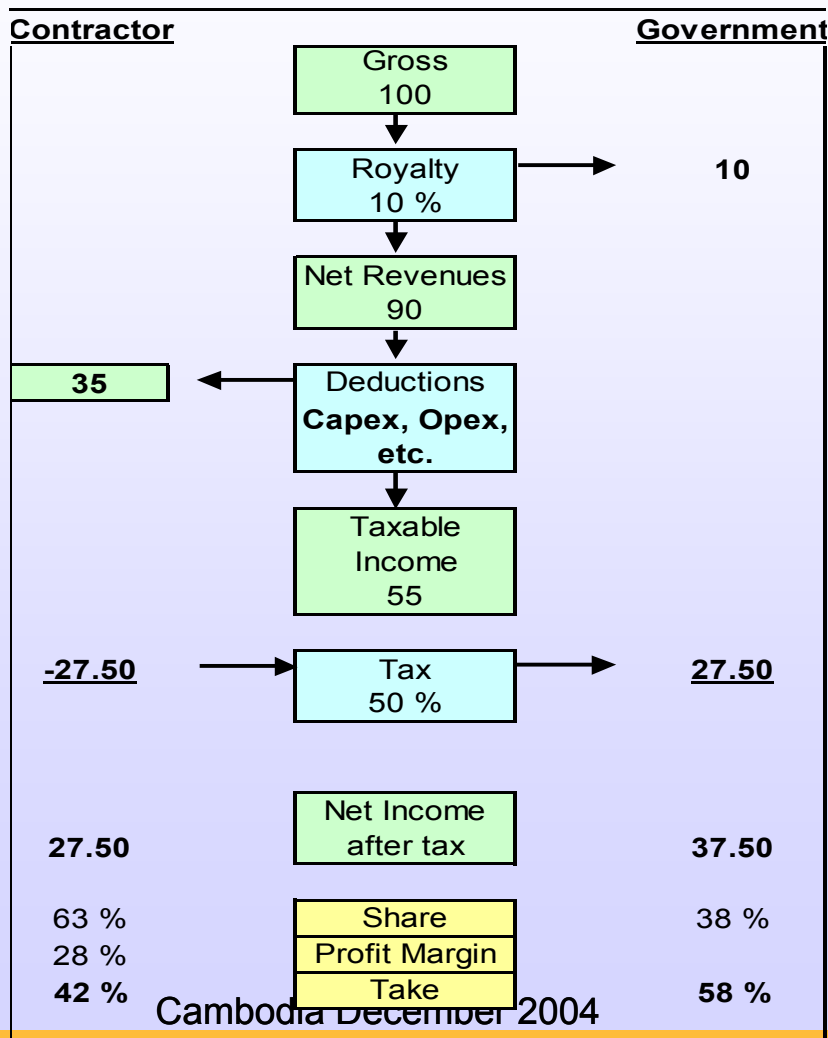
	R/T System		PSC		SC
<b>Africa</b>	C. Afracan Rep. Chad Congo (K.) Madagascar Malawi Mali Morocco Ghana	Namibia Niger Senegal Seychelles Somalia South Africa Tunisia (Old)	Algeria Angola Benin Cameroon Congo (Br.) Cote D'Ivoire Egypt Eq. Guinea Ethiopia Gabon Gambia Kenya	Liberia Libya Madagascar Mozambique <b>Nigeria</b> Sudan Tanzania Togo Tunisia (New) Uganda Zambia	
<b>Europe</b>	Australia Bulgaria Czech Republic Denmark France Greece Hungary Ireland	Italy Netherlands Norway Poland Portugal Romania Spain UK	Albania Malta Poland Turkey		

# Concessionary System

- Oil company have exclusive right to explore and produce at its own risk and expense
- Oil Company Owns production
- Oil Company often pays Royalty and Surface rental to Government
- Oil Company Pays Taxes on profit
- Oil Company owns equipment
- Oil company has right to export hydrocarbons

# Royalty/Tax System

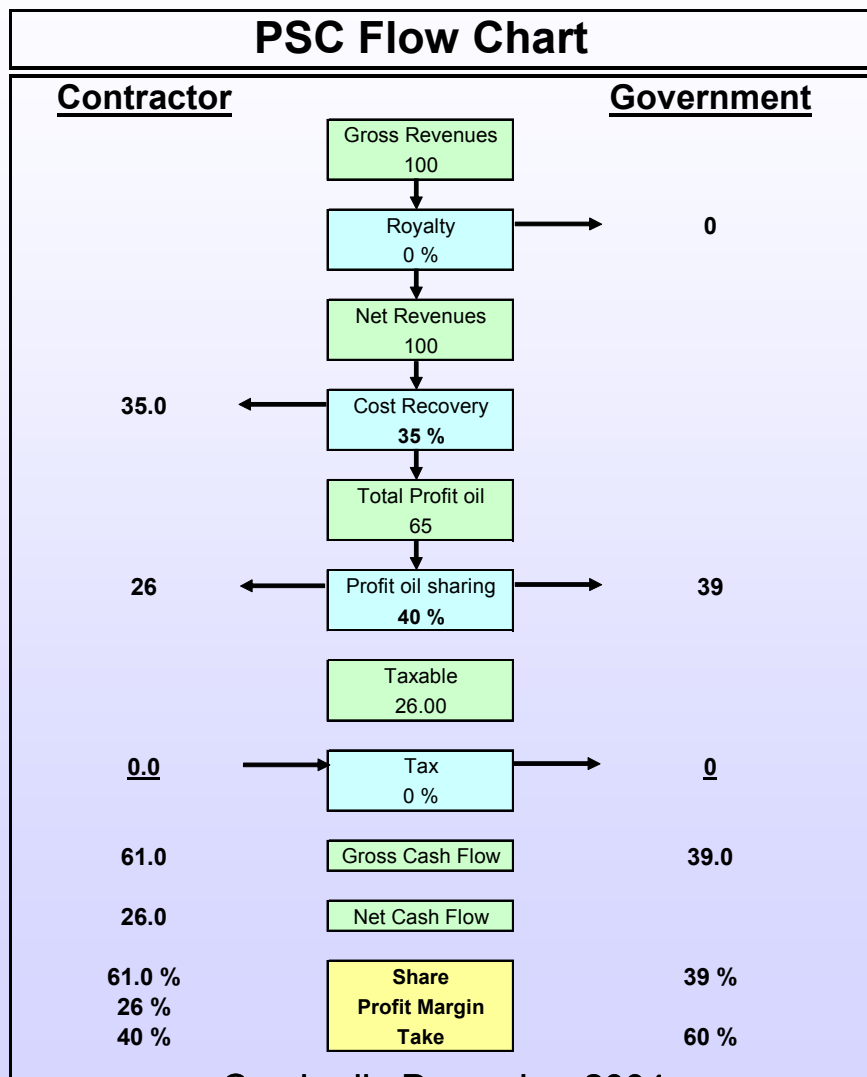
## Consession Flow Chart



# Production Sharing Contract

- The Contractor gets a share of production usually in kind
- The Contractor never holds title to oil
- The Contractor share the risk with the Government

# Generic PSC System



Cambodia December 2004

# Risk Service Contract

- The Contractor share the risk with the Government
- The Contractor gets a share of Profits usually as money
- The Contractor never holds title to oil

# Elements in a PSC

- Work Commitment
- Bonus Payment
- Royalties
- Cost Recovery (Cost Oil)
- Profit Oil
- Government participation
- Domestic Market Obligation
- Ring fencing

# Work Commitments

- Acquisition of Seismic Data
  - Shooting, where and when
  - Processing
  - Kilometres or Minimum Expenditure
- Drilling Obligations
  - Number of Wells , where and when
  - Stratigraphic interval
  - Minimum Expenditure

# Bonuses

- Signature Bonus
  - Paid upon contract signing
- Discovery Bonus
  - Paid upon first discovery
- Production Bonus
  - Paid when production reaches a specified level
- Bonuses makes a fiscal regime regressive and are unpopular with oil companies

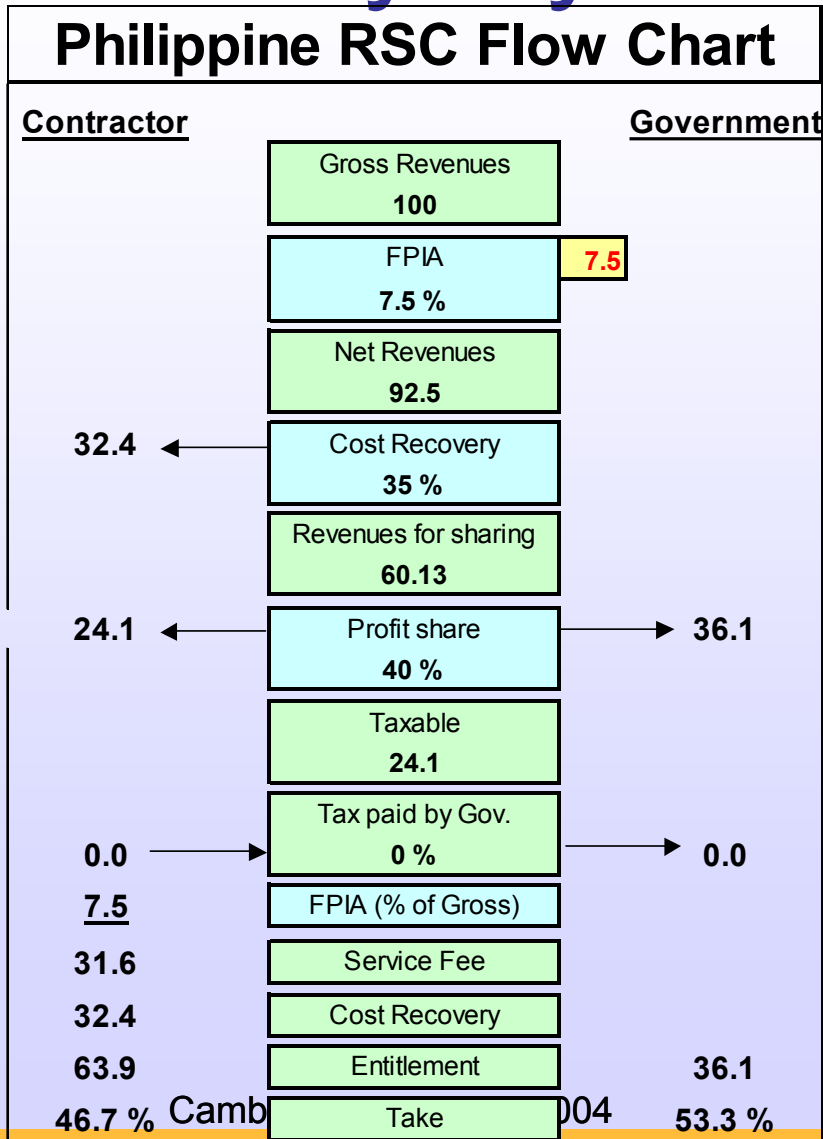
# Royalties

- Calculated from Gross Revenue
- Can cause premature abandonment
- Ranges from zero to 20%
- Sliding scale (Example.)
  - First Step Up to 5.000 bopd 5%
  - Second Step 5.001-10.000 bopd 10%
  - Third Step Above 10.000 bopd 15%

# Special Royalty Schemes

- The Philippines have a negative Royalty up to 7,5% (Philippine Participation Incentive Allowance - FPIA)
- New Zealand have a hybrid system 5% Royalty or 20 % Accounting Profits Royalty
- Rate Royalty \$/bbl (Columbia, Russia)

# Negative Royalty Scheme

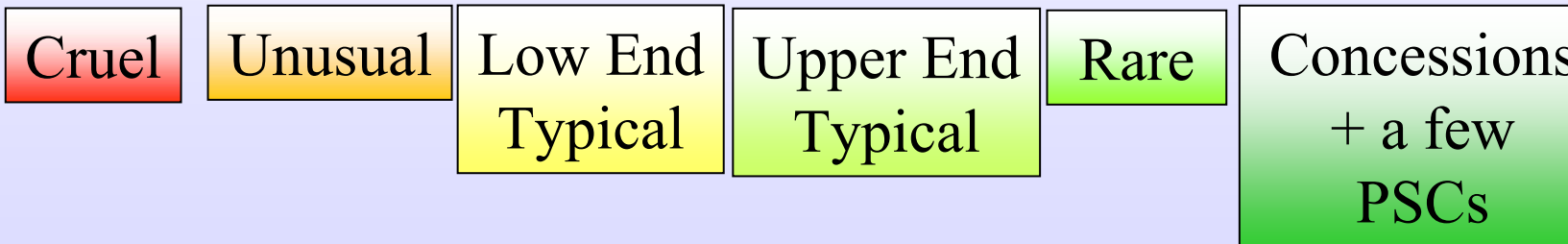


# Cost Oil (Cost Recovery)

- Cost Oil usually has an upper limit
- Cost oil normally includes:
  - Unrecovered costs carried over from previous years
  - Operating costs
  - Expensed capital costs
  - Current year DD&A ( Depreciation, Depletion & Amortisation)
  - Interest on Financing
  - Investment Credit (Uplift)
  - Abandonment cost recovery fund

# Cost Recovery

Range of Cost Recovery Limits (%)



# Profit Oil

- Profit oil = Net revenue - Cost recovery
  - Net revenue = Gross revenue - Royalties
- Profit oil is analogue to taxable income in a concessionary system and Service fee in a service agreement
- Profit oil is split between Government and Contractor
- Profit oil is usually, but not always taxed

# Profit oil Sharing Triggers

- Production
  - Daily rate
  - Absolute volume
- Rate of return (ROR)
- R-factors

# Triggers

Prod. Based;		1000 bopd
From	To	Gov.Share
0	5	20.0 %
5	10	30.0 %
10	20	40.0 %
20	30	50.0 %
30	50	60.0 %
50	100	70.0 %
100	>	80.0 %

Prod. Based;		Million bbl
From	To	Gov.Share
0	1	20.0 %
1	5	30.0 %
5	20	40.0 %
20	100	50.0 %
100	200	60.0 %
200	200	60.0 %
200	>	60.0 %

R-factor based		
From	To	Gov.Share
0.0	1.0	2.5 %
1.0	1.5	5.0 %
1.5	2.0	7.5 %
2.0	2.5	10.0 %
2.5	3.0	12.5 %
3.0	4.0	15.0 %
4.0	>	20.0 %

ROR based, %		
From	To	Gov.Share
0.0%	12.5%	30.0 %
12.5%	17.5%	40.0 %
17.5%	22.5%	50.0 %
22.5%	27.5%	60.0 %
27.5%	30.0%	70.0 %
30.0%	35.0%	80.0 %
35.0%	>	90.0 %

# R-Factor

- Objective
  - Sharing between the Government and the contractor is based on Profitability
- Design
  - Both revenue and cost are included in the calculation

# Different R- Factors

- Cumulative revenues/Cumulative cost
- Cumulative Revenue-Cumulative Opex/cumulative Capex
- Cumulative Revenue – Cumulative Profit Share/Cumulative Investments + Cumulative Opex
- Cumulative net income/Cumulative Costs



# Peruvian onshore

R-Factor	*****ROYALTY RATE*****		
	$\leq$ \$15/bbl	\$25/bbl	$\geq$ \$35/bbl
$0.0 < R < 1.0$	19%	23%	27%
$1.0 \geq R < 1.5$	24%	29%	32%
$1.5 \geq R < 2.0$	30%	35%	37%
$2.0 \geq R$	36%	39%	42%

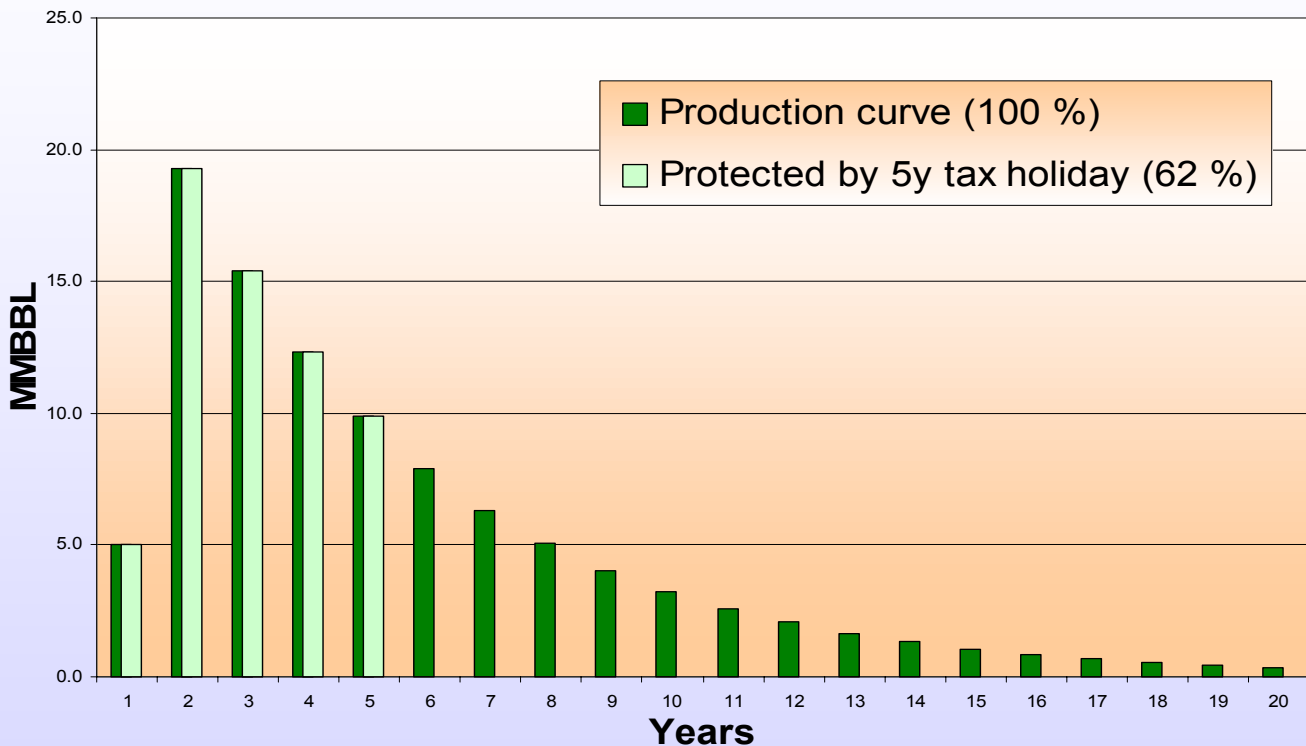
# Domestic Market Obligations (DMO)

- *A certain volume of oil to be sold to the Government*
- *Discounted Price*
- *Local Currency. Predetermined exchange rate*
  
- Example - Indonesian DMO
  - Production: 1 MMBBL
  - Oil price: 20 USD/BBL
  - Discount: 2 USD/BBL
  - Contractor's profit oil: 28.8462% of total production
  - DMO: 25% of Contractors profit oil
  
- $1\text{MMBBL} * (20\text{USD/BBL} - 2\text{USD/BBL}) * 25\% * 28.8462\% = 1,298 \text{ MMUSD}$
- $1,298\text{MMUSD} / 20\text{USD/BBL} = 0.0649 \text{ MMBBL} = 6.49\%$  of total production ( Pure volume calculation:  $28.8462\% * 25\% = 7.21\%$ )

# Direct State Participation

- Free Ride
  - Have access to all information
    - Can choose the goodies
  - Does not pay for pre-license exploration
  - Does not pay for R&D
- Carried interest
  - The State can be carried through:
    - Exploration
    - Exploration +Development

# The Importance of Tax Holidays



A 5 years tax holiday represents 25% of project time, but 62 % of produced volume (Undiscounted)

# Global Exploration Market

