Using scenarios to inform financial planning and asset pricing

Presentation at Bank of England / TCFD Conference

Deepa Venkateswaran, ACA • Senior Analyst • +44-207-959-4915 • deepa@bernstein.com
Introduction

- Deepa Venkateswaran, ACA (Senior Analyst)

Deepa joined Bernstein from McKinsey & Company where she was a Junior Partner in the London office serving clients in the European Power and Utilities sector and a member of the leadership team in McKinsey’s Utilities & Regulatory practices.

She has deep knowledge of the entire power and gas value chain built-up during the course of serving leading players on topics of strategy & growth, corporate finance and regulation over 7 years. In the last few years, she focussed significantly on regulation of power markets (across Europe) supporting players and think-tanks on the optimal regulatory posture and reform required in the face of the evolving dynamics in the European power sector. Deepa has an MBA (Distinction with concentration in finance) from London Business School. She also qualified as a Chartered Accountant with Arthur Andersen.
Key topics I will cover

• Asset Pricing

• Scenario analysis – Commodities, Demand

• Capital allocation:
  - Investors
  - Companies
Asset Pricing: Financial markets are short-term – Asset valuations typically follow the path of the ‘spot’ commodity outlook

**Oil & Gas Valuation**

\[ y = 1.2202x + 223.32 \]

\[ R^2 = 0.6938 \]

**Mining Sector Valuation**

\[ y = 0.1291x - 161.61 \]

\[ R^2 = 0.7668 \]

**Source:** Bloomberg, Bernstein analysis

**Note:** Analysis from 2014 to 2017 (YTD)
How investors use scenarios

- Base, Bull and Bear cases for valuations on key sensitivities
- Companies also use scenarios in evaluating investment decisions
- The Base case is likely to be anchored to the present ($50 oil vs $75 oil)
Decline in German power prices is primarily attributable to the fall in commodity prices: coal and carbon

German power prices are set by coal

1-year forward wholesale power price correlation to 1-year forward coal and carbon price (2008-2016)

Decomposition of German power price decline 2008-16

\[ y = 1.1321x + 4.9063 \]
\[ R^2 = 0.77 \]

Carbon Price decline: 82%
Coal Price decline: 44%
Demand destruction: 38%
RES addition: 12%
Nuclear U-turn: 10%

Source: Bernstein proprietary power model; Bernstein analysis
Scenario analysis example – Carbon - Power price forecast to 2030 (1/2)

German power price, €/MWh

Carbon scenarios
Carbon €20  Increased from forward curve in 2019 to €20/t by 2025; held constant thereafter
Carbon €15  Increased from forward curve in 2019 to €15/t by 2025; held constant thereafter
Carbon €10  Increased from forward curve in 2019 to €10/t by 2025; held constant thereafter
Base Case  Assumed to be in the range €5–5.3/t between 2020-25 and increasing to €5.7/t till 2030

Source: Bernstein Proprietary Power Model, Bernstein analysis
Scenario analysis example – Demand - Power price forecast to 2030 (2/2)

German power price, €/MWh

Source: Bernstein Proprietary Power Model, Bernstein analysis
Capital allocation – companies in the utilities sector

Cleaned up its act by spinning off its ‘dirty’ generation subsidiary in 2016. Capital allocation focussed on networks and renewables.

IPOed its ‘clean’ non-generation subsidiary in 2016 to raise new capital, focus capital allocation and give investors a route to invest in the ‘clean’ portion.

Sold Oil & Gas division and committed to a 2023 coal phase-out in 2017. Now a pure play Renewable company.

Portfolio rotation programme since 2016 to reduce exposure to commodity prices – Oil & Gas, select power generation assets (inc. Coal).
Capital allocation – investors

**Divestments/ Exclusions for high GHG risk companies**

<table>
<thead>
<tr>
<th>Risk-based divestments in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Greenhouse gas emissions</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Environmental investments**

**Climate Change Risk assessment of the portfolio**

We expect companies to analyse how their operations are affected by climate change and to develop plans and targets to address climate change risk. We have assessed companies exposed to climate change risk since 2010.