



India | New Delhi

## Parallel Roundtable 2: Fiscal Regimes and Legal Reform to Attract Investment in the Energy Sector

Background Paper



# Disclaimer

The observations presented herein are meant as background for the dialogue at the 16<sup>th</sup> International Energy Forum. They have been prepared in collaboration with The Boston Consulting Group and should not be interpreted as the opinion of the International Energy Forum or The Boston Consulting Group on any given subject.

# Introduction

## Market Context

- We find four fiscal & legal petroleum regimes globally amongst which concessions and PSCs are the most prevalent petroleum regimes
- Oil countries' government take varies between ~25% and ~90%, depending on the regime prevalent in the country
- Country's investment attractiveness depend on 4 key elements; Attractiveness of resources, Investment Efficiency, Institutional stability and Tax Package



## Session Objectives

- What regulatory framework from a tax and legal perspective to adapt to attract investment in the energy sector?
- How to use correctly 'measure' the quantum of government take?
- How to use the tax and legal reforms to drive investment and hence create avenues to drive social impact?

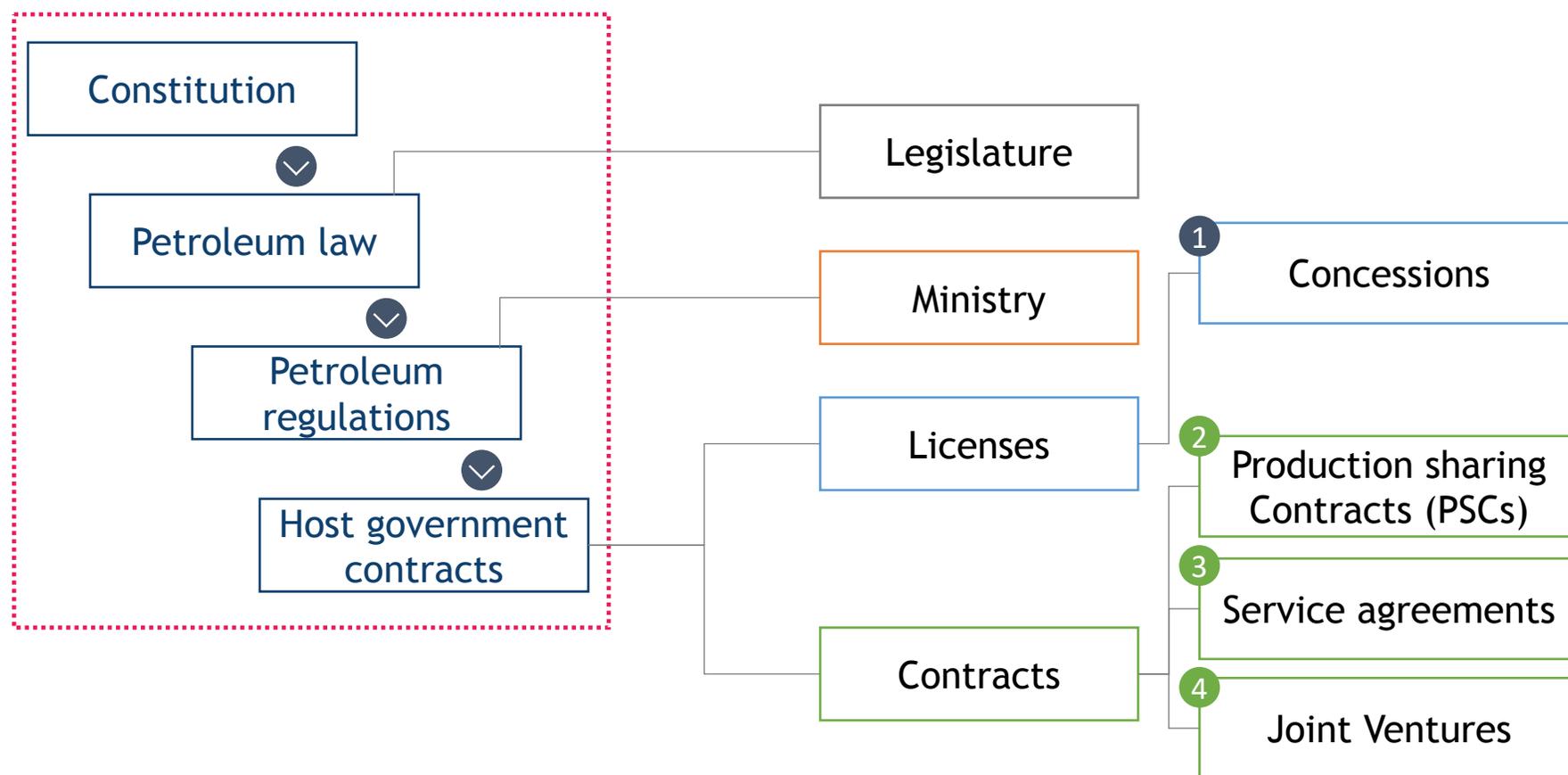
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**Key Question:** How have oil and gas fiscal regimes and legal reforms evolved to attract investment and leverage the sector to contribute to economic diversification, inclusive growth and sustainable development?

# We find four fiscal & legal petroleum regimes globally

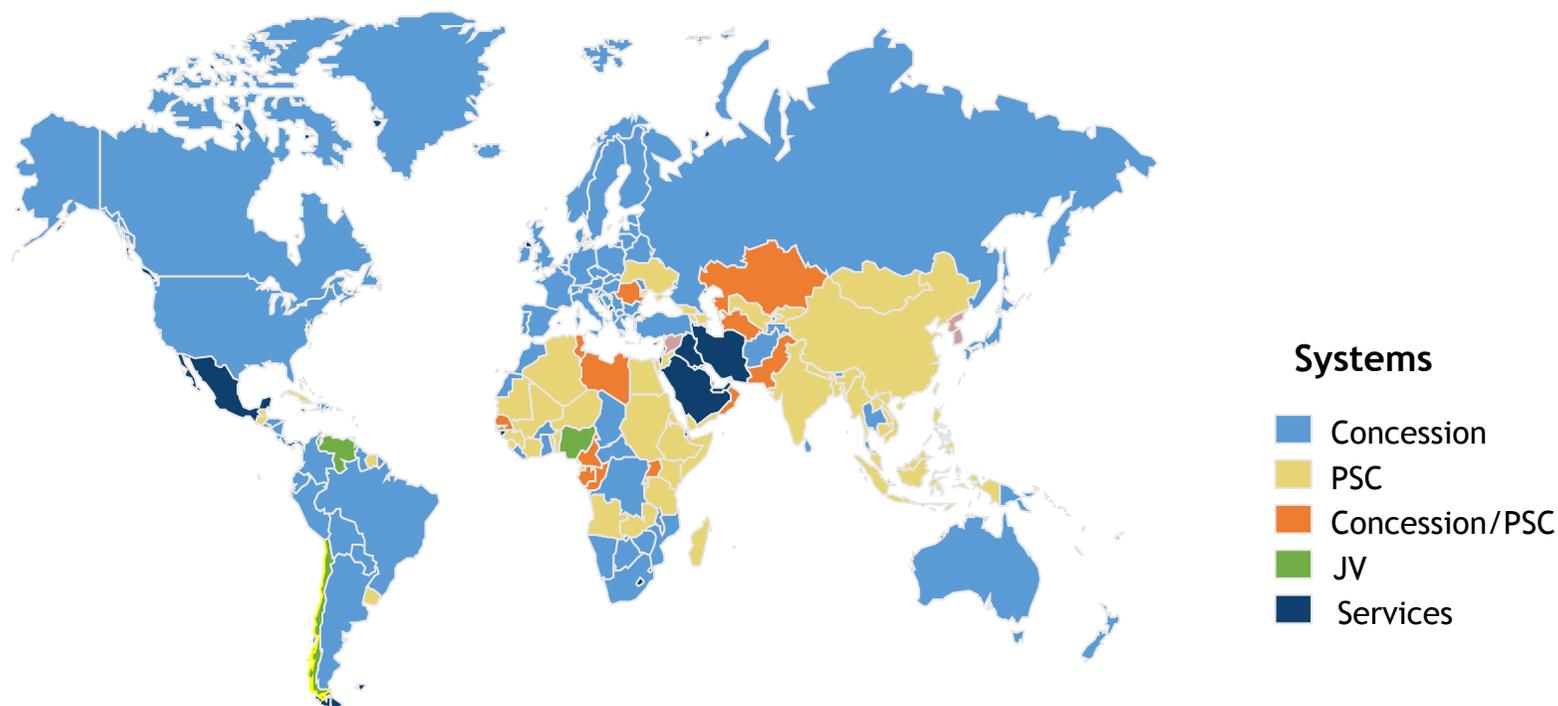
Multiple layers of rules and regulations govern the overall E&P regime

Specific institutions and instruments involved



# Concessions and PSCs are the most prevalent petroleum regimes

## Geographic distribution of the predominant petroleum regimes



It is not uncommon for countries to use hybrid structures or a mix of regimes simultaneously

Note: Venezuela and Angola have a Joint Venture regime where the National Oil Company is the sole concessionary of the hydrocarbon resources, and international companies can only participate by means of association. For purpose of this study though, they are considered to be operating under concession regimes as there is no profit-oil/cost-oil split between govt and the companies

Source: Wood Mackenzie, Deutsche Bank, Bain & Company, TozziniFreire Advogados

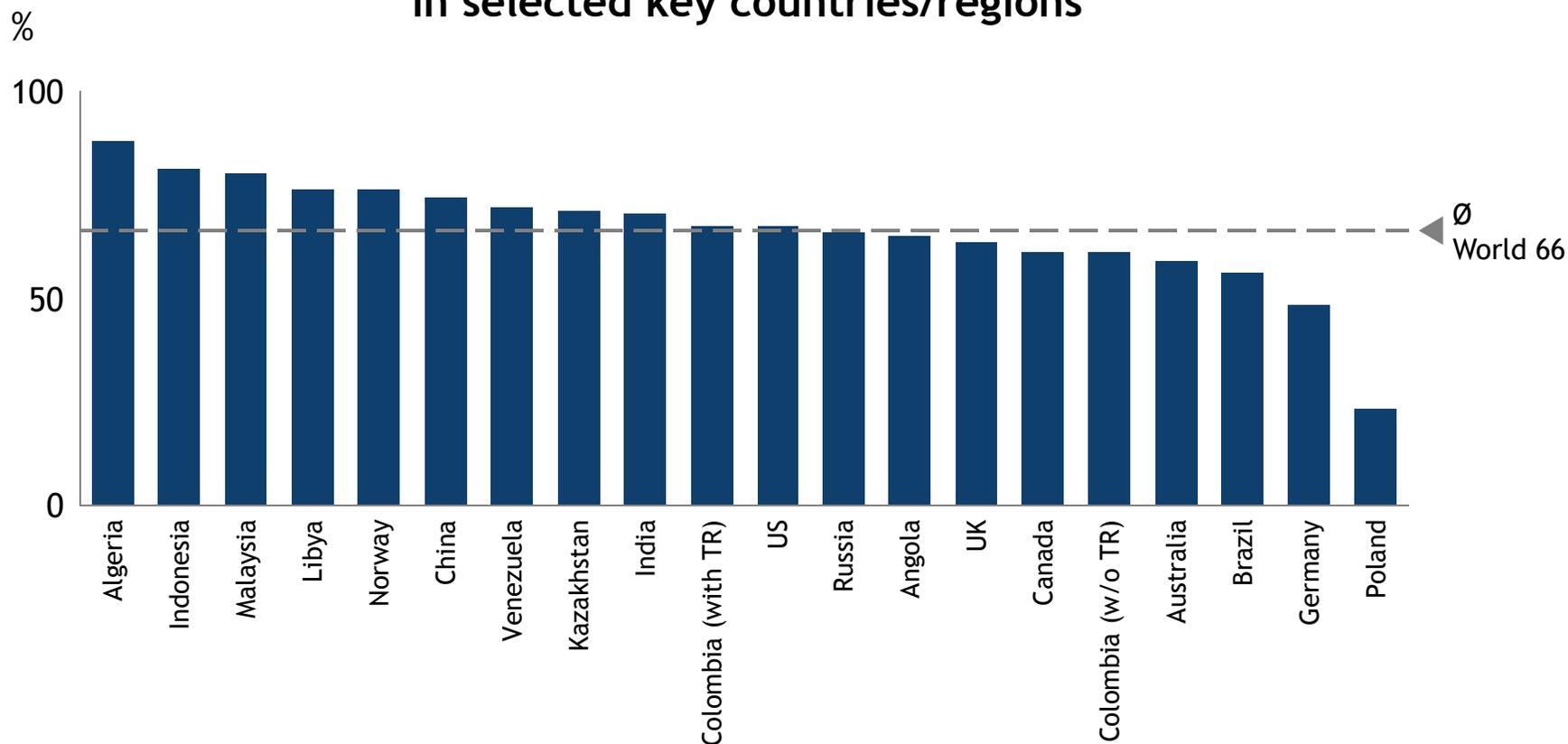
# The four regimes differ on a few key dimensions

		Concessions	Production Sharing Contracts	Service Contracts	Joint ventures
Legal	Legal & Contractual instrument	<ul style="list-style-type: none"> <li>Concession Agreement, License Agreement and Lease</li> </ul>	<ul style="list-style-type: none"> <li>Production Sharing Contract</li> </ul>	<ul style="list-style-type: none"> <li>Services Agreement without a risk clause</li> </ul>	<ul style="list-style-type: none"> <li>Articles of Association, and other documents for SPE</li> </ul>
Hydrocarbon Ownership	Hydrocarbons	<ul style="list-style-type: none"> <li>Before extraction: State</li> <li>After extraction: Oil company(s) (at wellhead)</li> <li>Oil company(s) can book reserves</li> </ul>	<ul style="list-style-type: none"> <li>Before extraction: State</li> <li>After extraction: State/OC, each proportional to its profit oil share<sup>2</sup></li> <li>Oil company(s) can book reserves</li> </ul>	<ul style="list-style-type: none"> <li>Before extraction: State</li> <li>After extraction: State</li> <li>Oil company(s) paid in cash and cannot book reserves</li> </ul>	<ul style="list-style-type: none"> <li>Production is shared between Host State and Oil company(s), proportional to their respective equity interests</li> </ul>
Risk-reward distribution	Government compensation	<ul style="list-style-type: none"> <li>Royalties</li> <li>Taxes</li> </ul>	<ul style="list-style-type: none"> <li>Share of the State in the HC sold</li> <li>Taxes</li> </ul>	<ul style="list-style-type: none"> <li>Marketing of the HC minus Service fee</li> <li>Taxes</li> </ul>	<ul style="list-style-type: none"> <li>Portion of the profits attributable to state</li> <li>Taxes</li> <li>Taxation of the Oil company(s)</li> <li>Share of profits / dividends</li> </ul>
	Typical Fiscal Instruments	<ul style="list-style-type: none"> <li>Royalties</li> <li>Taxation of the Oil company(s) (income tax, special petroleum tax)</li> </ul>	<ul style="list-style-type: none"> <li>Profit-oil/cost-oil split</li> <li>Taxation of the Oil company(s)</li> <li>Sometimes also royalties</li> </ul>	<ul style="list-style-type: none"> <li>Service fee</li> <li>Taxation of the Oil company(s)</li> </ul>	<ul style="list-style-type: none"> <li>Share of produced HC profits minus taxation</li> </ul>
	Company entitlement	<ul style="list-style-type: none"> <li>Gross production less royalty and taxes</li> </ul>	<ul style="list-style-type: none"> <li>Cost oil/gas + profit oil/gas - taxes</li> </ul>	<ul style="list-style-type: none"> <li>Service fee (usually fixed margin on costs / production) less taxes</li> </ul>	<ul style="list-style-type: none"> <li>Share of produced HC profits minus taxation</li> </ul>
	Risk taker	<ul style="list-style-type: none"> <li>Oil company(s); makes all upfront E&amp;P investments without guaranteed returns</li> </ul>	<ul style="list-style-type: none"> <li>Oil company(s) takes exploration risk and makes all upfront investment. Oil company(s) &amp; Government share development and production costs after commercial discovery</li> </ul>	<ul style="list-style-type: none"> <li>State; Oil company(s) gets full compensation of costs and guaranteed margin</li> </ul>	<ul style="list-style-type: none"> <li>State assumes the risk related to the percentage it holds in each business</li> </ul>
Level of Government Involvement	Administrative and Managerial Burden	<ul style="list-style-type: none"> <li>Low; no participation in management committees. Government focuses on setting industry-wide policies</li> </ul>	<ul style="list-style-type: none"> <li>High; government needs to attend management meetings for all the fields and take a view on all individual operational decisions</li> </ul>	<ul style="list-style-type: none"> <li>Very High; government needs to plan and execute on the development of the entire oil and gas industry</li> </ul>	<ul style="list-style-type: none"> <li>High; government has mandatory operational involvement in the fields</li> </ul>
	Level of Control	<ul style="list-style-type: none"> <li>Low; government regulates activity of all oil and gas companies alike by setting industry standards and rules</li> </ul>	<ul style="list-style-type: none"> <li>High; government participates in operational and investment decision making through management committees</li> </ul>	<ul style="list-style-type: none"> <li>Very high; government decides where and how much to invest in exploration and development</li> </ul>	<ul style="list-style-type: none"> <li>High; government has mandatory operational involvement in the fields</li> </ul>

1. Ownership usually passes at point of export. Source: BCG analysis  
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# Oil countries' government take varies between ~25% and ~90%, depending on the prevalent country regime

Average government take<sup>1</sup> in 2009-2014  
in selected key countries/regions



1. Calculated as the average between 2009 and 2014 of (NPV government take/(NPV FCF + VPN government take))

Note: TR= tax reform

Source: Rystad, ACP; BCG analysis

IEF16 Roundtable 2

# Country's investment attractiveness depend on 4 key elements

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**1 Attractiveness of resources**

Those countries with a **larger base of discovered and to-discover reserves** (higher yet-to-find potential) attract IOCs' investments more easily, allowing them to establish higher levels of **government take** successfully
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**2 Investment efficiency**

The countries where in the last few years **lower investments have been required to find and develop additional reserves** are perceived as more profitable investment destinations, which allows them to establish higher levels of **government take**
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**3 Institutional stability**

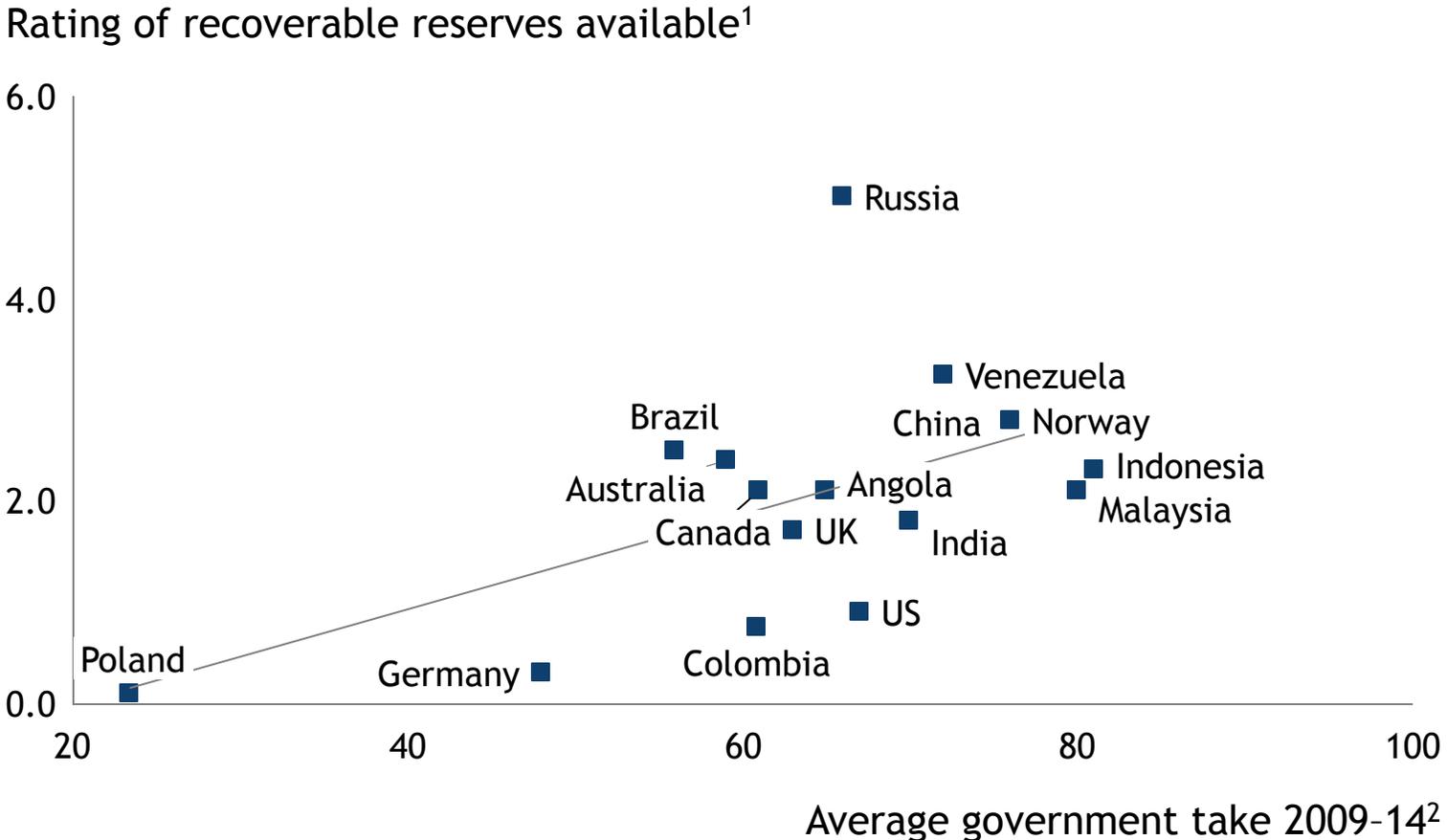
Those countries with **higher political, legal and fiscal stability** are perceived as lower risk investment destinations, making oil companies be willing to accept a higher **government take** when investing and/or operating in that country
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**4 Tax package**

Those countries that use **tax systems linked to projects' profitability and cash flow profile** are often more attractive to investors, allowing them to increase their level of **government take**

  - This type of tax structures usually reduce investments during the first years and improve the return on projects

# Government's take is typically in line with the attractiveness of the country's resources

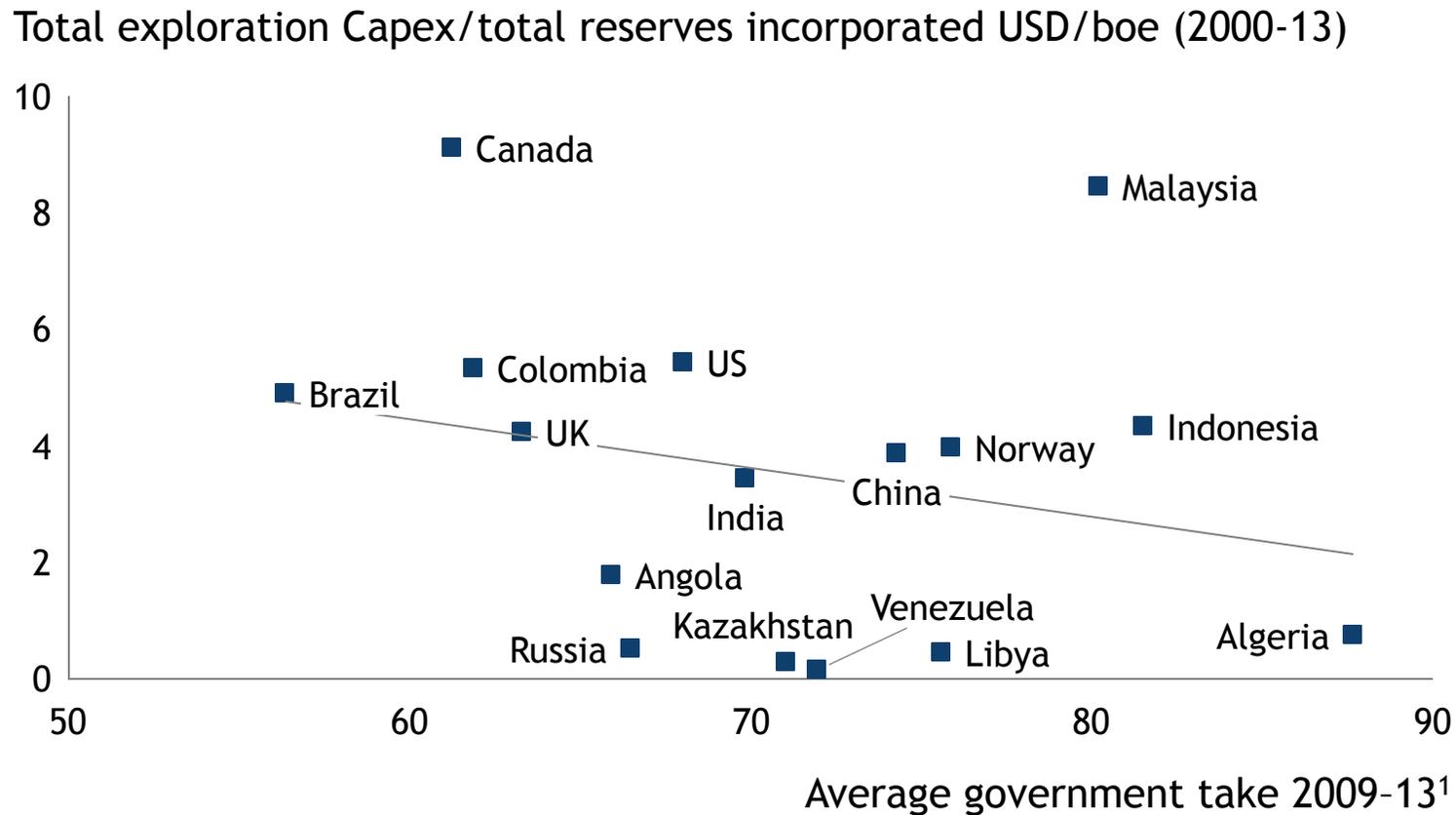


1. Ranking created by IHS CERA of the estimated level of recoverable reserves 2. Calculated as the average between 2009 and 2014 of (NPV government take/(NPV FCF + NPV government take))  
Source: Rystad; IHS CERA; BCG analysis  
IEF16 Roundtable 2



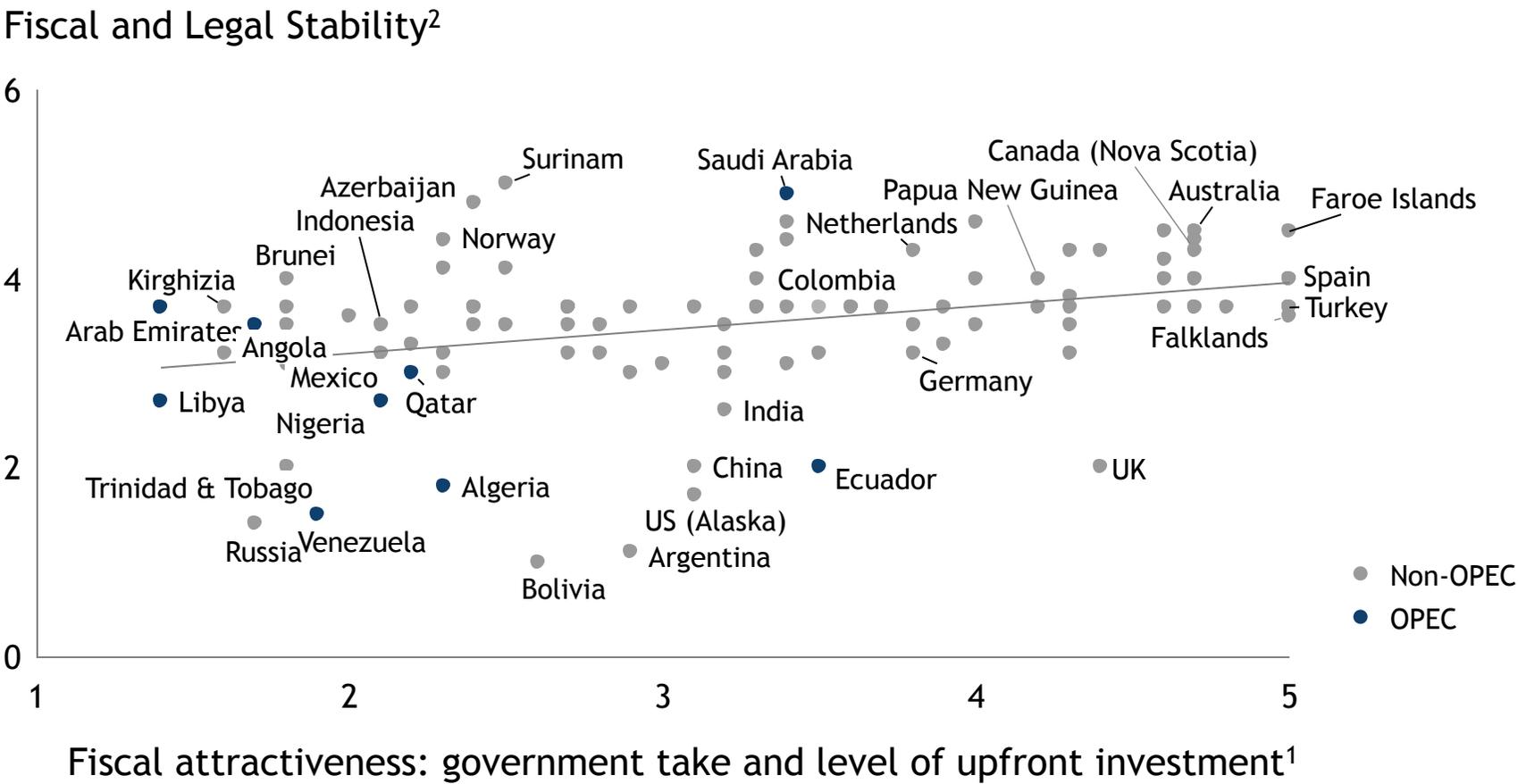
# Government's take must be inversely proportional to expected investment efficiency

## Exploration Capex efficiency



1. Calculated as the average between 2009 and 2014 of (NPV government take/(NPV FCF + NPV government take))  
 Source: Rystad; BP Statistical Review; BCG analysis  
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# Government's take is also in line with the institutional stability perceived



1. Fiscal attractiveness measured as level of government take and level of upfront investment required  
 2. Stability measured as degree of historical changes in tax treatment and inherent flexibility  
 Note: OPEC members excluding Iran and Kuwait, not included in WoodMac Report  
 Source: WoodMac Report; BCG analysis  
 IEF16 Roundtable 2



# Four tax schemes can be identified by combining the main tax mechanisms

	A Tax-only scheme	B Royalties and taxes	C Pure PSC schemes	D Royalties and PSC
Royalties	✗	✓	✗	✓
Profit sharing (PSC)	✗	✗		✓
Income tax	✓	✓	✓ / ✗	✓ / ✗
Special taxes	✓	✓ / ✗	/ ✗	✓ / ✗
Example of countries	UK Norway	Brazil Angola US GoM Colombia	Angola <sup>1</sup> Indonesia Egypt	India China Malaysia
	Concession		Product sharing	

1. Angola uses concessions in the region of Cabinda and PSC in other regions  
 Source: BCG analysis  
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# Tax-only scheme includes tax revenues from corporate and special taxes

The scheme only works through taxes, thus aligning government's and operators' incentives

How the scheme works

- The government's revenues exclusively come from taxes and ultimately depend on the oil company's performance
- It implies a low administrative burden for the regulator, who can leverage on the existing tax system for collection and monitoring activities

Pros and cons

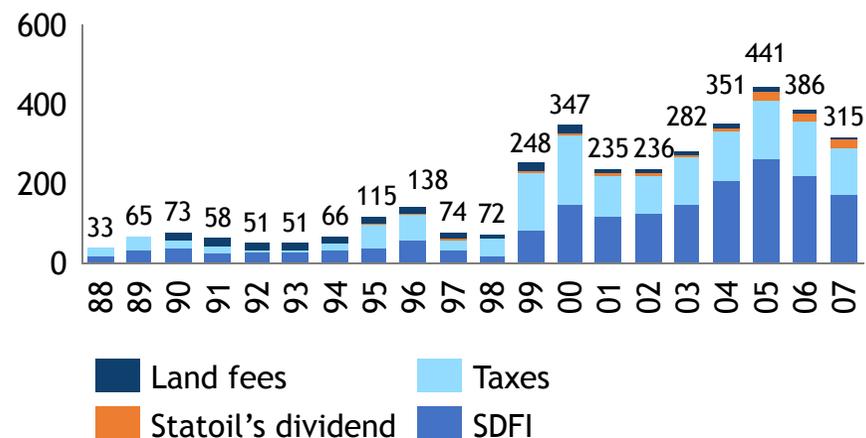
- + Incentives aligned between government and operator (both depend on exploration performance)
- + Clear, simple and transparent instruments
- + The government can get a share of occasional gains if prices/production is higher than expected
- + Strong correlation with the profitability of the operator's investments
  - When profits are zero, taxes are zero
  - Special taxes provide revenues to the government when the target rate of return or payback is reached
- The government doesn't receive early revenues; only when a discovery has been developed and is producing

Example: the government take in Norway exclusively comes from tax mechanisms

The Norwegian government has managed to increase the revenues from oil operations, thus attracting investments and offering a tax-only scheme

- High tax rate - 78%
  - Special oil tax - 50%
  - General income tax - 28%
- No royalties

Government's net cash flow from oil operations (B NOK)



1. State's Direct Financial Interest

Source: BCG experience; 2014 Oil and Gas Tax Guide; Norwegian Petroleum Directorate; Statoil's web site

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# Tax revenues are more balanced in royalties and taxes, but this scheme is less attractive to investors

**Government obtains revenues as soon as production starts and depending on the operator's profitability**

How the scheme works

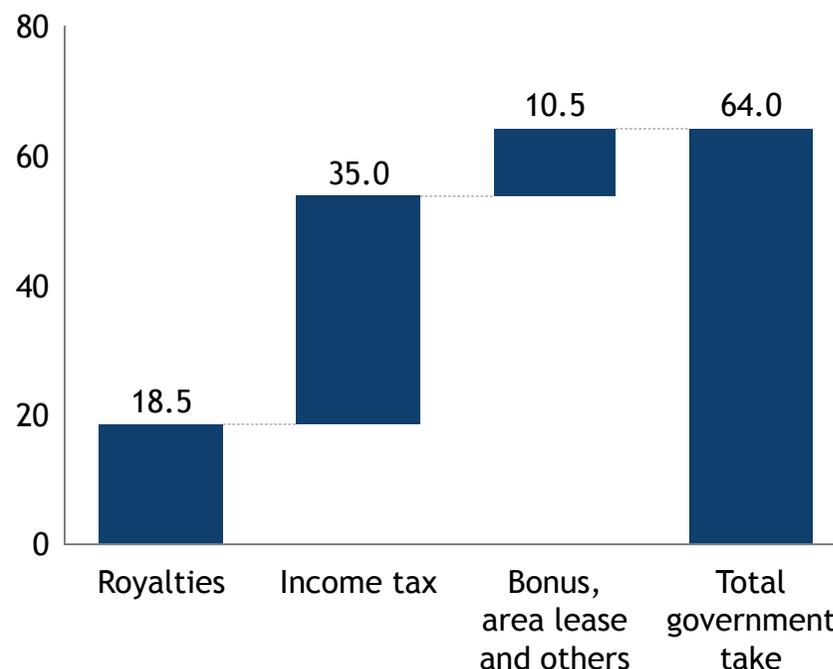
- With this scheme, oil companies are forced to pay royalties from the moment production starts and also have a tax burden on their profits

Pros and cons

- + Guarantees revenues for the government at early stages when production starts
- + The government's revenues run no risk, since E&P costs don't affect the government take
- + Involves a relatively higher administrative burden for the government when calculating, collecting and monitoring royalties and taxes
- Royalties are payable regardless of the project's profitability, which may deter investors
  - With low prices, the government may get the entire value of the project, which would imply losses for the investor
- May distort investment decisions, reducing exploration operations and increasing the early abandonment of properties/blocks

**Example: US GoM is an area where the government take comes both from royalties and taxes**

Average government take's composition in US GoM (%)



# Tax revenues from production sales in PSC regime, once the operator covers costs

With this scheme, government and operator share potential upsides

How the scheme works

- The operator assumes exploration risks and upfront investments, but once commercial viability is announced, profits are shared with the government after covering costs
- Most of the times, this scheme also includes income taxes

Pros and cons

- + The investor is protected by international contractual principles, since the state cannot use the legislature to change terms and conditions
- + The government shares the risk involved by commercial profitability and revenue flow is not guaranteed
- The government doesn't receive early revenues; it gets the first part of revenues from profit sharing once the operator has covered costs
- May distort investment decisions as operators' share in production/upside declines
- Limited operational freedom: requires approval by the government for individual expenses and investments, which may cause significant delays
- Implies a higher administrative burden for the government (cost auditing, monitoring and participation in managing boards)

Example: The Egyptian government opts for a pure PSC tax scheme

## Tax terms and conditions

Mechanism	Rate	Comments
Product sharing	80% -10%	Negotiable, five production rate brackets
Designation bonus	10% or \$500k	Negotiable, 90% minimum for EGPC
Income tax	0%	10% for any deal with a non-affiliated contractor; \$500k with each affiliated contractor
Average government take	74%	N/A

# It is possible to combine royalties and PSC in the same scheme

Compared to PSC, this scheme offers better terms for the government but is less attractive to the investor

How the scheme works

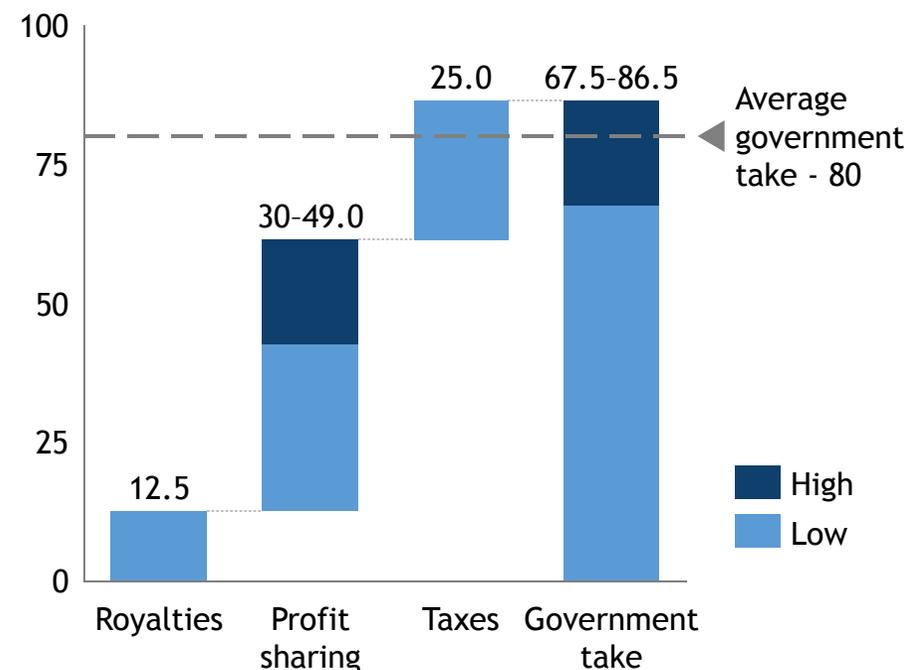
- The government directly participates in the operation and performance of E&P projects, and also charges royalties and income taxes in some cases

Pros and cons

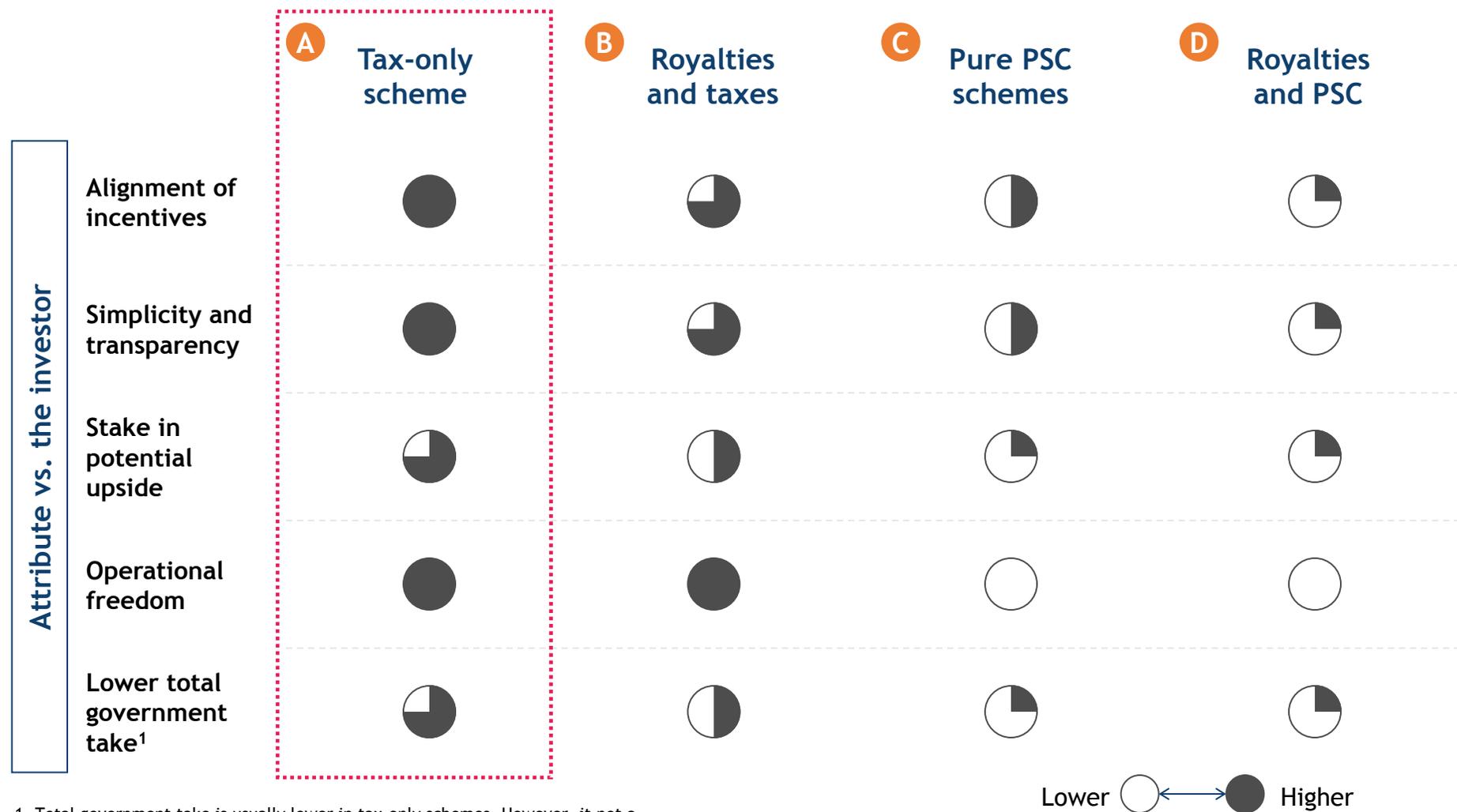
- + The investor is protected by international contractual principles, since the state cannot use the legislature to change terms and conditions
- + It allows the government to have a higher stake in potential upsides
- + The government obtains early revenues from royalties
- It may distort investment decisions by reducing oil companies' stake in production/upside beyond covering costs
- Limited operational freedom: requires approval by the government for individual expenses and investments, which may cause significant delays
- Implies a higher administrative burden for the government (cost auditing, monitoring and participation in managing boards)

Example: China combines PSC with the rest of tax mechanisms

Composition of the government take in China (%)



# The tax-only scheme is the most attractive one for the investor



1. Total government take is usually lower in tax-only schemes. However, it not a direct attribute of the scheme, since the government take could be likewise high in tax-only schemes, depending on tax rates and types of taxes  
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# Oil countries use additional tax incentives to foster investment

	Lever	Description	Where to pull it	Example of countries
I Variation in tax mechanisms	Gradual/differentiated taxes	Reduce/remove taxes during the first years of field operations, or reduce rates for certain types of plays	Border, offshore, deep water fields	 
	Differentiated/reduced royalties	Reduce/remove royalties up to a production limit or for some type of plays	Marginal and end-of-life fields	
	Differentiated/reduced PSC	Link royalties, taxes and/or oil profits to production levels		 
II Reduction in taxable base	Accelerated depreciation	Allow companies to rapidly depreciate in order to reduce taxable bases	All fields or strategic fields (e.g. offshore)	
	Accumulated losses	Make it possible to accumulate losses from previous periods		
	Ring-fencing	The profits from successful projects can be compensated for with the losses from unsuccessful projects to calculate the taxable base		
	Cost recovery	The percentage of costs that can be recovered by the operator under a PSC scheme		
III Refunds	Refund of exploration costs	Refund exploration costs to reduce drilling risks and give incentives to oil companies	Marginal and end-of-life fields	

# Key Questions

- 1 What tax and legal framework can reliably attract energy sector investment in the new energy market environment?
- 2 How to use correctly 'measure' the quantum of government take?
- 3 How to use the tax and legal reforms to drive investment and hence create avenues to drive social impact?

## Parallel Roundtable 2: Fiscal Regimes and Legal Reform to Attract Investment in the Energy Sector

### Background Paper