Maggi Rademacher

Development and Perspectives on Supply and Demand in the Global Hard Coal Market

Abstract

The year 2007 was filled with record high prices and extreme volatility levels for many commodities and the global coal and freight markets were no exception. Naturally this opens up a discussion of what may be the root causes for the extreme price developments, and whether they can be attributed, wholly or partly to a change in supply and demand within the seaborne hard coal market, a lack of investment or a changing market structure. This paper takes a closer look at these topics building upon the earlier analytical methods and previous work of H. Gruss (1989–2003) and C. Kopal (2006–2007) published in the Zeitschrift für Energiewirtschaft.


I. Introduction

The first section of the paper reviews the development of historical global steam coal price indices, taking a glimpse at development compared to other fuels and finds that the gains in thermal coal prices lagged behind many other fuels before exploding in 2007. Still a strengthening Euro helped insulate much of the price increase for European buyers last year.

The second section moves to an overview of international trade, supply and demand in the seaborne coal market in 2007, based on information available in March of this year. Despite record high spot thermal and coking coal spot prices, there were few signs of demand destruction. The estimated market trade volume topped 790 mn t for the year with the largest growth in the metallurgical market, up almost 10 % to just under 200 mn t, and slower growth in the thermal market (3.3 %).

The third section of the paper examines the changes in the market structure of industry participants during the year. A key trend in the coal sector is consolidation, whether by state directive (China), mergers or attempted takeovers of publicly traded companies (i.e. BHP Billiton/Rio Tinto or Vale/Xstrata) or via the acquisition of mining assets from smaller industry players. The market influence of the “Big Four” large export-based producers is analyzed in more detail and reveals that their position has not strengthened since 2005, but that their total capacity utilization has risen sharply in response to the global price trends.

Before moving to the final section of the paper, a distinction of the definition(s) for “supply” and “demand” must be reviewed in light of market conditions.

- Supply: the potential availability of coal chain capacity in the market for the export market is currently the relevant, but not always quantifiable benchmark.

When the capacity of inland transport and ports is higher than the production capacity of exporting mines, it is the critical parameter. This is the capacity analyzed by this and previous studies and was applicable through 2004. More recently, inland transport and port capacities were insufficient to fully meet available production capacity, which distorts the global fundamental supply and demand picture as well as capacity utilization.

The current status of export-orientated mining production capacity and utilization levels in the coal market, broken out into thermal and metallurgical/coking coals and at the country level, for 2007 and changes compared to 2006, are provided. The estimated annual increase in net mining capacity, + 105 mn t, is the highest absolute change since analysis started in 1988. The analysis then looks forward at the growth potential for mining production capacity from 2008 to 2012 based on publicly announced coal mine and expansion projects that are currently under development, committed to or planned. While a global estimate of supply as measured as “coal chain export capacity” is beyond the scope of this paper. An example of the estimated potential impact of inland transport and port bottlenecks is provided for Australia and South Africa.

Contact

Maggi Rademacher
E.ON Kraftwerke GmbH
Tresckowstraße 5
30457 Hannover
maggi.rademacher@eon-energie.com
Clearly the rising price trends and strengthening coal demand since 2003 have encouraged new investment in the mining sector. The expanding committed project list is a signal that more production will follow in the period 2008–2012. Still much of the potential mining production capacity is not available to the export market due to port capacity issues, which are often being solved in the period under review, and more importantly inland infrastructure issues which limit the coal chain. In principle, capacity utilization, when measured as a function of export capability in individual countries is much higher than just the utilization of mining production. A clear risk, if inland coal chain capacity constraints are not addressed, is that the continued growth experienced in 2006/07 mining production capacity could be stalled.

II. Global Coal Price

Global thermal coal indices have steadily increased since 2003 but a steep jump is seen in 2007 for both the Atlantic and Pacific markets in Graph A which shows the development of major seaborne coal indices since 1997 in 2007. The MCIS NEW steam coal marker, published by the McCloskey group, as a benchmark for steam coal deliveries to northwest Europe (CIF), gained almost $23/t averaging $86.60/t during 2007. The average index for South African coal (FOB) during 2007 was up almost $12/t to $62.59/t. The index is no longer just a benchmark for the underlying price of coal imports into the Atlantic or for the European market, but is also an indicator for the Pacific market due to the growing volume of South African exports heading into Asia. The Pacific benchmark used is the Australian index published by Barlow Jonker for Newcastle coal (FOB) whose average price rose $16.60/t to $91.20/t in 2007 in one year.

The weakening of the US dollar to most global currencies during 2007 has helped mitigate the price increases for many buyers. European buyers saw the average MCIS NEW CIF index increase by “only” 24% to 62.32 EUR/t in the last year versus an increase of 43% when priced in USD/t. While the currency effect helps to limit the increases in international coal costs for many importers, the impact is often negative for global producers, where production costs in stronger home currencies and capital costs have risen compared to the international USD-denominated prices. This increase in production costs is one driver behind the rise in global steam coal prices during 2007.

A key price driver for delivered coal prices (CIF) is the strong increase in freight rates since 2003. Table A, displays the average yearly price development representing deliveries to Europe (CIF ARA) and the South African coal (FOB RBCT) index. By taking the difference of the two indices, the implied freight component for Route #4, from Richards Bay in South Africa to the ARA terminal (Amsterdam-Rotterdam-Antwerp) is calculated as a benchmark for the seaborne transport of coal. The freight component for CIF deliveries plays a larger role in the last five years averaging 25% of the price compared to 19% from 1996–2002.

The development of freight rates will continue to be a key driver of global steam coal prices in the mid-term. With the order book for new dry bulk vessels at record levels, reported at 50% of the current vessel capacity in reaction to the high freight, it is highly likely that freight prices could relax from 2009 on as the number of vessels delivered increase.

A closer examination of within year pricing must be undertaken to understand the record highs and volatility seen in

Graph A | Development McCloskeys Import Steam Coal Prices 1997–2007

Source: McCloskeys, Barlow Jonker