Oil: What’s a Reasonable Price?

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Main Points – Short Term Vs Long Term

Short Term – The Great “Glut”
• Price drop due to price war, OPEC reaction to US frackers
• World oil oversupplied by 2 to 3% 1.5%

Long Term – Imbalances work themselves out
• Drilling and production lags behind price stimulus
• OPEC - historically low spare capacity, under stress
• New developments needed to replace 5% decline rate and accommodate 1+% demand increase
• Prices will increase to Marginal Supply Cost
• $70 in late 2016 (60%), over $100 in 2020 (80%)
• Long term challenge of meeting growing demand masked by short term “glut”

Exhibit 5: We continue to expect that the global oil market will remain in surplus until 4Q16...
Global supply minus demand (mb/d)
OPEC Aspires to Increase Market Share

- Increasing US production and other “expensive” production – Deep Water
- Flat to lower OPEC production

OPEC Aspiration Vs Reality

...why the panic
What Caused OPEC to Panic?

- 5 million bbls a day additional supply – 5% of global production
- World would be 2 to 3 mm/d undersupplied without US increase

EIA

...lag between price and production
Price, Activity, Production Lag - Four Months to Decades

- Conventional discovery to first production - 10 Years
- Conventional improved recovery – 6 to 18 months
- “Shale” (fracking) – 4 to 6 months

Decision not to invest

Fracking

Conventional IOR

Conventional New Discoveries

Conventional Exploration

Delay in Production Response

6m 1y 2y 5y 10y 20y

...fracking responds first
US Oil Production – Flattening, Declining?

- Cure for low prices is low prices
- May thru Aug saw decreased production

Data: EIA, Moyes Analysis

…we have seen this before
The Longer Term Perspective

- Imbalances self correcting – imbalances short lived

Relation Between Supply, Demand and Price (Annual Data)

Data: IEA, Moyes Analysis

- Supply
- Demand
- Price $
OPEC Spare Capacity Now At Multi-Year Low

- Saudi increased production to 10.6 mmb/d to gain market share
- Low OPEC Spare Capacity associated with rising price
- OPEC - 2 mmb/d over quota

OPEC Spare Capacity (% of Global Demand) Versus Oil Price ($)

Data IEA, Moyes Analysis

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OPEC under stress
OPEC Countries Not Sustainable at Low Prices

- For most producers the question is not cost of production
- It’s supporting the national economy

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Years OPEC can Last at Low Oil Prices
Assumes current break-even, national budgets, foreign reserves and wealth funds

- Venezuela: 117 years
- Nigeria: 122 years
- Libya: 130 years
- Iraq: 100 years
- Iran: 130 years
- Saudi: 105 years
- Angola: 100 years
- Algeria: 130 years
- UAE: 80 years
- Kuwait: 55 years
- Qatar: 60 years

Source: WoodMac, Telegraph, Gov Rpts, Sovereign Wealth Fund Institute, Moyes analysis

...long term trends
Long Term Oil Gets More Expensive

- Technology enables new production and may lower costs in the short run

...supply cost trends
Cost and Price Increase With Time

- MCoS allows production maintenance/growth
- MCoS may drop briefly, not permanently
- Delayed new production could drive prices higher than MCoS

Price Drivers – Costs Vs Demand

- High OPEC spare capacity
- Lower OPEC spare capacity
- Very Low OPEC spare capacity

Company Data, Bloomberg, Bernstein, Moyes Analysis
Future Projects Not Economic at Today’s Prices

- Existing Production not significantly affected at current prices
- Future production is crushed at low prices!

Cost of Supply: Producing Resources Vs the Future

Data Sources: WoodMac, Rystad, Citi, Morgan Stanley Moyes analysis

5% of “Producing Resources” Produced Each Year
1% demand growth
Without Higher Prices — Production Will Decline

- World needs OPEC + US + production by 2025

A Future Scenario

- $100+ Oil Sands Economic
- Ultra Deep Water and Arctic Economic
- Non NA “frack” plays

- $75 Most NA “frack” Plays Economic
- Deep Water Economic

- $60 Some US “fracking economic”
- Some IOR & Offshore New Development Economic

- $45 and below
- Existing Production Economic
- Very Few New Projects Economic

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Summary

Short Term – The Great “Glut”
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• World oil oversupplied by 1.5%

Long Term – Imbalances work themselves out
• Drilling and production lags behind price stimulus
• OPEC - historically low spare capacity, under stress
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• Long term challenge masked by short term
Many Moving Parts

Supply demand balance
  Production
  Storage
  Consumption
Cost of existing production versus cost of new supplies
Technology
Resource size, distribution, access, cost
Lag times
Producer stability (politically, financially)
OPEC objectives
Iran sanctions (smuggling, cannibalizing)
US frackers financial stability, hedging, breakevens
Gov’t take
Product substitution
China (and other emerging economies) growth
$ strength
And things I have not through about
Questions— and is there something I may not have noticed?