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On the use of fiscal instruments to produce rent from natural gas

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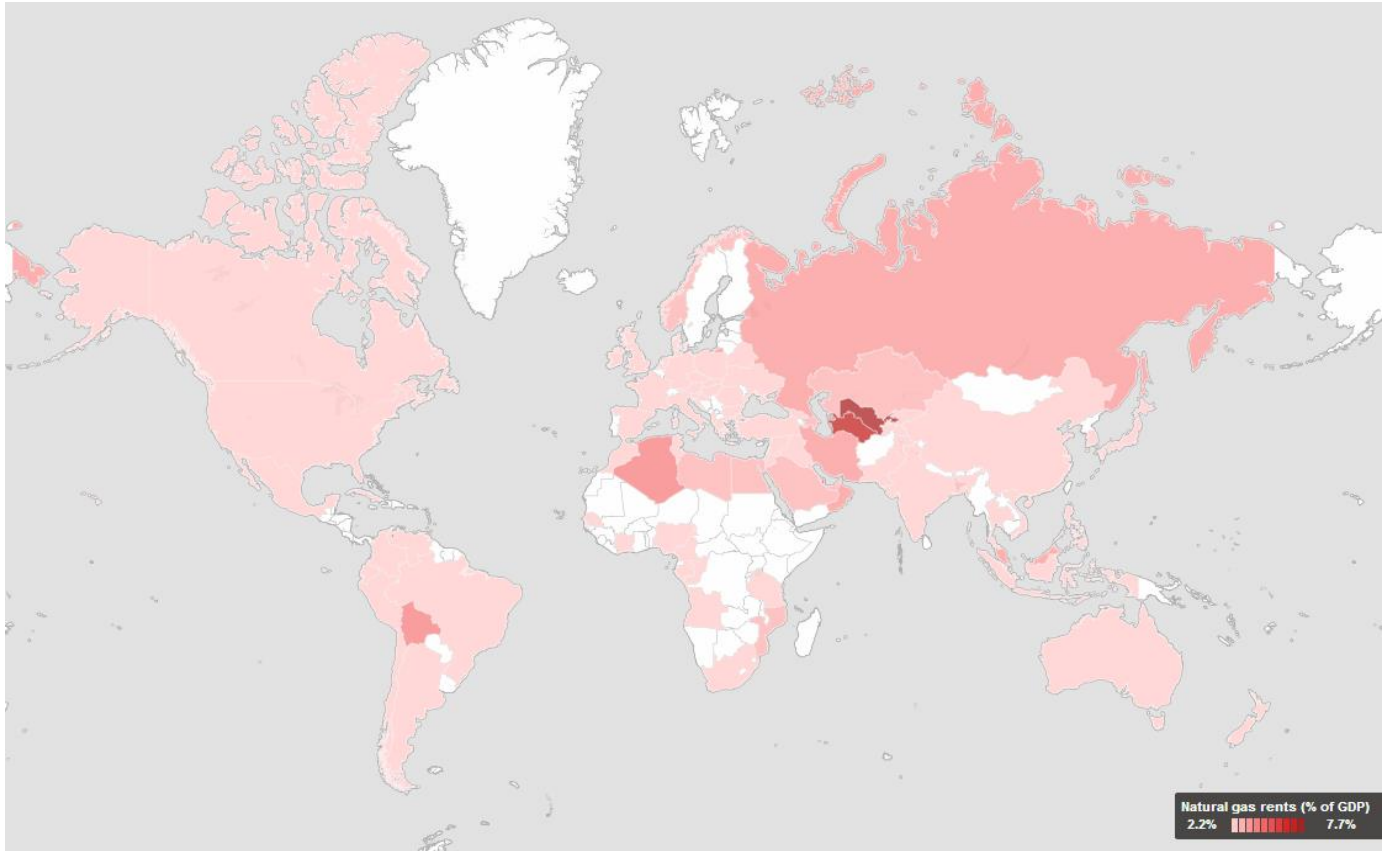
On the use of fiscal instruments to produce rent from natural gas

- Gas rent and policies
- Fiscal instruments
  - Signature bonuses, area retention, exploratory programme, domestic content, royalties, excises, inland revenue instruments
- Contractual models
  - Concession, production sharing, service contracts
- Case studies
  - USA, Mozambique, Norway
- Conclusions
  - Best practices

Gas rent and policies



"The difference between the value of natural gas production at world prices and total costs of production" - *The Changing Wealth of Nations*, World Bank, 2011

Gas rent and policies

Gas rent as a % of the GDP (World Bank, 2012)

Country	2008	2009	2010	2011
Trinidad and Tobago	47.6	28.9	25.5	24.5
Turkmenistan	n.a.	23.0	22.3	22.6
Uzbekistan	73.6	22.8	16.6	15.1
Qatar	24.2	14.6	14.0	14.2
Brunei Darussalam	31.8	18.0	14.3	12.5

Fiscal instruments

- Progressive
  - the rate increases with production
- Regressive
  - the rate decreases with production

Fiscal instruments

- Signature bonuses
  - payments made up front for the right to develop and exploratory block
  - limited by the hydrocarbon recovery potential
  - regressive instrument because the rate increases when production is reduced

Fiscal instruments

- Area retention
  - An annual fee for the occupation or retention of areas in which oil or gas will be exploited

Fiscal instruments

- Exploratory programme

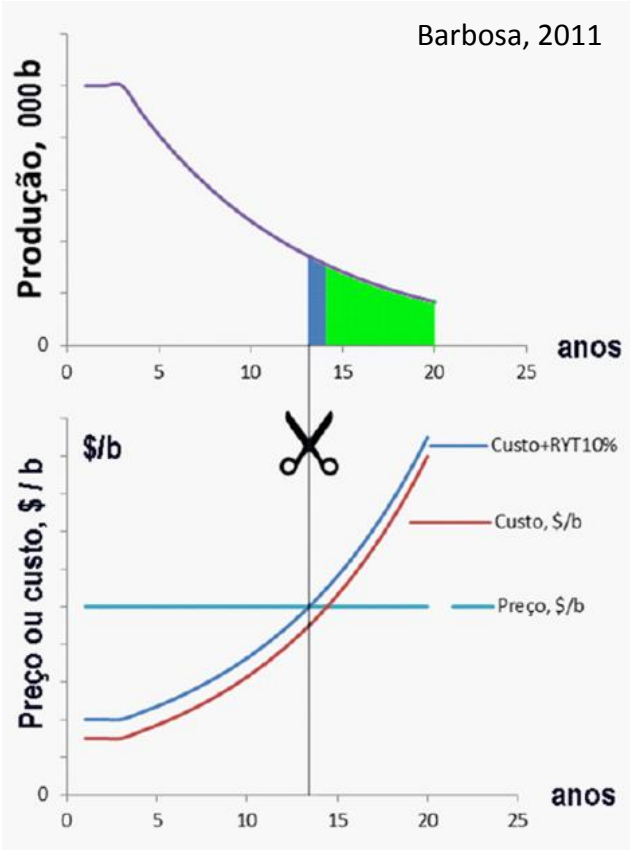
Location	Offered Basins/Sectors	Block Area (size)²	Exploratory Well	Seismic		Seismic Reprocessing		Potential Methods		Gama-spectrometry	Electromagnetic	Geochemistry	Minimum Stratigraphic Objective	UT amount for calculation of the Financial Guarantee of the First Period (R$/UT)
		(km²)	(UT/well)	2D (UT/km)	3D (UT/km²)	2D (UT/km)	3D (UT/km²)	GRAV (UT/km)	MAG (UT/km)	(UT/km)	(UT/receptor)	(UT/Sample)		
Deep Water	Barreirinhas – **SBAR-AP1 and SBAR-AP2**	760	1	0.085	0.349	0.006	0.018	-	-	-	0.326	0.160	Fm. Travosas (Cenomanian)	107
	Ceará – **SCE-AP3**	760	1	0.085	0.349	0.006	0.018	-	-	-	0.326	0.160	Fm. Paracuru (Albian)	107
Shallow Water	Barreirinhas – **SBAR-AR2**	180	1	0.155	0.633	0.011	0.033	-	-	-	0.592	0.291	Fm. Bom Gosto (Neoalbian)	59
	Foz do Amazonas – **SFZA-AR1**	190	1	0.155	0.633	0.011	0.033	-	-	-	0.592	0.291	Fm.Caciporé (Neocomian)	59
Shore Areas	Espírito Santo – **SES-T6**	30	1	9.849	28.436	0.284	0.707	0.128	0.128	0.128	5.760	0.238	Mb. Mucuri – Fm. Mariricu (Aptian)	3,8
	Potiguar – **SPOT-T3 and SPOT-T5**	30	1	9.849	28.436	0.284	0.707	0.128	0.128	0.128	5.760	0.238	Fm.Pendência (Neocomian)	3,8

Fiscal instruments

- Royalties
  - payments made by a licensee to a licensor for the right of producing oil and gas
  - very attractive to governments because they can generate rent as soon as production starts
  - progressive rates are sometimes adopted to reduce risks and attract investors:
    - incremental rates in the frontier lands of Canada
    - deep water relief in the USA
  - induction of premature abandonment when production becomes marginal

Fiscal instruments

- Royalties
  - induction of premature abandonment when production becomes marginal



Fiscal instruments

- Excises
  - inland taxes on the production of specific goods or services
  - levies and progressive rates are possible:
    - first 30 million barrels are exempted from the Commonwealth excise in Australia

Fiscal instruments

- Inland revenue
  - depreciation uplift
    - important to accelerate the recovery of costs at the early stages of production
    - deduction is sometimes possible even before production starts (Australia, UK, Norway)

Fiscal instruments

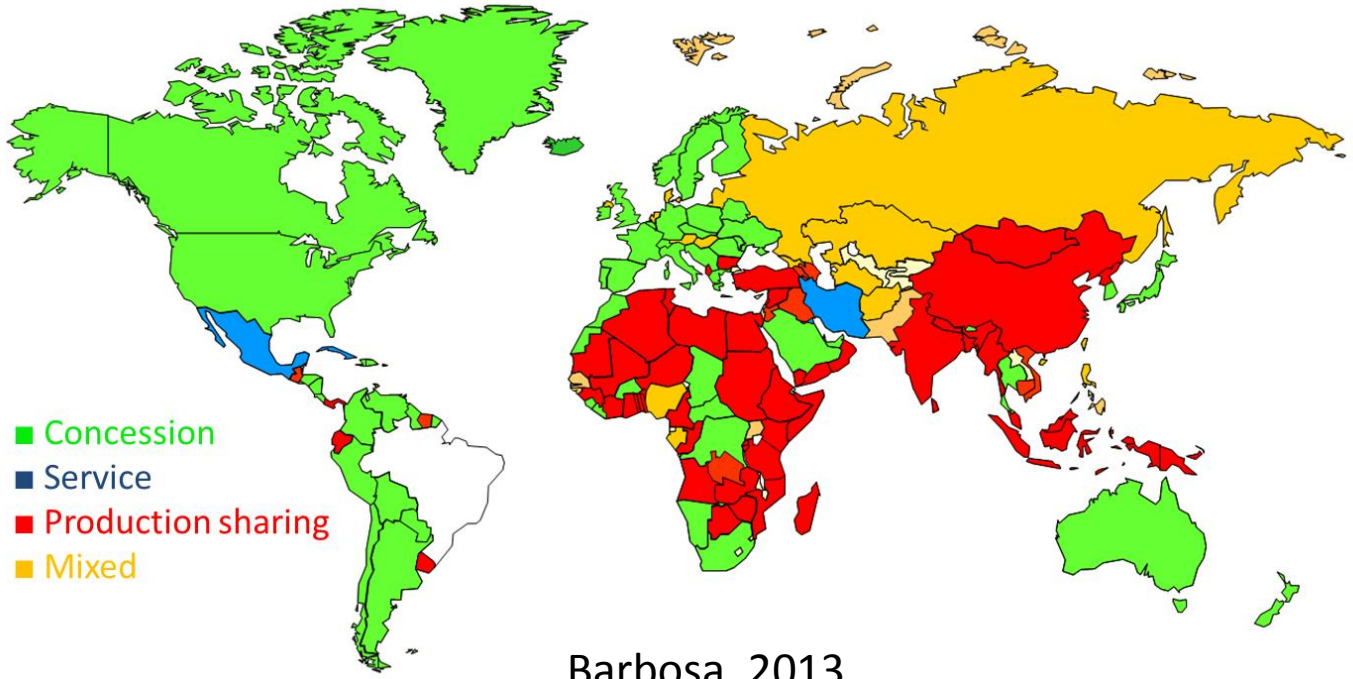
- Inland revenue
  - ring fencing of deductions
    - limits the compensation of losses
    - establishes equalitarian conditions between new and existing players
    - important to protect the government take
    - prevents gold plating

Fiscal instruments

- Inland revenue
  - compensation of fiscal losses
  - abandonment costs
  - research and development incentives

Contractual models

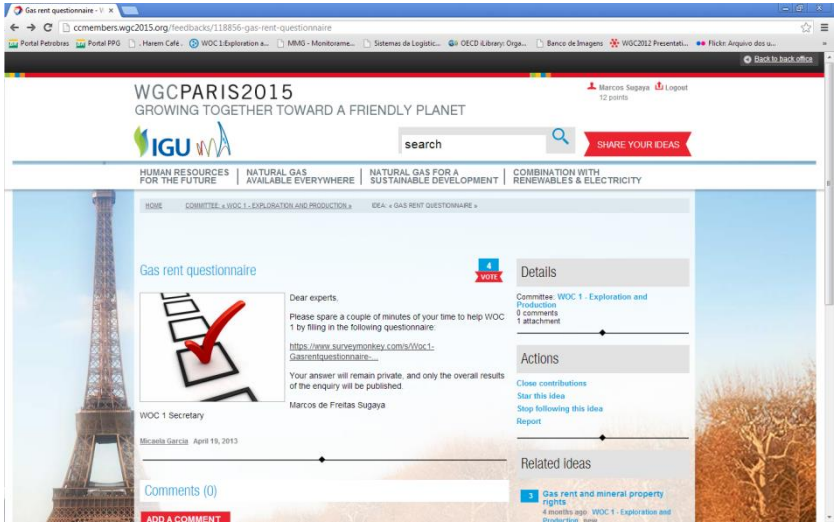
- Concession, production sharing or service?



Barbosa, 2013

Contractual models

- Gas rent survey in the IGU:
  - Current fiscal systems considered to be modern, effective and attractive enough
  - Production sharing contracts not perceived as a tendency in lieu of concession and even service contracts
  - Foreign investment considered to be not that important
  - Royalties not generally perceived as an old fashioned and decadent instrument
  - IGU members tepidly defended the use of different systems for the taxation of natural gas and oil, but rejected a differentiation between associated and non associated gas



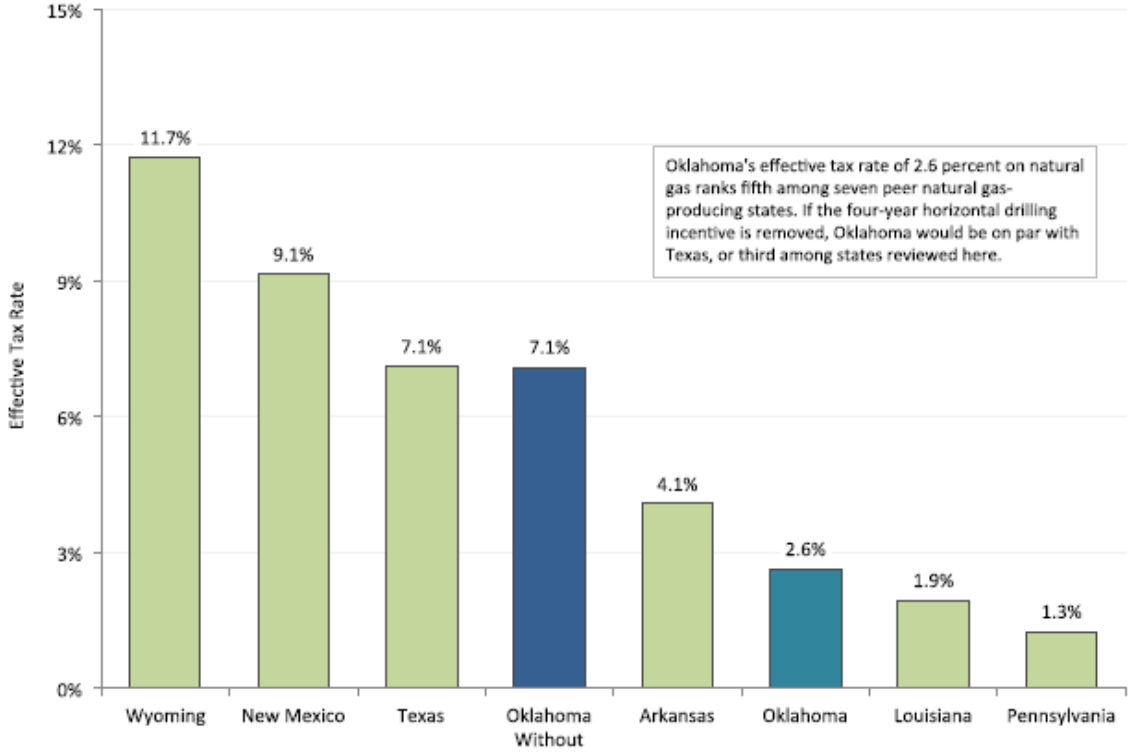
Case studies

- USA
  - Independent producers of oil and gas
  - Tax deduction of intangile drilling costs (IDC)
  - Tax deduction of tangible drilling costs (TDC)
    - Modified accelerated cost recovery system in place
  - Depletion allowance

Year	Rate
1	14.29%
2	24.49%
3	17.49%
4	12.49%
5	8.93%
6	8.92%
7	8.93%
8	4.46%
Total	100.00%

Case studies

- USA
  - state tax benefits



Case studies

- USA

$$federal\ income\ tax = base\ tax + tax\ rate\left(federal\ taxable\ income - lower\ value\ of\ \ income\ bracket\right)$$

Tax Rate Schedule			
Lower bracket	Upper bracket	Base tax	Tax rate
0	50,000	0	15%
50,000	75,000	7,500	25%
75,000	100,000	13,750	34%
100,000	335,000	22,250	39%
335,000	10,000,000	113,900	34%
10,000,000	15,000,000	3,400,000	35%
15,000,000	18,333,333	5,150,000	38%
18,333,333			35% on all income

Case studies

- USA
  - Benefits of historical importance:
    - Natural Gas Policy Act (NGPA) – 1978
    - Tax credit for unconventional fuels (Section 29 Tax Credit) - 1980

Case studies

- Additional analyses can be found in the triennial report of WOC 1 and the IGU website for:
  - United Kingdom
  - Russian Federation
  - Norway
  - Poland
  - Angola
  - Tanzania
  - China

Best practices proposed

a) Reduce the relative importance of signature bonuses and area retention fees in the bidding processes;

b) Increase the relative importance of exploratory programmes and other instruments of economic and social development;

c) Consider realistic mechanisms to account for the individual items that compose the exploratory programme, and allow companies to demonstrate higher than expected costs in order to receive higher exemptions;

d) Replace royalties and other instruments based on production rates or income revenues by progressive instruments based on profits, or use progressive royalty rates to exempt or reduce the relative incidence of royalties at the initial stages of production;

e) For marginal fields, consider mechanisms that allow efficient investors to maintain production, employment and tax collection (e.g. reduction of royalties);

f) Carefully select the relative importance of domestic content in the bidding processes, taking into account the actual capabilities of the local suppliers of equipment and services;

g) Allow the depreciation of assets before production starts, and consider the use of generous uplift allowances;

h) Although unattractive at a first view for investors, ring fencing is important to create equal opportunities and protect the government share;

i) Allow the recovery of abandonment costs in previous excises to increase the guarantees surrounding a proper decommissioning of production facilities;

j) Avoid too highly progressive taxation schemes that can cause gold plating of investment portfolios.

Merci!