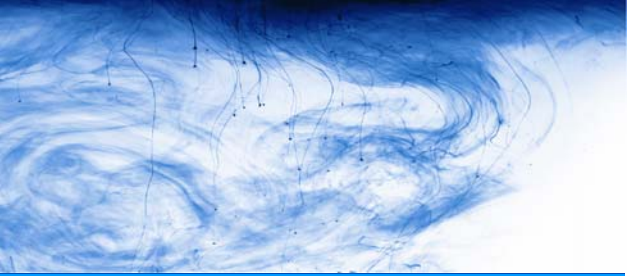

CHEMSYSTEMS

PPE PROGRAM

Report Abstract

Quarterly Business Analysis

Quarter 3, 2009

Petrochemical Cost Price and Margin for Olefins, Polyolefins, Vinyls, Aromatics, Styrenics, Polyester Intermediates and Propylene Derivatives. Analysis for the United States, Western Europe, Middle East and Asia

September 2009

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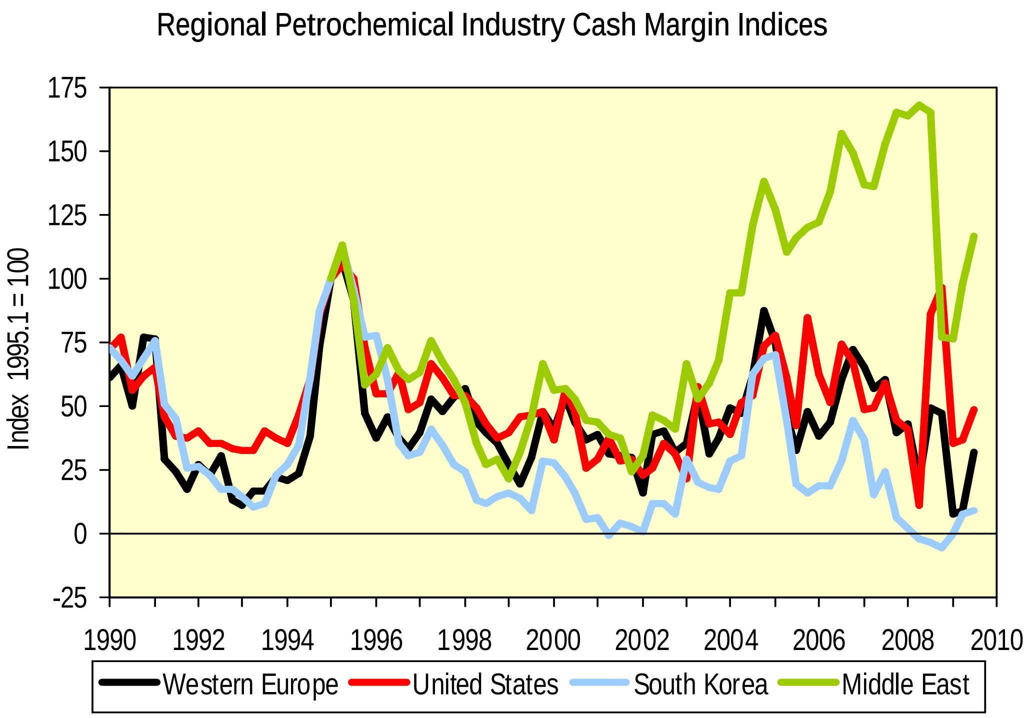
Nexant's Quarterly Business Analysis reports assess the current production economics for commodity petrochemicals, putting them into context with developments in the underlying market dynamics. A review of production economics in the Middle East has recently been added to the long running analysis of economics in Western Europe, United States and Asia. The reports are published as part of ChemSystems / Petroleum and Petrochemical Economics Programme (PPE). Subscriptions to the programme are available from www.chemsystems.com. For further details or to request a sample copy, please email chemsystems@nexant.com.

COMPETITIVE CHALLENGE IN PETROCHEMICAL MARKETS IN Q3 2009

Profitability of the petrochemical industry strengthened in the third quarter. However, high feedstock costs have pushed many European and Asian producers towards the uncompetitive end of the global cost curve.

The economic performance of the petrochemical industry improved in the third quarter, after the first half of the year had been one of the hardest periods since the early 1990's. Consumption of petrochemicals continued to recover steadily as economies improved, particularly in Asia. Meanwhile rising feedstock costs of most naphtha based petrochemicals producers, considerably reduced competitiveness for established players in export markets. The weakening dollar and the renewed cost advantage of ethane based production in the United States combined with high domestic feedstock costs to push European and Asian producers towards the uncompetitive end of the global cost curve. The cost advantage of Middle Eastern producers with access to low cost feedstock costs widened as crude oil prices strengthened further. Margins meanwhile were ultimately supported by a very tight supply side, as extensive cracker outages restricted supplies of olefin feedstocks required for production of derivatives.



The relative strength of Asian demand for petrochemicals had provided a solid foundation for the recovery of the global petrochemical industry from the sharp downturn experienced in the second half last year. However Asian petrochemical markets showed some signs of weakening in the third quarter. A long awaited recovery in Japan, which emerged from recession in the second quarter, after five consecutive quarters of contraction, was more than offset by a slowing in activity in the Chinese manufacturing sector. Exports of finished goods from China have been very subdued, in what should have been the busiest period of the year, as retailers in Western economies drastically reduced orders for the end of year festive period, anticipating restricted consumer spending. Meanwhile an extensive set of clean air mandates, imposed by the Chinese government ahead of an extended national holiday at the start of October, reportedly caused further shutdowns in the manufacturing sector.

Domestic consumption of petrochemicals in Western Europe increased in the third quarter, as the regional economy continued its steady improvement. The German economy lead the way, growing by 0.3 percent in the second quarter, with other countries were expected to emerge from recession in the second half of the year. However, overall volumes continued to be well down on the peak volumes seen in the first half of 2008, and imports made their presence felt, both from the Middle East and from newly competitive United States.

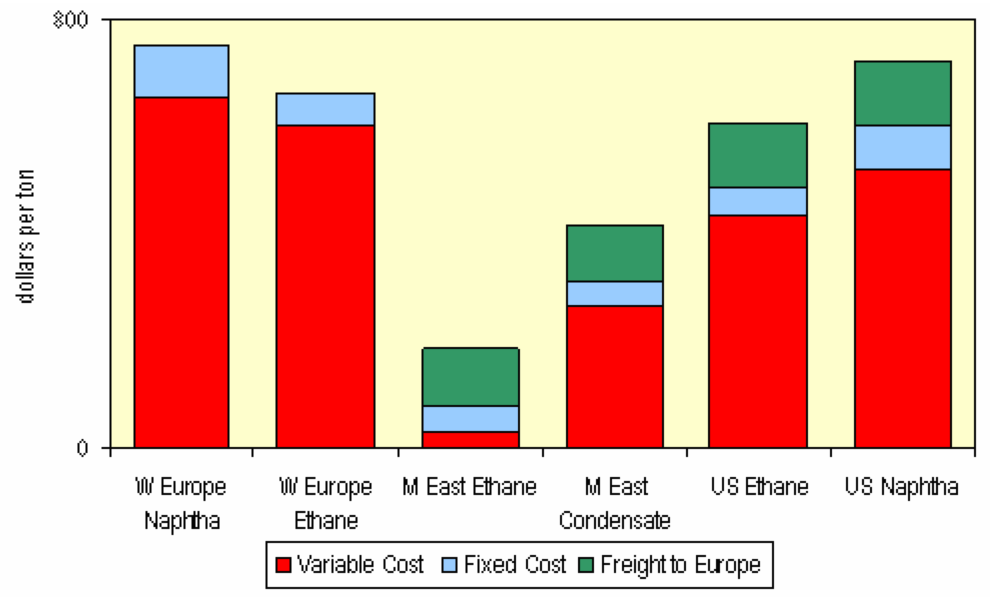
The United States saw demand improve from the weak opening quarter of 2009, but remain very fragile, with volumes lagging far below the highs seen in the first half of 2008. Consumption of ethylene derivatives improved modestly as the United States economy stabilized, with GDP contracting by just one percent in the second quarter, and many economists expecting a recovery from recession in the second half of the year. Production rates in the automotive sector, a key consumer of petrochemicals, increased considerably in the third quarter, as sales grew strongly in response to a government incentive scheme to replace less efficient vehicles.

The renewed strength of crude oil prices in a demand constrained environment has made feedstock selection a vital source of competitiveness in the third quarter. Average Brent crude oil prices through July and August gained 17 percent over the second quarter to settle at almost $70 per barrel, the highest for a year. Meanwhile, the spread in the price of alternative petrochemical feedstock costs has widened considerably. Naphtha supplies from refineries have shortened, with weak gasoline demand and pressure on margins. Tight naphtha markets lifted European naphtha prices a further five percent relative to crude oil. Propane continued to trade at a steady discount to naphtha, on slow seasonal demand in heating applications. Producers in the United States were however largely insulated from the recent rally in crude oil prices as ethane prices rolled over from the second quarter, with very long gas markets softening the link with crude oil values in the short term.

Inventories in North East Asia climbed considerably in the third quarter, with storage constraints often restricting further increases. The supply side continued to lengthen as new cracker and derivative capacity came on stream. Shanghai Secco restarted production at China's largest cracker after completing an expansion and Fujian Refining and Petrochemical started production at their new cracker. These two projects alone accounted for an increase of 2 million tons in Chinese ethylene supplies compared to the second quarter. A rally in Asian prices in the second quarter had attracted large volumes of imports into the region, which arrived just as demand was beginning to stall. Growing inventories rapidly depressed Asian prices through the third quarter, closing many export opportunities for Western producers. Ongoing curtailment of Iranian ethylene supplies into South East Asia, maintained tighter markets in South East Asia. However increased supplies of derivatives were seen arriving from the Middle East as earlier production issues were resolved and material from newly commissioned plants began to slowly work its way into the market.

Inventories in Europe and North America meanwhile remained heavily depleted, with consumers were reluctant to rebuild their stocks, fearing a repeat of last years collapse in prices in the second half of the year. Despite the fragile demand side, petrochemical markets were largely kept tight through the third quarter, with shortages of olefins severely constraining production of derivatives. Almost a quarter of European cracker capacity was halted by production issues in September, restricting average industry operating rates below eighty percent for the fourth quarter in succession.

Ethylene Production Costs Delivered to North West Europe
(Leader cash cost Q3 2009)



Middle Eastern producers built on their advantage at the top end of the global cost curve, as feedstock prices maintained a strong regional advantage and netback prices for petrochemical sold into Asia and Europe increased. Ethane based producers in the United States were able to sell ethylene and derivatives into Western Europe at a considerably lower cost than domestic production form naphtha in the third quarter. Steady strengthening in the Euro against the dollar further aggravated the cost position of European producers, relegating them down the global cost curve. European producers were displaced from many export markets in the third quarter and were exposed to larger volumes of imports.

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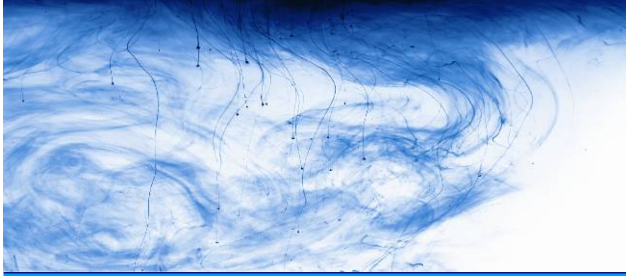

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