

# The oil price and the Norwegian economy

## Correction or crisis?

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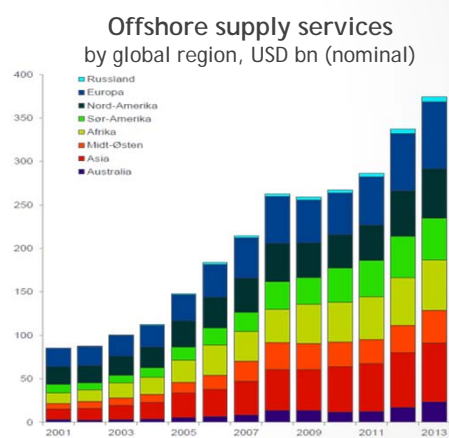
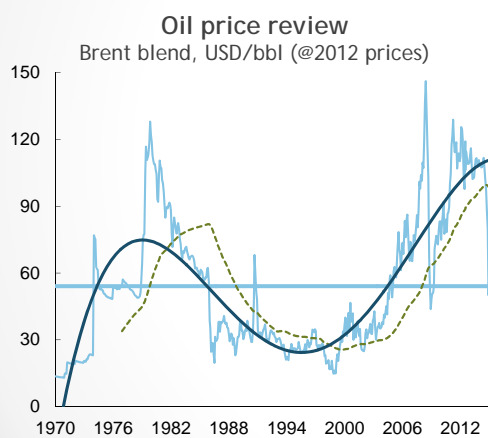


Polyteknisk forening  
Oslo, 25 February 2015

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## An extraordinary boom...

... was supported by continuous demand-driven oil price shocks

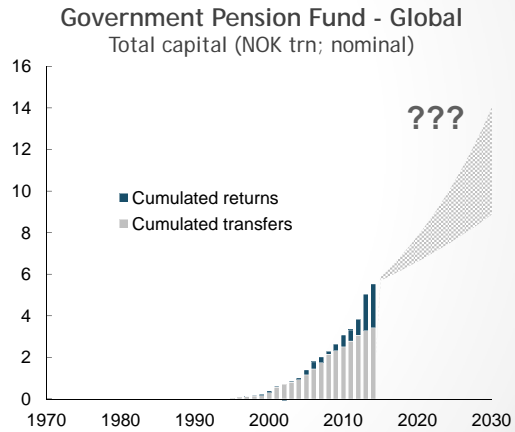
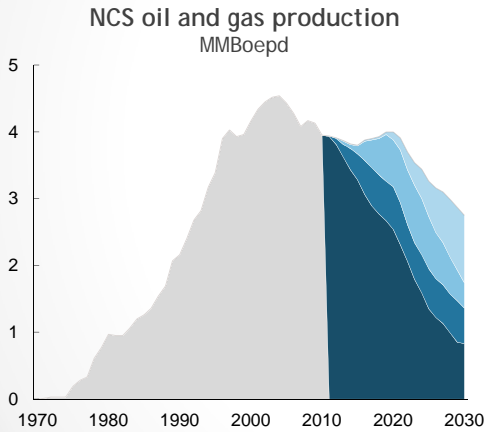


Source: Reuters EcoWin, Rystad Energy.

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## An extraordinary boom...

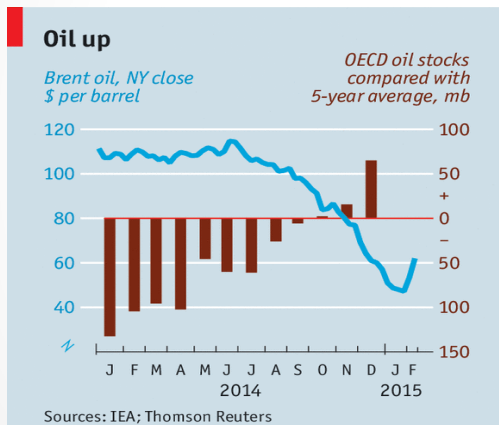
... has lifted investment, production, and revenues



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

## An extraordinary boom...

... was interrupted by cost escalation and price war



## IOC returns fall short of the market

Unimpressive shareholder returns



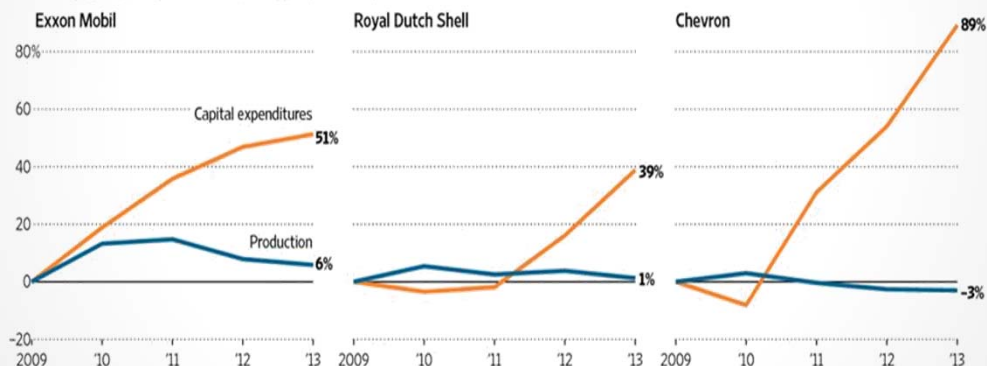
Source: <http://www.statoil.com/IR>.

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## IOC revenues fall short of expenditures

More capital is required for each barrel of production capacity

Exxon, Shell and Chevron have been spending at record levels as they seek to boost their oil and gas output. It has yet to pay off. Below, change in production and capital expenditures since 2009.

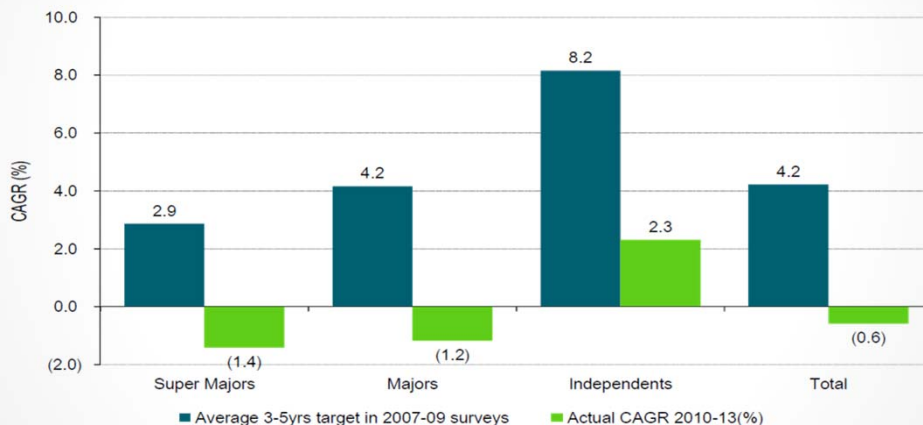


Source: Wall Street Journal.

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## IOC production falls short of promises

Production growth versus targeted growth last four years

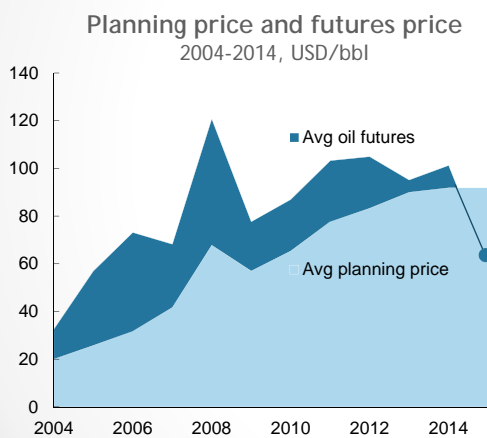


Source: Enskilda Securities (Oil companies' E&P budgets, 20 August 2014).

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## «Breaking bad»

Market developments fall short of IOC planning assumptions



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

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# A case for cash as an investment driver

## Agency costs of free cash-flow

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

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

**Takeovers: Their Causes and Consequences**  
Michael C. Jensen

**Jensen, M. (1988)**  
Takeovers: ...  
*JEP* 2(1)

**Shifting sentiments in firm investment: an application to the oil industry**  
Knut Misund and Bjørn Mohn

**Mohn and Misund (2011)**  
Shifting sentiments...  
*AFE* 21

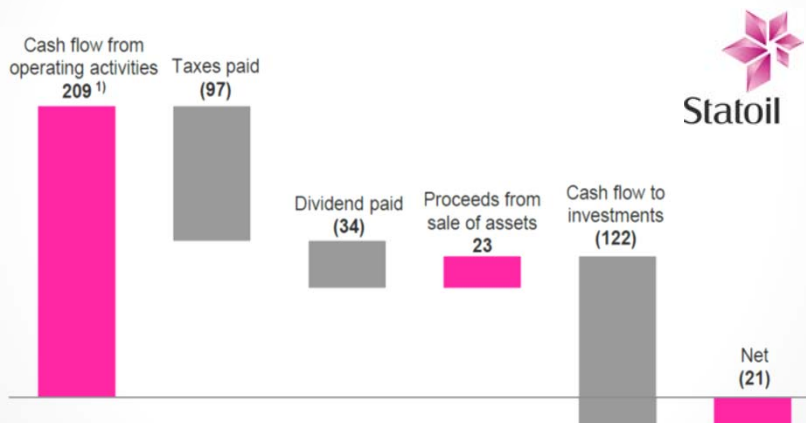
**Nye kutt i kjømda frå Statoil**  
Statoil kjem etter alt å dømme med nye kutt i investeringsplanane. Det går rett for Statoils eigarar, men ikkje for norsk økonomi.

**Mohn, K. (2015)**  
*Dagens Næringsliv*  
7 January



# Cash flow and investment in Statoil

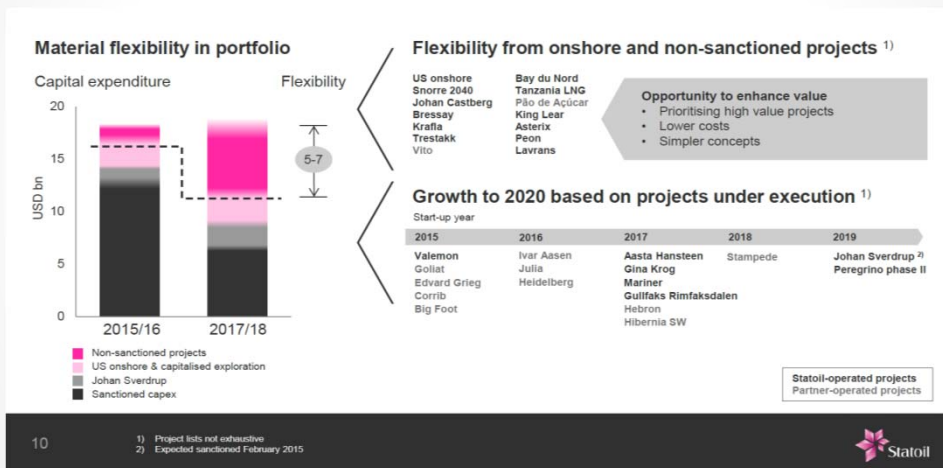
## Statoil's cash disposal 2014 (NOK bn)



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

# Capex dampened by cash constraints

Statoil (6 February 2015): "Prepared to use material flexibility"

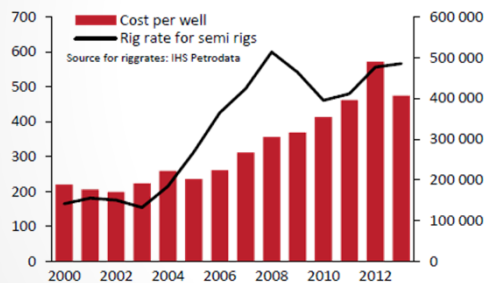


Source: <http://www.statoil.com/IR>.

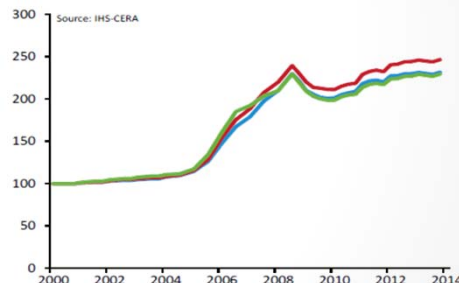
# The NCS cost challenge

Part of the cost increase is cyclical (i.e. transitory)

Well cost and rig rates  
NOK M (@2013 prices); USD per day



Petroleum project cost indices  
2000 = 100 (global indices)

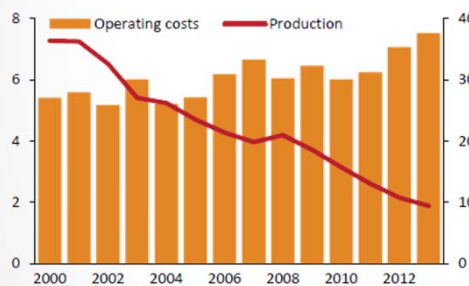


Source: Norwegian Ministry of Petroleum and Energy, Norwegian Petroleum Directorate.

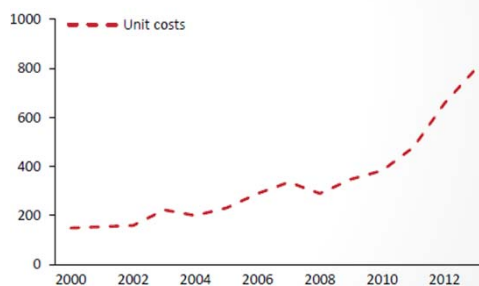
## The NCS cost challenge

Part of the cost increase is structural (i.e. persistent)

Sample field: Cost and production  
NOK bn (@2013 prices)



Sample field: Unit production cost  
NOK/SM<sup>3</sup> oe (@2013 prices)



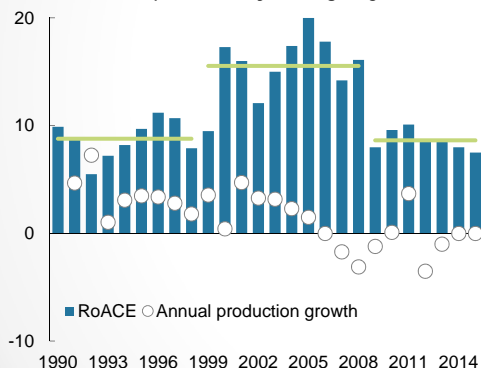
Source: Norwegian Ministry of Petroleum and Energy, Norwegian Petroleum Directorate.

## Short-term challenge: Profitability

Increasing focus on cash-flow management and capital discipline

Mixed success

Growth and profitability among major oils (%)



- Shareholder skepticism
  - Returns eroded by prices and performance
- Diverging market views...
  - ... and valuations
- Disputed business model
  - Scarcity and access
  - Stranded assets
- Cash is King!

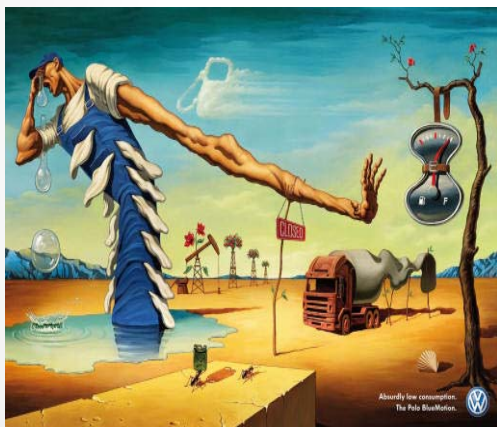


\*Sources: Deutsche Bank, UBS Warburg.



## Longer-term challenge: Growth

Will the world turn its back on fossil fuels?

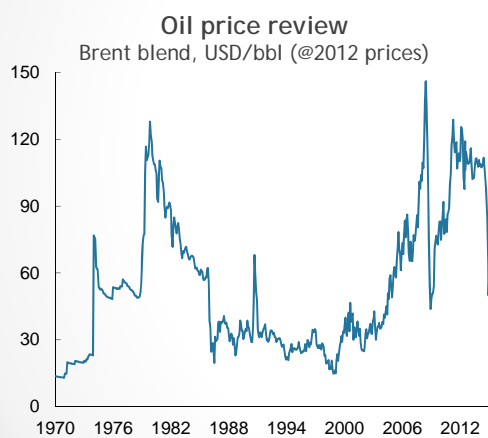


- Energy and climate policies
- Role of oil in transport
- Eastward bound energy
- Shale gas globalisation
- Emerging technologies
- Access, returns, and risk
- Changes in OPEC behaviour

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

## The nature of the oil price shock...

... is decisive for its impact

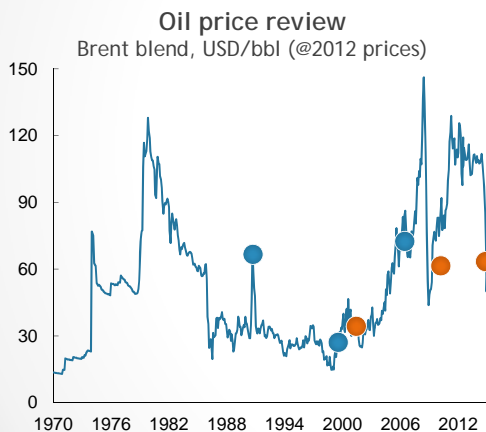


- The source of the shock
  - Demand
  - Supply
  - Pre-cautionary demand
- Persistence
  - Temporary shock (cyclical)
  - Permanent shock (structural)

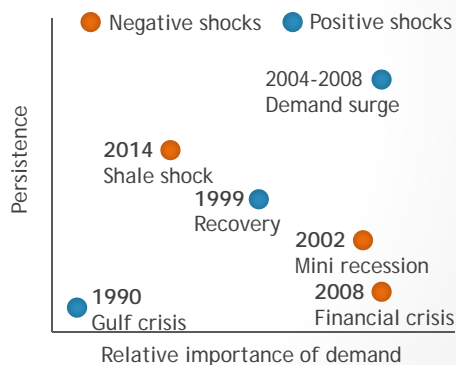


## The nature of the oil price shock...

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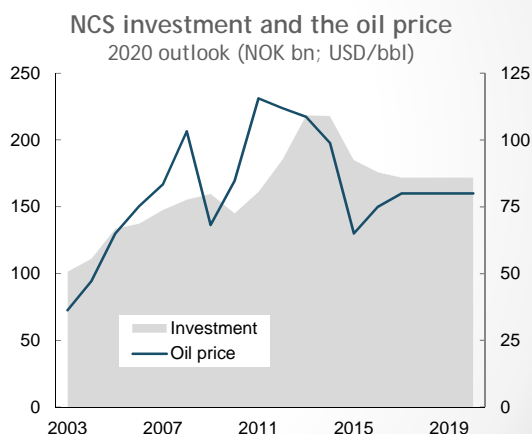
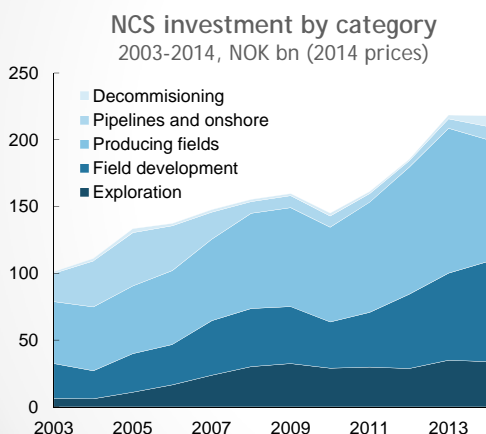


### Classification of oil price shocks by shock origin and persistence



## NCS Investment outlook

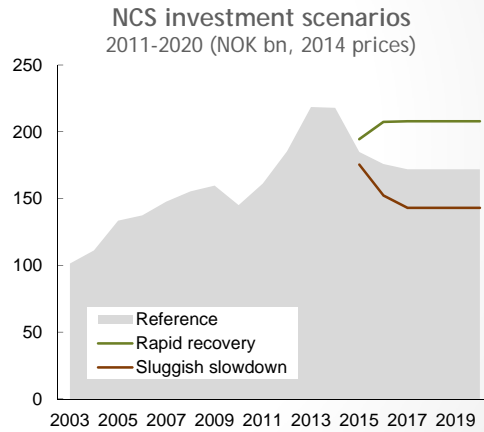
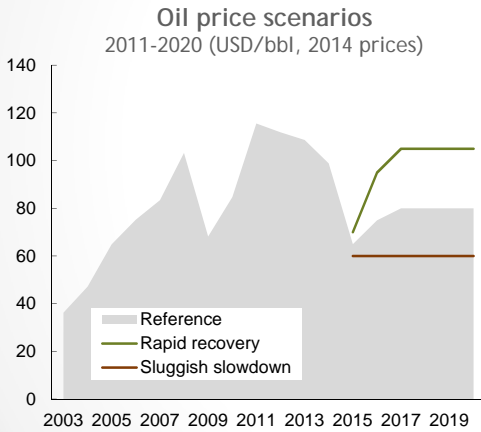
Point of departure: Norges Bank December 2014 forecast



Source: Norges Bank, 2014. *Pengepolitisk rapport no 4*, December 2014 (2-year flat extrapolation by author).

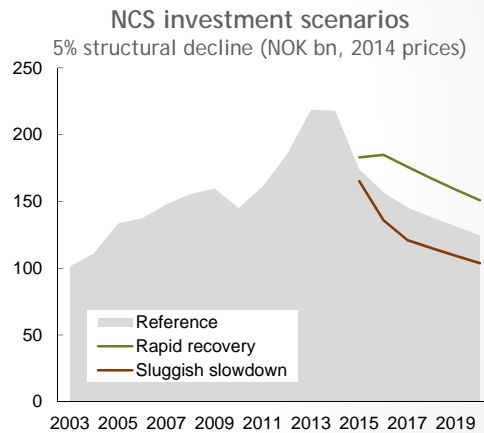
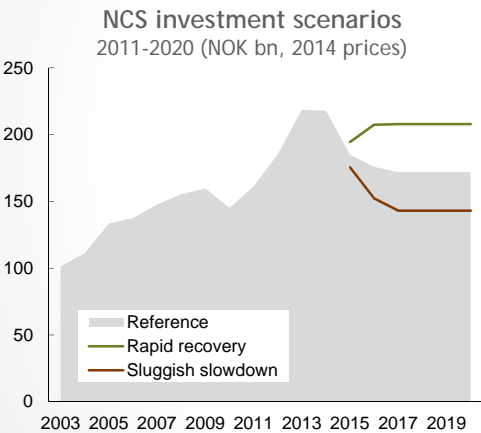
# NCS investment outlook

A scenario exercise



# Capital and resource constraints

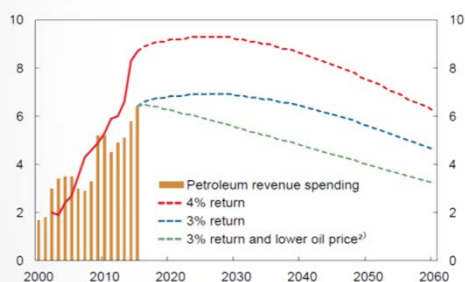
The reference scenario has a downward bias



## The nature of the oil price shock...

... is decisive for the policy response

Return scenarios for GPFG<sup>1)</sup>  
Ratios to mainland GDP (%)



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

## Stagnation is the new normal...

... with structural decline ahead

- No growth without profit
  - Oil price increase has reversed
  - Costs challenge will prevail
- More challenges ahead
  - Project pipeline may dry up
  - Global warming means oil industry cooling
- Readjustment is looming

