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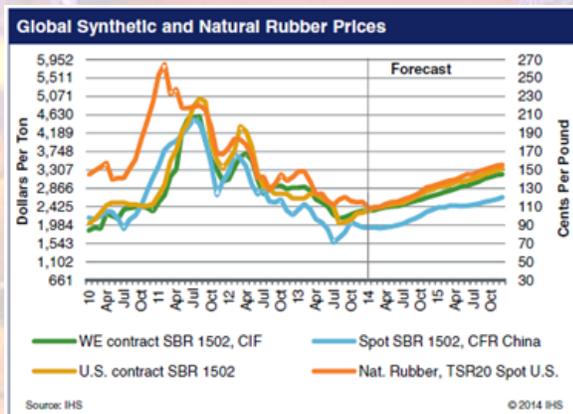
Leading World Technologies Through Innovation

Monthly Bulletin– February 2014



Executive Summary

Butadiene: IHS Chemical’s marker for the February US butadiene contract price increased more than five cents per pound to 60.9 cents per pound (\$1,343 per ton). This month’s increase is supported by spot prices that are climbing for February and March delivery. Domestic butadiene production is experiencing some short-term disruption.



Synthetic Rubber: In the US, after a past weak 18 to 24 months, there are signs that the synthetic rubber market is picking up. Production capacity is still significantly greater than demand and prices are kept under control by the threat of imports that are available due to the relatively weak market in Asia

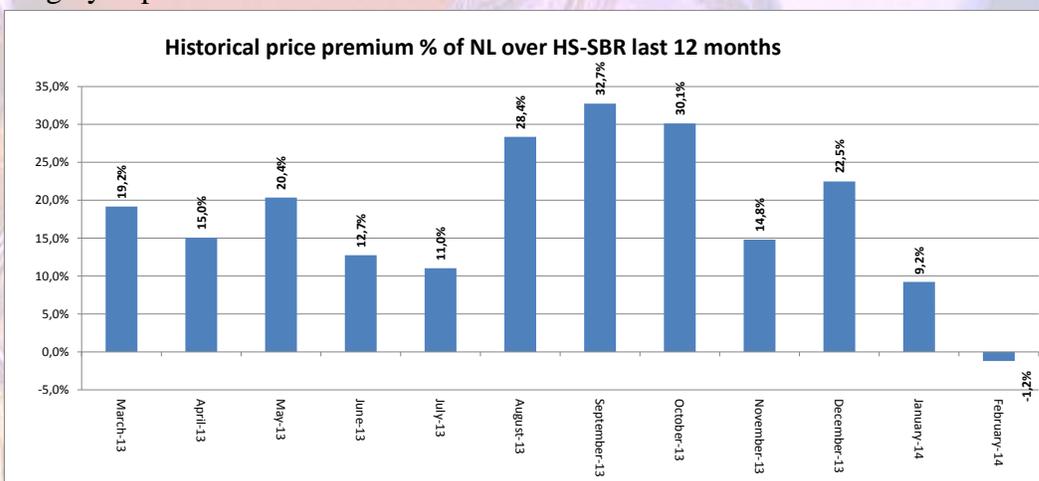
Natural Rubber: Natural rubber prices decreased strongly in January with the monthly SICOM average falling by 7.7 cents per pound from December to 97 cents per pound (\$2,142 per ton). IHS Chemical forecasts that U.S. TSR20 prices will be flat in February before moving slightly higher in the coming months, averaging just \$1.12 per pound during the first half of 2014.



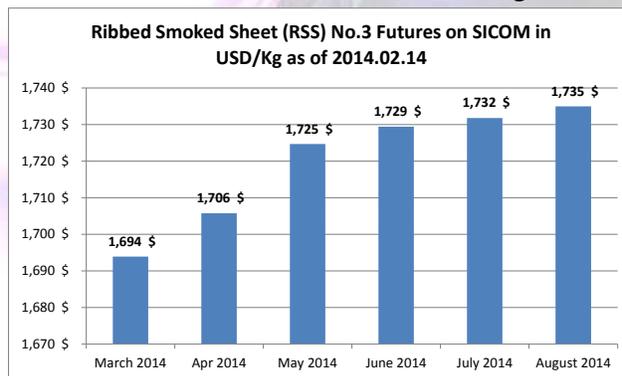
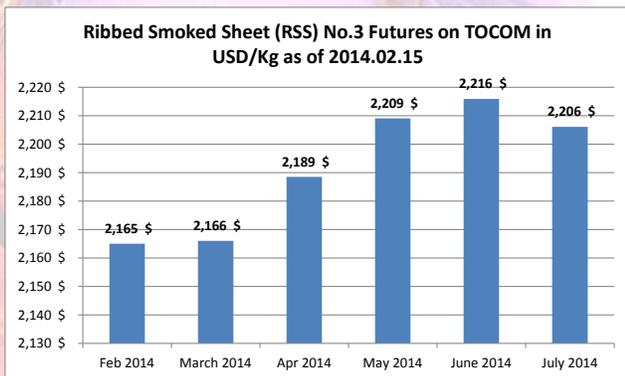


Executive Summary (Cont.)

Natural vs. Synthetic Rubber: The gap between the price of natural and synthetic latex for the beginning of February 2014 is now -1.2% meaning that on a dry basis, Natural Latex is slightly less expensive than synthetic rubber, something that has been a rare event for many years. The price of Natural Latex posted on the Malaysian rubber board has been dropping since the beginning of the year due to a slowdown of the Chinese economy and historically high global inventory levels whereas the price of Synthetic Rubber Latex has been on the rise since the beginning of the year due to some level of tightness on the side of some of the HS-SBR feedstock, mainly benzene (a precursor of styrene) and butadiene. Expectations are such that the price of NL and SL should be roughly at par for the months to come.



The RRS3 Futures running down to August 2014 on both TOCOM and SICOM are on the rise, indicating that the market sentiment is that natural rubber should increase over the months to come but it remains that the increase remains modest for the time being.





Feedstocks & Crude C₄s

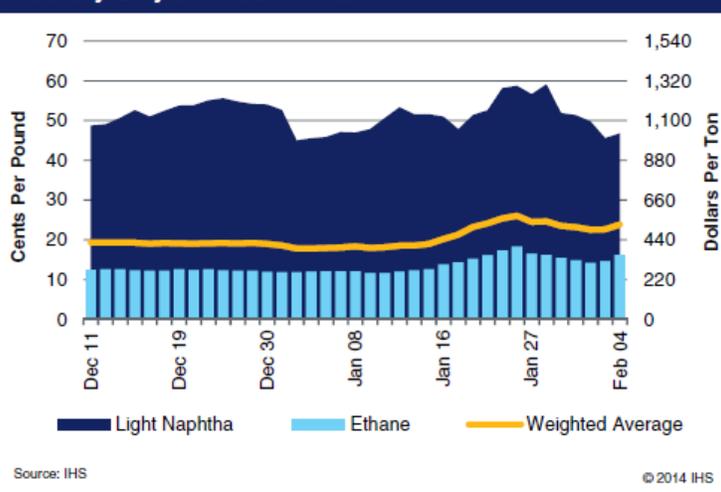
Market update

Global crude oil prices again traded in a tight range during January, though regional trends were somewhat different. Brent prices trended essentially flat through the month, with month-end pricing roughly \$1 per barrel lower than it was in the beginning of the month. WTI prices were actually around \$2 per barrel higher at the end of the month than at the beginning.

Most of the increase occurred during the last trading week. ***IHS outlook for the coming months calls for more of the same price stagnation.*** US natural gas prices have risen significantly over the past couple of weeks as extremely cold weather gripped most parts of the country. ***The outlook calls for relatively flat prices through 2014.***

Again, little changed in the US this month, with respect to ethylene production cash costs from ethane and naphtha. Ethane cracking continues to enjoy a large advantage. Propane economics however did become worse as the month progressed. The cold temperatures placed increased demand on propane for heating, which pushed prices up. At month-end, propane cracking is more than 30 cents per pound disadvantaged compared to ethane cracking. Propane economics for many crackers remain better than naphtha. However, for ethylene producers that upgrade their coproducts, propane economics are marginally worse than naphtha economics. Butane economics weakened relative to ethane, but not as much as propane, leaving it as a clear second choice as cracker feedstock. The issue with cracking butane in the US is relatively few ethylene crackers are able to use it, generally because of logistical constraints. ***Butadiene demand may be starting to see signs of life after nearly two years of weakness. It is too early to tell right now, but spot butadiene prices have begun to increase faster than contract prices, a sign of a tightening market.***

US Daily Ethylene Cash Costs:



Source: IHS

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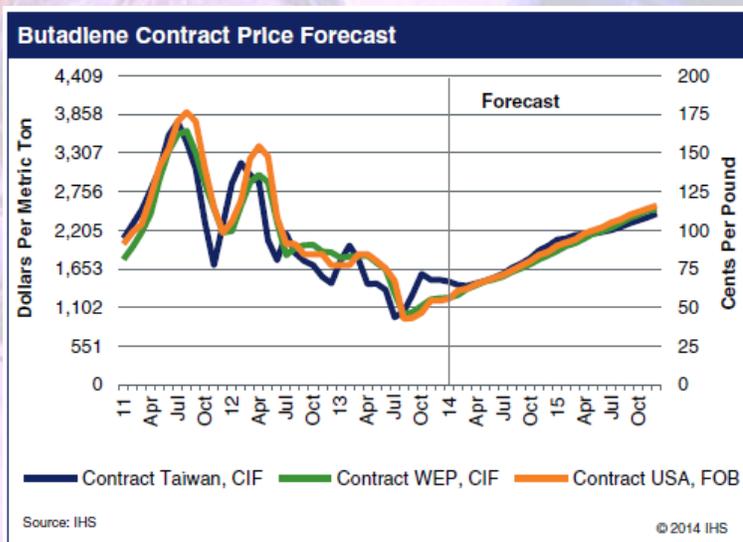
So we are clearly back to the point where unplanned issues in the crude C4 market will have an impact on the butadiene market dynamics.

Crude C4 imports tailed off in Q4 as supply from Europe was impacted by the ethylene cracker operating schedule. Even as crude C4 availability improved in Europe late in the year, there was no real demand for high priced imports. However, there is now increased interest in imports, provided the price is right. There appears to be supply available to import to the US from Europe, and elsewhere, the current limitation is exporter price offers. See the MarketAnalysis section for further analysis on this subject.

Butadiene (building block of HS-SBR and XSBR)

Contract prices

The US butadiene contract price marker posted by HIS Chemical increased over 5 cents per pound to 60.9 cents per pound (\$1,343 per ton) for February. The split range this month is 60 to 65 cents per pound.



Monthly Market Summary North America

*IHS Chemical's marker for the February US butadiene contract price increased more than five cents per pound to 60.9 cents per pound (\$1,343 per ton). This reflects a split settlement with final nominations ranging from 60 to 65 cents per pound. **This month's increase is supported by spot prices that are climbing for February and March delivery.***



Domestic butadiene production is experiencing some short-term disruption.

The weather along the US Gulf Coast in January was much colder than typical. As an example, the Houston area experienced two ice storms during the month, which cause significant

disruption. When temperatures drop below freezing in the area, there are often plant operating issues. This time, *the disruption is expected to be of short duration. There is also one butadiene producer that is experiencing what is expected to be a short-term logistical constraint, limiting shipments to some of its customers.*

The demand side is showing signs of cautious optimism. Many butadiene consumers have seen stronger demand than they have seen for a number of months. They are unwilling to call it a recovery yet as one data point does not define a line, but things are certainly better in January than they were for much of 2013. This is consistent with the view that *IHS forecasts are based on a stronger 2014 with momentum building through the year.* It will be interesting to see the market conditions in Asia post Chinese New Year, since they will have a major impact on the rest of the world.

The current domestic spot market has strengthened. Current offers for March delivery are in the mid-70 cents per pound range. Deals for February delivery were done at somewhat lower levels. This is one of the reasons for the February contract price increase. *There is still more spot butadiene on offer than is being purchased, but the increasing price signals a consensus hope that the market balance is tightening.*

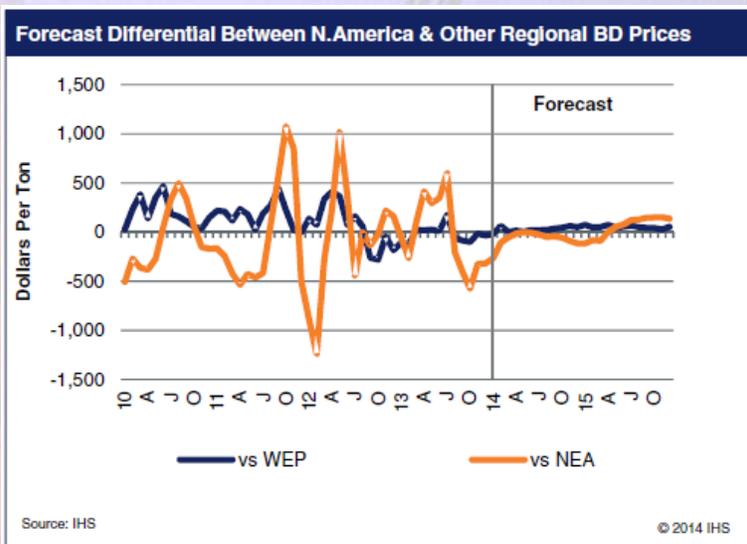
Market analysis

With signs of life in butadiene demand, it is likely that regional price differentials will become important again in the global market dynamics. As IHS have noted many times, the regional differentials are more important than the absolute price levels in a number of ways.

Calculation of Butadiene Contract Marker with Split Settlement			
Feb-14			
Nominating Company	Capacity On Line Million Pounds	Nomination Cents Per Pound	
ExxonMobil	Baton Rouge	379	
	Baytown	331	
	Total	710	65.0
LyondellBasell	Channelview	240	
	Channelview	615	
	Total	855	60.0
Shell	Deer Park	331	
	Norco	575	
	Total	906	60.0
TPC	Houston	838	
	Port Neches	573	
	Total	1,411	60.0
	Total Capacity	3,882	
	IHS Chemical Wtd. Avg. Marker		60.9



A price differential is required if butadiene, or one of its derivatives, is going to flow between regions and balance the market. The data on the nearby graph are the butadiene prices in North America, less the prices in West Europe or Asia. Generally, the US is short of butadiene and imports, primarily from West Europe. Therefore, the US price should be higher than West



Europe under normal conditions. Over the past couple of years, market conditions have been anything but normal. Demand has been soft and imports have often been driven by length in the exporting market rather than tightness in the importing market. As a result, the European butadiene price was less than or equal to the US price for eleven months in 2012 and 2013. This is truly remarkable, though IHS consider it to be a deviation from normal market conditions and not a redefinition of the normal. The relationship between prices in the US and Asia varies significantly. At times, there is strong incentive for the US to import butadiene from Asia; at other times, the arbitrage is open in the other direction. The freight cost to ship butadiene between the US and Asia averages around \$400 per ton, which is significant, but at times justified.

Looking ahead to the next two years, IHS conservative view calls for a gradual return toward more normal market conditions. The differential between the US and Europe will return to a more normal level with prices in West Europe lower. This level does not justify significant import volume, but most butadiene is imported to the spot market, not the contract market, where the price level is somewhat higher. If demand growth surprised on the upside, the differential will widen more than projected as more material will be required. For Asia, the current outlook calls for a closed arbitrage window in both directions for butadiene. Butadiene derivatives are less costly to ship between regions, so international trade of synthetic rubber, especially eSBR, will regulate the market.



IHS has noted this several times, but it bears repeating that their intention is not to lead the market up, or down, but rather present a conservative outlook. *There is a defensible case that results in higher butadiene prices and wider regional differentials* throughout this time frame. *There is also much more difficult to justify the case that results in relative price stagnation. IHS would assign a much higher probability to the upside outlook.*

Feedstocks

Ethylene (building block of HS-SBR and XSBR)

A market wide agreement covering the January Net Transaction (NT) Contract Reference price has not been reported at the time of this report. The December 2013 Net Transaction Contract price was settled on January 3 at 48.25 cents per pound, an increase of 2.0 cents from the November contract price. The January monthly average spot price increased 2.5 cents from the December figure of 58.75 cents per pound. Ethylene in Louisiana continues to trade at a premium to ethylene in Texas at Williams or Mt. Belvieu due to the closure of the Chevron Evangeline pipeline and the extended outage at Williams Geismar. Spot prices for January delivery in Texas trended higher through the month, with deals reaching as high as 59.0 cents per pound. The January offline capacity figure of 3.0% was flat from December as there were no major unplanned production issues throughout the month. With no further planned maintenance work in the US until April, the continued closure of Williams at Geismar will be the only expected offline capacity until that time. Ethylene supply in Louisiana is tight and is expected to remain that way as the Evangeline pipeline is not expected to be operational until the beginning of April. This could result in continued spot price premiums around 5-10 cents per pound until the line is back in service, in addition to the restart of the Williams cracker. Cash costs were higher in January, increasing by 1.9 cents per pound. NGL prices were pushed higher by rising natural gas prices with cold weather gripping much of the US. Ethane maintained its favored feed status, as its advantage over propane climbed to just over 23 cents per pound. Butane remains the second favored feed behind ethane, favored by roughly 10 cents over propane cash costs.



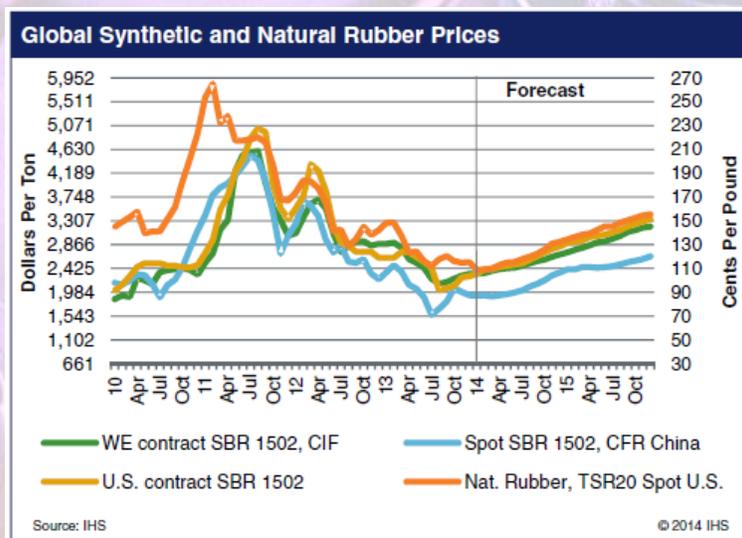
Styrene (building block of HS-SBR and XSBR)

The U.S. styrene market has gradually been turned upside down by the strength in the benzene market. The strength in spot benzene has simply run roughshod over styrene causing spot styrene economics to turn increasingly worse. Market participants are reversing roles as producers reduce rates, buyers became sellers and exporters try to sell material domestically. The market was fundamentally snug in January but at the right price, there is a lot of spot material available, even for prompt loading. In February, styrene length will grow. Approximately 22% of capacity was down in January but plants have mostly restarted with the last restart scheduled for early February. Operating rates have eased a little and plants are now reducing rates. ***On costs, the contract benzene settlement for February at \$5.09 per gallon is the second highest in history.*** February costs are forecasted to be higher than January with all raw material inputs moving upwards. This has kicked off a number of styrene price increase announcements at +3 and +4 cents per pound.

Synthetic Rubber

Monthly Market Summary

In the US, after a past weak 18 to 24 months, *there are signs that the synthetic rubber market is picking up. Production capacity is still significantly greater than demand and prices are kept under control by the threat of imports that are available due to the relatively weak market in Asia.* The announcement that an investor group called the EastWest PolymerCompany will purchase the Lion Copolymere SBR assets has injected some uncertainty into the supply side of the market, but it is more of a return to the old situation rather than something new. The deal has not closed, and until it does, there will





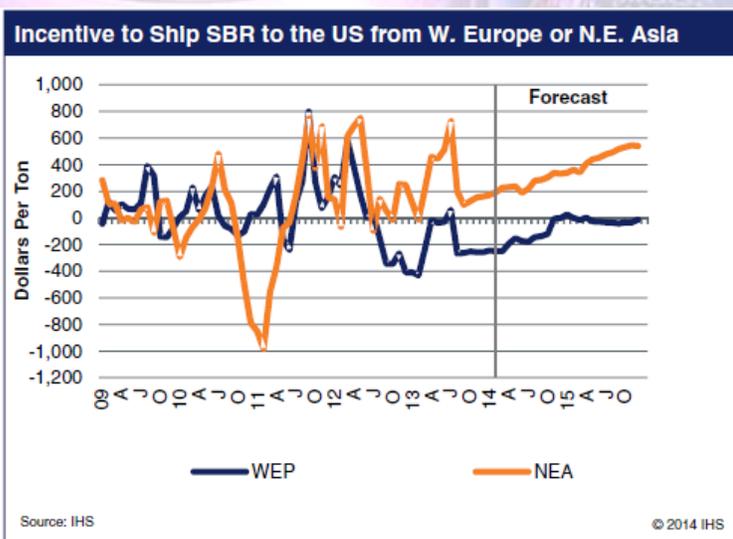
be supply uncertainty. However, even if the deal is not completed, there will be sufficient production capacity to supply the market.

It is much too early to call domestic demand in full recovery, but the early signs are optimistic. While one data point does not define a line, what is clear is that *January synthetic rubber demand in the Americas was stronger than it has been for many months. There are still potential difficulties ahead. For example, the market in Asia is soft, which would certainly slow any possibility of significant price increases.* Another factor complicating the market is the current state of the natural rubber market, which will be discussed in the natural rubber section of this report. *IHS remains optimistic that 2014 will bring stronger performance along the value chain however, it is far from certain that this will happen. Significant hurdles will have to be overcome,* which is likely to require time to build momentum.

IHS Chemical's posting for the January medium buyer negotiated SBR 1502 price increased to the 107 to 110 cents per pound range, reflecting an increase in both butadiene and styrene prices. The HIS Chemical posting for SBR1712 continues to reflect a large differential. The price also increased to the 90.5 to 93.5 cents per pound range. The HIS Chemical PBR price increased to the 111 to 115 cents per pound range.

Market Analysis

One sign of a strengthening global commodity market is increasing interregional competition. In the synthetic rubber markets, this trend is most often seen in competition for sales in the US market. One of the defining synthetic rubber market drivers is the opening and closing of the arbitrage window for rubber imports to the US.





Currently, synthetic rubber prices in Asia are the lowest in the world. This may seem counter intuitive since there are exports happening right now from West Europe to Asia. However, it is important to note that the prices used in this analysis are contract prices for West Europe and the US, while the spot market more accurately represents the market in Asia. As the spot market is relatively small in the US and Europe, it is assumed that material imported into those regions would need to be competitive with the contract market to generate sufficient volume to influence the overall market.

Rubber imports from Asia have been a concern to US producers for much of 2013. In fact, this was one of the primary reasons for the extremely large butadiene price decrease that happened last summer. In July 2013, the rubber marker in Asia was more than \$700 per ton lower than in the US, a differential that nearly begged for large import volume. The summer correction brought things back to a somewhat uneasy truce, but for how long. IHS current outlook calls for an increasing spread as demand growth returns later this year and into 2015. This view would seem to open the US to significant imports again. However, a tightening market in Asia could offset this. In fact, without a tighter market in Asia, the US to Asia spread will not increase to this level.

Synthetic rubber prices in West Europe are not that different from US prices now and will not be for much of the next couple of years. With the freight cost to move material to the US, which we assume to be \$150 per ton, the arbitrage window is closed in the near term. However, note that exports are important to keep producers in Europe at reasonable operating rates. So this outlook really argues for a continued discount of spot rubber prices in the region relative to its domestic contract price. As the market eventually returns to more normal conditions, the differential between the US and Europe, including the freight cost, trends to zero.



Natural Rubber

Monthly Market Summary

Natural rubber prices decreased strongly in January with the monthly SICOM average falling by 7.7 cents per pound from December to 97 cents per pound (\$2,142 per ton). Daily futures on the SICOM traded between \$0.85 and \$1.03 per pound for the month. The 85 cent price level represents the lowest prices seen since August 2009 when the recession was in full swing.



Current price levels are around 40 cents per pound lower than during January 2013. Natural rubber prices have been affected by slower growth in the major economies and by improved natural rubber supplies. As shown in the graph Daily Natural Rubber (TSR20) Prices, prices have trended lower over the past three years. Prices in New York and West Europe were also much lower, averaging \$1.09 and \$1.04 per pound, respectively. TOCOM natural rubber futures decreased in January, ending the month nearly \$570 per ton lower than the December closing price. The January RSS3 contract closed at \$2,213 per ton. Monthly prices on the TOCOM through July 2014 also decreased from last month, ranging from \$2,130 to \$2,174 per ton, a decrease of over \$500 per ton for the same futures strip in December. TSR20 futures on the SICOM closed at \$2,142 per ton for January, a decrease of \$170 per ton from the December contract price. SICOM TSR20 futures prices through July 2014 were much lower than the strip at the end of last month, ranging from \$1,880 to \$1,986 per ton. TSR20 prices in New York were roughly six cents lower than December, averaging \$1.09 per pound. IHS Chemical forecasts that U.S. TSR20 prices will be flat in February before moving slightly higher in the coming months, averaging just \$1.12 per pound during the first half of 2014. This is roughly \$1.25 per pound below the first half 2011 average, when prices were at record highs.

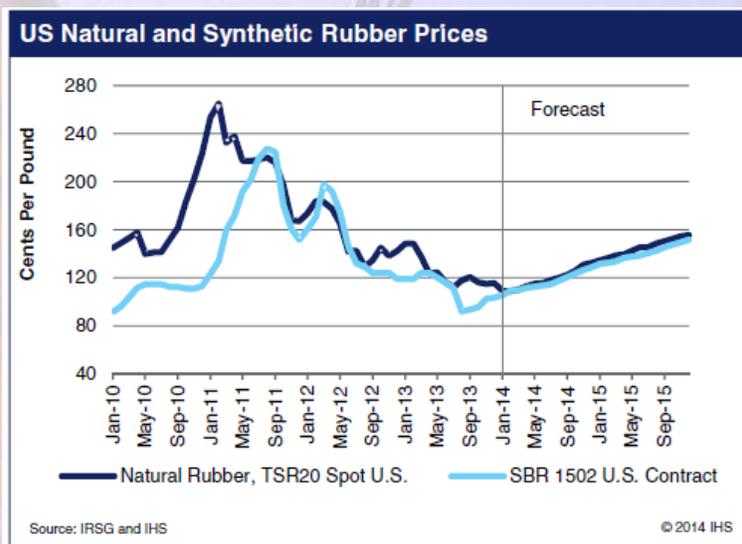


Market Analysis

In this month's market analysis section, IHS examines the relationship between natural rubber and synthetic rubber prices.

In many cases, synthetic rubber serves as a substitute for natural rubber, especially when improved material properties are required. While the demand for both products is generally similar, they are not completely interchangeable. The forces behind the supply of these commodities are very different. ***On a short term basis, natural rubber supply is largely controlled by factors such as the weather.*** The wintering and monsoon seasons in Southeast Asia both have a large impact on natural rubber production and inventories, and in turn, natural rubber prices. ***On a medium to long term basis, natural rubber supply is controlled by the number of rubber trees that are planted as well as the harvesting yield. Typically, there is around a six to seven year capacity lag time from the time that a natural rubber tree is planted to the time at which it produces rubber, and therefore changes in supply can lag well behind demand.*** Synthetic rubber does not have the same supply constraints that are present in the natural rubber markets, in the sense that production is generally not connected to typical weather conditions and synthetic rubber plants can be built much more quickly. ***The synthetic rubber drivers are based on feedstock availability and present market conditions. Changes in the styrene and butadiene markets directly impact the synthetic rubber market, which is not the case with natural rubber as there is no feedstock required in the production of natural rubber.***

As shown in the graph US Natural and Synthetic Rubber Prices, ***the two prices have converged in recent years after several years of significant price differentials. In 2009, both natural and synthetic rubber prices were roughly 90 cents per pound. From there, natural rubber prices diverged dramatically from synthetic rubber due to tight global***





supply. Natural rubber prices tripled to \$2.70 per pound in 2011 while the increase in synthetic rubber prices was much smaller and lagged the movements seen in natural rubber by roughly 6 months. The two prices converged again in late 2011, moving closely together since then.

The amount of substitution between natural rubber and synthetic rubber is limited by technical specifications, so even at times when synthetic rubber is more attractive, natural rubber will still have a home. *Price increases in natural rubber throughout 2010 and 2011 drove positive sentiment in the synthetic rubber markets, which coupled with strong synthetic rubber demand, drove synthetic rubber prices higher. Recently, when natural rubber prices began to ease as global demand weakened and inventories increased, synthetic rubber prices began to come off as well. Into the forecast period, synthetic rubber prices are expected to closely track natural rubber prices, with no price premium for either product through the rest of the short-term forecast.*