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# Impact of Low Oil Price on Energy Security

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# Background and objective of the study

## Background

## Objectives

- Economic/financial damage
- Problems related to these losses
- Responses to these issues
- Effects on world energy markets

## Survey target

- Oil producing countries
- Oil majors

# Economic damage (1)

## (1) OPEC main producing countries

Value of petroleum exports (billion dollars)

	2011	2012	2013	2014	2015	2016	2017
Saudi Arabia	317.6	337.5	321.9	284.4	158.0	na	na
·Budget deficit	na	na	0	-18.0	-98.0	-87.0	-52.8
Republic of Iran	114.8	101.5	61.9	53.7	27.3	na	na
UAE	79.6	86.0	85.6	97.2	52.4	na	na

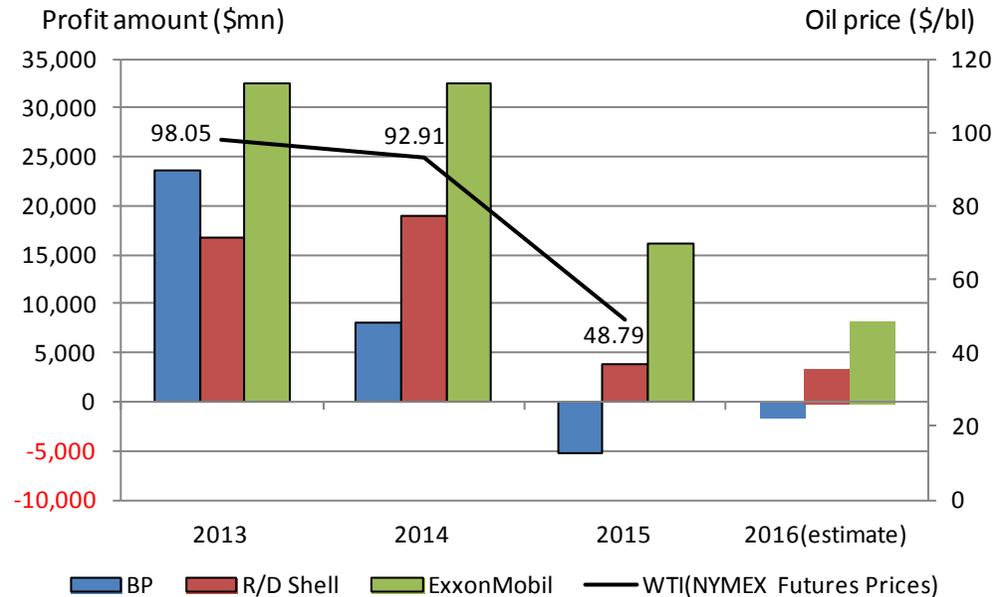
(Sources) OPEC Annual Report 2016, SAMA

- A sharp decline in oil revenues in 2015
- In Saudi Arabia, a fiscal deficit has occurred since 2014

# Economic damage (2)

## (2) Main oil majors

Change in final profit of the oil majors



(Source) Earnings report of each company (results up to 3<sup>rd</sup> quarter of FY2016 plus estimates)

- All companies declined sharply in 2015
- Especially remarkable was the decrease in upstream revenue

# Economic measures (1)

## (1) OPEC main producing countries

	<b>Saudi Arabia</b>	<b>Iran</b>	<b>UAE</b>
Reduction of subsidies	Fuel, Fringe benefit	Fuel, Cash benefit	Fuel, Water, Electricity
New taxes	Cigarette, VAT	Hike in VAT	Corporation Tax, VAT
Sale of state-owned assets	IPO	-	-
Post-petroleum policy	Vision 2030	The 6 <sup>th</sup> five year dev. plan	Solar Power
Introduction of foreign investment	-	Oil and gas development	Oil and gas development
Organizational reform and integration	Saudi Aramco	-	ADNOC group, SWF
Reduction in operating costs	-	NDF	ADNOC group

# Economic measures (2)

## (2) Main oil majors

	<b>BP</b>	<b>R/D Shell</b>	<b>ExxonMobil</b>
Improvement of downstream profit	Layoffs, Improving refining cost, Shifting to premium brand	Layoffs, Strategic partnership, Exchange of assets	Layoffs
Minimum investment	Awaiting decisions	Downstream first	Long-term perspective
Create efficiency by partnership	In mid & downstream	BG group, Total, Gazprom	Acquisition of InterOil

# Countermeasures and problematic issues (1)

## (1) OPEC main producing countries

	Countermeasures	Problems
Securing revenue	Dipping into SWF, Liquidating assets	SWF is not expected to increase total assets
	Borrowing from banks & int'l financial markets	Downgrades of creditworthiness
	Introducing new taxes	Leads to an economic downturn and public outcry
	Inviting foreign investment into the domestic stock market	Influenced by overseas economic circumstances
Controlling expenditure	Reducing and abolishing subsidies	Increases public burden and dissatisfaction
	Reducing operating costs and employees	Leads to accidents, less knowledgeable employees

# Countermeasures and problematic issues (2)

## (1) OPEC main producing countries (continued)

	Countermeasures	Problems
Diversifying the economy	Partial privatization of state oil company	Long time to reach the goal
Securing supply chain	Package deal, Joint reserves	Difficulty of financing, Sales promotion
Promoting oil development	Using foreign investment	New Participants, Financial conditions
	Using incentives for foreign investors	Decrease in income, Less continuity
Transitioning from oil to other forms of energy	Adopting renewable energy	Cost of alternative energy sources
	Promoting export of gas and electricity	Infrastructure

# Countermeasures and problematic issues (3)

## (2) Main oil majors

	Countermeasures	Problems
Combating deteriorating profitability	Liquidating assets	Risk of reduction, delay or cancellation of development plan
	Layoffs	Risk of excessive worker reduction
	Cancelling and postponing investment	Increase uncertainty of future profits
Improving profitability	Reducing operating cost through partnership	Difficulty of continuing win-win relationship
	Reducing manufacturing costs through technical development	R&D development expenses under a difficult business environment

# Impact on global energy markets

Maintaining revenues: Who adjusts oil prices?

- OPEC's lack of cohesion since end of 2014
- Lack of cooperation between OPEC and non-OPEC members

Cutting costs: Difficulty in predicting future oil market

- What is break-even price of shale oil?
- Crude oil prices react to exchange rates and speculation

Delaying investment: Potential for future supply shortages

- Low oil prices lead to increasing oil demand
- Declines in oil development investment can lead to supply shortages

# Implications for energy security

Supply interruptions can happen at any time

- Importance of government stockpiles and private-sector stockpiles
- Creation of flexible arrangements with other countries

Establishment of diversified energy portfolios, not dependent solely on oil

- Introduction of renewable energy in power generation
- Measures to prevent global warming ▪ ▪ ▪ biofuels, electric vehicles

Energy conservation reduces energy usage

- Encourage consumers to reduce energy use
- Support improving energy efficiency of equipment and devices



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