



CHEMSYSTEMS

PPE PROGRAM

Report Abstract

Quarterly Business Analysis

Quarter 2, 2010

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

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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.

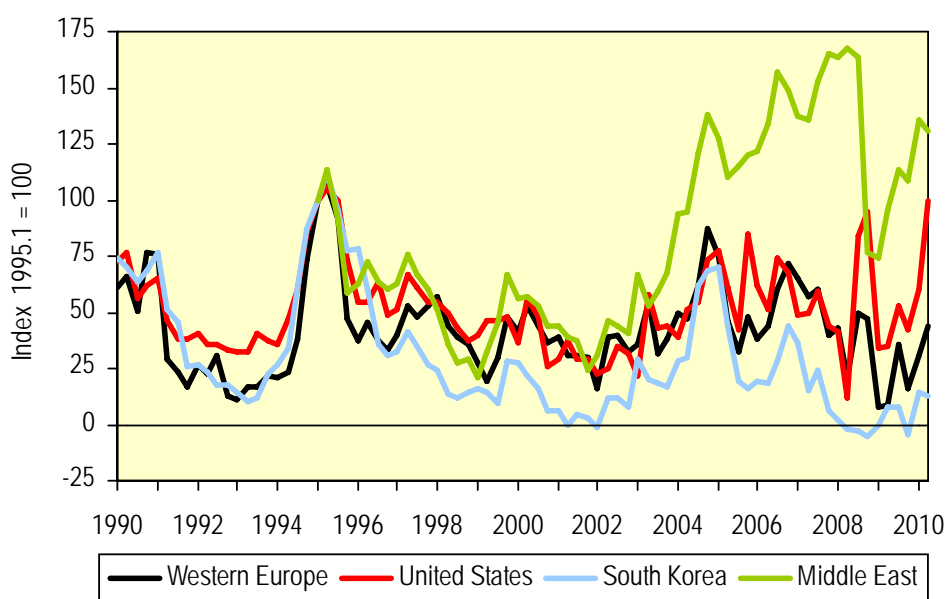
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STRONG PROFITABILITY MASKS UNDERLYING PETROCHEMICAL MARKET WEAKNESS

Average profitability of the petrochemical industry improved considerably in the second quarter of 2010, with margins in many regions climbing close to the peak seen just prior to the crash in the second half of 2010. However, the apparent strength in margins was largely attributable to remnants of tightness in the supply side from early months of the year, and growing fears of fundamental weakness in petrochemical markets prompted margins to collapse through the second quarter. Petrochemical markets slackened considerably in the second quarter, as ongoing economic concerns subdued demand and the supply side lengthened considerably. Petrochemical prices collapsed with frequent concerns about the moribund market outlook. Meanwhile feedstock prices remained firm, with crude oil prices climbing to an 18 month high in April.

Regional Petrochemical Industry Profitability

(Cash Margin Index Q1 1995=100)



Demand for many petrochemicals was more subdued through the second quarter, with increasingly pessimistic views regarding the health of the economy restricting demand. Cuts in government spending and pending tax increases dampened consumer confidence and many incentives to promote spending have been withdrawn. After growing at just 0.2 percent in the opening quarter of the year, GDP of European Union member states was increasingly under pressure, amidst fears of unsustainable debts in some countries. Meanwhile, a one percent contraction in retail sales in the United States through May highlighted intense pressure on demand. The United States GDP grew 0.8 percent in the opening quarter of 2010, almost half the rate achieved in the closing quarter of 2009.

Slowing demand for petrochemicals in Asian markets was a particularly ominous development in quarter two. The large volume of petrochemicals imported into Asia had provided a critical support to counter the fragile recovery in many Western markets over much of the last year. Petrochemical purchasing in the dominant Chinese market was particularly subdued. High inventories and a collapse in prices prompted extensive liquidation of stocks across Asia, with many industry participants fearing a repeat of the subsidence in values seen in the second half of 2008. Ample supplies from an expanding domestic capacity base, and increasingly frequent import cargoes from the Middle East compounded the slack demand side. Lengthy Asian markets and restricted space in tanks and warehouses instigated offers to re-export petrochemicals previously imported into Asia.

Firm crude oil prices continued to apply considerable pressure to petrochemical production costs. Brent FOB crude oil prices averaged \$81 per barrel through April and May, the highest in any quarter since oil prices hit a record high in the middle of 2008. However, slow consumption of many petrochemical feedstocks prompted prices to ease relative to crude oil. Light feedstocks were particularly competitive through the second quarter, with propane and butane trading at a discount to naphtha. Meanwhile, lengthy ethane markets in the United States pushed average prices down almost a quarter from their early year peak.

Ethylene markets in the United States weakened severely through the second quarter as production of ethylene increased considerably after extensive outages early in the year. The weakening market prompted spot prices to stall from a peak above 72 cents per pound in early April, shedding more than half their value through the quarter. Gas cracker margins opened the quarter at record highs, benefiting from a considerable drop in the value of ethane and LPG relative to crude oil. However, peak margins were swiftly eroded as olefin prices collapsed. West European ethylene markets were relatively tight through the second quarter, after extensive exports at the start of the year. Ethylene contract prices increased modestly, with a weakening Euro partially offsetting falls in other regions. Profitability improved considerably, with strong gains in the co-product revenue more than offsetting upward pressure on feedstock costs. Naphtha cracker margins leapt almost €100 per ton, reaching their highest since the end of 2008.

Propylene markets in Western Europe remained very tight through the second quarter of 2010, following extensive supply restrictions in the opening quarter of the year and high prices in the United States drawing in export cargoes. Contract prices gained €70 per ton in April, lifting them above ethylene contract prices for the first time in 25 years. This was sustained through the quarter with June prices settling €30 per ton above ethylene at €1 000 per ton. Margins for all sources of propylene rallied to the highest since monthly contracts commenced at the start of 2009. Propylene markets in the United States weakened considerably through the second quarter as the supply side lengthened with increased throughput at refineries. Meanwhile, demand eased through the quarter with downstream derivative consumers reducing inventories as prices collapsed. Refinery grade propylene prices shed almost 30 cents per pound through April, prompting May contracts to slump 12.5 cents per pound to settle at 63.5 cents per pound.


The United States polyolefins market continued its mediocre course this quarter, as demand was modest nearing the half way mark of 2010. LLDPE demand could be described as modest at best. Despite the weak demand in the market, producers experienced improved margins across the chain, with HDPE margins in particular reaching record highs. This improvement was

achieved as producers succeeded in increasing prices in the expectation of increased feedstock costs, which instead fell. The performance of European polymer markets improved for the second consecutive quarter, yet profitability remains weak relative to the historic average. PET, LDPE and LLDPE achieved particularly strong gains in margins. However HDPE markets were more exposed to imports, and margins slipped towards historic trough values, with integrated Laggard producers operating at cash cost breakeven.

In European Aromatics markets, the combination of tight supply, firming demand and depreciation of the Euro lifted average benzene prices through April and May, despite losses in most other international markets. Toluene hydro-dealkylation economics, based on toluene purchased in spot markets showed positive margins for the first time in three years. Meanwhile, mixed xylenes producers back integrated to naphtha saw margins moving towards aromatics extraction rather than reforming operation.

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