Understanding the Alaska System

Fiscal Systems Seminar

August 28, 2023

PM session

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COURSE AGENDA





INDUSTRY BACKGROUND

> Nomenclature Hydrocarbons Global Market



INTRO TO FISCAL SYSTEMS

> Fiscal Systems: Principles Components



FISCAL SYSTEMS **DEEP DIVE**

Project Economics Fiscal Systems: Design Intro to Alaska Tax



ALASKA DEEP DIVE

Alaska Fiscal System Order of Operations



WHAT DO YOU HOPE TO LEARN?

DAY 1 PM

- Any question on this morning's material
- Any new questions



FISCAL SYSTEMS

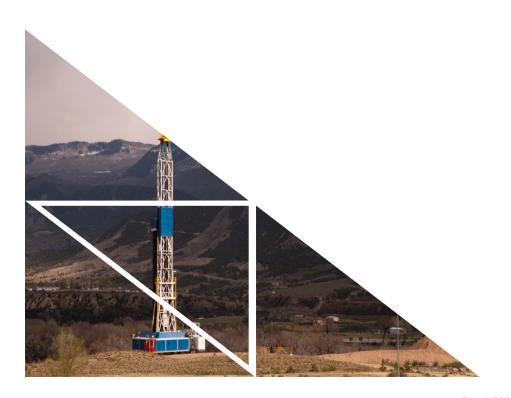
OVERVIEW OF FUNDAMENTALS





FISCAL SYSTEMS

WHY DO YOU NEED THEM?



THE ROLE OF A FISCAL SYSTEM

STEWARDSHIP OF MINERAL RESOURCES

IN3NERGY

- A petroleum fiscal system is a framework of laws, regulations and contracts designed to define a government's economic status in the development of hydrocarbon resources
- The intent is to provide economic and other terms that will attract sufficient capital for the prudent development and production of a country's mineral wealth, while returning a fair share of the value to the government
- Governments hope that whatever system they put in place will be robust enough to last many years before needing alteration
- However, as mentioned earlier, the industry and global market are continually changing
- Governments need to frequently evaluate the competitiveness of their fiscal policy against the global market and potential impacts on the status of resource development within their regime

WHO OWNS THE OIL AND GAS?

MAINLY THE "STATE"

- Basically, with the primary exception of the United States, governments own the minerals
- Governments, through any number of different processes, grant the right to others to develop and monetize those minerals. They accomplish this through a variety of means, including:
 - Legislation
 - Regulation
 - Contracts
- From the granting of mineral exploitation rights to the delivery of products to market, the entire process is generally governed by what is commonly referred to as a "Petroleum Fiscal System"



GOVERNMENTS AND PRODUCERS NEED EACH OTHER

FISCAL SYSTEM DESIGN MANAGES THE RELATIONSHIP

- Governments, who control the vast majority of mineral resources, generally lack the requisite resources to effectively and efficiently exploit their mineral riches
- The necessary investment capital, trained personnel,
 technology and market access are largely held by the private sector
- Additionally, as "easy" oil declines and technologically challenged oil becomes more the focus, the large project management skills of the oil companies (sometimes referred to as IOCs or international oil companies) becomes all the more important



FISCAL SYSTEMS

SHARING BENEFITS



IT IS ALWAYS ABOUT SHARING BENEFITS

PETROLEUM INVESTMENTS

- Oil companies are encouraged to invest in a given country or project by governments providing investors a fiscal framework with the opportunity to earn returns better than other alternatives on offer via the:
 - Method of sharing benefits
 - Degree of sharing benefits
 - Timing of sharing benefits
 - Risk / Benefit balance
- Fiscal systems that share benefits that align with oil company investment decision-making metrics, timing and processes can be expected to be most robust, and to attract the most investment dollars



GOOD DESIGN ANTICIPATES CHANGE

CAUTION WHEN DESIGNING POLICY

- The fiscal policy most in need of fixing or revamping are usually those that have been designed based on historical data relationships instead of building self correcting systems
- Those 'broken' policies share a common feature setting legislation and regulation around a reference number which is relevant today, but may not be relevant and/or have the same meaning in the future
 - Example: setting specific price points for tax rate changes without taking into account the fact that cost structures and production levels will change with price over time as well thus changing the implied 'profit' at a given price
- Good petroleum fiscal policy is one that learns from (not replicates or repeats) the past and is designed to succeed in the inevitable changing future



THERE IS NO SINGLE IDEAL POLICY

FISCAL DESIGN

- After a century of trying, and improving fiscal tools and terms, there is still no single ideal or optimum petroleum fiscal policy
- First, no two petroleum reservoirs are the same
- Second, each government tries to use the best practices and the best tools (contract terms) but modifies them to meet their stewardship obligations.
 Some typical drivers of policy design include:
 - Short term revenue needs vs building multi-generational wealth
 - Short on reserves (drill) or long on reserves (produce)
 - Providing affordable/discounted domestic energy supply
 - Grow associated industries (e.g. Petrochemical, Power)
 - Create long term jobs for the country
 - Creation of government oil company
- Producers, in making decisions where and when to invest, will assess the risk of doing business based on the whole package



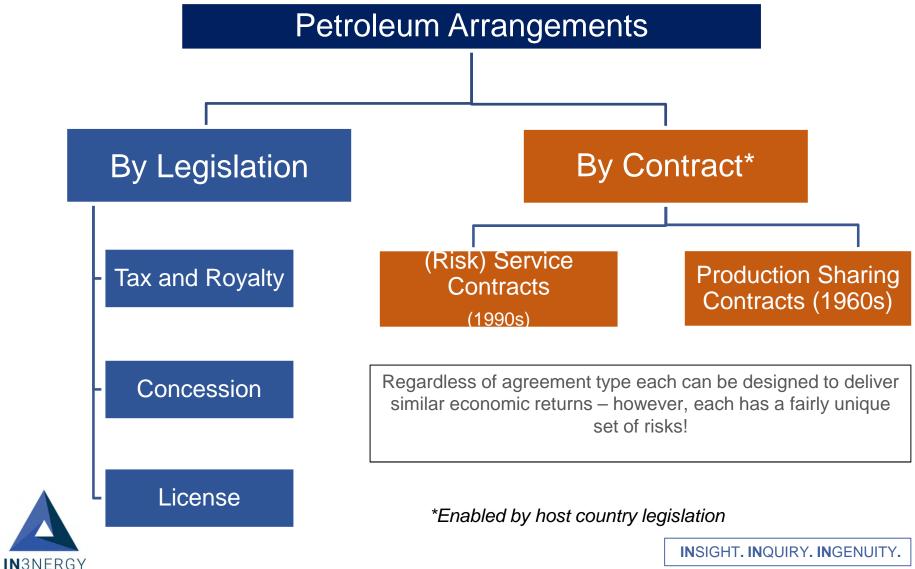
FISCAL SYSTEMS

TYPES OF SYSTEMS GLOBALLY



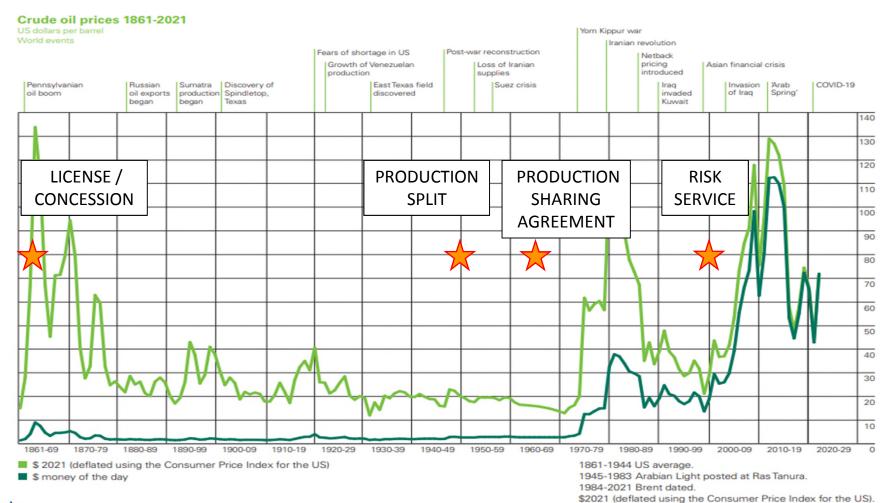
FISCAL SYSTEM FRAMEWORKS

TYPICAL METHODS IN USE TODAY



CRUDE OIL PRICES 1861-2022

US DOLLARS PER BARREL





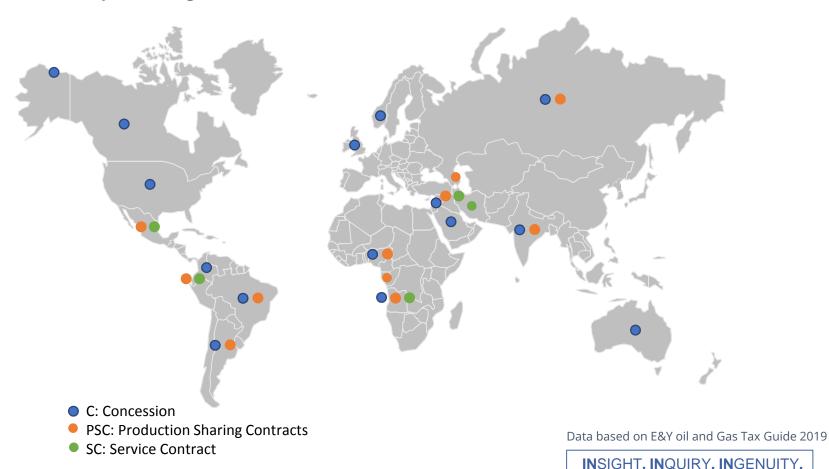
BP Statistical Review of World Energy 2022

FRAMEWORKS USED GLOBALLY

IN3NERGY

NOT EVERY SYSTEM FRAMEWORK FITS EVERY JURISDICTION

 Major oil producing countries choose various fiscal frameworks, some regulating and participating in operations with their own national oil company, others only serving as administrative stewards of their resource



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FISCAL SYSTEMS

SYSTEM DESIGN CONSIDERATIONS





COMPONENTS OF A FISCAL REGIME

MORE THAN MEETS THE EYE



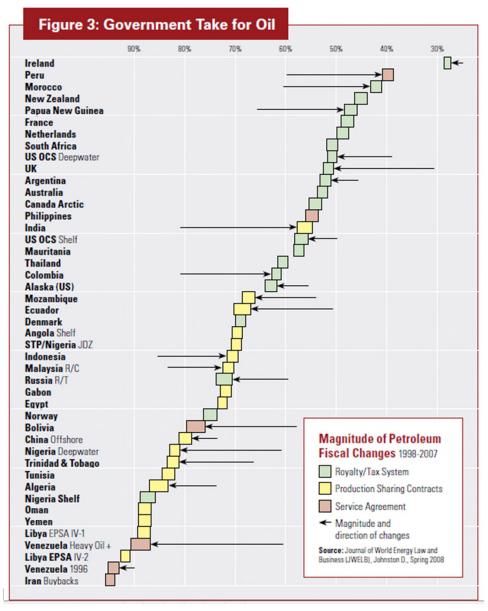
 Oil and gas taxation, and the competitiveness of one regime versus another, is based on items that are not always well understood, discussed, or even made 'visible' in the debate



There is much more to petroleum fiscal policy than the headline tax rate

SHARING BENEFITS WITH THE PRODUCERS

LEVEL OF GOVERNMENT TAKE



- Determining the right amount of government take is not an easy task
- Chart shows government take (or non-producer share)
 - Lower government take is to the top & to the right of the chart
 - Higher government take is to the bottom & to the left of the chart
- A rational assumption would be that the bulk of the petroleum investment dollars would be spent in countries in the top half of the table
- But actual industry spending is significant in the bottom half of the table
- This tells us there is more to energy investment decision making than government rates of take

MAJOR COMPONENTS OF COMPETITIVENESS

MORE THAN MEETS THE EYE



Headline Tax Rate

Other Fiscal Items:

- Lease Costs/Bonuses
- Investment Credits
- Cost Uplift
- Allowable Costs
- Cost Recovery
- IRR and ROI Metrics
- NOC participation
- Ring Fencing
- Risk offset



TIME RELATED ELEMENTS ARE KEY

MORE THAN MEETS THE EYE



Headline Tax Rate

Other Fiscal Items:

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ADMINISTRATION OF FISCAL SYSTEM

SOPHISTICATED TERMS GENERATE COMPLEXITY



Headline Tax Rate

During the fiscal design phase where capturing fair share is key, many times governments forget that more moving parts and a more complex system will result in:

- Greater costs to administer
- Greater need for regular auditing
- Greater likelihood to end up in some form of dispute



DESIGNING ALASKA'S IDEAL STRUCTURE

NEED TO DEFINE ALASKA'S FISCAL DRIVERS

- One main driver of fiscal system design in Alaska should be to increase production
 - Majority of state revenues and operating budget are funded by oil production in the state
 - Alaska has vast known resources
- TAPS is the life-blood of the North Slope

IN3NERGY

- Keeping enough oil flowing through it is critical
- Currently only using ¼ of historical maximum capacity
- Continue to generate multi-generational wealth and fund the PFD
- Ensure residents of the state have energy supply
- Maintain stable industry in the state, to bring gas production online

FISCAL DESIGN GLOBAL VARIANCES

IN PRACTICE TODAY

- Setting aside headline tax rate, countries address their drivers, goals, and needs through a combination of mechanisms
- All states' tax systems on oil and gas contain mechanisms to maximize investment and make operations economically viable
 - Deductions, exemptions, reductions, credits, refunds, carry forwards
- Although tax systems vary globally, there are some practices that are generally standard
 - The ability to recover or deduct operating and capital costs before being obligated to pay taxes is a fundamental part of nearly all tax systems
 - To not allow the full deductions of costs would greatly lessen the attractiveness of Alaska as a place to invest and would go against standard practice
 - Parameters to incentivize desired type of investment for a specific regime



TAX RATES VARY, DON'T TELL FULL STORY

ALL STATES HAVE MECHANISMS TO MAXIMIZE INVESTMENT

OIL TAXES IN THE 15 MAJOR OIL PRODUCING STATES

STATE	SEVERANCE OR GROSS PRODUCTION TAX RATE	ANNUAL PRODUCTION (MILLION BARRELS)				
		2018	2019	2020	2021	
Alaska	0 to 35.0%	174.8	169.9	163.9	159.6	
California(1)		160.7	156.4	142.2	134.6	
Colorado ⁽²⁾	2 to 5%	169.2	192.2	171.6	153.4	
Kansas ⁽³⁾	8%	34.7	33.2	28.3	27.9	
Louisiana	3.125 to 12.5%	48.1	45.9	36.7	34.7	
Michigan	4 to 6.6%	5.5	5.2	4.1	4.3	
Mississippi	0 to 6.0%	17.0	16.9	14.2	13.4	
Montana(4)	.8 to 15.1%	21.6	23.0	19.1	19.0	
New Mexico	3.75%	249.2	336.5	375.4	457.2	
North Dakota ⁽⁵⁾	10%	460.4	517.7	433.6	405.1	
Oklahoma	1 to 7.0%	201.3	218.3	173.2	143.1	
South Dakota	4.5	1.3	1.2	1.0	1.0	
Texas ⁽⁶⁾	0 to 4.6%	1612.4	1864.3	1773.1	1739.7	
Utah(6)(7)	0, 3 or 5%	37.1	36.9	31.0	35.5	
Wyoming	2 to 6.0%	88.0	102.2	89.1	85.4	



North Dakota 2022 Red Book

MECHANISMS VARY TO ACHIEVE GOALS

ALL STATES HAVE MECHANISMS TO MAXIMIZE INVESTMENT

OIL TAXES IN THE 15 MAJOR OIL PRODUCING STATES

- * Severance (or gross production) tax is in lieu of local property taxes on the oil.
- There is no statewide severance tax on oil and gas production in California. There are ad valorem (property) taxes
 administered by each county. There is a small statewide assessment on each barrel of oil and 10,000 cubic feet of
 natural gas produced. The rate is determined annually by Department of Conservation to fund agency operations.
 The assessment rate for fiscal year 2017/2018 is \$0.5038349.
- 2. Colorado has a 2% to 5% severance tax but <u>allows 87.5% of local property taxes as a credit against the tax</u>. Since property taxes average about 7% this credit generally eliminates the severance tax liability.
- 3. Kansas has an 8.0% severance tax but allows a credit of up to 3.67% for property taxes paid on oil properties. The severance tax is based on value. Actual rate paid after credit is 4.33%.
- 4. Montana's tax rates vary based on the type of well, when the well was drilled, and whether the taxpayer has a working or non-working interest. A portion of the production tax is allocated back to local governments in lieu of property taxes.
- 5. North Dakota has a gross production tax rate of 5% and an oil extraction rate of 5% with exemption and incentive rates of 0 or 2% and a trigger rate up to 6%.
- 6. Texas and Utah have property taxes on oil properties but it was not possible for local authorities to estimate an effective percentage rate.
- 7. Utah's severance tax is 3% on the first \$13 per barrel and 5% on any amount over \$13 per barrel.

Source: Various sources researched by the North Dakota Office of State Tax Commissioner, Oil and Gas Section.

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North Dakota 2022 Red Book

MECHANISMS AREN'T "GIVEAWAYS"

NORWAY FISCAL SYSTEM STRUCTURE UTILIZES MANY

The Norwegian petroleum tax system is <u>based on the taxation of the entity</u>, rather than on specific assets and licenses. Thus, <u>there is no ring fencing</u> between different licenses or fields on the NCS.

Losses may be carried forward indefinitely for offshore activity. Interest on such losses is set by the Ministry of Finance annually; for 2018, the rate was 0.9%.

C. Capital allowances

For taxable income subject to a marginal tax of 78%, investments in offshore production facilities, pipelines and installations (tangible assets) used in extraction activity are depreciated over a six-year period beginning with the year of investment.

Additional allowances are permitted at a rate of 20.8% when calculating the special tax basis for the 56% tax rate (i.e., 5.2% each year over a four-year period). This means that 89.65% (i.e., $56\% + 22\% + [20.8\% \times 56\%]$) of offshore investments are nominally borne by the Government.

Other investments and assets located onshore (e.g., buildings and office equipment) used in the upstream business are depreciated on a declining-balance method (from 2% to 30%) from when the assets are utilized; however, depreciation from such investments or assets is deductible in the offshore regime at a marginal tax rate of 78%.





An upstream company may also be <u>refunded the tax value of exploration</u> expenses for each tax year loss, including direct and indirect expenses related to exploration activities on the NCS (except for financing costs). The refund is

TAKEAWAYS

KNOW PRODUCERS, KNOW COMPETITIVE ENVIRONMENT

- Fiscal system structure decisions should be made with understanding:
 - Of the types of producers and operations in your state
 - What is standard in systems across the industry
 - What is your starting position as a state based on characteristics of your resource and business environment offering
- Mechanisms that incentivize investment and generate petroleum tax revenue are not "giveaways" or "subsidies"
 - Parts that contribute to the overall success of a whole fiscal system
 - Incentivize certain producer behaviors to enable state/country drivers to be met, a means to reach state needs
 - Make high risk or disadvantaged activities economically viable in the short term so the state can benefit in the long term
- Norway is an elite example of resource stewardship, including running government owned Equinor, a global producer
 - Continually attracting investment at higher rate than Alaska through a fiscal system that enables both the government and producers to benefit from the production wealth

FISCAL SYSTEMS

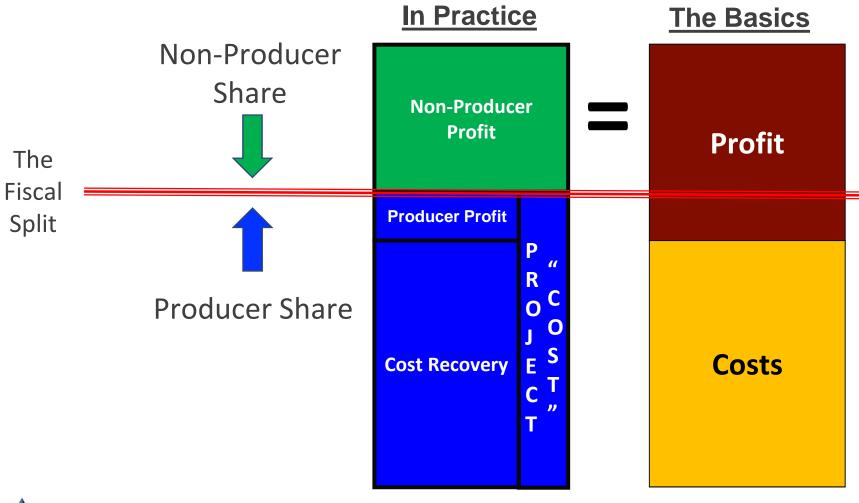
KEY COMPONENTS AND MECHANISMS





FISCAL SYSTEM DESIGN

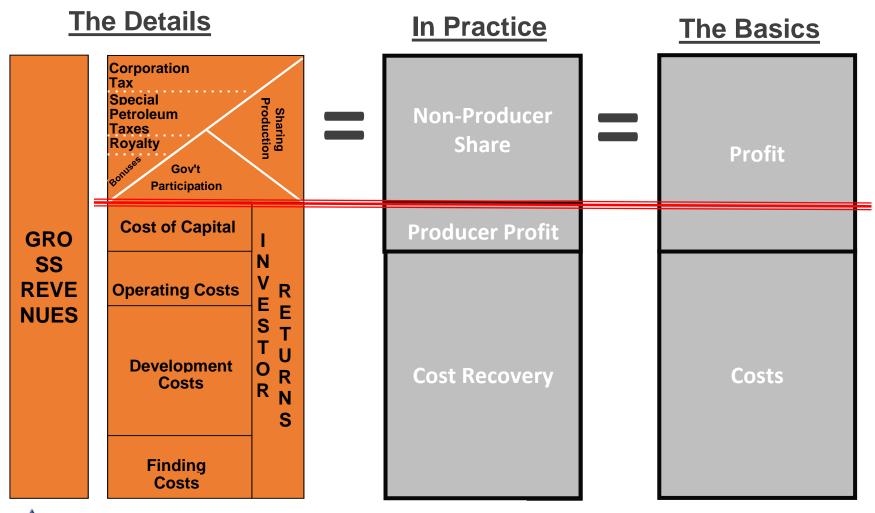
CREATING AND SHARING PROFIT





FISCAL SYSTEM DESIGN

MANY TOOLS AT A GOVERNMENT'S DISPOSAL





BACKGROUND CONCEPTS

PERSPECTIVES ON FISCAL DESIGN

- In order to better understand the Alaska's production tax system and producer decision making and economics, it will help to have some background on how certain fiscal mechanisms function, why they may have been chosen, and how they work in practice
- The key topics to be discussed include:
 - Gross (regressive) and Net (proportional and progressive) taxes
 - Royalty
 - Ringfencing
 - Cost recovery
 - Introduction to importance of timing



GROSS VERSUS NET TAXES

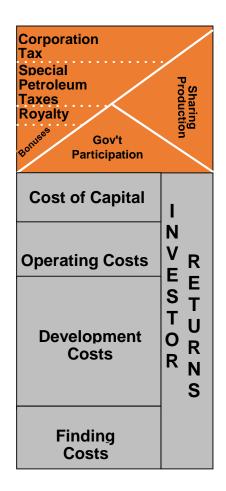
3 TYPES OF TAX APPLICATION

- Generally, petroleum taxes fall into one of three categories:
 - Regressive
 - Proportional (flat)
 - Progressive
- Regressive taxes take a larger portion of profits as price falls
- **Proportional** taxes take the same portion of profits at all prices (where there is a profit, otherwise the tax is zero)
- Progressive taxes take a larger share of profit as price increases
- Gross revenue taxes are regressive, while net taxes on profits can be proportional or progressive



GROSS VERSUS NET TAXES

CHARACTERISTICS AND DESIGN CONSIDERATIONS



- Government take can be on a gross or a net basis
- Both systems have advantages and disadvantages which need to be considered
- Gross Tax
 - Regressive and a certain revenue stream
 - More transparent, less complex, easier to audit
 - Does not account for variances among operations and operators
- Net Tax
 - Proportional or progressive tax, uncertain if revenue will be received
 - Less transparent, more complex, more difficult to administer and audit
 - Higher chance of creating disputes
 - Evens the playing field between high and low cost operators

 INSIGHT, INQUIRY, INGENUITY.

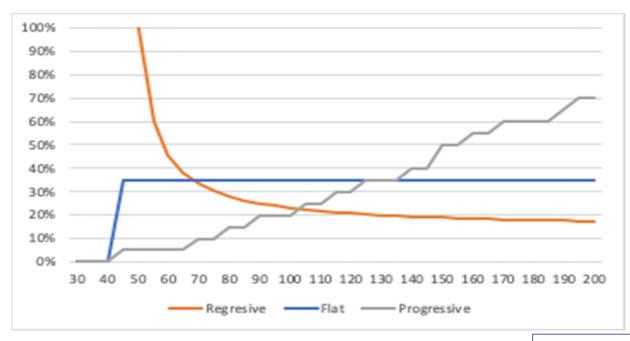




GROSS VERSUS NET TAXES

PLOT ACROSS A RANGE OF PRICES

- Each form of tax has positive and negative aspects
- Some regimes use both gross and net taxes to achieve policies across a wider range of prices
- Tax should never be the reason why operations are uneconomical





REGRESSIVE TAX

PRODUCER UPFRONT HURDLE, GOVERNMENT GUARANTEED INCOME

- Governments tend to use regressive taxes, such as royalty
 - Ensure revenue from the first day of production
 - Easy to estimate or predict
 - Easy to calculate and audit
- The downside to regressive taxes are:
 - Required upfront payment before costs can be recovered and profits received
 - High levels of regressive tax distort investment decisions
 - Cause early shut in and abandonment
- To mitigate their regressive effects, some countries apply sliding scale royalties based on variable, such as production levels or sales values
- Emerging countries, or countries that rely predominantly on oil revenue to operate, tend to have regressive taxation



As producing basins mature, countries tend to eliminate regressive taxes to extend the life of fields

ROYALTY

A REGRESSIVE TAX

- Royalties have historically been the most common method used by governments to gain revenue from the exploitation of a nation's resources
- Calculated based on either the volume or the value
- There is no set royalty rate in the industry, rates are dependent on:
 - The rest of the fiscal system
 - Government drivers
 - Private owner (L48) vs State vs Federal lands
 - Contract terms
 - Law and regulation
 - Market forces



PROGRESSIVE TAXES

INCREASING NET TAX AS PROFITS INCREASE

- Progressive taxation focuses on the profitability of a project, aligning government and company expectations
- At the same market price, progressive taxation recognizes differences and taxes accordingly
 - Low cost conventional fields pay a higher effective tax rate than say high cost heavy oil
 - High volume projects versus low volume projects (number of barrels to cover fixed costs)
 - New projects (cost recovery in early years)
 - Projects in their prime (high production, low unit cost)
 - Mature projects (get most oil out of the ground)
 - Automatic desired discrimination

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 More governments are using full cycle profitability indices like IRR, ROI, etc. to set government share, which is another form of progressive taxation

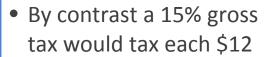
PROGRESSIVE TAXES

ADJUSTS TO THE PROFITABILITY OF DIFFERENT PROJECTS

 Assume a step progressive tax like personal income tax that taxes net income (PTV/barrel) on a per barrel basis: e.g.

PTV/bbl	Tax Rate
\$0 - \$10	10%
\$11 - \$20	20%
\$21 - \$40	40%
\$40 and over	50%

- Price of oil is \$80/bbl
 - Large Conventional Oil \$30/bbl cost, PTV = \$50/barrel
 - 1st \$10 taxed at 10% \$1 tax
 - 2nd \$10 taxed at 20% \$2 tax
 - Etc until a total tax of \$16 is due
 - 32% effective rate
 - Heavy Oil with \$60/bbl cost, PTV \$20/barrel
 - Total tax due is \$3
 - Effective rate of 15%



- 24% effective rate for large conventional oil
- 60% effective tax rate for heavy oil



RINGFENCING CREATES TAX BOUNDARIES

HOW IT WORKS

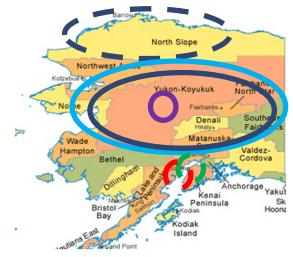
- Ringfencing is a means to isolate assets generally for purposes of taxes
- Ringfencing varies around the world
 - Can be as narrow as a platform or producing reservoir
 - Field or lease ringfencing is common
 - Can be as large as a whole country
- Governments use ringfencing for a number of reasons
 - Differential taxation, usually via contract
 - Incentivize development in order to recover costs
 - Use of profit based mechanisms for sharing profits
- Narrowly defined ringfenced areas are perceived as very high risk, whereas broadly defined ring fenced areas present much less risk
 - Cross crediting can help
 - Broader areas "average" things out



RINGFENCING AFFECTS INVESTMENT DECISIONS

PROJECT ECONOMICS ARE DIRECTLY AFFECTED

- Alaska uses broad geographic ringfences to:
 - Recognize differences in size, unit costs
 - Provide differential incentives



- North Slope
- ME 024 a,b
- Cook Inlet Oil
- Cook Inlet Gas
- Non CI Gas
- All Other

AS 43.55.160

- Types of ring fencing include:
 - Product Type oil, gas, NGLs
 - Age by vintage of contract
 - Geography North Slope, Middle Earth, Cook Inlet
 - Area License, Unit, Field
 - Tax Payer Project/SPV, Individual companies
 - Custom unique and regime driven



THE IMPORTANT IMPACT OF TIME

TIME CAN MAKE OR BREAK ECONOMICS

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- Today, in several areas of the Lower 48 it is possible to acquire acreage, drill and have a well on production tied to market in a few months
- In many locations around the world the process of lease acquisitions to commercial production delivered to market can take up to 10 years
- Besides time impacting the economics in comparing projects it also raises the level of risk associated with a particular project
- It is key in project economics to understand the impact of the time that passed between when costs are incurred, to when revenue is generated to begin to recover those costs, and when profit is finally earned

TIME TO FIRST OIL

ALASKA VERSUS THE LOWER 48

 From the 1st investment dollar spent to 1st revenue dollar earned, producers in the Lower 48 begin to earn their money back materially sooner than producers in Alaska

L48

90 to 180 days

ALASKA

>5 years

- What creates the years of difference?
 - Exploration activities in Alaska are on large scale areas, more often without current activity and data
 - Seasonal activity limitations, timing of permitting and licensing
 - L48 can be well by well developments, where as Alaska is full field
- What does the difference mean for investment?
 - The longer development time the greater the risk
 - L48, early well revenue can pay for future wells, whereas Alaska requires almost all capital upfront
 - Flipside, Alaska fields can lead to decades of revenue



COST RECOVERY KEY TO FAVORABLE ECONOMICS

WHAT'S ALLOWED AND TIMING OF RECOVERY

- The concept of cost recovery is a globally accepted standard, applied various ways throughout fiscal systems. The most important parameters are:
 - Which costs can be deducted and/or recovered?
 - When can the deductions/recovery take place?
 - Before or after tax is due?
- Non-deductibility or exclusion of costs hurts economics and increases risk, thus creating an uncompetitive fiscal system AS 43.55.165(e)
- Global standard is to deduct and recover the majority of costs, such as exploration, development, production, administration and services

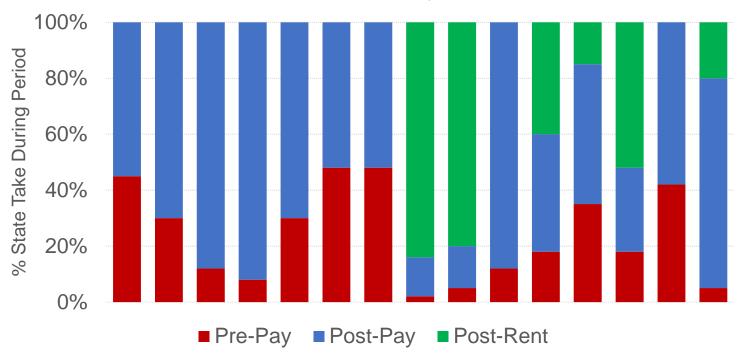


Usual exclusions are financing interest, excess corporate overhead, penalties, entertainment, and donations

TIMING OF GOVERNMENT TAKE

THE RELATIONSHIP BETWEEN LEVEL OF RISK AND TIME





Pre-Pay: Before Investor has recovered his costs

Post-Pay: After cash payout but before a 15% return on capital Post-Rent: After cash payout plus 15% return have been recovered by

investor



MOVING TO SELF-CORRECTING STRUCTURES

THE "FIXED" VERSUS "VARIABLE" DEBATE

- With so many options and so many moving parts, more governments utilize flexible, self-correcting structures
 - Fiscal structures must be flexible to accommodate a wide range of possible future outcomes without the need for modification
 - For example: price fluctuations
- Good fiscal design strikes a balance between complexities to deal with any 'what if' scenarios and the associated stewardship costs
- Fiscal design needs to be within the administrative and audit capacity of the relevant governing institutions
- Simpler systems usually prove to be more viable and durable than theoretically ideal but complex systems



DEALING WITH UNINTENDED CONSEQUENCES

THE RISKS OF COMPLEX FISCAL SYSTEMS

- By creating, revising, or eliminating one aspect of a complicated tax system, there is a very likely risk that other areas of the tax system will be affected to the detriment of one or more parties
- These unintended consequences can undermine the intent of original efforts and are often difficult to see or anticipate
- Before making changes, a thorough analysis should be performed to make sure the level and degree of interdependency of certain taxation terms is understood and addressed





DAY 1 SUMMARY

INDUSTRY BACKGROUND

- The petroleum industry is full of exclusive terms, which are very important to understand when designing fiscal systems and analyzing their outcomes
- Hydrocarbons are present in our daily lives and will continue to be for decades
- The oil and gas industry is connected globally, where no one region is shielded from the market forces of another
- Alaska can only control some factors which influence activity in the state, and the rest have to be mitigated through the fiscal system
- The green movement is disproportionately affecting Alaska due to the environmental characteristics, but Alaska can be a leading producer for decades if it chooses



Rich@in3nergy.com

Christina@in3nergy.cor

☐ in3nergy.com

