Contents

1) Recent trends in global tinplate price.

2) Tinplate price trends and perspective 2017.
   a) Price forecast: tinplate spot price.
   b) Key drivers behind the tinplate price forecast.
Recent trends in global tinplate price.
During last year, overcapacity prevailed in the steel industry…

World steel production over capacity
(difference between apparent consumption and production capacity; million metric tons)

Accumulated change 2004 – 2016E = 265%

Source: HARBOR intelligence government agencies data.
E = estimated.
...as well as the negative pressure the global economic deceleration had on steel-intensive industries...

Global GDP growth
(real annual % growth)

5.5% 5.7% 3.0% 5.4% 4.2% 3.5% 3.3% 3.4% 3.2% 3.1% -0.1%

Source: HARBOR intelligence government agencies data.
F = Forecasted.
…which, in fact, reflected on weakness of world’s steel demand.

World Steel Demand
(real annual % growth)

Source: HARBOR intelligence with World Steel Organization data.
F = Forecasted.
However, steel product prices around the world were able to accumulate a significant growth during 2016, including tinplate...

World’s tinplate spot price\(^1\) (in dollars per metric ton)

Average annual change 2016 (Jan-Dec) = \(\%\)
Accumulated change Mar16 – Jan17 = \(\%\)

Source: HARBOR intelligence.
1.-Includes the spot price of weighted export prices for Argentina, Brazil, Colombia, Mexico, Venezuela, Chile, Japan, South Korea, Kazakhstan, Russia, and Ukraine.
…as price fundamentals around the world (aside of demand) registered a substantial recovery, which translated into growth among the world’s transaction values for tinplate.

Source: HARBOR Intelligence

GLOSSARY

* Export fob (port of departure, loading charge and stowage on ship)
* Import cif (port of entry; cost, insurance and freight included)
* Domestic market (delivered on border, optional tax payment, not delivered on buyer’s facilities).

Spot market average transaction price in dollars per metric ton for 0.21 mm sheet.

* % monthly change (January 2017 versus December 2016)
** % annual change (January 2017 versus January 2016)
The tinplate price growth was mainly driven by the increase of steelmaking inputs during last year, especially coking coal price, which sky-rocketed during the second half of 2016.

Raw Material Price Dynamics
(index Jan 2011 = 100)

Annual Change of Raw Material Prices
(percentage average annual change, January – December 2016)

Source: HARBOR intelligence government agencies data.
Steel scrap price refers to #1 heavy melt, Chicago. Iron ore price refers to iron ore fines cfr main China port 63.5% Fe. Tin price refers to the 3-month forward price for tin of 99.85% purity (minimum). Metallurgical coal refers to Premium Low Vol, Australia export FOB.
Behind the surge in coking coal price was the Chinese government resolution to limit the number of working days for mining activity to 276 a year from 330 previously. The iron ore price was pulled by the soar of coking coal prices during the second half of 2016.

Key facts:

> A combination of structural factors (China’s working day policy) and near term factors were behind the surge of coking coal price. China started to suffer transportation issues given heavy rainfall in July and August of 2016, which damaged road network. The global industry then faced the disruption of the Newlands Coal Rail System during September 2016 (Australia), and closures of coal mines, including Anglo American’s German Creek-Grasstree operation in Australia and China’s Jinshangou Coal Mine, which exacerbated the tight coal supply.

> Iron ore prices increased given the influence of coking coal soaring prices. Iron ore buyers, mainly in China, looked for medium and high-grade fines of iron ore, as lower impurities consume less coke. This translated into a tight supply of such grades of iron ore, which supported the price increase. Furthermore, as steel prices grew substantially, many mills searched for iron ore in order to maintain production, which kept iron ore demand healthy.

> When coking coal and iron ore prices started to increase, many mills had very low inventories, which made them panic and accept higher spot prices during several months.
The recovery of global cold rolled steel average price was also behind the positive dynamics of tinplate price during 2016...

Source: HARBOR intelligence.
...given the close relationship between the cold rolled and tinplate prices.

World’s tinplate spot price\(^1\) vs. World’s cold rolled steel price
(in dollars per metric ton)

Source: HARBOR intelligence.
1. Includes the spot price of weighted export prices for Argentina, Brazil, Colombia, Mexico, Venezuela, Chile, Japan, South Korea, Kazakhstan, Russia, and Ukraine.
Last year was also especially influenced by the significant quantity of trade measures imposed in the steel industry. Cold-rolled steel price growth was mainly driven by the effect of import tariffs applied to such steel product during the end of 2015 and during 2016.

For the rest of the world, there are ? trade cases (ongoing and final) involving steel products, which have taken place since 2015 and 2016.

In the US, during 2015, ?% of the ? trade cases launched by the US Department of Commerce were for steel products. During the first four months of 2016, ?% of the ? new trade cases involve steel products. Determinations have been made for ? cases during this year.

In the EU, the number of trade cases is significantly lower. The European Commission has ? ongoing trade investigations involving steel, which is ?% of the total investigations initiated during 2016.

Source: HARBOR intelligence government agencies data.
*Year to date.
Other variables that supported the tinplate price increase during 2016 were the cumulative growth of oil price, a leading indicator of commodity price dynamics...

Crude oil WTI vs. World’s tinplate spot price\(^1\)

(USD per barrel; index, 2003 = 100)

- Crude oil price (left scale)
- World’s tinplate average price (right scale)

Crude oil change
Feb16 – Jan17: 73%

Source: HARBOR intelligence.
1.-Includes the spot price of weighted export prices for Argentina, Brazil, Colombia, Mexico, Venezuela, Chile, Japan, South Korea, Kazakhstan, Russia, and Ukraine.
…as well as the dollar deceleration.

U.S. Dollar Exchange Rate\(^1\) vs. World’s tinplate spot price\(^2\)
(index November 1999 = 100, monthly data)

Source: HARBOR intelligence government agencies data.
1.- Dollar exchange rate vs. major currencies. 2.- The index includes weighted export prices for Argentina, Brazil, Colombia, Mexico, Venezuela, Chile, Japan, South Korea, Kazakhstan, Russia, and Ukraine.
Tosyali Toyo Steel Co. has started trial production at its new mill, located in Osmaniye, Turkey. The new plant has a capacity of 750,000 metric tons per year, from which 255,000 metric tons per year are destined to produce tinplate. The commercial production is scheduled to begin in March of this year.

The Tosyali Toyo Steel Co., is owned by Tosyali Holding (51%) and by Japan’s Toyo Kohan (49%). The plant is expected to substitute Turkey’s tinplate imports and also compete directly with Erdemir, currently Turkey’s only tinplate producer.
> Price forecast: tinplate spot price.

Base Scenario: world’s tinplate price\(^1\)
(in dollars per metric ton)

<table>
<thead>
<tr>
<th>Year</th>
<th>Base</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>2017F</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
</tbody>
</table>

Base Scenario: Quarterly Average Price
(in USD per metric ton)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>2Q 2016</th>
<th>3Q 2016</th>
<th>4Q 2016</th>
<th>1Q 2017</th>
<th>2Q 2017</th>
<th>3Q 2017</th>
<th>4Q 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
</tbody>
</table>

Source: HARBOR intelligence.
1.-Includes the spot price of weighted export prices for Argentina, Brazil, Colombia, Mexico, Venezuela, Chile, Japan, South Korea, Kazakhstan, Russia, and Ukraine.
> Key drivers behind the tinplate price forecast.
In sum: Key drivers behind the tinplate spot price in 2017.

For 2017
After several years of annual decreases in tinplate price, we expect that global tinplate spot prices could recover some of the lost ground in 2017, as we forecast an average annual growth of ??%. The drivers behind our forecast are:

- Higher cold-rolled steel prices, as we expect a growth of ??% in such steel product. This should support tinplate spot price hike attempts made by mills during the upcoming year, as it will be the second consecutive annual growth registered in global CR steel price.

- Key steelmaking input continuous price growth. For 2017 we expect an annual average increase of ??% for iron ore price, and a ??% growth in coking coal price. This will be the first average annual growth in 5 years. Such significant percentage changes, especially coking coal, are influenced by fact that the prices of such inputs grew during the second half of 2016, and closed the year on very high levels. We believe such high levels are not sustainable on the long term, as the coking coal and iron ore industry also suffers with overcapacity. However, it will take some time for such inputs’ prices to return to lower levels, which is why we expect that in average, coking coal and iron ore prices will register positive annual growths during this year.

- A modest growth in world’s GDP. The forecast for world’s GDP is of a ??% growth, which is modestly above the ??% growth for 2016. This could support a modest recovery in steel intensive industries, translating into a more healthy steel demand. However, the down-side risks for global economic stability remain, given China’s ongoing economic deceleration and in general, a very gloomy perspective for this year.
We expect global cold-rolled steel prices to grow during 2017, mainly during the first half, keeping the momentum of the last months of 2016.

Source: HARBOR intelligence.
The key steelmaking input prices, such as iron ore and coking coal price, are also expected to register strong annual hikes. However, the production overcapacity in such inputs could continue to limit their price dynamics.

Iron ore and coking coal average price\(^1\)

Source: HARBOR intelligence

1.-Iron ore refers to BF pellet fines, $/metric ton dry CFR China, spot price. Coking coal refers to metallurgical coal price, $/metric ton, FOB Australia, contract price.
A modest growth is expected in world’s GDP for 2017. However, China’s deceleration and Europe’s expected weakness could restrain economic dynamics more than expected during next year.
The dynamics of the world’s GDP will be reflected in steel demand, which is expected to register a limited growth during 2017.

World Steel Demand (real annual % growth)

Steel demand change by Region
(real annual % growth)

<table>
<thead>
<tr>
<th>Region</th>
<th>2015</th>
<th>2016F</th>
<th>2017F</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>United States</td>
<td>%</td>
<td>%</td>
<td>%</td>
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<tr>
<td>European Union</td>
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<td>India</td>
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<tr>
<td>Germany</td>
<td>%</td>
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</tbody>
</table>

Source: HARBOR intelligence with World Steel Organization data. F = Forecasted.
The steel industry will continue to face steel production overcapacity, which could continue to limit mill’s ability to transfer significant price hikes.

World steel production over capacity
(difference between apparent consumption and production capacity; million metric tons)

Source: HARBOR intelligence government agencies data.
For more information on tinplate price trends and price forecast subscribe to our Tinplate Outlook Service.

Please visit: www.tinplateoutlook.com

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