

## Petrochemical price monitor

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■ **Limited supply boosts olefins price, spread.** Ethylene and PE prices rose for the first time in 4-5 weeks on tighter regional supply. Product spread rose 2-3% WoW on steady naphtha price. Margin for PE and ethylene will stay low, discouraging non-integrated producers who are running at low rates to minimize losses. PE/PP spread over ethylene/propylene fell 2-10% WoW, except for HDPE, where price was boosted by limited supply and steady demand growth. New plant startups are delayed and less competitive naphtha crackers in Asia are being permanently shuttered: CPC Corp is expected to close its No.5 naphtha cracker by end-2014. The plant has an ethylene capacity of 500ktpa and propylene capacity of 250ktpa.

■ **Slow demand narrows PX spread WoW.** PX price fell 4.2% WoW to US\$1,418/t - still far above YTD average of US\$1,295/t, due to the startups after maintenance shutdowns but lower PTA operating rates due to poor spread. PX-naphtha spread fell 10.1% WoW to US\$550/t, still above the US\$439/t YTD average. More pressure on PX price and spread will come from new capacity of 1.8mtpa in Singapore and South Korea. SK Innovation in South Korea started a new PX plant early last week with production capacity of 1.3mtpa.

■ **PET/PTA spread aided by lower PX cost.** Weaker PX price widened integrated PET/PTA spread to US\$236/t, up 20.8% WoW, as PTA price edged up 1% WoW. This reflects tighter PTA supply due to plant shutdowns on the poor PTA-PX margin in 2Q14-early 3Q14 to below US\$100/t vs. cash cost of ~US\$150/t. More PTA production cuts can be expected as demand for PET in the region has slowed.

**Investment view:** The petrochemical sector (+1.9% WoW) outperformed the market (unchanged WoW), led by IVL (+6.4% WoW) on expectation of strong profit in 2Q14 and less concern on warrant issue. Valuation is stretched and we maintain Neutral. We prefer PTTGC with undemanding valuation of 9x for 2015 vs. 18x for regional peers. The expected weak 2Q14 is largely priced in.

Figure 1: Petrochemical price update

|  | Current<br>25-Jul-14 | 52-week<br>High/Low | -1W  | -1M    | -3M    | -6M    | -12M   | 3Q14<br>QTD | 2Q14  | QoQ%   | YTD   | Chg. | %YoY   | 2014F<br>projection |
|--|----------------------|---------------------|--|--------|--------|--------|--------|-------------|-------|--------|-------|------|--------|---------------------|
| Price                                    |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
| Naphtha Singapore Spot FOB               | 868                  | 897/806             | 0.0%                                       | -2.1%  | -0.1%  | 1.2%   | 8.1%   | 872         | 863   | 1.0%   | 856   | 34   | 4.1%   | 842                 |
| Ethylene, Far East CFR SE Asia \$/MT     | 1,475                | 1,475/1,238         | 1.2%                                       | 3.9%   | 1.0%   | 3.9%   | 19.0%  | 1,462       | 1,448 | 0.9%   | 1,446 | 125  | 9.4%   | 1,440               |
| Propylene (C), Spot CFR F/E US/MT        | 1,475                | 1,503/1,373         | 1.0%                                       | 2.4%   | 3.0%   | -0.2%  | 5.9%   | 1,460       | 1,420 | 2.8%   | 1,442 | 90   | 6.7%   | 1,430               |
| Polye HDPE Inj, South East Asia US/MT    | 1,615                | 1,615/1,465         | 1.3%                                       | 1.3%   | 4.2%   | 2.9%   | 10.2%  | 1,600       | 1,568 | 2.0%   | 1,564 | 111  | 7.6%   | 1,570               |
| Polye LDPE-Film, Spot S.E Asia US/MT     | 1,610                | 1,680/1,560         | 0.9%                                       | 0.9%   | -0.6%  | -3.6%  | 3.9%   | 1,599       | 1,605 | -0.4%  | 1,620 | 162  | 11.1%  | 1,640               |
| Polye LLDPE Film, F/E Spot SE Asia \$/MT | 1,615                | 1,615/1,480         | 0.9%                                       | 1.3%   | 3.2%   | 1.9%   | 9.1%   | 1,603       | 1,577 | 1.6%   | 1,574 | 118  | 8.1%   | 1,580               |
| PP Film, Spot South East Asia US/MT      | 1,610                | 1,615/1,500         | 0.0%                                       | 1.3%   | 1.9%   | 2.5%   | 7.3%   | 1,610       | 1,581 | 1.8%   | 1,577 | 75   | 5.0%   | 1,570               |
| Related stocks                           |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
|  |                      |                     | PTTGC (+)   IRPC (+)   SCC (+)   TPIPL (-) |        |        |        |        |             |       |        |       |      |        |                     |
| Para-Xylene CFR Chin M. Por Spot \$/MT   | 1,418                | 1,515/1,143         | -4.2%                                      | -4.7%  | 17.6%  | 6.4%   | -2.9%  | 1,431       | 1,263 | 13.3%  | 1,295 | -230 | -15.1% | 1,190               |
| Benzene, Far East CFR Spot F/E US/MT     | 1,348                | 1,385/1,220         | 0.6%                                       | -2.7%  | 6.5%   | -0.4%  | 8.0%   | 1,346       | 1,293 | 4.1%   | 1,305 | -30  | -2.2%  | 1,240               |
| Related stocks                           |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
|  |                      |                     | PTTGC (-)   TOP (-)   ESSO (-)             |        |        |        |        |             |       |        |       |      |        |                     |
| MEG, Far East Spot CFR F/E US/MT         | 993                  | 1,124/889           | 0.5%                                       | -1.4%  | 8.5%   | -1.5%  | -7.7%  | 991         | 939   | 5.5%   | 958   | -91  | -8.6%  | 1,110               |
| PTA CFR South East Asia                  | 1,025                | 1,125/865           | 1.0%                                       | 0.5%   | 15.8%  | 6.8%   | -6.0%  | 1,018       | 920   | 10.6%  | 940   | -162 | -14.7% | 900                 |
| PET(Fibre Grade)A/P Spot CFR NEA \$/MT   | 1,280                | 1,420/1,185         | 0.0%                                       | -0.4%  | 7.1%   | 0.0%   | -5.5%  | 1,284       | 1,217 | 5.5%   | 1,247 | -176 | -12.4% | n.a.                |
| Related stocks                           |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
|  |                      |                     | PTTGC (-)   IVL (+)                        |        |        |        |        |             |       |        |       |      |        |                     |
| ABS Asia Pac. India Spot CFR US/MT       | 1,915                | 1,955/1,870         | 0.0%                                       | 0.3%   | 1.1%   | 1.6%   | -1.3%  | 1,915       | 1,901 | 0.7%   | 1,896 | -72  | -3.7%  | n.a.                |
| Polystyrene-GP, Spot Hong Kong US/MT     | 1,755                | 1,915/1,715         | 0.9%                                       | 2.0%   | 0.3%   | -2.8%  | -7.9%  | 1,743       | 1,733 | 0.6%   | 1,754 | -84  | -4.6%  | n.a.                |
| Related stocks                           |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
|  |                      |                     | IRPC (+)                                   |        |        |        |        |             |       |        |       |      |        |                     |
| PVC, Spot South East Asia US/MT          | 1,065                | 1,070/980           | 0.0%                                       | 0.9%   | 3.4%   | 2.9%   | 5.4%   | 1,060       | 1,035 | 2.4%   | 1,041 | 27   | 2.6%   | 1,070               |
| Related stocks                           |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
|  |                      |                     | VNT (-)   TPC (-)                          |        |        |        |        |             |       |        |       |      |        |                     |
| Product spread                           |                      |                     |  |        |        |        |        |             |       |        |       |      |        |                     |
| Ethylene - naphtha                       | 607                  | 626/424             | 3.0%                                       | 13.8%  | 2.7%   | 8.0%   | 38.9%  | 590         | 586   | 0.8%   | 590   | 90   | 18.1%  | 598                 |
| Propylene - naphtha                      | 607                  | 665/530             | 2.5%                                       | 9.7%   | 7.7%   | -2.0%  | 3.0%   | 588         | 557   | 5.6%   | 586   | 56   | 10.5%  | 588                 |
| HDPE - naphtha                           | 747                  | 747/615             | 2.7%                                       | 5.4%   | 9.7%   | 4.9%   | 12.9%  | 728         | 705   | 3.3%   | 708   | 77   | 12.2%  | 728                 |
| LDPE - naphtha                           | 742                  | 851/709             | 2.1%                                       | 4.7%   | -1.2%  | -8.6%  | -0.6%  | 727         | 742   | -2.0%  | 764   | 127  | 20.0%  | 798                 |
| LDPE - Ethylene                          | 135                  | 323/135             | -1.8%                                      | -22.9% | -15.6% | -46.0% | -56.5% | 137         | 156   | -12.3% | 173   | 37   | 27.1%  | 200                 |
| LLDPE - naphtha                          | 747                  | 750/640             | 2.0%                                       | 5.4%   | 7.3%   | 2.7%   | 10.4%  | 731         | 714   | 2.3%   | 718   | 84   | 13.2%  | 738                 |
| PP - naphtha                             | 742                  | 744/657             | 0.0%                                       | 5.5%   | 4.3%   | 4.2%   | 6.5%   | 738         | 718   | 2.8%   | 721   | 41   | 6.1%   | 728                 |
| PX - naphtha                             | 550                  | 697/304             | -10.1%                                     | -8.5%  | 63.3%  | 15.9%  | -16.3% | 559         | 400   | 39.8%  | 439   | -264 | -37.5% | 348                 |
| BZ - naphtha                             | 480                  | 535/381             | 1.6%                                       | -3.8%  | 21.0%  | -3.1%  | 7.9%   | 475         | 430   | 10.3%  | 449   | -64  | -12.5% | 398                 |
| MEG - Ethylene                           | 78                   | 324/-20             | -7.0%                                      | -38.4% | 695.9% | -38.9% | -74.6% | 85          | 41    | 105.8% | 61    | -168 | -73.3% | 217                 |
| PTA - PX                                 | 103                  | 155/53              | 94.9%                                      | 94.4%  | 1.8%   | 10.0%  | -26.6% | 88          | 100   | -12.1% | 98    | -13  | -11.4% | 103                 |
| PET spread                               | 133                  | 253/130             | -6.7%                                      | -2.8%  | -27.8% | -25.4% | 3.7%   | 143         | 170   | -15.7% | 179   | -18  | -9.0%  | n.a.                |
| Integrated PET/PTA spread                | 236                  | 352/190             | 20.8%                                      | 24.4%  | -17.3% | -13.2% | -12.1% | 231         | 269   | -14.4% | 277   | -30  | -9.9%  | n.a.                |
| ABS spread                               | 1,119                | 1,272/1,070         | 0.3%                                       | 3.3%   | 2.7%   | 3.9%   | -11.4% | 1,112       | 1,103 | 0.8%   | 1,097 | -49  | -4.3%  | n.a.                |
| PS spread                                | 263                  | 565/214             | 1.5%                                       | 22.7%  | -19.7% | -19.1% | -53.1% | 255         | 291   | -12.4% | 303   | -97  | -24.2% | n.a.                |
| PVC - ethylene                           | 328                  | 391/258             | -2.6%                                      | -5.1%  | 9.2%   | 0.8%   | -16.0% | 329         | 311   | 5.8%   | 317   | -36  | -10.1% | 350                 |

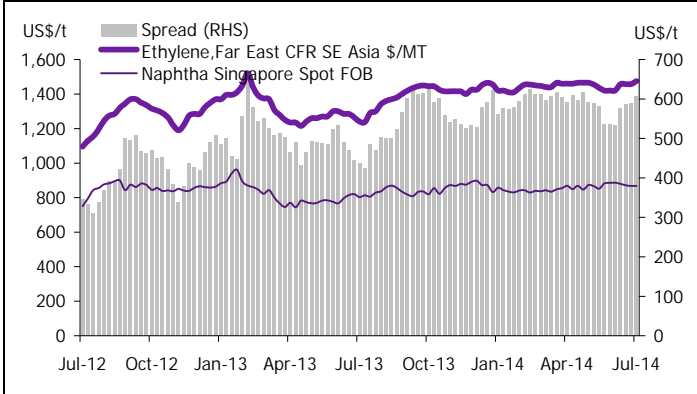
Source: Datastream, SCBS Investment Research

Note: Impact to related stocks is based on WoW performance

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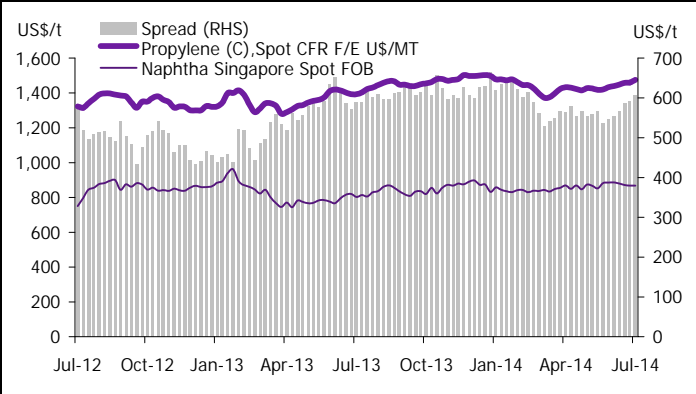
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Figure 2: Ethylene vs. Naphtha



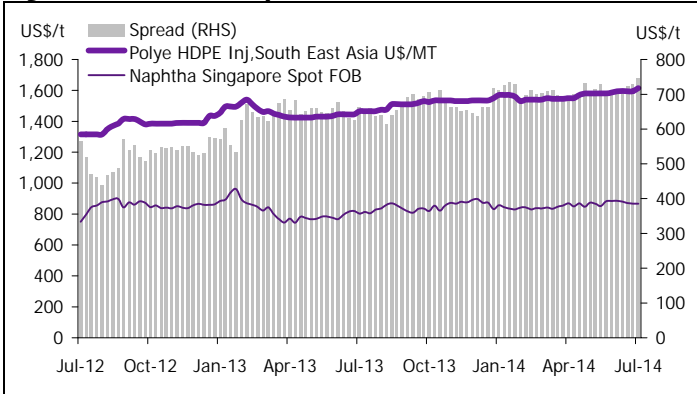
Source: Datastream, SCBS Investment Research

Figure 3: Propylene vs. Naphtha



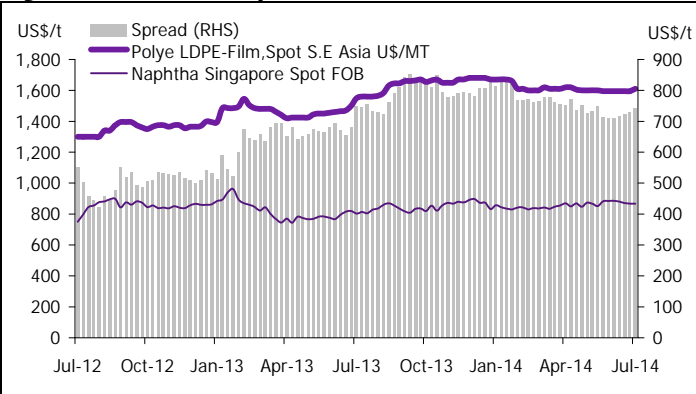
Source: Datastream, SCBS Investment Research

Figure 4: HDPE vs. Naphtha



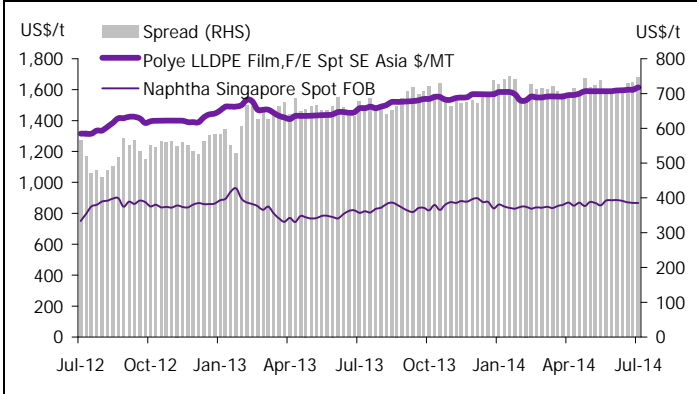
Source: Datastream, SCBS Investment Research

Figure 5: LDPE vs. Naphtha



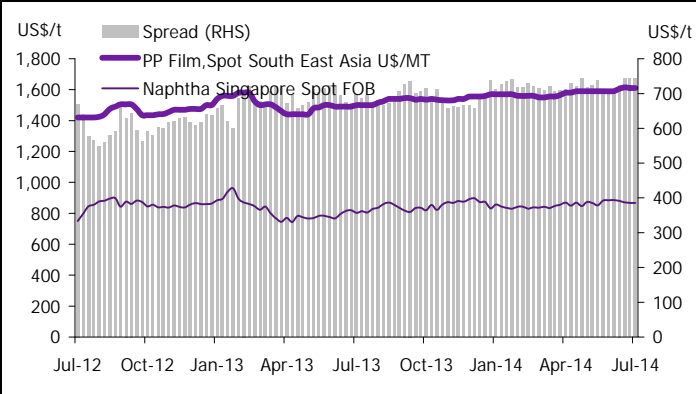
Source: Datastream, SCBS Investment Research

Figure 6: LLDPE vs. Naphtha



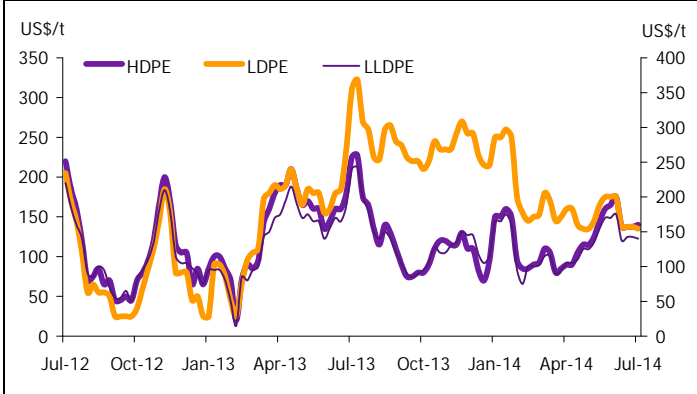
Source: Datastream, SCBS Investment Research

Figure 7: PP vs. Naphtha



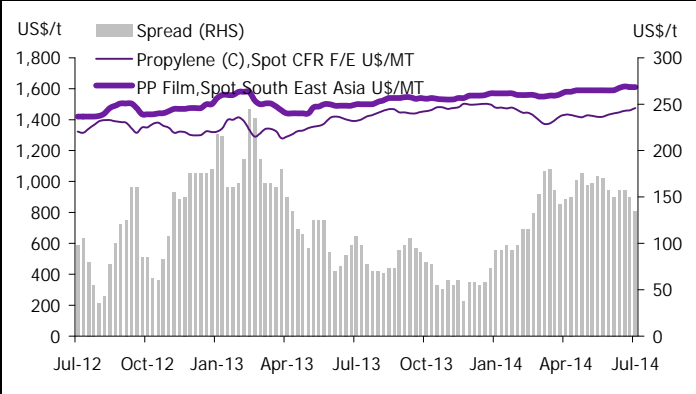
Source: Datastream, SCBS Investment Research

Figure 8: Polyethylene spread over ethylene

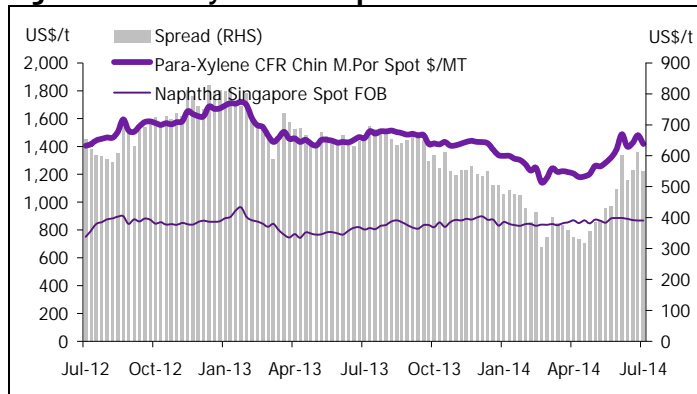


Source: Datastream, SCBS Investment Research

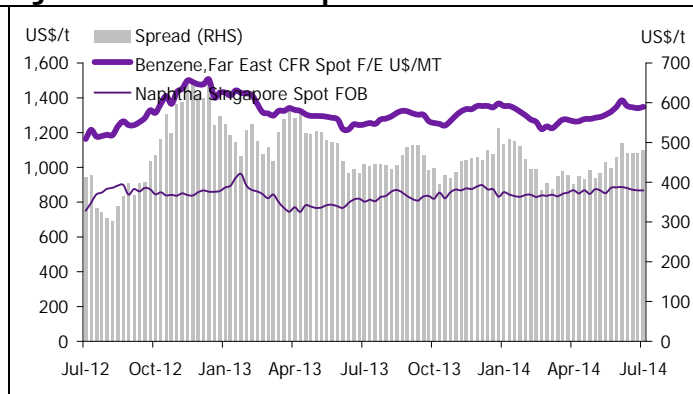
Figure 9: Polypropylene vs. propylene



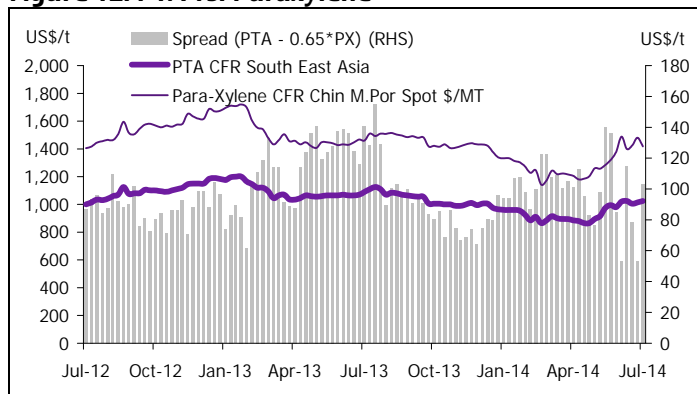
Source: Datastream, SCBS Investment Research

**Figure 10: Paraxylene vs. Naphtha**

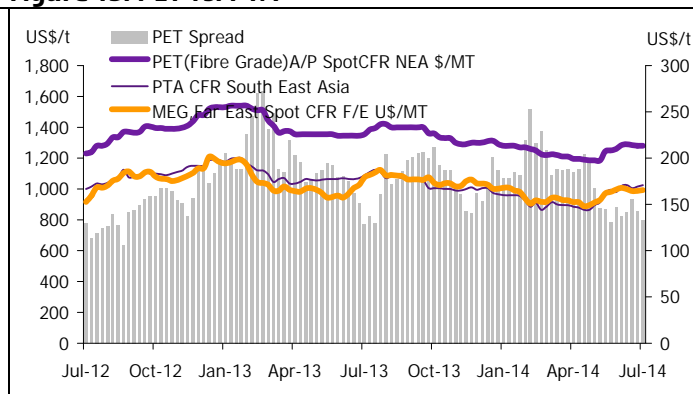
Source: Datastream, SCBS Investment Research

**Figure 11: Benzene vs. Naphtha**

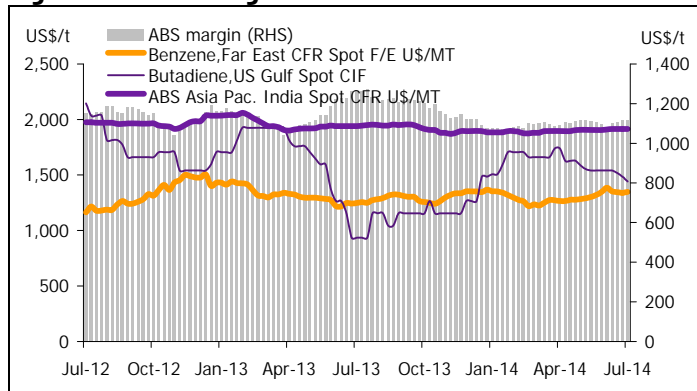
Source: Datastream, SCBS Investment Research

**Figure 12: PTA vs. Paraxylene**

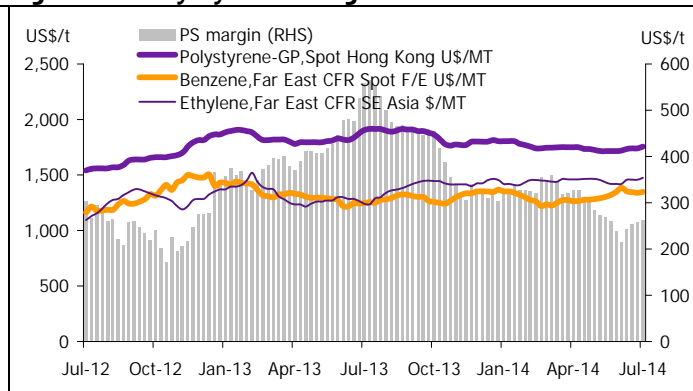
Source: Datastream, SCBS Investment Research

**Figure 13: PET vs. PTA**

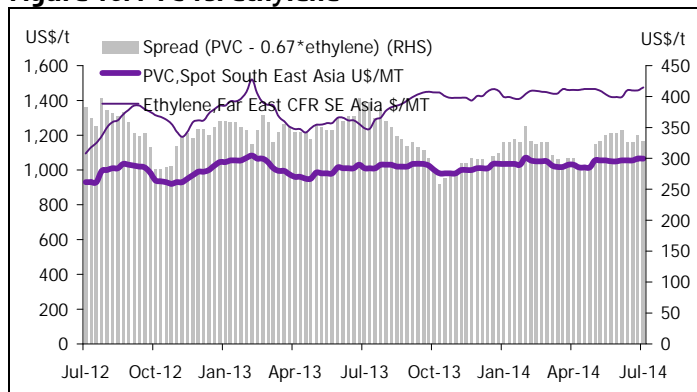
Source: Datastream, SCBS Investment Research

**Figure 14: ABS margin**

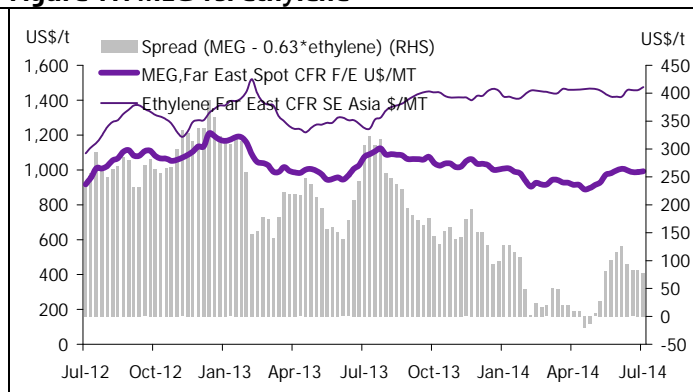
Source: Datastream, SCBS Investment Research

**Figure 15: Polystyrene margin**

Source: Datastream, SCBS Investment Research

**Figure 16: PVC vs. ethylene**

Source: Datastream, SCBS Investment Research

**Figure 17: MEG vs. ethylene**

Source: Datastream, SCBS Investment Research

**Figure 18: Selected product price/spread of listed companies**

| Company | Key products       | % of total | Product price/spread                    | 3Q14 QTD | 2Q14  | QoQ% | YTD   | 12MMA | 2014F projection | Momentum |
|---------|--------------------|------------|---|----------|-------|------|-------|-------|------------------|----------|
| PTTGC   | Ethylene/Propylene | 21%        | Ethylene, Far East CFR SE Asia \$/MT    | 1,462    | 1,448 | 1%   | 1,446 | 1,424 | 1,440            | ↗        |
|         |                    |            | Propylene (C), Spot CFR F/E US/MT       | 1,460    | 1,420 | 3%   | 1,442 | 1,449 | 1,430            | ↗        |
|         | HDPE               | 19%        | Polye HDPE Inj, South East Asia US/MT   | 1,600    | 1,568 | 2%   | 1,564 | 1,542 | 1,570            | ↗        |
|         | LLDPE              | 7%         | Polye LLDPE Film, F/E Spt SE Asia \$/MT | 1,603    | 1,577 | 2%   | 1,574 | 1,555 | 1,580            | ↗        |
|         | LDPE               | 4%         | Polye LDPE-Film, Spot S.E Asia US/MT    | 1,599    | 1,605 | 0%   | 1,620 | 1,628 | 1,640            | →        |
|         | MEG                | 6%         | MEG, Far East Spot CFR F/E US/MT        | 991      | 939   | 6%   | 958   | 1,002 | 1,110            | →        |
|         | PX                 | 28%        | PX - naphtha                            | 559      | 400   | 40%  | 439   | 513   | 348              | →        |
| IRPC    | BZ                 | 15%        | BZ - naphtha                            | 475      | 430   | 10%  | 449   | 449   | 398              | →        |
|         | Ethylene/Propylene | 15%        | Ethylene - naphtha                      | 590      | 586   | 1%   | 590   | 572   | 598              | ↗        |
|         |                    |            | Propylene - naphtha                     | 588      | 557   | 6%   | 586   | 597   | 588              | ↗        |
|         | HDPE               | 12%        | HDPE - naphtha                          | 728      | 705   | 3%   | 708   | 690   | 728              | ↗        |
|         | PP                 | 28%        | PP - naphtha                            | 738      | 718   | 3%   | 721   | 706   | 728              | ↗        |
|         | ABS                | 7%         | ABS spread                              | 1,112    | 1,103 | 1%   | 1,097 | 1,139 | n.a.             | ↗        |
|         | BTX                | 23%        | BZ - naphtha                            | 475      | 430   | 10%  | 449   | 449   | 398              | →        |
| SCC     | PS                 | 12%        | PS spread                               | 255      | 291   | -12% | 303   | 356   | n.a.             | →        |
|         | HDPE               | 40%        | HDPE - naphtha                          | 728      | 705   | 3%   | 708   | 690   | 728              | ↗        |
|         | LDPE               | 3%         | LDPE - naphtha                          | 727      | 742   | -2%  | 764   | 775   | 798              | →        |
|         | LLDPE              | 3%         | LLDPE - naphtha                         | 731      | 714   | 2%   | 718   | 702   | 738              | ↗        |
|         | PP                 | 25%        | PP - naphtha                            | 738      | 718   | 3%   | 721   | 706   | 728              | ↗        |
|         | PVC                | 28%        | PVC - Ethylene/EDC                      | 442      | 405   | 9%   | 416   | 420   | n.a.             | ↗        |
|         | TPIPL              | 60%        | LDPE - Ethylene                         | 137      | 156   | -12% | 173   | 204   | 200              | ↘        |
| TOP     | PX                 | 60%        | PX - naphtha                            | 559      | 400   | 40%  | 439   | 513   | 348              | →        |
|         | BZ                 | 21%        | BZ - naphtha                            | 475      | 430   | 10%  | 449   | 449   | 398              | →        |
| IVL     | PTA                | 25%        | PTA - PX                                | 88       | 100   | -12% | 98    | 95    | 103              | ↗        |
|         | PET/Polyester      | 67%        | PET spread                              | 143      | 170   | -16% | 179   | 178   | n.a.             | ↘        |
|         | MEG                | 8%         |   |          |       |      |       |       |                  |          |
| VNT     | PVC                | 63%        | PVC - ethylene                          | 329      | 311   | 6%   | 317   | 316   | 350              | ↗        |
| TPC     | PVC                | 100%       | PVC - Ethylene/EDC                      | 442      | 405   | 9%   | 416   | 420   | n.a.             | ↗        |

Source: Datastream, SCBS Investment Research

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