Utility Coal Weakness & Its Impact On The Rails
Growing New Market Opportunities (Intermodal, Shale, & Export Coal)
And Becoming More Efficient

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Utility Coal Volumes Have Been Under Pressure

Utility coal volumes likely remain under pressure

- YTD U.S. coal carload volumes are down 9.3% y/y through September 8, 2012
- Coal-fired generation has declined from 51.8% of total net electric generation in 1998 to 42.2% in 2011 (through June coal represented just 35.4% of YTD electric generation)
- The greatest pressure has been on Appalachian coal tonnage

Note: 2012 coal net electric generation is annualized using the past two years YTD volumes through June. We note that coal electric generation represented 49.1% of total electric generation in 2010 and 49.8% in 2011.

Source: EIA, Deutsche Bank
Low Nat Gas Prices, Weather, & Regulations Are Culprits

Coal generation likely constrained longer term, particularly in the East

- Natural gas prices remain very depressed at $2.94/MMBtu as of September 14, 2012
- Switching thresholds vary depending on the coal-fired power plant, ranging from natural gas prices of $2.75-6/MMBtu
- A very warm winter reduced coal burn in 2012, producing higher stockpiles though stockpiles have been somewhat worked down over the summer/fall
- Switching is more likely in the East

Source: EIA, Company filings, Deutsche Bank

(1) DB has assumed a 1,000 length of haul (LOH) to convert UNP’s revenue ton miles to calculate coal tonnage changes. We have assumed all UNP coal volumes, which are primarily Powder River Basin coal were utility coal volumes in the figure above.
DB H2 2012 & 2013 Coal Carload Estimates

DB sees ongoing headwinds from low nat gas prices and weak demand

- Coal headwinds are expected to moderate in H2 2012 and in 2013 as rails lap easier y/y coal comparisons
- DB expects coal volumes to be essentially flat y/y in 2013, with the bias to the upside given a very warm winter last year
- Rail coal networks vary considerably depending on whether the plants that the railroads serve are baseload or surge power

(1) Coal carloads for CSX, NSC, and UNP. Includes both utility coal volumes, met coal traffic, and export coal. H2 2012 and 2013 are DB estimates.

Source: Company filings, Deutsche Bank
Utility Coal Weakness Is Constraining Core Pricing Gains

Rail core pricing improvement has moderated YTD amidst weak utility vols

- Core pricing has been impacted by YTD utility coal volume declines, declines in export met coal pricing for East Coast rails, more modest rail inflation, and decelerating transportation pricing gains
- Rails are still obtaining inflation-plus pricing from customers
- Export coal pricing will likely be more volatile than other volumes
- Debate exists about the domestic utility coal pricing outlook

Source: Company filings, Deutsche Bank

(1) CSX indicated that same store pricing was up between 5-6% y/y in Q1 2012.
(2) The company indicated that same store pricing was up between 3-4% y/y in Q2 2012, excluding the impact of lower tariffs on export met coal.

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Focus On New Market Growth Opportunities

Rails to partially offset domestic utility coal declines with export growth

- Export coal volumes have expanded materially over the past several years, particularly for East Coast railroads
- Demand for export metallurgical and thermal coal is coming from Europe, Asia, and South America and driving the growth in export coal volumes
- Infrastructure has been expanding to meet rising demand (CSX can accommodate over 50M tons of export coal annually)
- However, export coal is much more volatile from a demand (& pricing) perspective

Source: Company filings, Deutsche Bank

Note: 2012 East Coast rail utility and export tonnage is annualized based on the average H1 2012 volumes as a percentage of full-year tonnage since 2005 (50% for utility coal and 49% for export coal). YTD East Coast utility coal was 98.1 million tons (down 13% y/y) and export coal tonnage was 42.6 million tons (up 27% y/y).
Export Coal Traffic Has Been Expanding Significantly

Rails to partially offset domestic utility coal declines with export growth

- CSX and NSC have grown export coal volumes significantly since 2006
  - CSX export coal volumes are up 29% y/y in H1 2012
  - NSC export coal volumes are down 1% y/y in H1 2012
- East Coast rails are exporting a bigger percentage of thermal coal in 2012
- Export met coal is higher-yielding traffic (than export thermal)
- Powder River Basin coal is being exported through both Vancouver and Prince Rupert

Source: Company filings, Deutsche Bank
Domestic Intermodal To Take Market Share From Trucks

Improved service performance and higher fuel prices to drive conversions

- Intermodal likely continues to take market share from truck given improved service, fuel surcharge savings, and environmental benefits
- East Coast domestic intermodal market opportunity: 30 million+ loads
- West Coat domestic intermodal market opportunity: 11 million additional loads
- Intermodal currently makes up a small share of this addressable market
- Fastest growth is likely in the East and North/South in and out of Mexico
- Domestic intermodal container growth is outpacing international growth

Source: IANA, Company filings, Deutsche Bank
Domestic Intermodal To Take Market Share From Trucks

Lift capacity is expanding, intermodal likely to be competitive 550+ mi LOH

- The rails have invested substantial capital to expand lift capacity, network coverage, and service performance
- Several new terminals are opening in 2012 and 2013, increasing lift capacity
- CSX and NSC are aggressively opening new markets, targeting 550+ mile lanes, where intermodal can provide competitive service
- Intermodal networks are largely double-stacked, providing better economics for the rails
- Intermodal provides shippers savings of 0-10% on the base rate and roughly 50% savings on the fuel surcharge
- UPS has increasingly been moving to intermodal containers (previously the company almost exclusively used trailers intermodally)
- DB expects intermodal load growth to grow 3-4x GDP given the truck conversion opportunities for the medium term
- JBHT is targeting 10-15% load growth as we expect the company to outpace the overall intermodal market given its service and value proposition

Source: Company filings, IANA, AAR, Deutsche Bank
Shale Traffic Should Aid Above-GDP Volume Growth

Shales drive inbound and outbound traffic for the rails

- Hydraulic fracturing requires significant inbound materials:
  - Horizontal wells require 30-100 carloads of frac sand
  - Rails also move tubular pipe, water, diluents, and equipment
- Rails are also participating in outbound moves:
  - Crude by rail is expanding rapidly
  - Some liquid gas opportunities as well
- Shale-related traffic is newly priced business that carries “re-investable returns”
- In addition, low natural gas prices should make U.S. manufacturing more competitive in a global marketplace thereby creating a virtuous cycle for rail volumes
  - This phenomenon is occurring in markets like chemicals, where natural gas is one of the more costly inputs
  - Chemical factories are relocating to the U.S., reversing a multi-decade long trend of offshoring production

Source: Company filings, IANA, AAR, Deutsche Bank

Shales drive inbound and outbound traffic for the rails

• Despite a 1-2% GDP environment, U.S. economically sensitive carloads (ex-coal and ag) are up 5.7% y/y YTD through September 8, 2012
  • Strong growth in Motor Vehicles (up 19.9% y/y) and Chemicals (up 6.7% y/y) is driving this outperformance
  • Significant growth in crude by rail is aiding strong Chemicals growth
  • UNP’s non-metallic shipments increased 40% y/y in 2011 and was up 28% y/y in Q2 2012, driven primarily by increased frac sand shipments
  • CN sees $300 million of annual revenue from frac sand by 2016

Source: AAR, Deutsche Bank
Railroads Are Improving Network Productivity
Rails Are Focused On Improving Network Velocity To Reduce Cost

- Improved network efficiency improves service and reduces rail operating expenses (crew hire, car hire, fuel expense, etc.)
- Rails are expanding train lengths on both manifest and intermodal service
- YTD through September 7th, network velocity is up 7% y/y on average, while terminal dwell is down over 8% y/y on average over the same period
- Productivity investments are expected to drive over $180 million of cost savings in 2012 for CSX

Source: Deutsche Bank estimates, AAR
Despite Coal Headwinds Rails Are Still Expanding Margins

Core pricing, productivity gains, and growth offsetting coal headwinds

- CSX, NSC, and UNP expanded margins y/y in H1 2012 despite significant utility coal volume declines
- Margin expansion has been possible due to volume growth (automotive, intermodal, and manifest traffic), solid pricing gains, a fuel tailwind in Q2, and productivity enhancements which have more than offset the headwind from the loss of this high-margin business

Source: Company filings, Deutsche Bank

(1) Operating margin is calculated by taking operating income divided by revenue. The data is calculated using H1 2011 and H1 2012 results including any DB adjustments for unusual items.
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