Case Studies of Portfolio Management

The Royal Institution

20 May 2015
Disclaimer

This set of presentations has been prepared exclusively for discussion purposes during this event. The materials presented should not be understood as GCA forecasts or predictions of oil and gas prices or future industry conditions and they should not be understood as a specific recommendation in respect of any particular decision or course of action.
Today’s Agenda

- Acquisition and Divestiture (A&D) Activity During the Last 10 Years of High Oil Prices
  - Evolution of Debt-to-Equity Ratios – Majors and Other Selected Companies
  - A&D Activity Drivers

- Case Studies – Best Practices in Portfolio Management
  - QGEP – Building a Portfolio from Scratch
  - Anadarko – Portfolio Reshuffling and Deleveraging Post-Acquisition
  - Midstream – “Outsourcing” Parts of the Value Chain to Suppliers
Since 2005, A&D value increased while leverage levels exhibited varying patterns, suggesting differing uses for extra liquidity

Asset Deal Value \(^1\) vs. Leverage of Majors and Selected Companies \(^2\) and U.S. Federal Funds Rate

---

Notes:
1. Total value of global asset deals worth more than $10 MM each; leverage measured by net debt-to-equity ratio; active companies in A&D activity

Sources: IHS Transaction Analysis Report; U.S. Federal Reserve Bank; GCA analysis
In a low oil price environment, assets in a company’s portfolio may become “out of the money”

Range of Break-Even Prices (1) by Play Type, US$ / bbl

Conversely, during a high oil price environment, the entire portfolio will very likely be “in the money”

Notes:
(1) Prices such that investment is recouped over project cycle. Indicative cost ranges based on GCA type project modelling
Source: GCA Type Project Modelling
In a continued low price environment, A&D activity will be driven by companies’ needs to adjust their balance sheets.

### High Price Oil – A&D Drivers
- Plenty of cash available – all assets are “in the money”
- Overall, companies with low leverage ratios
- High development costs – “buying rather than drilling”
- Still enough cash available to fund exploration programs and farm-ins

### Low Price Oil – A&D Drivers
- Reduced cash generation – some assets in portfolio “out of the money”
- Eventual impairments and reduced asset values will impact leverage levels
- High development costs – “buying rather than drilling” persists – though there might be some relief on cost side
- Reduced cash generation to fund riskier exploration – exploration suffers most

### E&P Balance Sheet
- **Cash**
  - Plenty of cash available – all assets are “in the money”
- **Leverage**
  - Overall, companies with low leverage ratios

### E&P Finding and Development
- **Development**
  - High development costs – “buying rather than drilling”
- **Exploration**
  - Still enough cash available to fund exploration programs and farm-ins

### Capital Markets
- **Public and Private Equity**
  - Public and private equity markets (energy focused) are available
- **Cost of Money**
  - Cheap money (low interest rates) available

A&D is driven by “liquidity” provided by financial markets.

A&D is driven by balance sheet pressure to adjust the portfolio.
Today’s Agenda

- Acquisition and Divestiture (A&D) Activity During the Last 10 Years of High Oil Prices
  - Evolution of Debt-to-Equity Ratios – Majors and Other Selected Companies
  - A&D Activity Drivers

- Case Studies – Best Practices in Portfolio Management
  - QGEP – Building a Portfolio from Scratch
  - Anadarko – Portfolio Reshuffling and Deleveraging Post-Acquisition
  - Midstream – “Outsourcing” Parts of the Value Chain to Suppliers
Well-run companies must manage a financial platform that is both able to generate cash and fund long-term activities.

Best Practices in Portfolio Management

- **Generate cash from operations**: Cash generation from producing assets (and from balance sheet sources) should be enough to fund “cash consuming” activities.

- **Development projects**: Projects that will generate cash in the medium term (3 to 6 years) and at benchmark development indicators ($/boe, time to first oil, etc.).

- **Exploration projects**: Projects that will generate cash in the longer term (5 to 10 years) and at benchmark exploration indicators (hit rate, average discovery size, etc.).

Ultimately, companies must also be able to pay dividends to their shareholders or make cash payments to their governments.
QGEP grew its portfolio position gradually, starting within an oilfield services company and then becoming a pure E&P firm

**QGEP (1) Historical Overview and Key Milestones**

- **Farm in Manati block (Petrobras)**
  - Start of activities: 2000
- **Incubation Phase**
  - E&P activities carried out within oilfield services company
  - Acquires interests in several exploration projects
  - 20 wells drilled (non-operated)
- **IPO – Early 2011**
  - E&P activities are carved out of oilfield business
  - Raises US$ B 0.9
  - Invests in exploration rights, also assuming operatorship of some
  - Relinquishment of unattractive assets

**Notes:**
(1) During the “incubation” phase the company had no operated assets; Atlanta is the first asset operated by the company.

**Sources:** Company information; GCA analysis
Despite operating only in a single country, the company built a diversified portfolio across 8 distinctive basins

**QGEP Asset Base (1) Overview**

1. Amazonas basin – 1 block
2. Pa-Ma basin – 2 blocks
3. Ceará basin – 1 block
4. Pe basin – 2 blocks
5. Ca-Al basin – 2 blocks
6. Jeq basin – 1 block
7. ES basin – 2 blocks
8. Santos basin – 2 blocks

Notes:
(1) Company had some interests in onshore assets that were relinquished over time

Source: Company information; GCA analysis
Its balanced portfolio is providing the necessary cash to fund future growth

QGEP Asset Base by Maturity

Source: Company information
After Anadarko acquired Kerr-McGee, it engaged in a series of divestments as part of an effort to refocus and manage exposure.

Anadarko Debt-to-Equity Evolution and Key A&D Milestones

- Kerr-McGee acquisition
- Divests all Canada assets
- Multiple onshore U.S. Lower 48 and Gulf of Mexico divestitures
- Focused midstream U.S. gas investments via Western Gas Master Limited Partnership
- Divestment of 10% of Mozambique LNG
- Entry into U.S. shale (Eagle Ford, Wattenberg, Wolfcamp, Marcellus)
- Sale of EOR assets in U.S. – 2014/15

Actions to Refocus Portfolio
- Acquiring stakes in scale projects
- Selling out of mature projects
- Deep water projects: Gulf of Mexico, Africa, Brazil
- Focus on U.S. shale – quick pay outs

Sources: Company information; GCA analysis
The company’s capital expenditure allocation is commensurate with its portfolio strategy

Anadarko’s Capital Expenditure Expectations (1), 2015

$ Billion

<table>
<thead>
<tr>
<th>By Cash Cycle</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Cash Cycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid Cash Cycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Cash Cycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By Area</th>
<th>0%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Onshore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Int’l &amp; DW Ops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Int’l &amp; DW Exp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mid &amp; other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
(1) Capital expenditure expectation at $5.4-5.8 B, a 33% reduction over 2014. Short cycle = investments in current fiscal year; Mid cycle = growth in returns within 2 to 3 years; Long cycle = growth in returns over 3 years. Sources: Company information; GCA analysis
To reduce its exposure, a midstream company looked for a new business model so it could “divest” future CAPEX requirements.

Midstream Terminal Concept

Note: (1) CALM = Catenary Anchor Leg Mooring

Source: GCA analysis
The innovative model involved the participation of key suppliers in the engineering, construction, and financing of the asset.

Proposed Business Model (1)

- **Ownership**
  - FSO owner
  - Midstream Operator
  - Subsea / Buoy EPCI

- **Consortium**
  - Engineering
    - Vessel EPCI
  - Construction
    - Vessel EPCI
  - Financing
    - FSO owner
  - Operations
    - Midstream Operator

**Development of Terminal**

- Long term contract

**Note:** (1) BCP = Bareboat Charter Party; FSO = Floating Storage and Offloading; EPCI = Engineering, Procurement, Construction and Installation.

**Source:** GCA analysis
If you had a choice which portfolio would you pick and why?

The answer is not a simple one…
The Profit & Loss is simply a snapshot of the whole picture

- What are the contingent and prospective resources?
- Is it there room for redevelopment and/or for newer technologies?
- What is the maturity of the portfolio?
- Could cost cutting initiatives take assets back to be “in the money”?
Key Takeaways

- Since 2005, acquisition and divestiture (A&D) value tracked oil price, implying that valuations are influenced by higher earnings in the sector.

- Following this A&D positive trend, and on the back of a loose monetary policy cycle, companies increased their overall levels of leverage (debt-to-equity ratio).

- However, if a low oil price scenario persists, many assets in a company’s portfolio may become “out of the money”, stressing balance sheets even further.

- A combination of lower cash generation and highly leveraged balance sheets may force companies to review their portfolio strategies.

- Best practice companies pursue a constant equilibrium between cash generation activities (production) and cash consuming ones (development and exploration).

- Several case studies illustrate how companies develop their strategies and use A&D to adjust their portfolios accordingly.