Economic Analysis of Kazakhstan's Fiscal Regime For the Development of Marginal Fields

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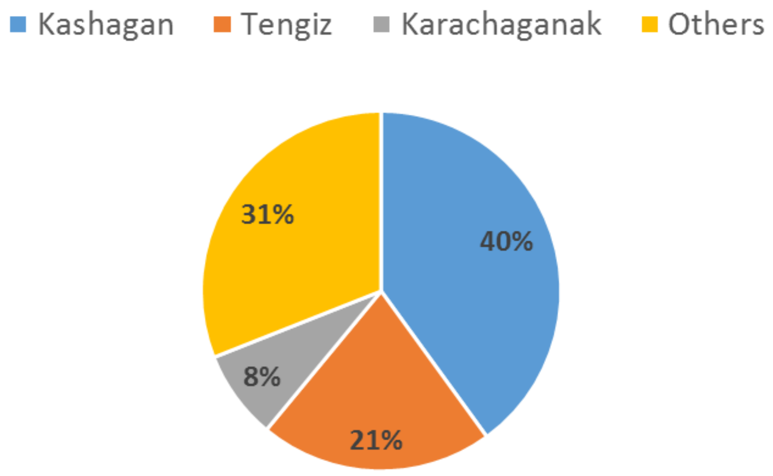
Introduction

- ❑ 250+ oil, gas and condensate fields;
- ❑ Field size distribution is very unusual;
- ❑ Current petroleum fiscal regime applies to 31% of state's total reserves;



- ❑ Most of the fields were discovered before 1991;
- ❑ Fields are reaching economic efficiency limit, experiencing high viscosity, well stream watering, etc.
- ❑ Industry needs investment incentives.

2009 Fiscal Regime

- ❑ Amended Royalties and PSCs;
- ❑ Introduced royalty-type tax – MET;
- ❑ 2 additional royalty-type liabilities for exports – RTE and EDT.
- ❑ Profit-based taxes: CIT and EPT

Royalty-type Taxes			Profit-based Taxes	
Mineral Extraction Tax (MET)	**Rent Tax on Export**	Crude Oil Export Duty	**Corporate Income Tax**	**Excess Profit Tax**
0.5-18 %	0-32 %	$40 per ton	20%	

- ❑ CIT depreciation rate – 25% reducing-balance;
- ❑ EPT – 25% of deductions.

Study aims to evaluate the efficiency of the current fiscal regime for the development of marginal fields.

Data & Methodology

- ❑ 3 Model Oil Fields: Small 20MMbbl, Medium 50MMbbl, Large 100MMbbl;

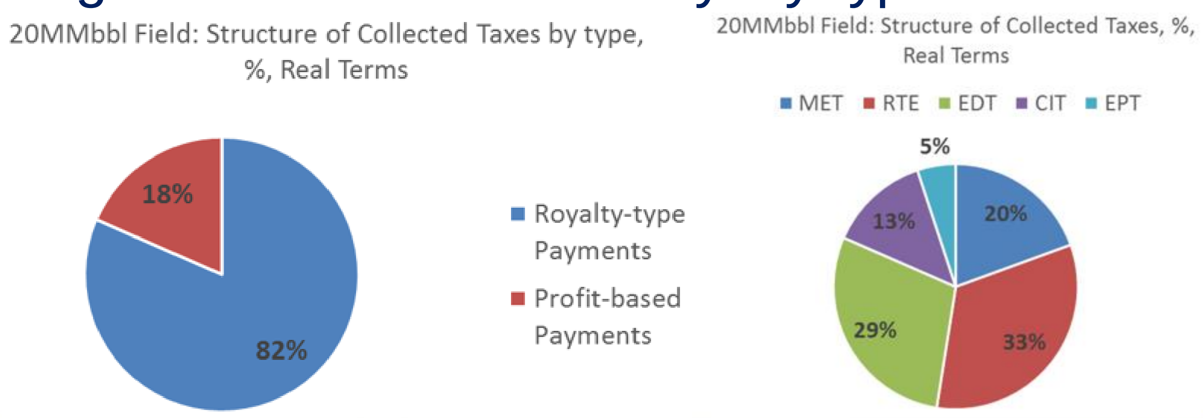
Field Type		Small	Medium	Large
Development Costs	*$/bbl.*	15	12.5	10
Annual Operating Costs	*% of acc. Devex*	7.75	7	6.25
Drilling Costs	*% of Devex*	50	45	45
Abandonment Costs	*% of Total Devex*	10	10	10
No. of years for abandonment	*years*	1	1	3

- ❑ Discounted Cash Flow Model;
- ❑ Deterministic Sensitivity Analysis;
  - Tornado Charts
- ❑ Monte Carlo simulation - 4 Stochastic Variables:
  - Oil Price – random walk;
  - Reserves, Devex and Opex – lognormally distributed with known mean and standard deviation.

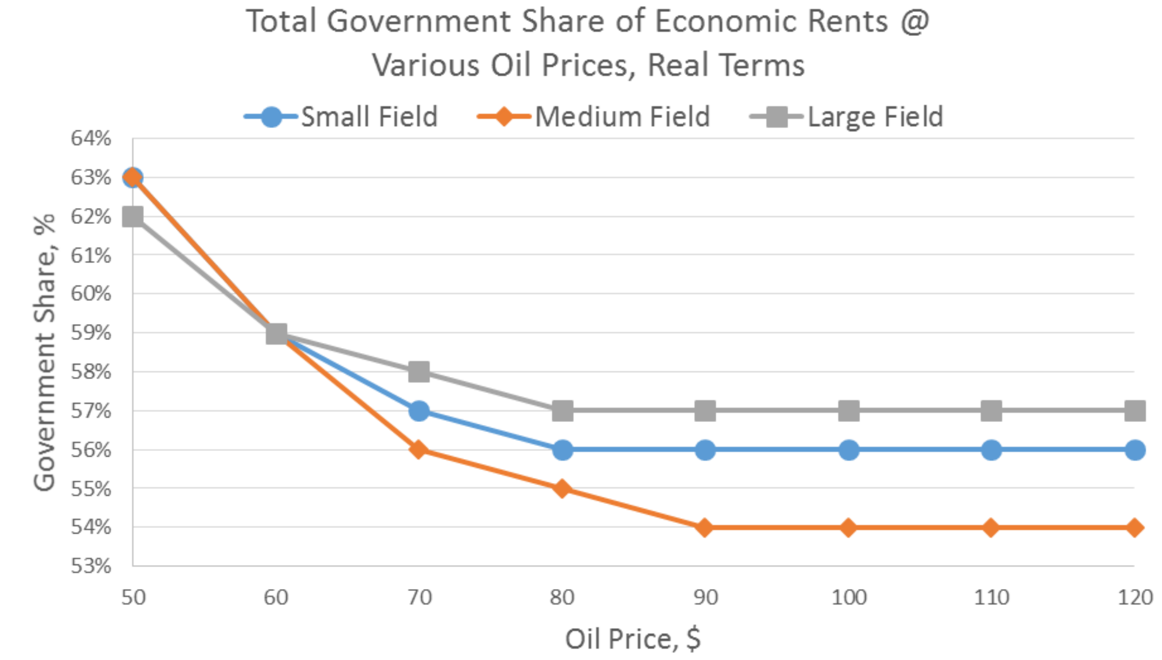
Results

In Real Values	20MMbbl Field	50MMbbl Field	100MMbbl Field
Pre-Tax NPV, $ mil.	359	1075	2749
Post-Tax NPV, $ mil.	54	82	412
NPV/I	0.19	0.14	0.44
Breakeven Oil Price, $/bbl	42.5	43.6	33.5

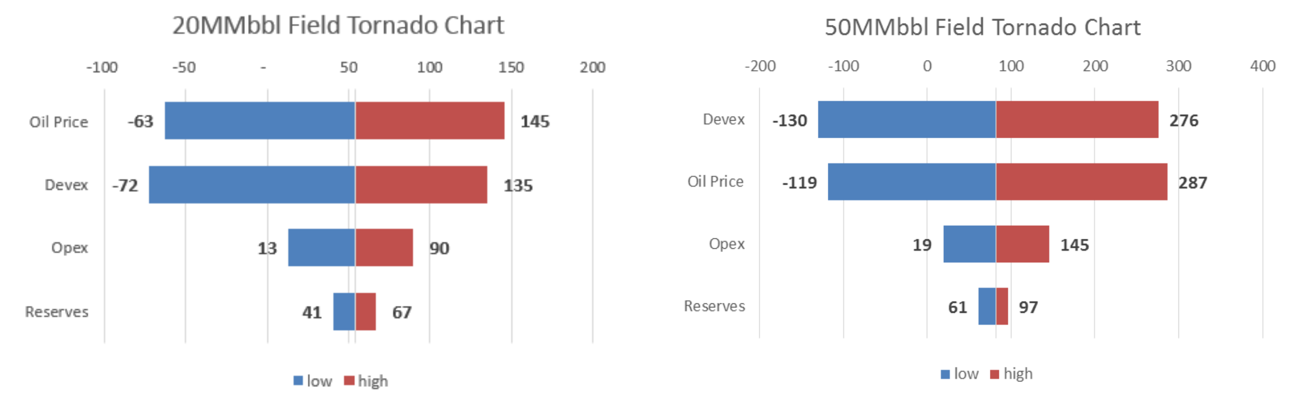
- ❑ Positive Post-Tax NPV for all 3 fields, but low NPV/I for Small and Medium Fields;
- ❑ Critical break-even oil prices for Small and Medium Fields in the current volatile market;
- ❑ Significant burden from royalty-type taxes:

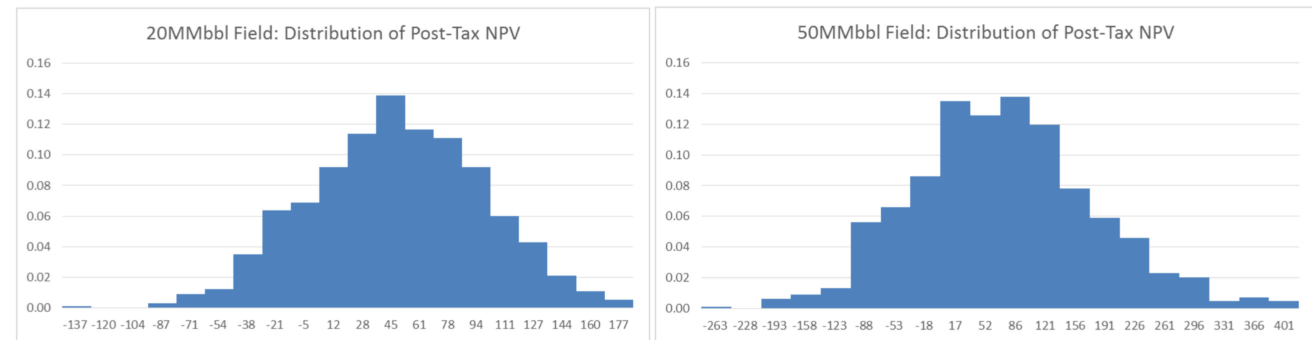


- ❑ Fiscal System is regressive at low oil prices and proportional at higher oil price environment;



- ❑ Strong influence of Oil Price and Devex on Small and Medium projects:





Stochastic Oil Price: Post-Tax NPVs of Small and Medium Fields

Conclusion

- ❑ Current fiscal regime does not perform well in promoting the development of marginal fields;
- ❑ The system is regressive at low oil prices;
- ❑ High tax burden deters investments in Small and Medium scale projects;
- ❑ Double taxation if oil is exported vs. lower gross revenues if sold domestically.

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