

Petroleum Economics & Fiscal Systems Training Course

Alaska, November 2011

Key Messages



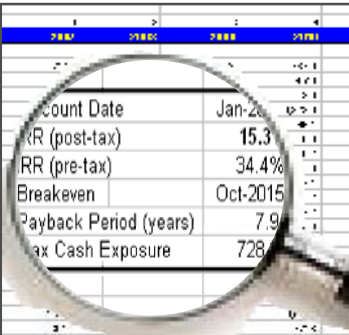
Investment Decision Metrics

› Key metrics are used to quantify the relative attractiveness of an investment in decision making:

- Establish the economic feasibility of an investment opportunity
- Weight the relative merits on investment opportunities
- Determine the value of an asset
- Assess the feasibility for project expansion or acceleration

› Examples of metrics used:

- Value = Net Present Value (NPV), Expected Monetary Value (EMV), Value per Barrel
- Profitability = Internal Rate of Return (IRR), Profit Investment Ratio (PIR)
- Exposure = Payback Period, Maximum Cash Sink, Cost per barrel

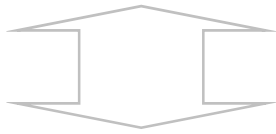


| | |
|------------------------|----------|
| Account Date | Jan-20 |
| IRR (post-tax) | 15.3 |
| IRR (pre-tax) | 34.4% |
| Breakeven | Oct-2015 |
| Payback Period (years) | 7.9 |
| Max Cash Exposure | 728 |

Government Take

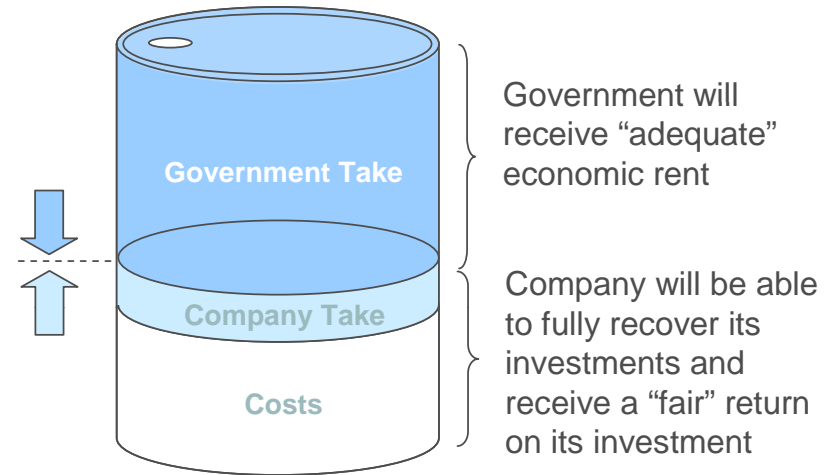
› Government (generally) wants:

- Maximize economic rent for Government
- Attractive enough terms to encourage resource development
- Higher Government Take following Company's payback



› Company (generally) wants:

- Maximise return on investments
- Attractive enough terms to participate
- Higher Company Take during the investment period
- Predictable Company's cash flows with changing oil price

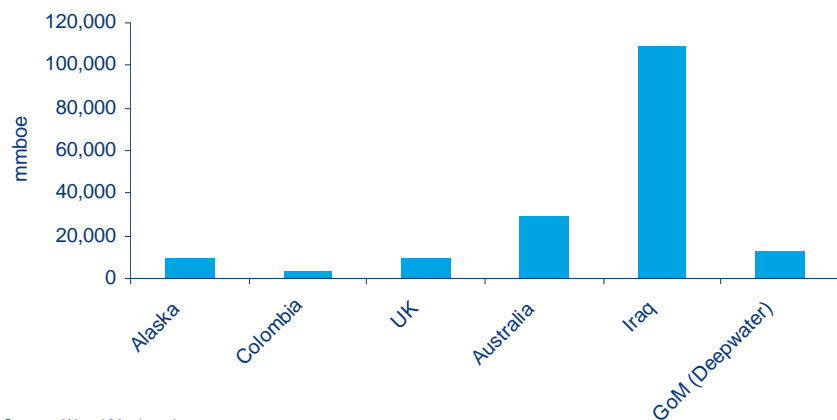


› Other factors:

- Perceived prospectivity of the block/lease, country, or region
- Level of Government's participation in the industry
- Maturity of the industry
- Contribution of oil industry in the economy
- Level of competition for upstream investment

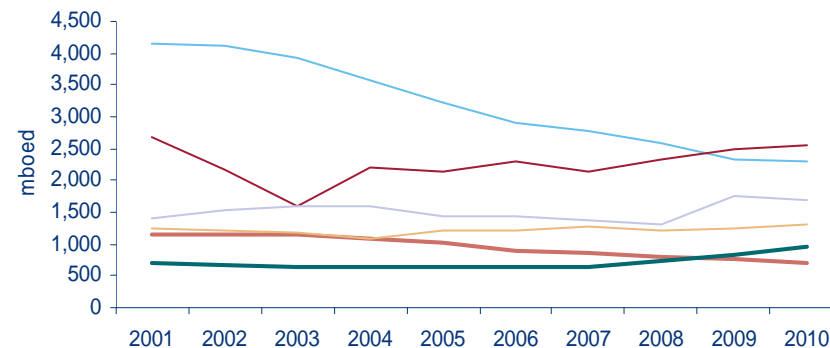
There are a vast array of factors which might be used to identify a 'peer group' of fiscal regimes.

Remaining Proved + Probable Reserves



Source: Wood Mackenzie

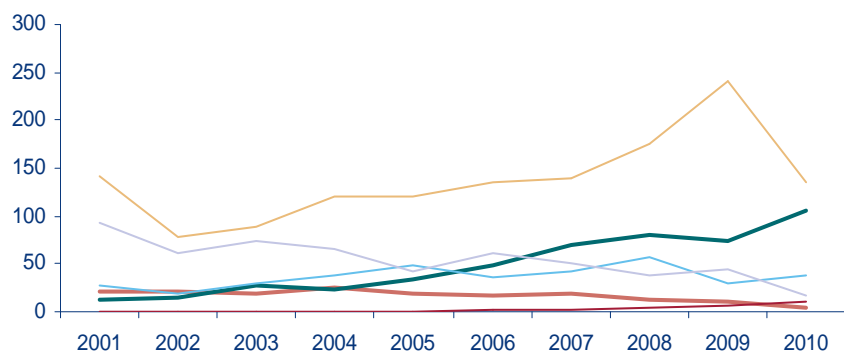
Production



Source: Wood Mackenzie

Alaska Colombia UK Australia Iraq GoM (Deepwater)

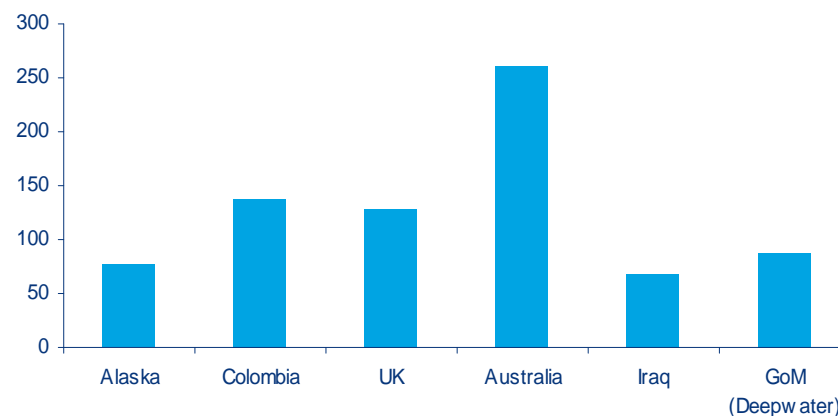
Number of Exploration Wells Drilled



Source: Wood Mackenzie

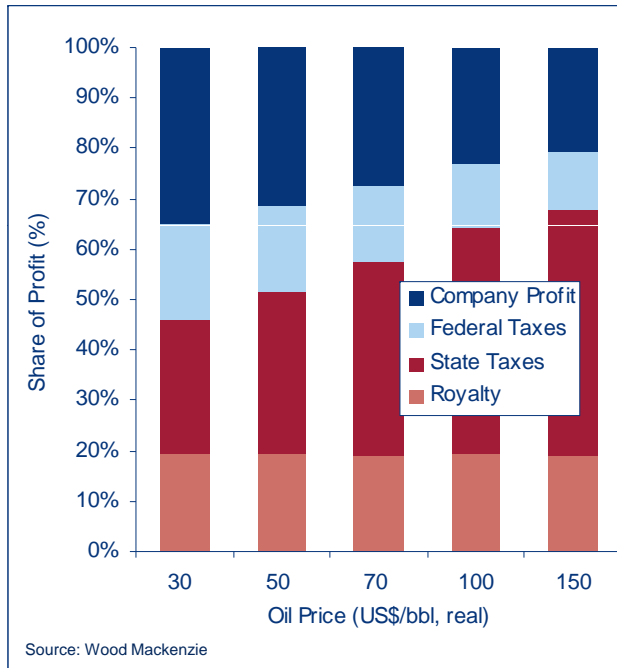
Alaska Colombia UK Australia Iraq GoM (Deepwater)

Number of Companies with License Interests

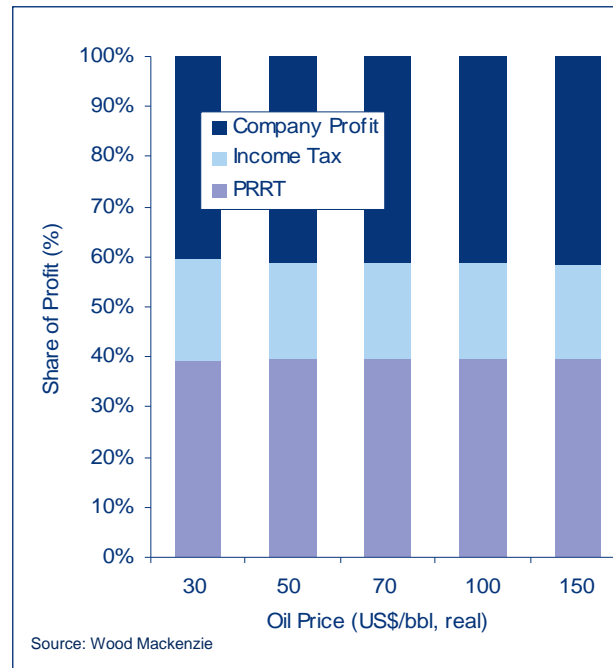


Source: Wood Mackenzie

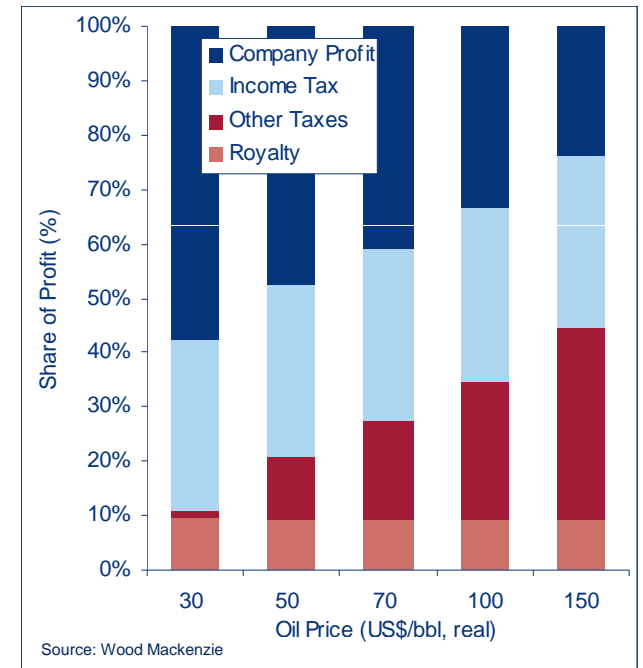
The Alaskan state fiscal system is progressive, meaning the state's share increases as project profitability increases.



Alaska

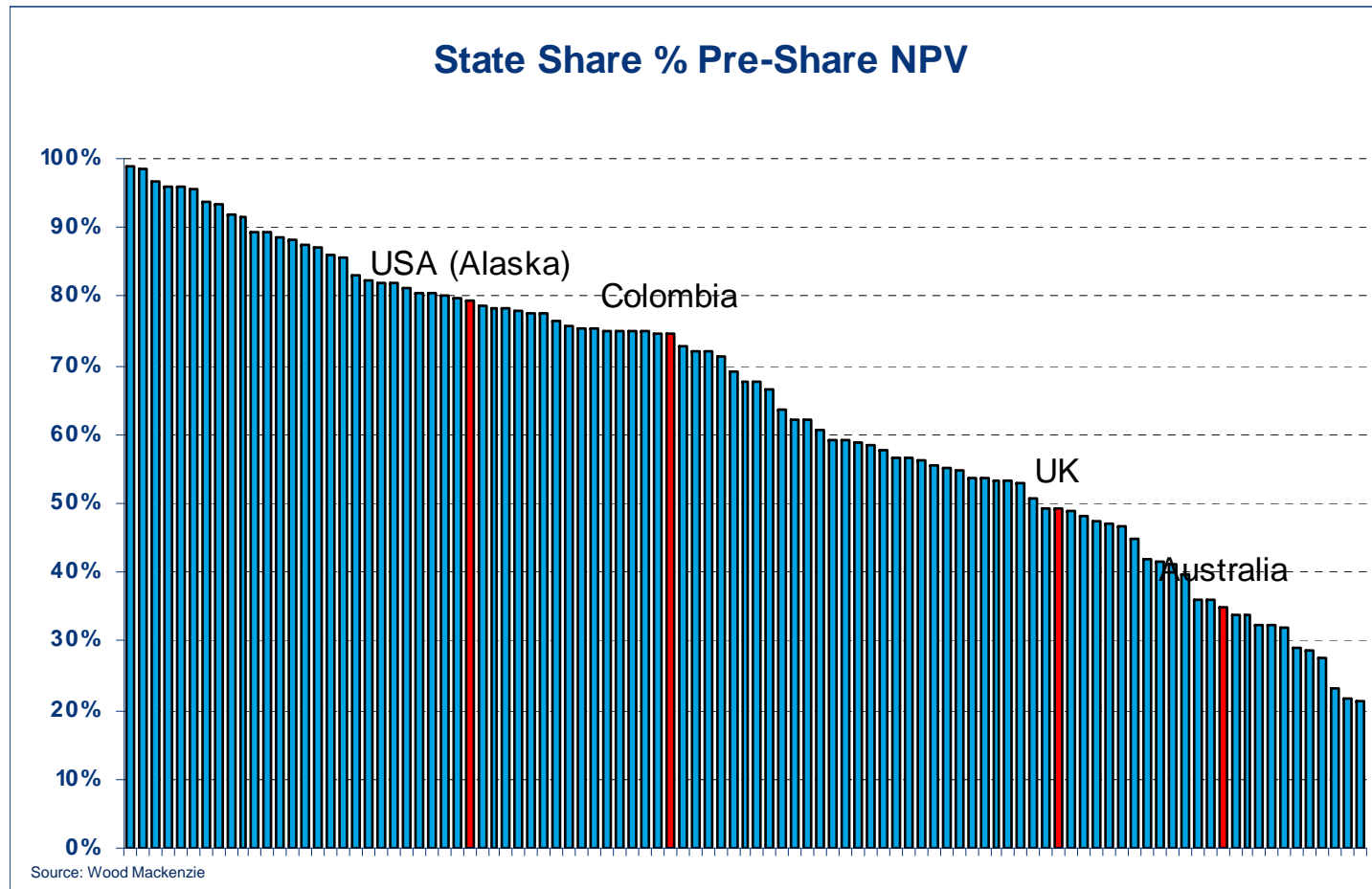


Australia



Colombia

Any depiction of fiscal ranking must be used with extreme caution. Variation in the underlying assumptions can cause significantly different outcomes. The chart below is based on development economics of a hypothetical onshore high cost oil field under a \$100/bbl price assumption and fiscal terms as of 2010.



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