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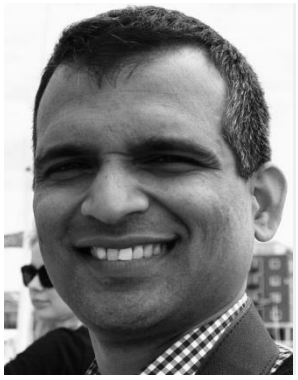
ABOUT APTA CONSULTING

APTA provides Financial modelling, Petroleum Economics evaluation & analysis, and Excel training for business modelling and data analysis to range of clients. Our clients range from blue chip to small enterprises and individuals. Our clients have access to high quality, cost effective modelling support delivered by team of experts around the world.

APTA FINANCIAL MODELLING TEAM

APTA's dedicated Oil & Gas modeling team is led by Santosh Singh. Santosh has more than 12 years of industry experience. With a technical background in drilling engineering and further qualification in Finance and Economics, he has worked in a number of major technical and commercial functions and gained extensive experience in economics evaluation, business development and commercial agreements.

Santosh's commercial valuation and analysis experience covers Africa, Asia, and Eurasia to name a few. He has a proven ability in the fiscal regime modelling, investment analysis, and providing high quality support to management for the strategic investment decisions.



SANTOSH SINGH
PRINCIPAL CONSULTANT, OIL & GAS

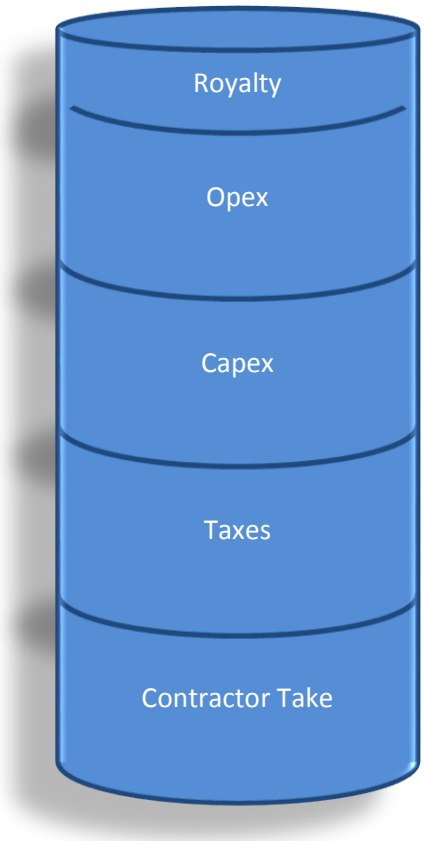
ROYALTY TAX FISCAL REGIME

“ Royalty in lieu of ownership ”

ROYALTY/TAX REGIME

A royalty/tax regime otherwise also known as a concessionary regime is simple regime to understand. By simple, we mean the structure is simple. The tax laws may make it complex (but then taxation is always a complicated topic!). In the simplified form the government gives the right to exploit the hydrocarbon to the oil company in lieu of receiving royalties. The license holder also gets the title to the hydrocarbon at the well head (this means the hydrocarbon beneath the ground is still owned by the government). The government taxes the profit on the petroleum operation conducted by the license holder either as corporation income tax or special petroleum profits tax or both.

Cash Flow Diagram



Contractor NCF = Gross Revenue
- **Royalties**
- Opex
- Capex
- Special Taxes on Petroleum Profits
- **Corporate Tax**
- Bonuses
- Others

As seen in the Cash Flow Diagram or Distribution of the cash flow, royalty comes right off the top. Gross revenue minus royalty is net revenue. Net revenue less Opex less Capex, less Taxes and Bonuses is Contractor Net Cash Flow.

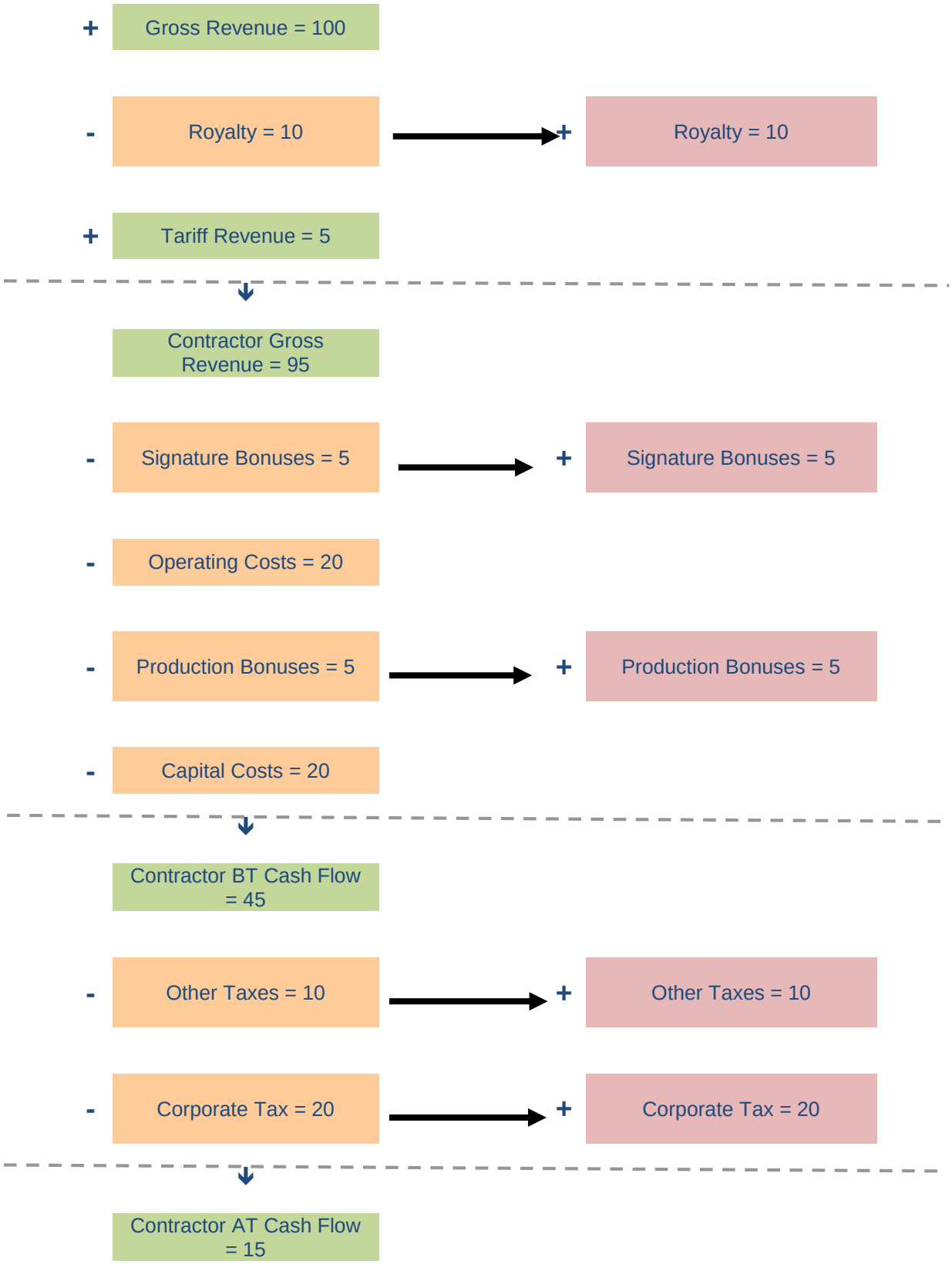
Net Revenues = Gross Revenues - Royalties
Profit for Tax = Gross Revenues - Deductions

Deductions =
- Royalties
- Opex
- DD&A
- Abandonment provisions
- Bonuses*
- Others

*Bonuses may or may not tax deductible

Royalties are generally based on production or revenue. Tax calculation is linked to gross revenue and allowable deductions. The major element of tax computations are deductions. Deductions are allowable cost before tax is paid to determine taxable revenue. Deduction generally compromises of Opex, DD&A (depreciation, depletion, and amortization, and intangible Capex (such as drilling cost). *Please note that generally, Capex's tangible portion is depreciated, while intangible portion is expensed.* Revenue left after paying royalties and allowing for deductions is taxable income.

Government Take = Royalties + Special Taxes + Corporate Tax + Bonuses



Tax is normally applicable on revenue left after paying royalties and deducting for allowable costs. Sometime one tax may an allowable deduction for another tax. For

example in Nigerian royalty/tax regimes, education tax is a deduction for petroleum profits tax. No separate corporate income tax is levied on petroleum profits.

Generally, all operating costs (Opex) are expensed in the period incurred. Capital cost on the other hand is categorized as Tangible or Intangible capital costs. Intangible costs are expensed when incurred. Tangible capital cost are capitalized and depreciated over longer duration.

As mentioned earlier also, Royalty/Tax based fiscal regimes are regressive in nature. This is because if the project profit is less, the government share of the profit is more. This prohibits development of smaller and less profitable field. See an example below. Case A is lower production case (just for example sake we assume 5 Barrels of production over field life!), case B is higher production case. Note that government take as a percentage of project cash flow (Revenue – Opex – Capex) is higher in case of smaller field (case A) then a bigger field (case B).

			Case A	Case B
Volume		Bbl	5	10
Price		$/Bbl	100	100
Gross Revenue		$	500	1000
Royalty	10%	Rate	50	100
Net Revenue		$	450	900
Opex		$	200	200
Capex		$	200	200
Pre Tax Income		$	50	500
Corporate Tax	30%	$	15	150
Contractor Take		$	35	350
Government Take		$	65	250
Project Operating Cash Flow		$	100	600
Contractor Take %			35%	58%
Government Take as %			65%	42%

	Inputs						Revenue		Royalty		
	Production Bbl/day	Oil price USD/barrel	Opex M USD	Exploration Capital M USD	Development Capital M USD	Abandonment Capital M USD	Oil Volume M Bbl	Gross Revenue M USD	Royalty Rate %	Royalty Base M USD	Royalty M USD
			1,080,000	**324,000**	**1,205,000**	**375,000**	**84,873**	**8,487,272**		**8,487,272**	**848,727**
2013	0	100	0	174,000	0	0	0	0	10%	0	0
2014	0	100	0	150,000	15,000	0	0	0	10%	0	0
2015	0	100	0	0	465,000	0	0	0	10%	0	0
2016	0	100	0	0	525,000	0	0	0	10%	0	0
2017	5,000	100	60,000	0	0	0	1,825	182,500	10%	182,500	18,250
2018	15,000	100	60,000	0	0	0	5,475	547,500	10%	547,500	54,750
2019	30,000	100	60,000	0	50,000	0	10,950	1,095,000	10%	1,095,000	109,500
2020	30,000	100	60,000	0	0	0	10,950	1,095,000	10%	1,095,000	109,500
2021	25,500	100	60,000	0	0	0	9,308	930,750	10%	930,750	93,075
2022	21,675	100	60,000	0	50,000	0	7,911	791,138	10%	791,138	79,114
2023	18,424	100	60,000	0	0	0	6,725	672,476	10%	672,476	67,248
2024	15,660	100	60,000	0	0	0	5,716	571,590	10%	571,590	57,159
2025	13,311	100	60,000	0	50,000	0	4,859	485,852	10%	485,852	48,585
2026	11,314	100	60,000	0	0	0	4,130	412,961	10%	412,961	41,296
2027	9,617	100	60,000	0	0	0	3,510	351,021	10%	351,021	35,102
2028	8,175	100	60,000	0	50,000	0	2,984	298,388	10%	298,388	29,839
2029	6,949	100	60,000	0	0	0	2,536	253,639	10%	253,639	25,364
2030	5,906	100	60,000	0	0	0	2,156	215,569	10%	215,569	21,557
2031	5,020	100	60,000	0	0	0	1,832	183,230	10%	183,230	18,323
2032	4,267	100	60,000	0	0	0	1,557	155,746	10%	155,746	15,575
2033	3,627	100	60,000	0	0	0	1,324	132,386	10%	132,386	13,239
2034	3,083	100	60,000	0	0	0	1,125	112,530	10%	112,530	11,253
2035	0	100	0	0	0	375,000	0	0	10%	0	0

This is a worked out example of simple Royalty/Tax regime with the inputs and calculations shown in tabular format.

	Before Tax Cash Flow					Corporate Tax						
	Revenue Total	Deductions Royalty	Deductions Capital	Deductions Opex	Before Tax Cash flow	Depreciation Pool	Depreciations	Total Deductions	Taxable Profit	Tax Loss Carry Forward	Corporate Tax Rate	Corporate Tax Payment
	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD	M USD		%	M USD
	8,487,272	**848,727**	**1,904,000**	**1,080,000**	**4,654,545**	**1,904,000**	**1,622,750**	**3,926,477**	**5,029,545**		35%	**1,760,341**
							4 Years					
2013	0	0	174,000	0	-174,000	0	0	0	0	0	35%	0
2014	0	0	165,000	0	-165,000	0	0	0	0	0	35%	0
2015	0	0	465,000	0	-465,000	0	0	0	0	0	35%	0
2016	0	0	525,000	0	-525,000	0	0	0	0	0	35%	0
2017	182,500	18,250	0	60,000	104,250	1,329,000	332,250	410,500	0	228,000	35%	0
2018	547,500	54,750	0	60,000	432,750	0	332,250	447,000	0	127,500	35%	0
2019	1,095,000	109,500	50,000	60,000	875,500	50,000	344,750	514,250	453,250	0	35%	158,638
2020	1,095,000	109,500	0	60,000	925,500	0	344,750	514,250	580,750	0	35%	203,263
2021	930,750	93,075	0	60,000	777,675	0	12,500	165,575	765,175	0	35%	267,811
2022	791,138	79,114	50,000	60,000	602,024	50,000	25,000	164,114	627,024	0	35%	219,458
2023	672,476	67,248	0	60,000	545,228	0	12,500	139,748	532,728	0	35%	186,455
2024	571,590	57,159	0	60,000	454,431	0	12,500	129,659	441,931	0	35%	154,676
2025	485,852	48,585	50,000	60,000	327,266	50,000	25,000	133,585	352,266	0	35%	123,293
2026	412,961	41,296	0	60,000	311,665	0	12,500	113,796	299,165	0	35%	104,708
2027	351,021	35,102	0	60,000	255,918	0	12,500	107,602	243,418	0	35%	85,196
2028	298,388	29,839	50,000	60,000	158,549	50,000	25,000	114,839	183,549	0	35%	64,242
2029	253,639	25,364	0	60,000	168,275	0	12,500	97,864	155,775	0	35%	54,521
2030	215,569	21,557	0	60,000	134,012	0	12,500	94,057	121,512	0	35%	42,529
2031	183,230	18,323	0	60,000	104,907	0	12,500	90,823	92,407	0	35%	32,342
2032	155,746	15,575	0	60,000	80,171	0	0	75,575	80,171	0	35%	28,060
2033	132,386	13,239	0	60,000	59,147	0	0	73,239	59,147	0	35%	20,701
2034	112,530	11,253	0	60,000	41,277	0	0	71,253	41,277	0	35%	14,447
2035	0	0	375,000	0	-375,000	375,000	93,750	468,750	0	468,750	35%	0

	After Tax Cash Flow			
	Contractor Net Cash flow	Contractor Take	Government Net Cash flow	Government Take
	M USD	%	M USD	%
	2,894,204	**53%**	**2,609,068**	**47%**
2013	-174,000		0	
2014	-165,000		0	
2015	-465,000		0	
2016	-525,000		0	
2017	104,250		18,250	
2018	432,750		54,750	
2019	716,862		268,138	
2020	722,237		312,763	
2021	509,864		360,886	
2022	382,565		298,572	
2023	358,773		253,703	
2024	299,755		211,835	
2025	203,973		171,878	
2026	206,957		146,004	
2027	170,722		120,299	
2028	94,307		94,081	
2029	113,754		79,885	
2030	91,483		64,086	
2031	72,565		50,665	
2032	52,111		43,634	
2033	38,446		33,940	
2034	26,830		25,700	
2035	-375,000		0	