

Norwegian oil and gas

Market and industry outlook

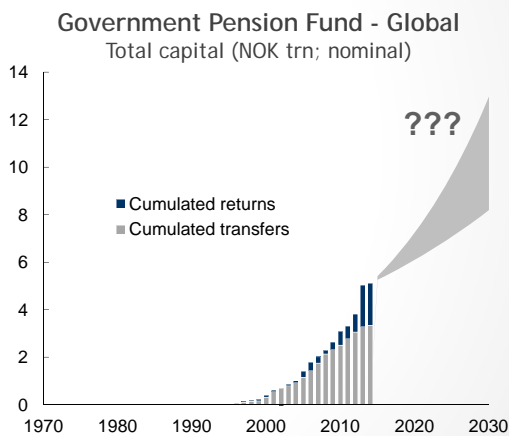
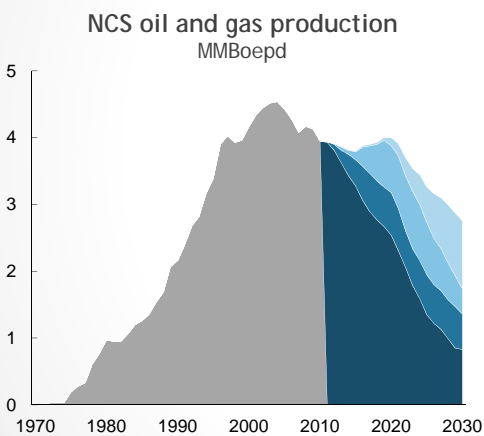
Klaus Mohn, Professor
 University of Stavanger Business School
<http://www.uis.no/Mohn>
 Twitter: @Mohnitor



Lunch presentation for Swedbank
 Stavanger, 24 August 2015

Four decades of development

Substantial revenues for industry, households - and politicians



Source: Norwegian Petroleum Directorate, Norges Bank Investment Management, author's calculations (GPF projections).

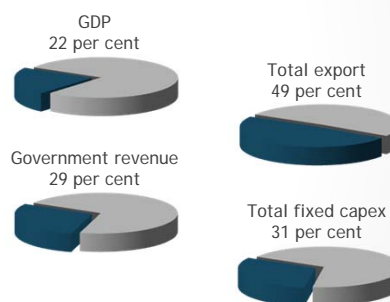
Oil and the Norwegian economy

Big fish in a small pond

- Three special characteristics
 - Norway is a small economy...
 - ...with a large petroleum sector,...
 - ... and high domestic deliveries
- High attention on spending effects
 - Fund mechanism and fiscal policy rule
- Less concern for resource movement effects
 - Re-direction of Norwegian industries

Macroeconomic key figures 2013

Oil and gas share in...



Oil and the Norwegian economy

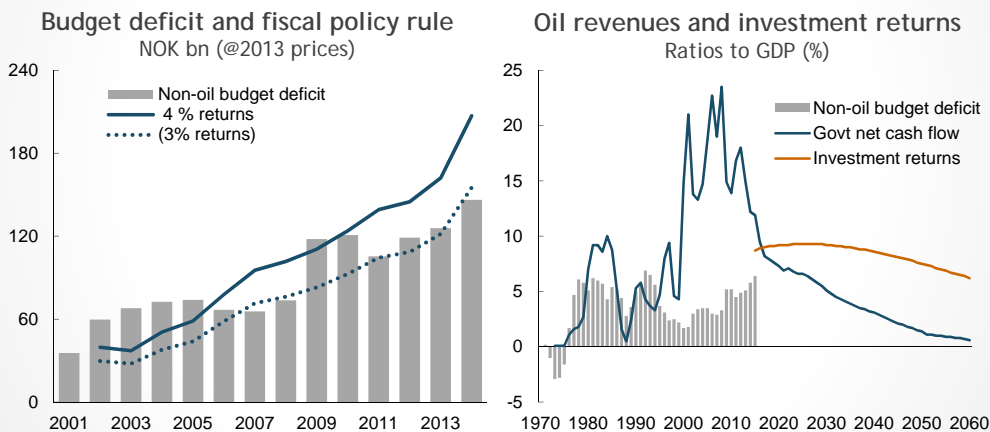
Will Norway escape the Dutch Disease?



- Resource revenues appreciate the real exchange rate
 - Erosion of competitiveness
 - Crowd-out of manufacturing
- Aggravates the cost of (structural) re-adjustment
- Two channels of transmission
 - Spending effect
 - Resource movement effect

Spending effects well managed

Budget deficit, policy rule, and investment returns

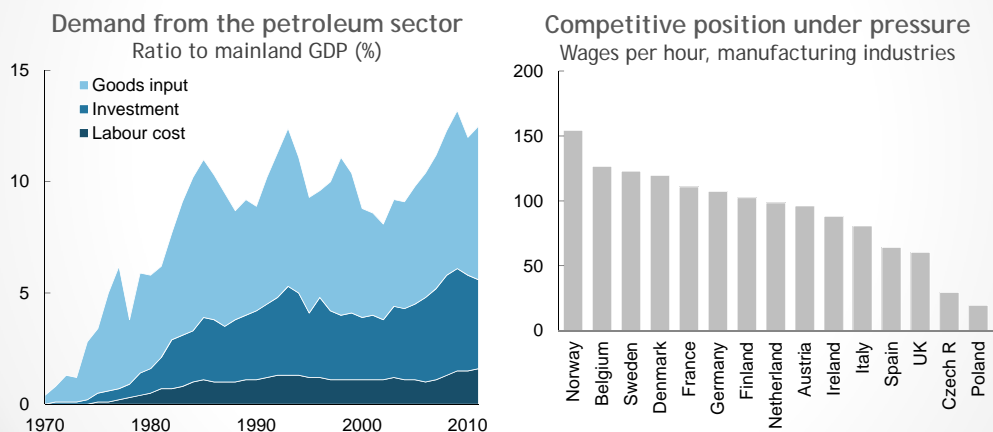


Source: Norwegian Ministry of Finance.

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Less focus on resource movement effects

From re-positioning to real appreciation



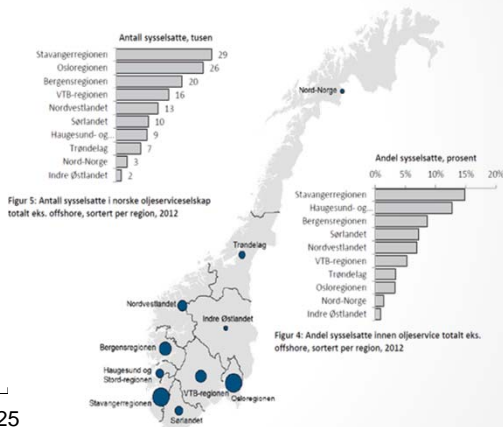
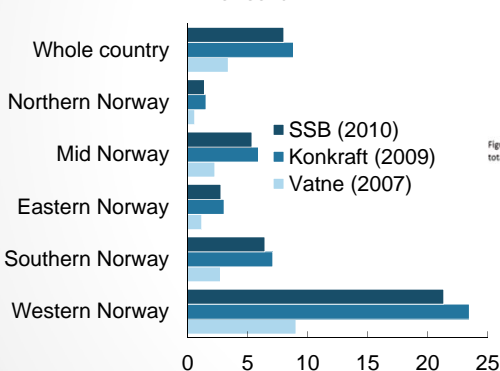
Source: Norwegian Ministry of Finance, Statistics Norway.

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This region is particularly exposed...

...to oil-related adverse shocks

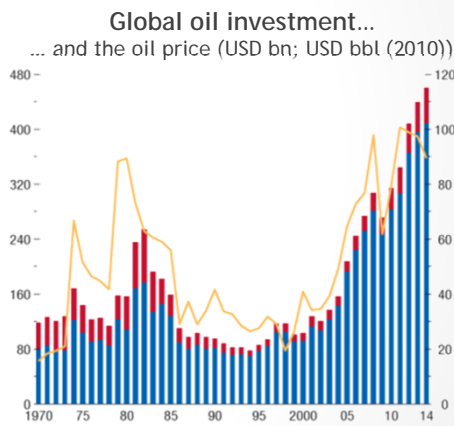
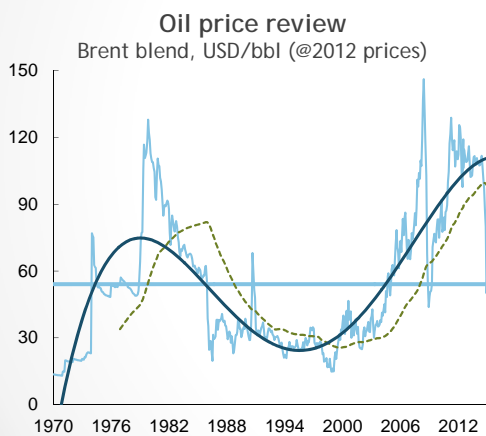
Regional exposure to oil employment



Source: Statistics Norway, Konkraft-rapport nr. 7 (<http://www.konkraft.no>), Rystad Energy (2013).

The oil price matters...

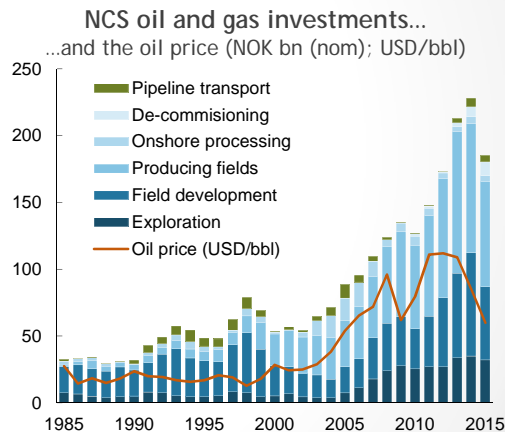
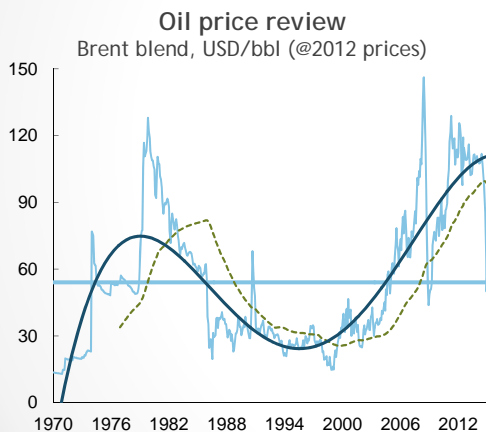
... for investment



Source: International Monetary Fund, *World Economic Outlook* April 2015.

The oil price matters...

... for investment



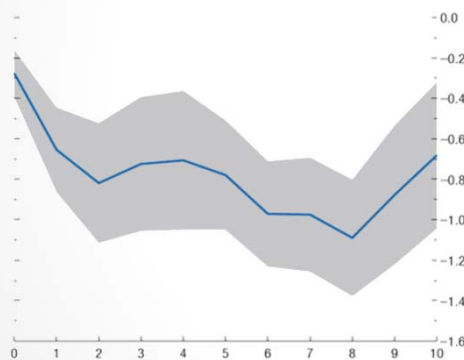
Source: International Monetary Fund. *World Economic Outlook*. April 2015. Statistics Norway.

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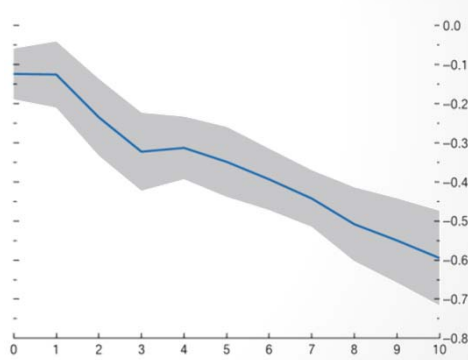
The oil price matters...

... for investment - and for production

Oil investment response to an oil price drop
Impulse response in per cent (elasticity)



Oil production response...
... to a 1% drop in investment (elasticity)

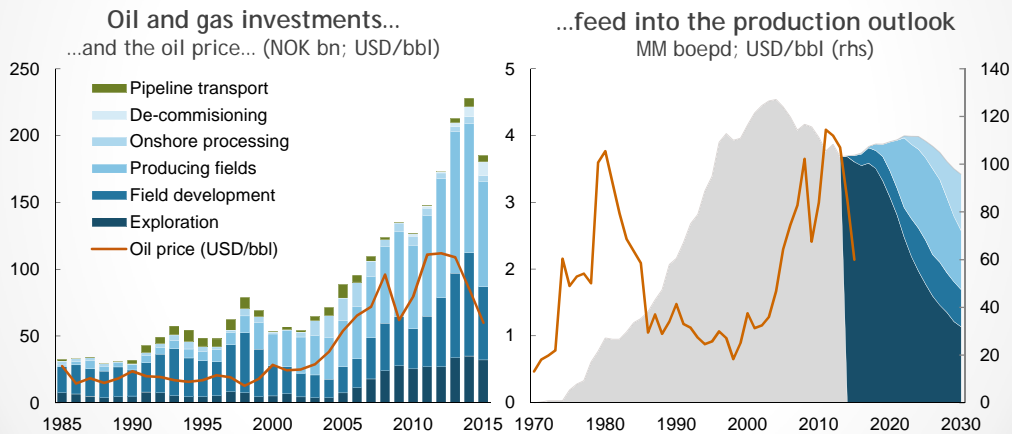


Source: International Monetary Fund. *World Economic Outlook*. April 2015.

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The oil price matters...

... for production

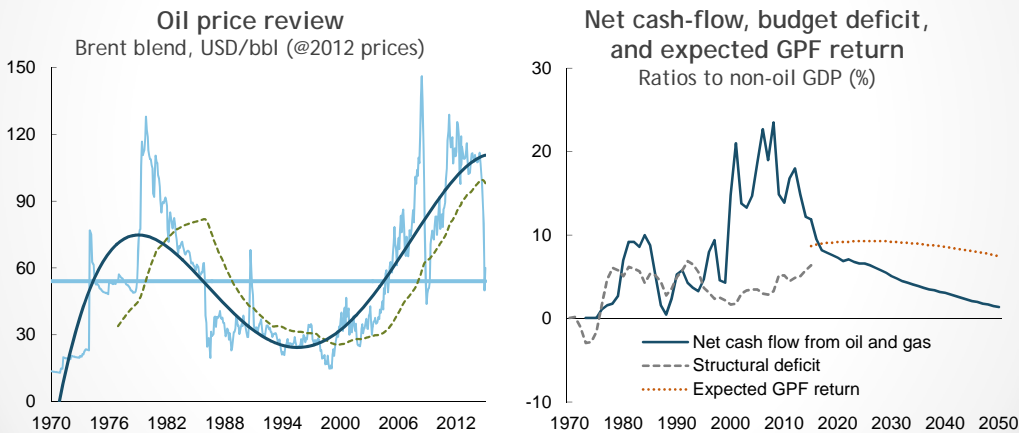


Source: Statistics Norway, Norwegian Petroleum Directorate.

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The oil price matters...

... for revenues



Source: International Monetary Fund, World Economic Outlook April 2015.

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The great plunge in oil prices

Causes, consequences, and policy responses

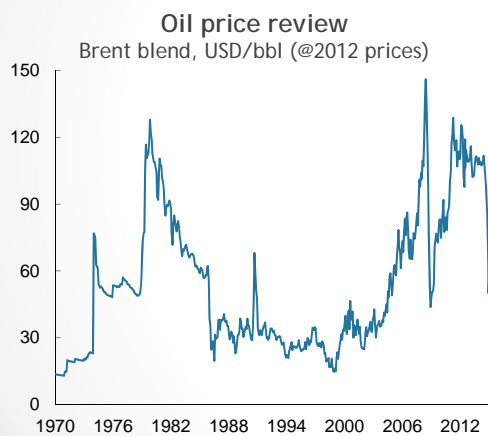


- Developments in demand and supply
- Changes in OPEC objectives
- Geopolitical developments
- Appreciation of the USD
- Speculative demand and inventory management

Source: World Bank (2015). The great plunge in oil prices. Causes, consequences, and policy responses. *Policy Research Note* 15/01. March.

The great plunge in oil prices

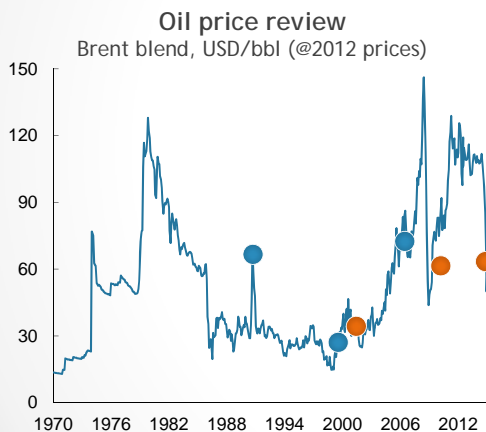
The nature of the oil price shock is decisive for its impact



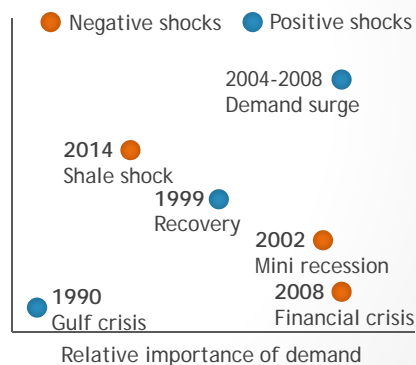
- The source of the shock
 - Demand
 - Supply
- Persistence
 - Temporary shock (cyclical)
 - Permanent shock (structural)

The great plunge in oil prices

The nature of the oil price shock is decisive for its impact

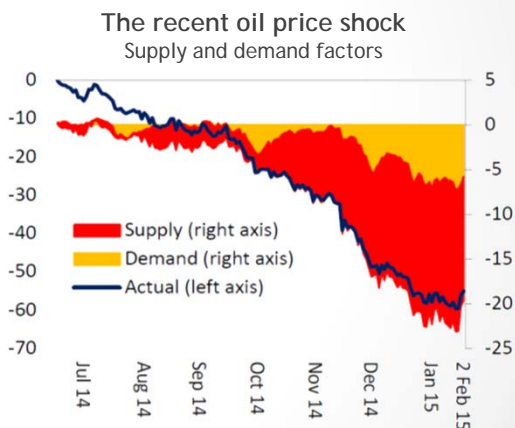
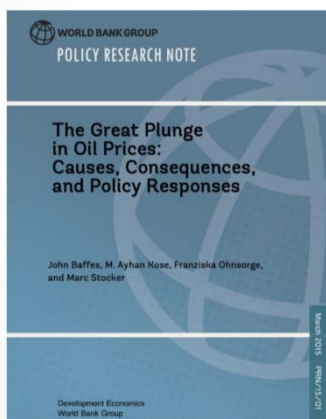


Classification of oil price shocks by shock origin and persistence



The great plunge in oil prices

Largely supply-driven, but not entirely...



Source: World Bank (2015). The great plunge in oil prices. Causes, consequences, and policy responses. Policy Research Note 15/01. March.

Oil industry in distress

Unimpressive shareholder returns



Source: <http://www.statoil.com/IR>.



Oil industry in distress

Pressures were building ahead of the oil price plunge

November 2013



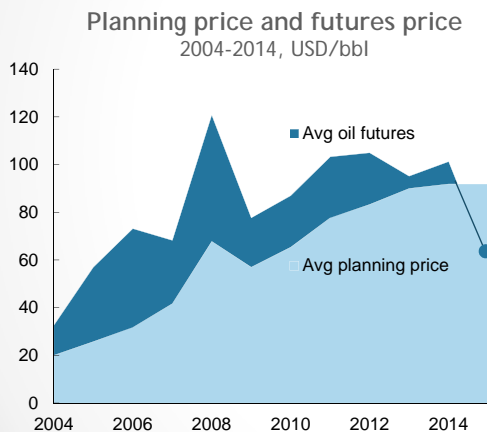
April 2014



Sources: Mohn, K. 2014. Kva skjer med oljeinvesteringane? *Samfunnsaknomen* 2/2014, 10-14.

Oil industry in distress

Market developments fall short of IOC planning assumptions

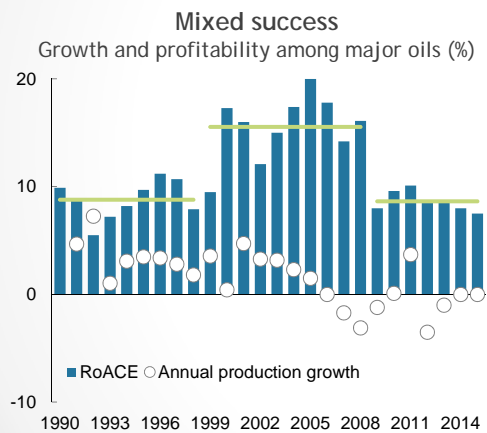


Source: Oil Companies' E&P Budgets, SEB Equity Research, 15 August 2014.

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Oil industry in distress

Short-term challenge: Profitability and investment returns



- Disappointed shareholders
 - Returns eroded by spending, cost escalation, and oil price stagnation
- Diverging market views...
 - ... and valuations
- Disputed business model
 - Scarcity and access
 - Stranded assets



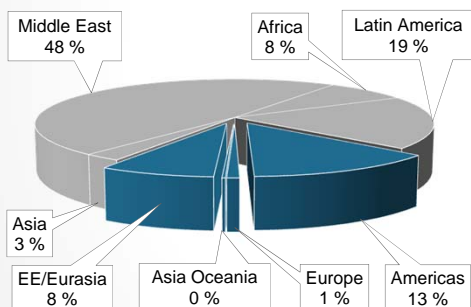
*Sources: Deutsche Bank, UBS Warburg.

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Oil industry in distress

Longer term challenge: Growth

Constraints on access and supply
Proven oil and gas reserves by global region



Source: IEA (2014). *World Energy Outlook*.

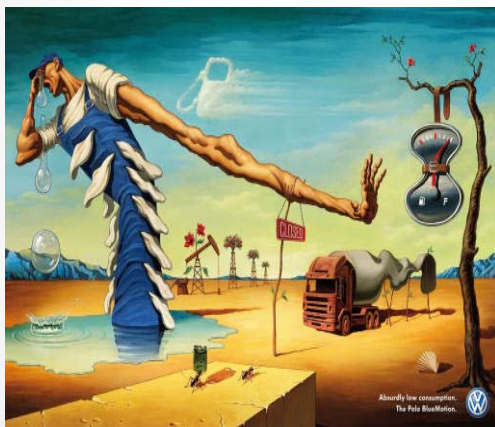
Constraints on demand
Policies, preferences, and prices



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Oil industry in distress

Will the world turn its back on fossil fuels?



- Energy and climate policies
- Role of oil in transport
- Eastward bound energy
- Shale gas globalisation
- Emerging technologies
- Access, returns, and risk
- Changes in OPEC behaviour

Source: Mitchell, John, Marcol, Valerie and Beth Mitchell. 2012. «What next for the oil and gas industry?». Chatham House. October 2012.

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A case for cash as an investment driver

Market imperfection: Agency costs of free cash-flow

Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers
By Michael C. Jensen*

Journal of Business Perspectives - Volume 2, Number 1 - Winter 1988 - Page 27-40

Takeovers: Their Causes and Consequences
Michael C. Jensen

Jensen, M. (1986) Agency cost of FCF... AER 76(2)

Shifting sentiments in firm investment: an application to the oil industry
Klaus Mohn and Reid Misdal

Applied Financial Economics, 2015, 25, 468-478

Mohn and Misdal (2011) Shifting sentiments... AFE 21

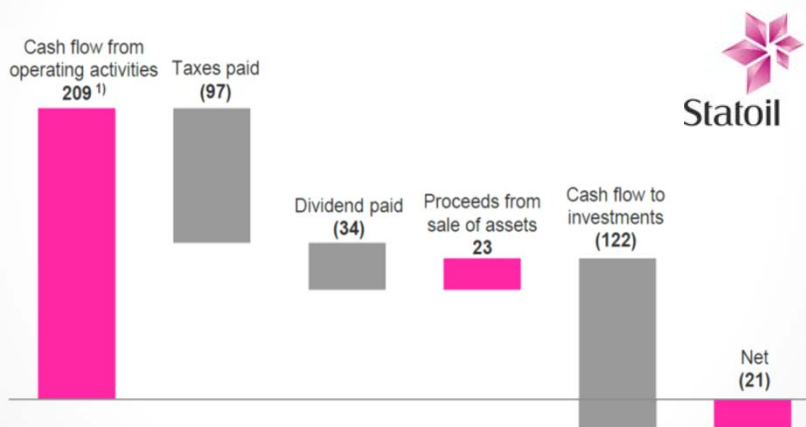
Nye kutt i kjømda frå Statoil
Statoil kjem etter alt å dømme med nye kutt i investeringsplanane. Det godt nytt for Statoils eigarar, men ikkje for norsk økonomi.

Mohn, K. (2015) Dagens Næringsliv 7 January



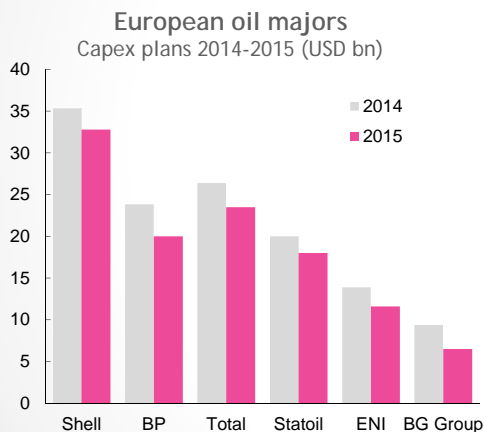
A case for cash as an investment driver

Statoil's cash disposal 2014 (NOK bn)

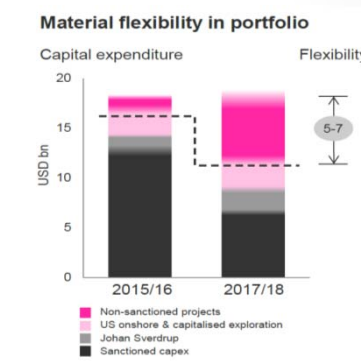


A case for cash as an investment driver

Lower investment will dampen activities - and costs



“Prepared to use material flexibility”
Statoil, 6 February 2015

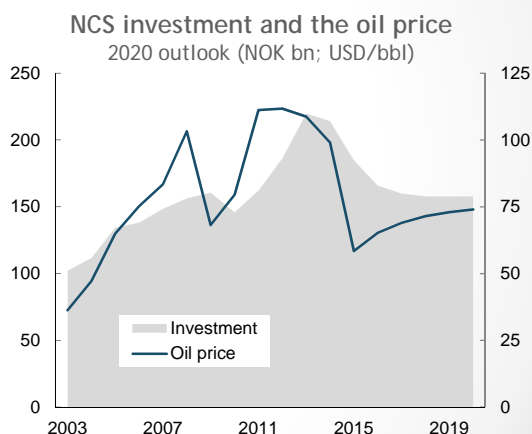
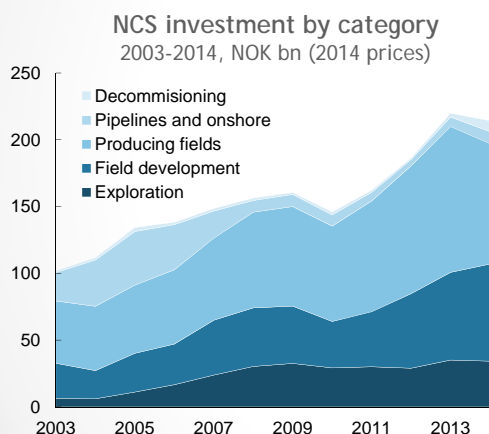


Sources: <http://www.statoil.com/IR>, Platts, Company reports.

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NCS investment outlook

Point of departure: Norges Bank March 2015 forecast (adjusted)

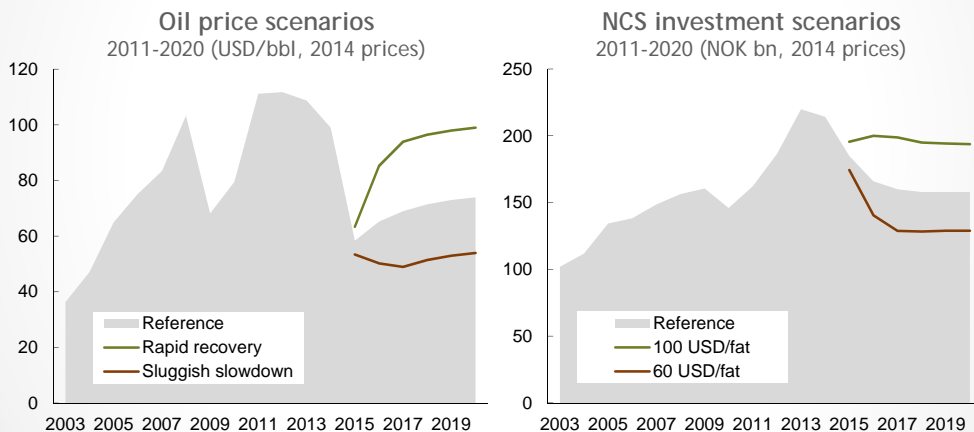


Source: Norges Bank, 2013. *Pengepolitisk rapport no 1*, March 2015 (historical figures). Author's calculations (outlook).

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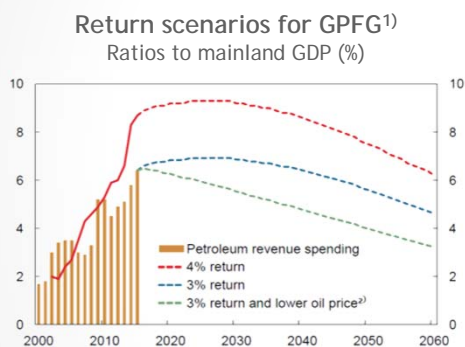
NCS investment outlook

A scenario exercise



Reflections on policy response

... depends on the nature of the oil price shock



1) Assuming actual spending corresponds to the return as from 2016 and in all subsequent years.
 2) Assuming an oil price of 400 per barrel in NOK (2015) to the end of the estimation period.
 Sources: Ministry of Finance and Norges Bank

- The degree of aggressiveness
- Optimal policy mix
 - Monetary policies
 - Fiscal policies
 - Industrial policies
- Stabilisation vs re-adjustment

Key takeaways

Forget anything, but bear in mind that...

- The oil price matters
- The nature of the oil shock matters
- Market imperfections matter
- Resource scarcity matters



Norwegian oil and gas

Market and industry outlook

Klaus Mohn, Professor
 University of Stavanger Business School
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Lunch presentation for Swedbank
 Stavanger, 24 August 2015