

## Pressure on Plastics Market Due to Economic Uncertainties



The upward movement of plastics price has been changed since early August.

Even though the upstream monomers cost remained high and the plastic supply was tight, the plastics price was dropped due to the uncertainties of global economy and the weak downstream demand.

In July, the gap of production cost and the spot market price was reduced. However, this gap enlarged in August with further reduction in spot market price. The profit margin of the chemical plants has been further squeezed. How long would this downward movement remain?

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## Weak Demand of the Plastics Market

Figure 1: A chemical plant GPPS spot market price, production cost and ex-factory price (June-August 2011)

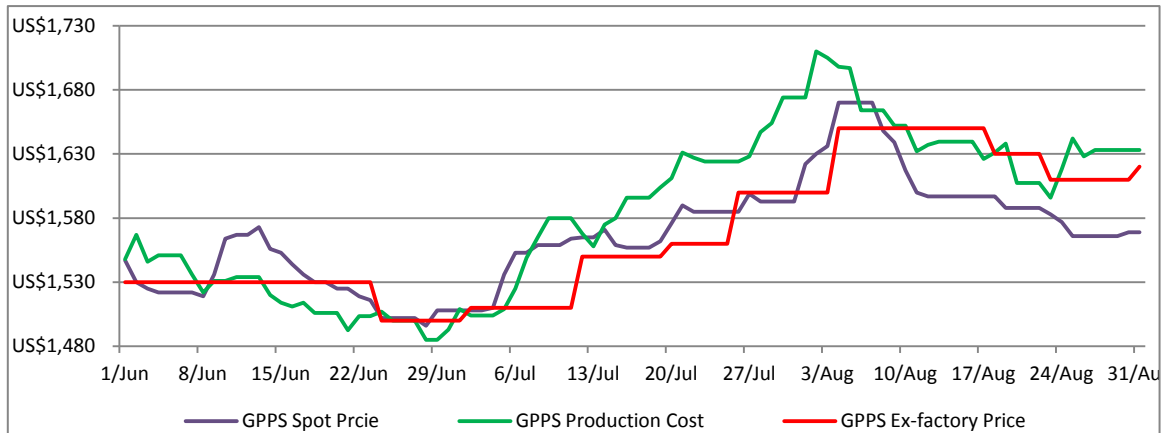


Table 1: PS spot price fluctuation ( June-August 2011 )

	End of August vs Early of June(%)	End vs Early of August (%)
<b>GPPS</b>	↑1.42	↓3.27
<b>HIPS</b>	↑2.15	↓4.2

With the worry on the future aspect of global economy and the plunge of oil price, the market price of PS has been reduced since early August. The downward trend was initiated by spot market price. The chemical plant was forced to have price reduction, even below the production cost level. At the end of August, the spot market price was further below the production cost. The reduction of spot price was not as significant due to tight supply.

Figure 2: A chemical plant ABS spot market price, production cost and ex-factory price (June-August 2011)

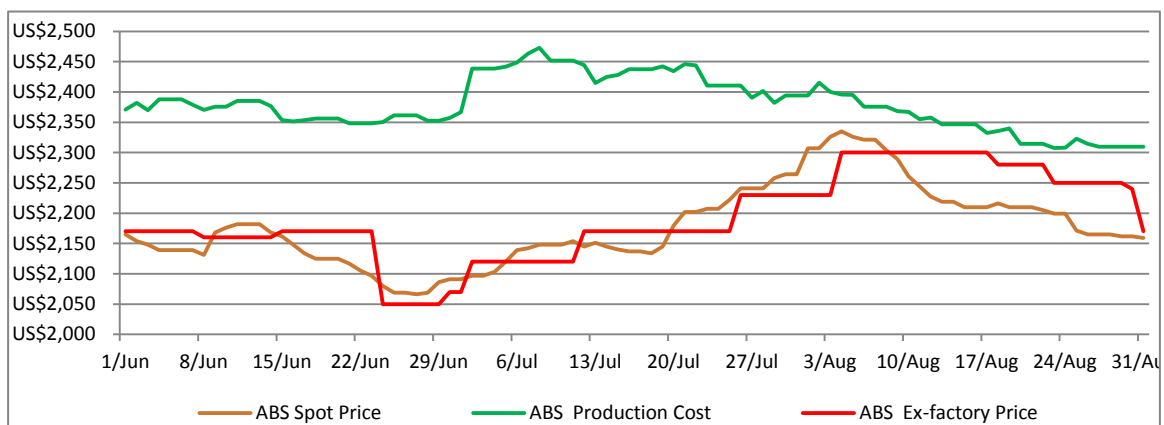


Table 2 : ABS spot price fluctuation ( June-August 2011 )

	End of August vs Early of June(%)	End vs Early of August (%)
<b>ABS</b>	↓0.28	↓6.42

The downstream demand was weaker than expected. The market supply was relatively sufficient. With the worry of global economy, the spot market price of ABS in August was dropped significantly. The spot market price was further below the production cost.

Figure 3: A chemical plant PP spot market price, production cost and ex-factory price (June-August 2011)

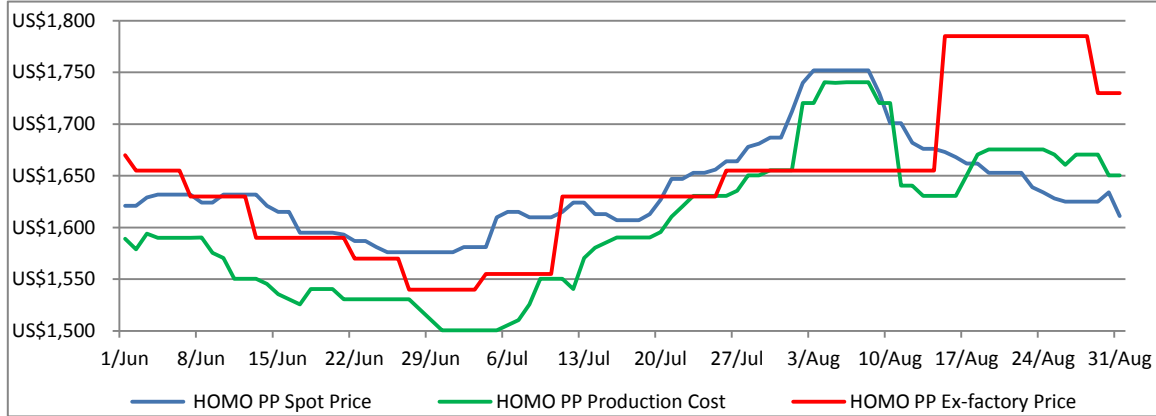


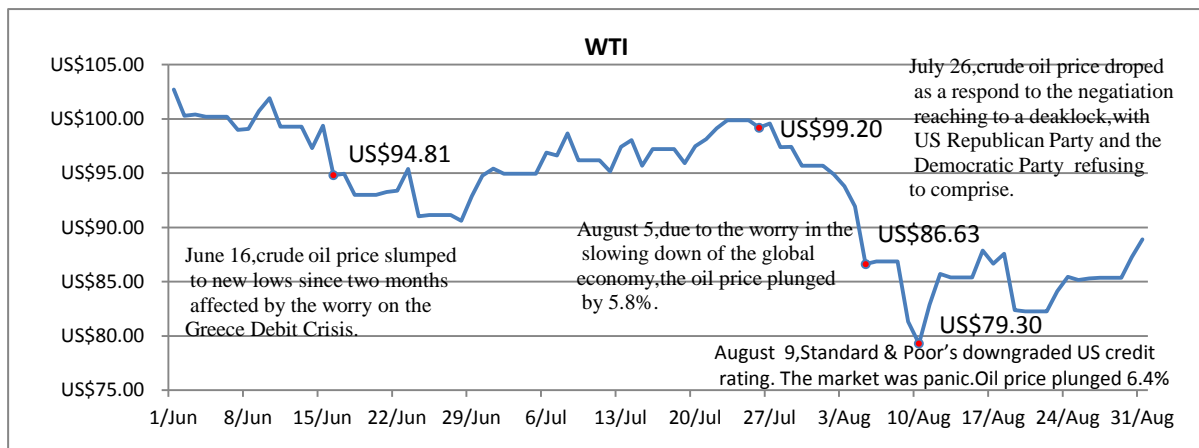
Table 3 : PP spot price fluctuation ( June-August 2011 )

	End of August vs Early of June(%)	End vs Early of August (%)
<b>HOMO PP</b>	↓0.62	↓5.9
<b>BLOCK PP</b>	↓1.1	↓1.8

The No. 6 Naphtha Cracker of Formosa Plastic Group has been forced to shutdown for maintenance by the Taiwan authority. The shutdown had very big impact on the PP market. The major PP chemical plants in Asia once stopped to give offer. When the offer was resumed, the ex-factory price was much higher than before. However, due to the worry of the slow recovery of global economy, the spot market price was dropped further below the production cost and ex-factory price.

### International Oil Price (WTI) - Worry on the Recovery of Global Economy

Fig 4 : WTI ( June-August 2011 )



In Early August, the weak economic data of US led to the reduction of WTI oil price below \$90/barrel. Standard and Poor's lowered the US credit rating on 5 August. This created the market panic and the oil price continuously plunged. The settlement price of WTI was dropped to minimum value of \$79.30/barrel, 17% reduction from the highest point in August.

Following the credit downgrade, the Federal Reserve said they expected to keep US interest rates at their current low levels until the middle of 2013. They also mentioned that depending on economic situations, they can offer new monetary policies to boost the economy. With this encouragement, the international oil price rebounded steadily.

Table 4 : WTI fluctuation ( June-August 2011 )

	June (\$/bbl)	July (\$/bbl)	August (\$/bbl)
WTI	91-103	94-100	79-96

### Monomer ——— Fall of Price Increase

Fig 5 : Monomer Price ( June-August 2011 )

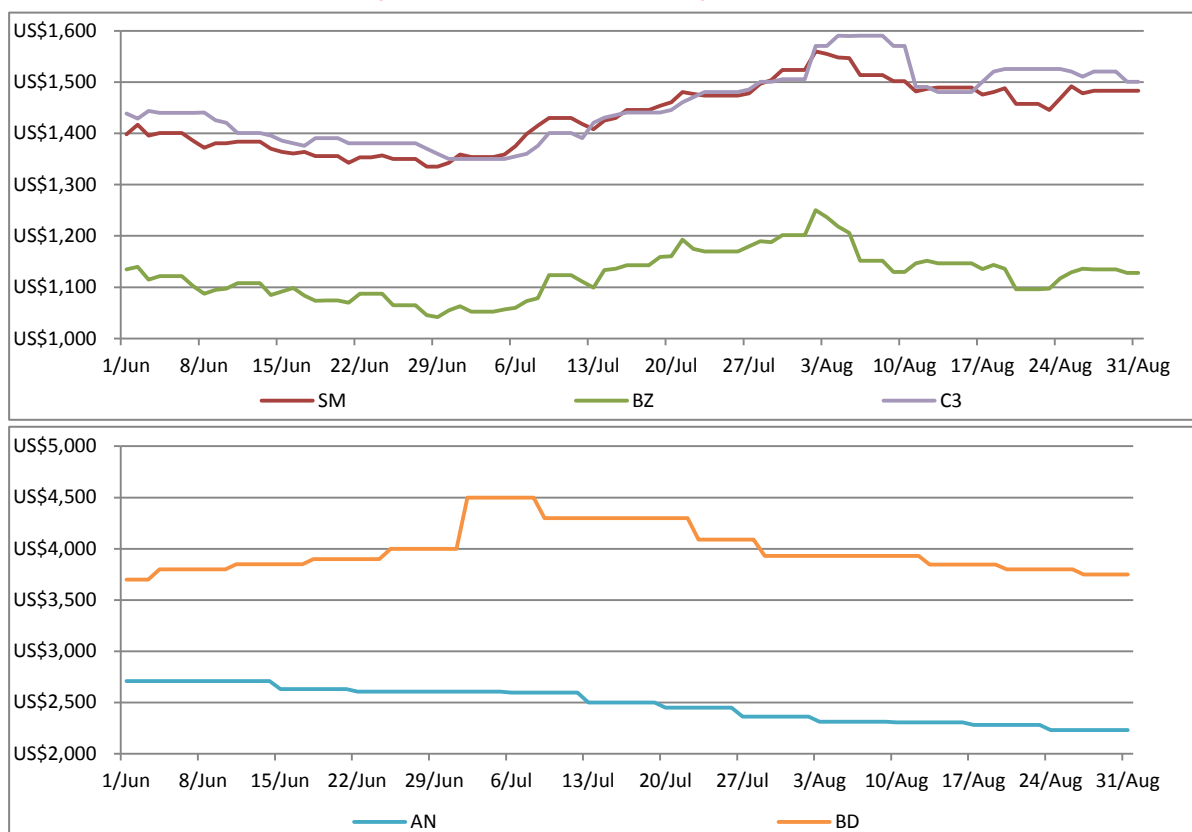


Table 5 : SM C3 fluctuation ( lowest price level compared with highest price level ) ( June-August 2011 )

	July (%)	August (%)
SM (Styrene)	↑12.56	↓7.3
C3(Propylene)	↑11.47	↓6.86
AN(Acrylonitrile)	↓9.4	↓5.5
BD(Butadiene)	↓12.7	↓4.6

A number of the production facilities of the chemical plants in Asia have been shutdown for maintenance. Together with the accidental shutdown of the No. 6 Naphtha Cracker of Formosa Plastic Group, the monomers supply has been affected. However, the 17% plunge of WTI oil price in August (lowest price level compared with highest price level in August) exerted pressure on the monomer price. The monomer price was reduced, even though the reduction level was not as serious as the oil price.

### Summary - Pressure on Plastics Market Due to Economic Uncertainties

- 1) The weak economic data in US and Europe resulted in market panic, which resulted in high volatility in oil price
- 2) The wait and see attitude of plastics traders and downstream manufacturers was growing. Most of the downstream manufacturers made their procurement plan based on their own demand. Having considered the oil price and the uncertainties on global economy, they were generally reluctant to place large order or keep extra inventory. The manufacturers mostly adopted Just-in-Time pattern. The actual demand has been suppressed.
- 3) Some plastics traders was negative to the market, and started to clear their stocks below their cost, to avoid further loss in the future.
- 4) The business of downstream manufacturers was not as strong as before, due to weak economic situation in US and Europe. This weakened the overall market demand.

When the market generally estimated that the price trend would go down, the downstream manufacturers would delay their purchasing plans. This led to demand reduction, and the accumulation of stock inventory. The plastics traders were negative and continuously cleared their stock. This created further reduction in spot market price.

### Forecast of Plastics Market in September - Turning Point

In the end of August, the market generally expected Federal Reserve Chairman Bernanke to offer more monetary policies to stimulate the economy. However, Bernanke did not make any solid statements. He extended market hope until September, when market believed he would make solid statements.

If Bernanke really offers QE3, or any plan with effect similar to QE3, as market expected, how would the plastics market respond? Would the Chinese authority ease their tight monetary policies? What would be the future demand of the downstream manufacturers?

## International Oil Price - Reduced Volatility

After large downward adjustment of the international oil price in early August, the price rebounded at the end of August. What would be the trend in the international oil price in September?

The market expected the Federal Reserve to offer new monetary policies to boost the economy. Regardless of QE3 or any other forms of stimulus, the downward trend of US dollar would hardly be changed. In addition, the hurricane season in September is coming. This would give short-term upward price pressure in international oil price.

However, the global economic recovery would not be optimistic. There were large uncertainties. This would suppress the price increase level of oil price.

## Upstream Monomer - Downward Pressure

As more and more production facilities in Asia would be re-activated after maintenance complete, the supply of upstream monomer would not be as tight as before. Moreover, the weak downstream demand would not be improved in the short term.

These two factors would give downward pressure in upstream monomer price.

## Expectation

Since Quarter 2 of this year, the economic data of US and Europe were not good. The European debt crisis was growing. More and more people expected that there would be double dip recession. Developing economies including China actively slowed down the economic growth in order to control the high inflation. Both the export demand and domestic demand were reduced. The world was in the deep worry of slow down of economic growth.

The improvement of the future demand would rely on the improvement of the economic status of US and Europe, as well as the ease of the tight monetary policies in China. It is believed that the above issues would hardly be changed in the short term.

As a considerable number of upstream production facilities in Asia would be re-activated after maintenance, the supply of the upstream monomers, like SM (styrene) and C3 (propylene) would be increased. This would create negative pressure to monomer prices. As to the chemical plants, the production cost may be reduced accordingly.

The weak demand would shift the price down. The reduction of production capacity and spot inventory would shift the price up. Which direction would the spot market price go to?

The key point is to watch the spot inventory and the inventory in the chemical plants. If the spot inventory is in low level, even the demand is not strong, the spot market price would have momentum to rise due to tight supply. But as the market lacks the support of strong demand, the price increase may not be persistent.

There will be two holidays in China in September. Traders would avoid keeping inventory across the holidays. Traders would seek pro-active marketing plan before the China National Holidays. The downstream factories will have the need to keep sufficient inventory across the holidays. This would lead to increase demand. Based on the spot market inventory depletion and the quotation mode of chemical plants, the turning point should come in the second half of September.

## Suggestion

It has been a while for the downward movement of the plastics price. Based on past experience, we suggested the downstream manufacturers to closely watch the supply and demand status. The chemical plants and the traders are not willing to sell at loss in long term. They would reduce production and inventory respectively. With continual decrease in spot market inventory, the spot market price would rebound. Below are some of the references for the downstream manufacturers to consider in their purchasing plans.

- 1) As the market well knows, when there is rebound, the spot inventory often disappear or the low spot price offer would disappear. It is because some distributors and traders would keep some inventory for later sales.
- 2) The loss in the early stage was significant. In order to recover the loss when the future price aspect is positive, some distributors and traders are reluctant to sell in high volume.
- 3) When the price is going up, the chemical plants would not fully satisfy the demand of traders for inventory replenishment. They would reduce supply and increase price at once. The downstream manufacturers would be difficult to source the raw materials in this stage.
- 4) It is the buy side market in this stage. The room for price negotiation is relatively large. During rebounds, however, the downstream manufacturers would have no room for price negotiation. Depending on the cash flow status of the distributors and traders, some may sell at very low price. When there is exceptionally good offer, the downstream manufacturers should catch the opportunities.

- 5) Last but not least, we often emphasize, the downstream manufacturers are not future operators. They should lock the profit margin and to ensure that there are sufficient stocks in order to complete the orders on hands.

## Appendix: Major Plastics Events in August 2011

1 August 2011	The No. 6 Naphtha Cracker of Formosa Plastic Group had 7 fire accidents in one year time. The Taiwan authority ordered the suspension of the factory operation and demanded complete checking and maintenance work of the factory.
4 August 2011	Due to the worry in the slowing down of the global economy, investors retreated from the high risk investment market. The oil price plunged by 5.8% to the lowest level since February.
5 August 2011	Standard & Poor's downgraded US credit rating. The market was panic. Oil price plunged 6.4%
9 August 2011	The Federal Reserve said they expected to keep US interest rates at their current levels near 0% until the middle of 2013.
26 August 2011	In the Annual Central Banker Conference, Federal Reserve Chairman Bernanke did not mention any solid quantitative easing measures. But the measures would be discussed in the meeting in September. The oil price rebounded gradually as the market expected new stimulus measure would be announced then.