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Commodity price monitor

November -19

Prepared for ACMA

*Strictly private
and confidential*

December 2019



pwc

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Commodity trend dashboard

Commodity trend dashboard Quarter-on-Quarter changes (1/2)-Rolling view

Calendar Year 19-20: Q vs. Q update

| Commodity | Region | Q-o-Q Up | Q-o-Q Down |
|-------------------------|---------------------|----------|------------|
| Iron & Steel | | | |
| Iron Ore | International | 3% ▲ | |
| | Domestic low grade | | |
| | Domestic high grade | | |
| Pig Iron | International | | -1% ▼ |
| | Domestic | | -6% ▼ |
| Stainless steel | Domestic | | -2% ▼ |
| | Domestic | | -2% ▼ |
| Wire rod | International | | -7% ▼ |
| | Domestic | | -11% ▼ |
| Steel Billets | International | | 0% |
| | Domestic | | -12% ▼ |
| Hot-rolled coils | International | | -3% ▼ |
| | Domestic | | -11% ▼ |
| Cold-rolled coils | International | | -3% ▼ |
| | Domestic | | -9% ▼ |
| Steel Scrap | Domestic | | -13% ▼ |
| EN8 | Domestic | | -5% ▼ |
| 20MnCr5 | Domestic | | -5% ▼ |
| Ferro-alloys | | | |
| Ferro titanium | International | | -10% ▼ |
| Ferro chrome | International | | -10% ▼ |
| | Domestic | | -9% ▼ |
| Ferro molybdenum | International | 5% ▲ | |
| Ferro vanadium | International | | -14% ▼ |
| Ferro silicon | International | | 0% ▼ |
| | Domestic | | -5% ▼ |

ND: Not disclosed by the source

Commodity trend dashboard Quarter-on-Quarter changes (2/2)- Rolling view

Calendar Year 19-20: Q vs. Q update

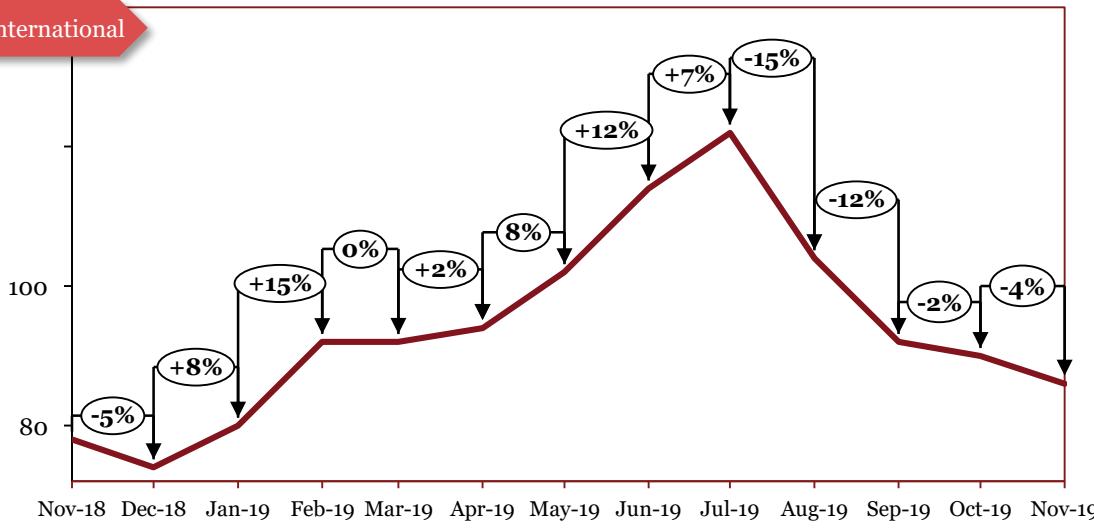
| Commodity | Region | Q-o-Q Up | | Q-o-Q Down | |
|---------------------------------|---------------|----------|---|------------|---|
| Base Metals | | | | | |
| Aluminum | International | | | -2% | ▼ |
| | Domestic | 12% | ▲ | | |
| Copper | International | | | -5% | ▼ |
| | Domestic | 4% | ▲ | | |
| Zinc | International | | | -15% | ▼ |
| | Domestic | | | -4% | ▼ |
| Lead | International | 7% | ▲ | | |
| | Domestic | 11% | ▲ | | |
| Nickel | International | 27% | ▲ | | |
| | Domestic | 31% | ▲ | | |
| Tin | International | | | -13% | ▼ |
| | Domestic | | | -13% | ▼ |
| Magnesium | International | | | -9% | ▼ |
| Precious Metals | | | | | |
| Platinum | International | 5% | ▲ | | |
| Palladium | International | 10% | ▲ | | |
| Rhodium | International | 37% | ▲ | | |
| Polymers | | | | | |
| Low density polyethylene (LDPE) | International | | | -9% | ▼ |
| | Domestic | | | -6% | ▼ |
| Polypropylene (PP) | International | | | -6% | ▼ |
| | Domestic | | | -3% | ▼ |
| Rubber | Domestic | 3% | ▲ | | |
| Currency Exchange | | | | | |
| Dollar | International | 1% | ▲ | | |
| Pound | International | 1% | ▲ | | |
| Euro | International | | | -3% | ▼ |
| Yen | International | 4% | ▲ | | |

Iron & Steel

| | | |
|-------------------------|-----------------------------|----------|
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| 1 | Iron Ore | 9 |
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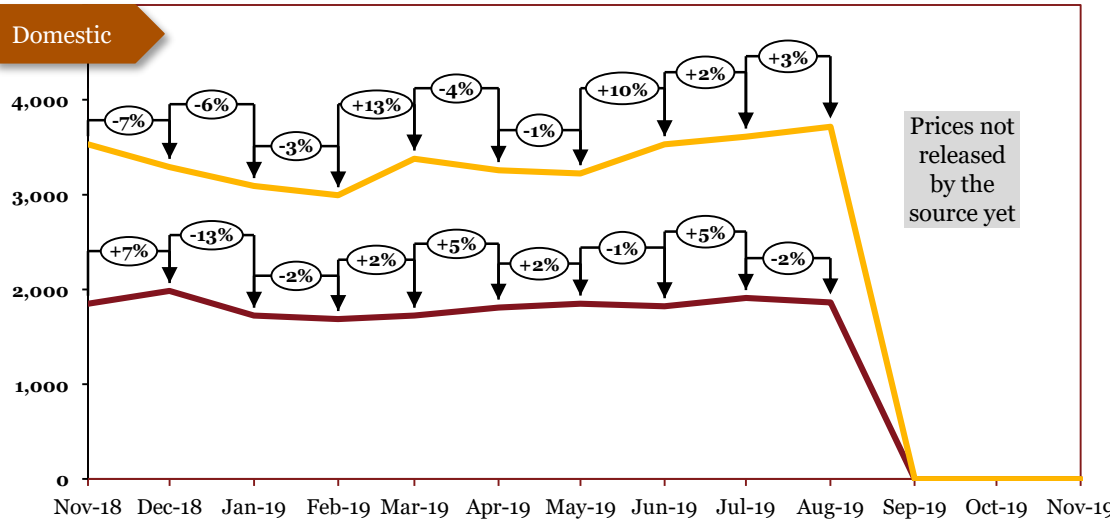
Iron Ore

International



Source: Crisil

Domestic



Source: Crisil

| Period | *Int'l | *Dom | |
|--------|----------|-------------|-------------|
| | \$/tonne | Rs/tonne | |
| | | 65% & below | 65% & above |
| Nov-18 | 78 | 1,849 | 3,529 |
| Dec-18 | 74 | 1,983 | 3,291 |
| Jan-19 | 80 | 1,723 | 3,090 |
| Feb-19 | 92 | 1,687 | 2,994 |
| Mar-19 | 92 | 1,724 | 3,378 |
| Apr-19 | 94 | 1,807 | 3,258 |
| May-19 | 102 | 1,848 | 3,224 |
| Jun-19 | 114 | 1,822 | 3,531 |
| Jul-19 | 122 | 1,910 | 3,611 |
| Aug-19 | 104 | 1,863 | 3,715 |
| Sep-19 | 92 | - | - |
| Oct-19 | 90 | - | - |
| Nov-19 | 86 | - | - |

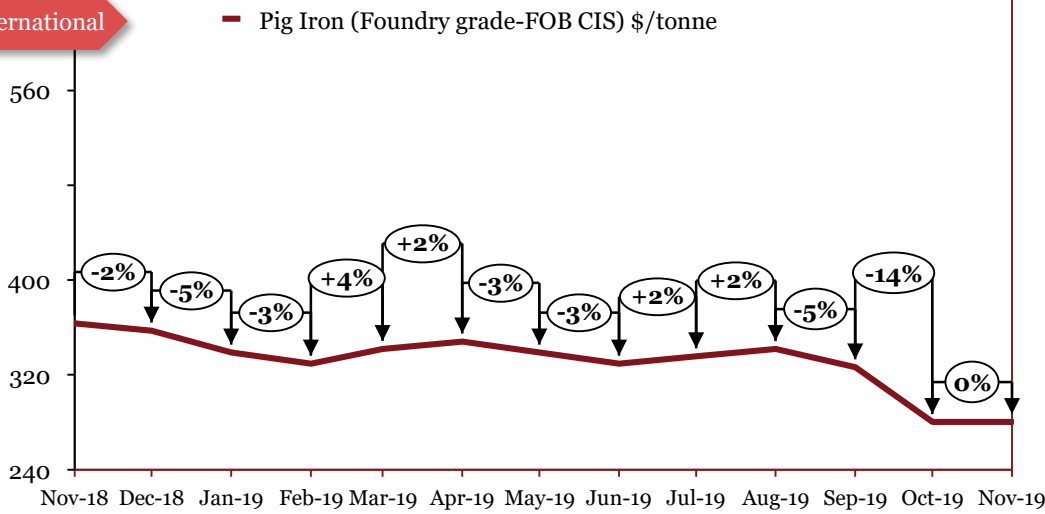
*The actual prices may vary depending on city, player, grade etc.

Outlook

In June, Australian suppliers cut down their exports forecast due to bad-weather conditions stemming from cyclone Veronica, pushing up global prices. In July, global iron ore prices rose on the back of record high contracts trading as well increased costs for producers stemming from increased environmental regulations. Domestically, prices didn't increase in line with the global surge since Indian producers kept prices low to ensure competitive exports (export duty of 30% levied on 58% & above Fe fines from India). In August, the price of Iron ore fell as the supply levels were corrected following the dam burst in Brazil in January. Between February and August, domestic prices for higher grade Iron Ore rose significantly on account of high international prices, while the price of lower grade ore stayed stable on strong supply. In September, international prices continued to fall globally as supplies continued to normalize. In October, international prices continued to correct from their mid-year peak, partly due to supplies returning to a normal level, and partly due to a Chinese government probe into the high prices. In November, international prices continued to fall over import restrictions in China as well as oversupply in the market.

Pig Iron

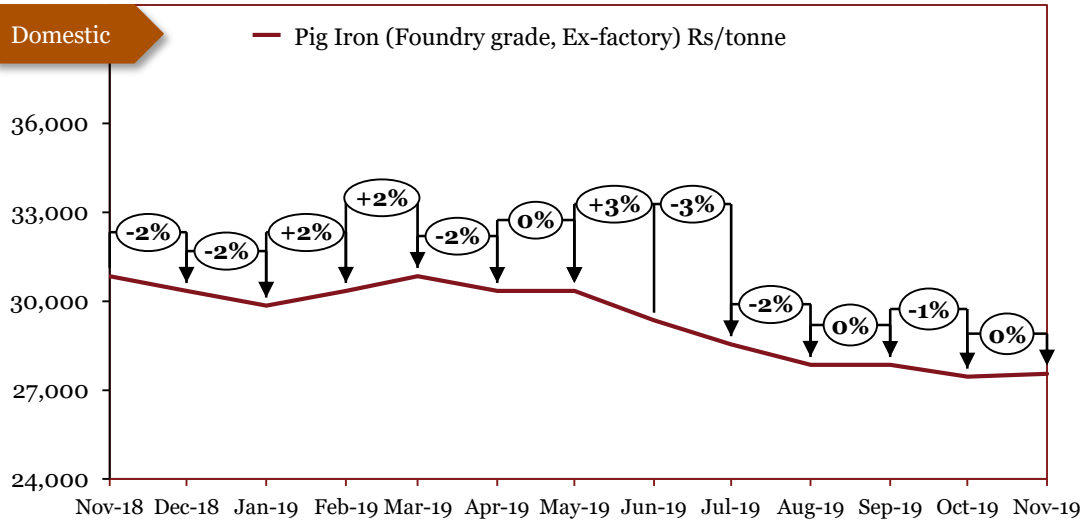
International



Source: Crisil

| Monthly Average Prices | | |
|------------------------|----------|----------|
| Period | *Int'l | *Dom |
| | \$/tonne | Rs/tonne |
| Nov-18 | 363 | 30,850 |
| Dec-18 | 357 | 30,350 |
| Jan-19 | 339 | 29,850 |
| Feb-19 | 330 | 30,350 |
| Mar-19 | 342 | 30,850 |
| Apr-19 | 348 | 30,350 |
| May-19 | 339 | 30,350 |
| Jun-19 | 330 | 29,350 |
| Jul-19 | 336 | 28,550 |
| Aug-19 | 342 | 27,850 |
| Sep-19 | 326 | 27,850 |
| Oct-19 | 280 | 27,450 |
| Nov-19 | 280 | 27,550 |

Domestic



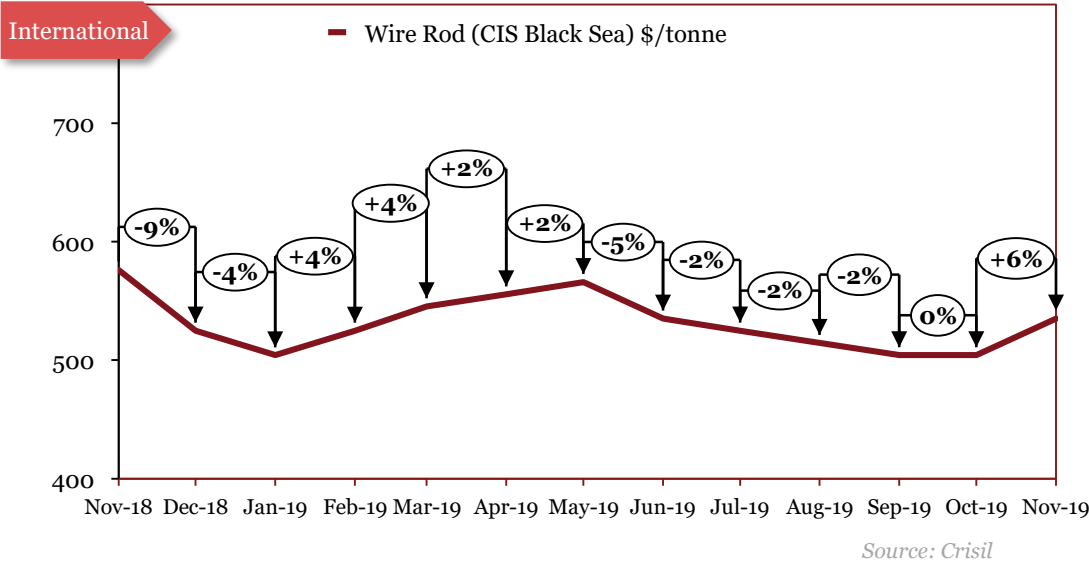
Source: Crisil

*The actual prices may vary depending on city, player, grade etc.

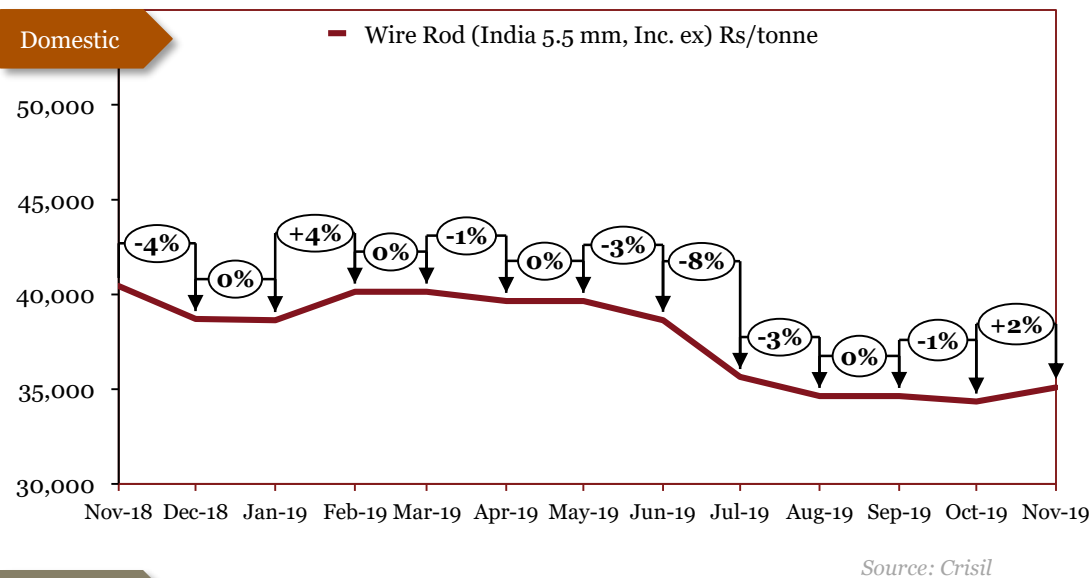
Outlook

In June, muted demand from foundries making automobiles & industrial molds led to slipping of domestic prices. Internationally, there was low buying activity, especially in the US which accounts for 50% of global supply, since buyers booked high tonnages in May itself. In July, global pig iron prices increased because of reduced availability in the market as producers cut volumes due to lack of raw materials. Domestically, prices decrease due to reduced demand and rising inventory levels. In August, the price of Pig Iron fell owing to a lack of inflation in manufacturing goods due to weakening growth rates. Internationally, the higher cost of Iron Ore contributed to the rise in the price of Pig Iron. In September, international prices of pig iron fell due to weakening demand and a lower international price for scrap, while prices remained stable domestically. In October, international prices fell considerably owing to weak mill demand and low demand for steel scrap. Domestically, weak exports caused a glut of supply in the market, hurting the price at a time of weak industrial demand. In November, international as well as domestic prices remained constant due to stable market conditions.

Wire Rod



| Monthly Average Prices | | |
|------------------------|--------------------|-----------------|
| Period | ^*Int'l (\$/tonne) | *Dom (Rs/tonne) |
| Nov-18 | 576 | 40,444 |
| Dec-18 | 525 | 38,744 |
| Jan-19 | 504 | 38,644 |
| Feb-19 | 525 | 40,144 |
| Mar-19 | 545 | 40,144 |
| Apr-19 | 556 | 39,644 |
| May-19 | 566 | 39,644 |
| Jun-19 | 535 | 38,644 |
| Jul-19 | 525 | 35,644 |
| Aug-19 | 515 | 34,644 |
| Sep-19 | 504 | 34,644 |
| Oct-19 | 504 | 34,344 |
| Nov-19 | 535 | 35,094 |



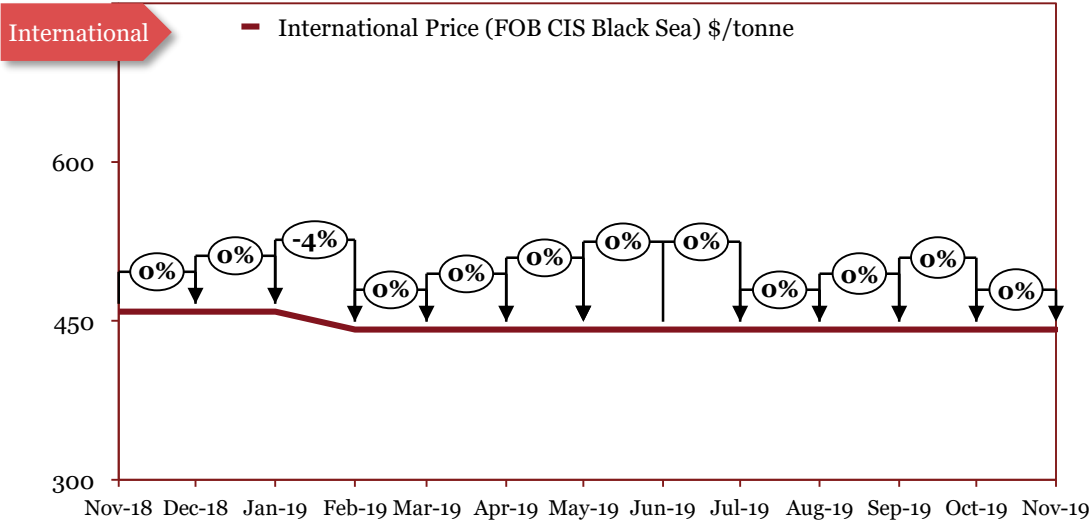
*The actual prices may vary depending on city, player, grade etc.

Outlook

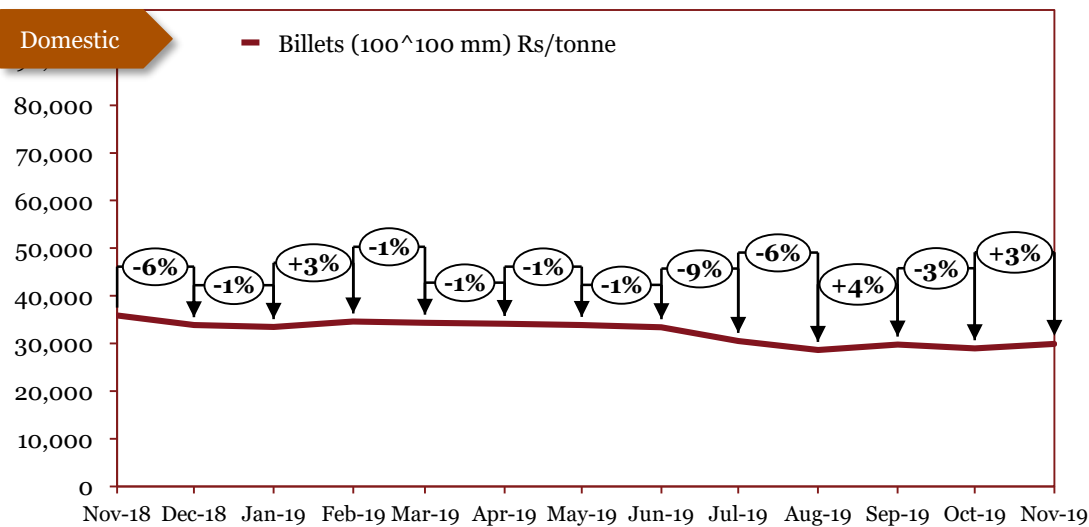
In February, prices increased due to elevated raw material prices and higher demand. In March, international prices increased during the month primarily owing to increased demand. In April 2019, international prices rose in line with steel and steel product prices whereas domestic wire rod prices declined primarily owing to muted demand sentiment. In May, domestic prices remained stagnant due to muted demand growth. In June, international and domestic prices declined due to lower demand in the market stemming from the onset of the monsoon season. In July, international and domestic mills lowered prices of wire rod fearing demand drops stemming from a global growth slowdown. In August, mills across the world lowered prices due to continuing weak demand. In India, weakening manufacturing led to a decrease in demand for wire rod. In September, the lowering cost of ferrous scrap, along with weak demand led to a comedown in international prices, while prices remained stable in India. In October, international prices remained stable, while domestic prices fell on weak industrial demand. In November, international as well as domestic prices rose due to higher scrap prices.

^Prices have been retrospectively revised by the source due to change in base year

Steel Billets



Source: Crisil



Source: Crisil

| Monthly Average Prices | | |
|------------------------|--------------------|-----------------|
| Period | ^*Int'l (\$/tonne) | *Dom (Rs/tonne) |
| Nov-18 | 459 | 35,850 |
| Dec-18 | 459 | 33,833 |
| Jan-19 | 459 | 33,467 |
| Feb-19 | 442 | 34,633 |
| Mar-19 | 442 | 34,333 |
| Apr-19 | 442 | 34100 |
| May-19 | 442 | 33867 |
| Jun-19 | 442 | 30533 |
| Jul-19 | 442 | 33400 |
| Aug-19 | 442 | 28633 |
| Sep-19 | 442 | 29750 |
| Oct-19 | 442 | 28967 |
| Nov-19 | 442 | 29900 |

*The actual prices may vary depending on city, player, grade etc.

Outlook

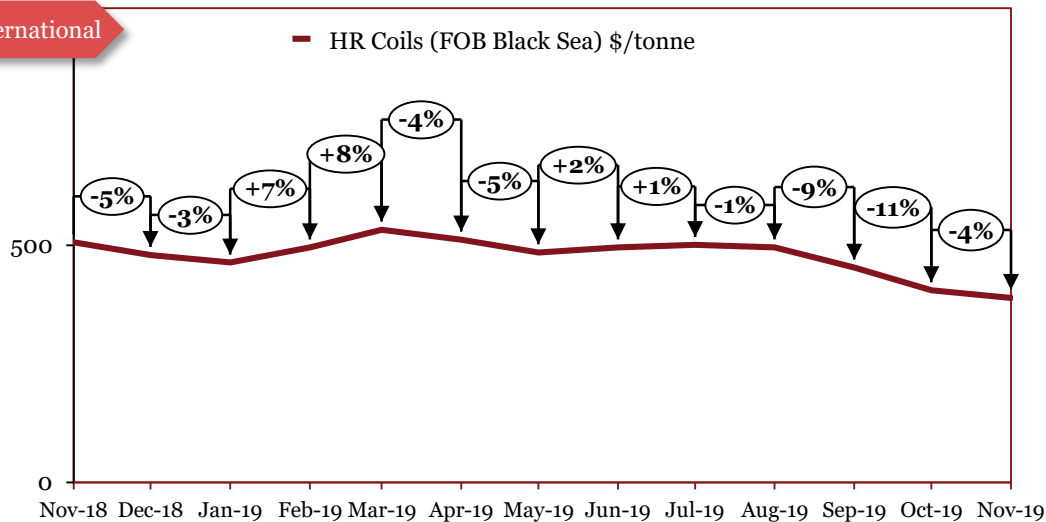
In March, domestic steel billet prices fell whereas international prices remained unchanged. In April, international prices did not fluctuate due to unchanged market conditions while domestic prices fell. In May, market conditions remained unchanged for a second month in a row leading to stagnant prices. In June, international and domestic prices remained almost stagnant owing to unchanged demand scenario in the domestic & international markets. In July, domestic prices decreased due to weak demand as a result of slow infrastructure & construction activity. International prices remained flat, despite decreased demand, owing to increase in the prices of inputs. In August, prices in Southeast Asia's steel billet market declined due to lower prices of scrap and competition from cheap exports. Domestic prices were hurt by the slowdown in manufacturing. In September, international prices remained constant while rising costs for finished long steel products and semi finished materials led to a rise in prices in India. In October, international prices remained unchanged, domestic prices fell due to weak demand for rebar. In November, international prices stayed constant while domestic prices rose on account of rising seaborne scrap prices.

^International prices changed due to change in the grade

Hot-Rolled (HR) Coils

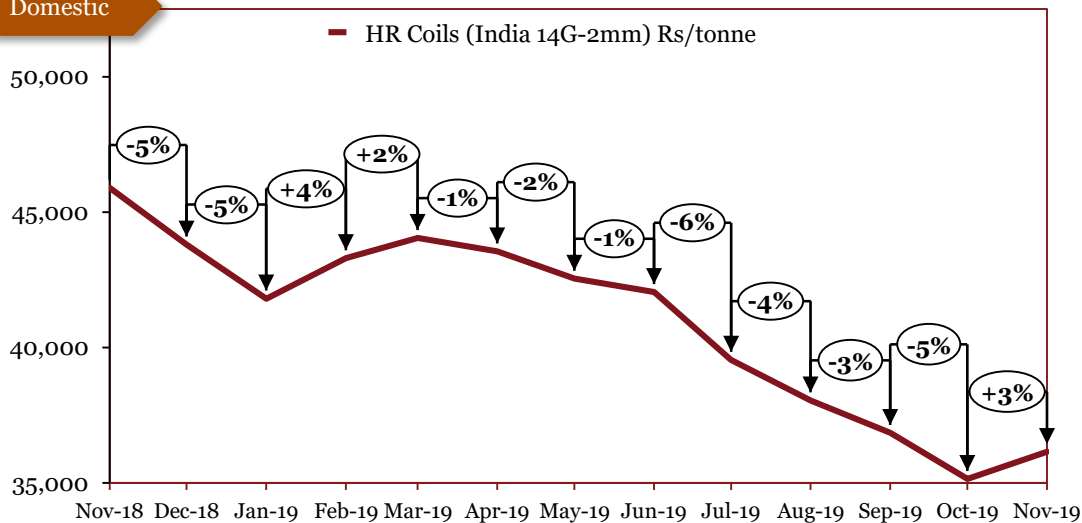
Monthly Average Prices

International



Source: Crisil

Domestic



Source: Crisil

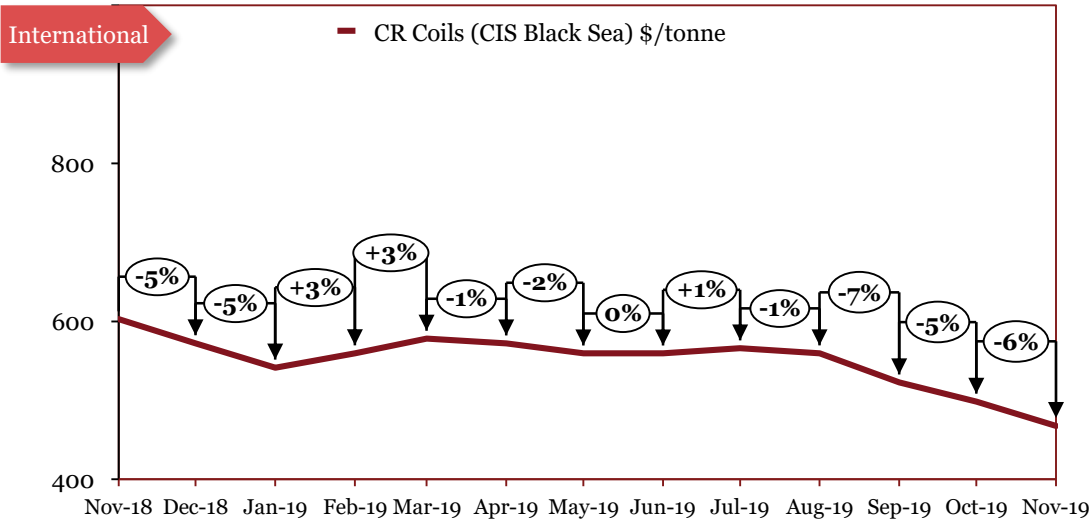
*The actual prices may vary depending on city, player, grade etc.

| Period | *Int'l (\$/tonne) | ^*Dom (Rs/tonne) |
|--------|-------------------|------------------|
| Nov-18 | 506 | 45,900 |
| Dec-18 | 480 | 43,800 |
| Jan-19 | 464 | 41,800 |
| Feb-19 | 496 | 43,300 |
| Mar-19 | 533 | 44,050 |
| Apr-19 | 512 | 43,550 |
| May-19 | 485 | 42,550 |
| Jun-19 | 496 | 42,050 |
| Jul-19 | 501 | 39,550 |
| Aug-19 | 496 | 38,050 |
| Sep-19 | 453 | 36,850 |
| Oct-19 | 405 | 35,150 |
| Nov-19 | 389 | 36,150 |

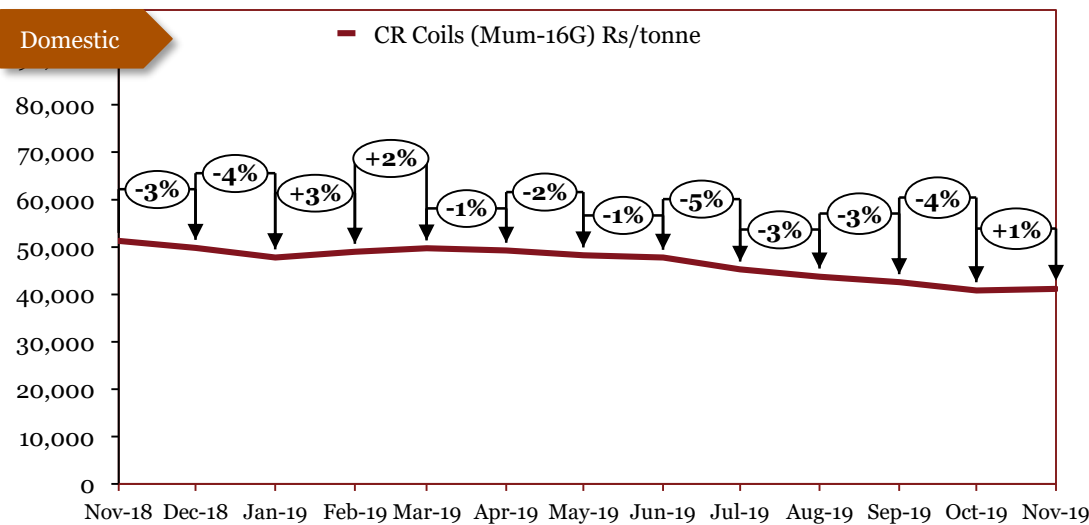
Outlook

In June, international prices increased marginally due to production curbs in China (to reduce emissions) and weakened international demand cancelling each other out. On the domestic front, demand weakened slightly due to buyers postponing purchases to after the government's budget announcement. In July, domestic prices declined due to the continued slowdown in sectors that are major consumers of steel. Internationally, the demand scenario remained stable for steel, as reflected in the prices. In August 2019, global prices fell due to weak economic growth and continuing tensions regarding the US-China trade war. Domestic prices were hurt by a slowdown in manufacturing. In September, global prices were hurt by a continuing slowdown in Chinese demand while domestic prices also fell, owing to weak festive consumer demand. In October, international prices fell owing to oversupply in the market, weak demand and continued concerns about the trade war. Domestic prices were hurt by weak industrial demand, particularly in the auto sector. In November, international prices fell on account of continued uncertainty regarding the trade war, while domestic prices rose on account of increasing construction activity and infrastructure spending alongside higher automotive manufacturing.

Cold-Rolled (CR) Coils



Source: Crisil



Source: Crisil.

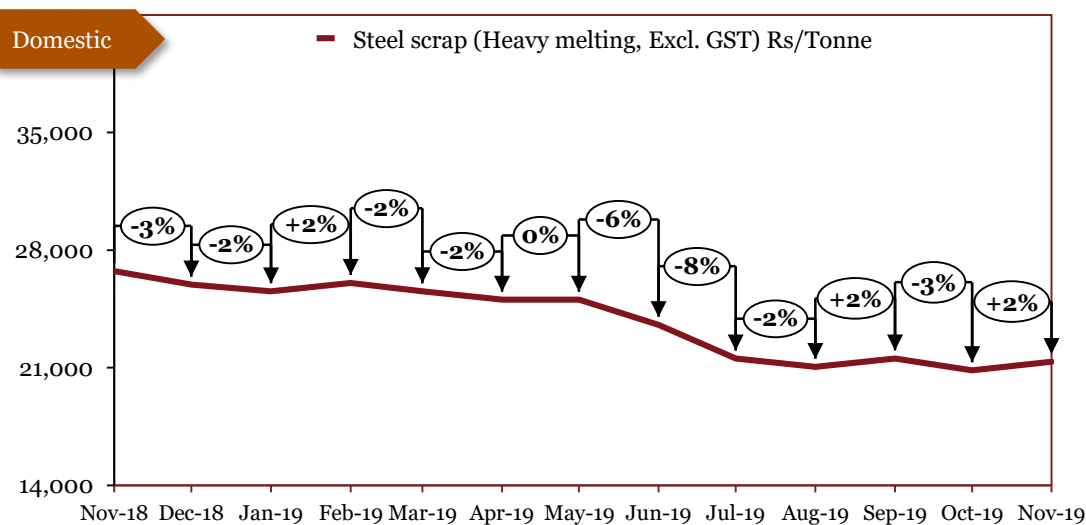
| Monthly Average Prices | | |
|------------------------|----------------------|---------------------|
| Period | *Int'l (\$/tonne) | ^*Dom (Rs/tonne) |
| Nov-18 | 603 | 51,300 |
| Dec-18 | 572 | 49,800 |
| Jan-19 | 541 | 47,800 |
| Feb-19 | 560 | 49,000 |
| Mar-19 | 578 | 49,750 |
| Apr-19 | 572 | 49,250 |
| May-19 | 560 | 48,250 |
| Jun-19 | 560 | 47,750 |
| Jul-19 | 566 | 45,250 |
| Aug-19 | 560 | 43,750 |
| Sep-19 | 523 | 42,550 |
| Oct-19 | 498 | 40,850 |
| Nov-19 | 467 | 41,150 |

*The actual prices may vary depending on city, player, grade etc.

Outlook

International indexed CR coil price declined in April 2019 on back of declining international HR prices. Domestic CR prices declined during the month, mirroring HR prices trend. In May, prices declined both internationally and domestically due to declining HR prices. In June, international prices remained the same due to unchanged demand & supply. Domestically, demand weakened slightly due to buyers postponing purchases to after the government's budget announcement. In July, domestic prices declined due to the continued slowdown in sectors that are major consumers of steel. Internationally, the demand scenario remained stable for steel, as reflected in the prices. In August, domestic prices fell partly due to the continuing crisis in the Auto sector and weakening economic growth. In September, international as well as domestic CR prices continued to decline, mirroring HR prices. In October, international prices fell, mirroring HR coil price decreases. Domestic prices fell owing to weak demand in the automobile sector. In November, international prices fell in line with the fall in the prices of HR Coils, while domestic prices rose on account of increased infrastructure spending.

Steel Scrap (Heavy Melting)



Source: CRISIL

| Monthly Average Prices | |
|------------------------|-----------------|
| Period | *Dom (Rs/Tonne) |
| Nov-18 | 26750 |
| Dec-18 | 25950 |
| Jan-19 | 25550 |
| Feb-19 | 26050 |
| Mar-19 | 25550 |
| Apr-19 | 25050 |
| May-19 | 25050 |
| Jun-19 | 23550 |
| Jul-19 | 21550 |
| Aug-19 | 21,050 |
| Sep-19 | 21,550 |
| Oct-19 | 20,850 |
| Nov-19 | 21350 |

**The actual prices may vary depending on city, player, grade etc.*

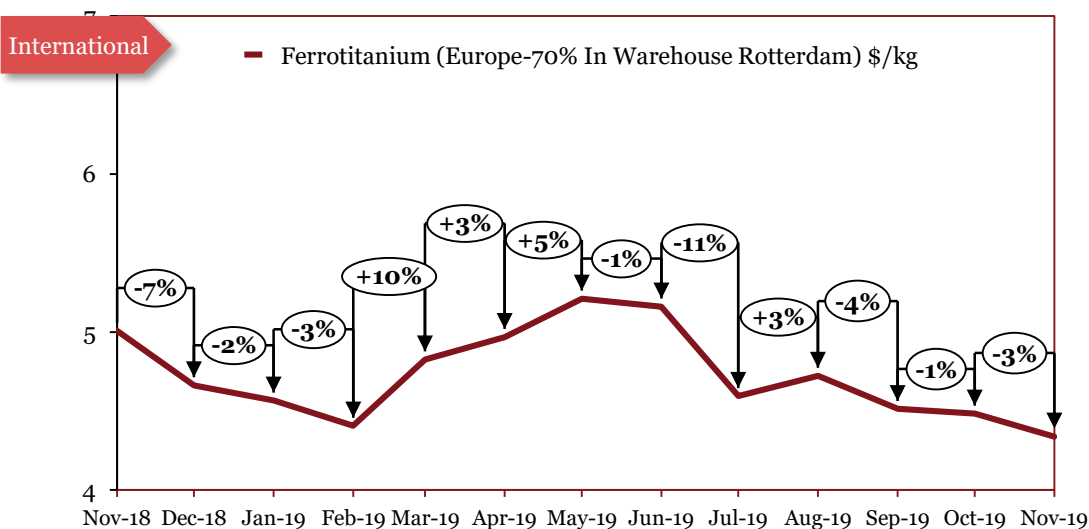
Outlook

Domestic scrap prices have displayed a downward trend over the last one year owing to a stronger dollar which made exports less competitive leading to excess supply in the market. Another reason for excess supply in the market is seen as slowing infrastructure growth due to which inventories have piled up. In May, steel scrap prices remained unchanged due to the lack of demand growth in the market. In June, scrap prices dropped due to low exports demand from countries such as Turkey which is the largest buyer of steel scrap. In July, scrap prices decreased due to a sustained slowdown in demand along with competition from better quality scrap imports. In August, oversupply in the spot market ensure prices continued to fall. In September, domestic prices began to inch up due to stronger sentiment following the stabilisation of international prices. In October, the prices returned to decreasing, due to weak demand and uncertainty around the trade war. In November, prices rose on account of increased public spending.

| | | |
|----------------------------|-------------------------------|-----------|
| <i>Ferro-alloys</i> | Ferro-alloys | 16 |
| 8 | Ferro titanium | 17 |
| 9 | Ferro chrome | 18 |
| 10 | Ferro molybdenum | 19 |
| 11 | Ferro vanadium | 20 |
| 12 | Ferro silicon | 21 |
| 13 | EN8 Alloy Steel (Forging) | 22 |
| 14 | Stainless Steel | 23 |
| 15 | 20MnCr5 Alloy Steel (Forging) | 24 |

Ferro titanium

| Monthly Average Prices | |
|------------------------|-----------------|
| Period | ^*Int'l (\$/kg) |
| Nov-18 | 5.00 |
| Dec-18 | 4.66 |
| Jan-19 | 4.56 |
| Feb-19 | 4.41 |
| Mar-19 | 4.83 |
| Apr-19 | 4.97 |
| May-19 | 5.21 |
| Jun-19 | 5.16 |
| Jul-19 | 4.60 |
| Aug-19 | 4.72 |
| Sep-19 | 4.51 |
| Oct-19 | 4.48 |
| Nov-19 | 4.34 |



Grade specifications changed from Metal Bulletin to Asian Metals
 Source: Bloomberg

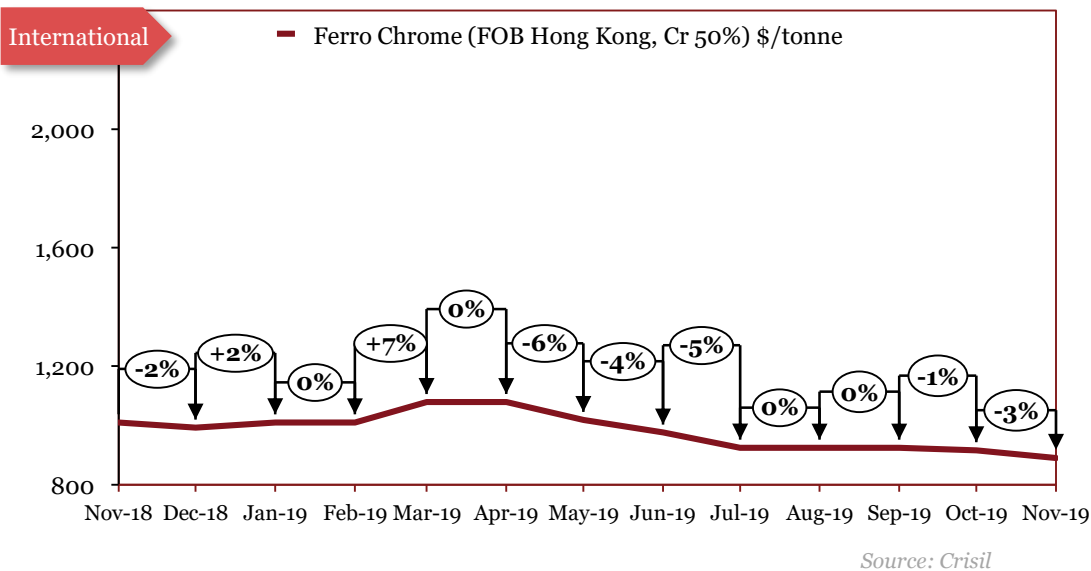
*The actual prices may vary depending on city, player, grade etc.

Outlook

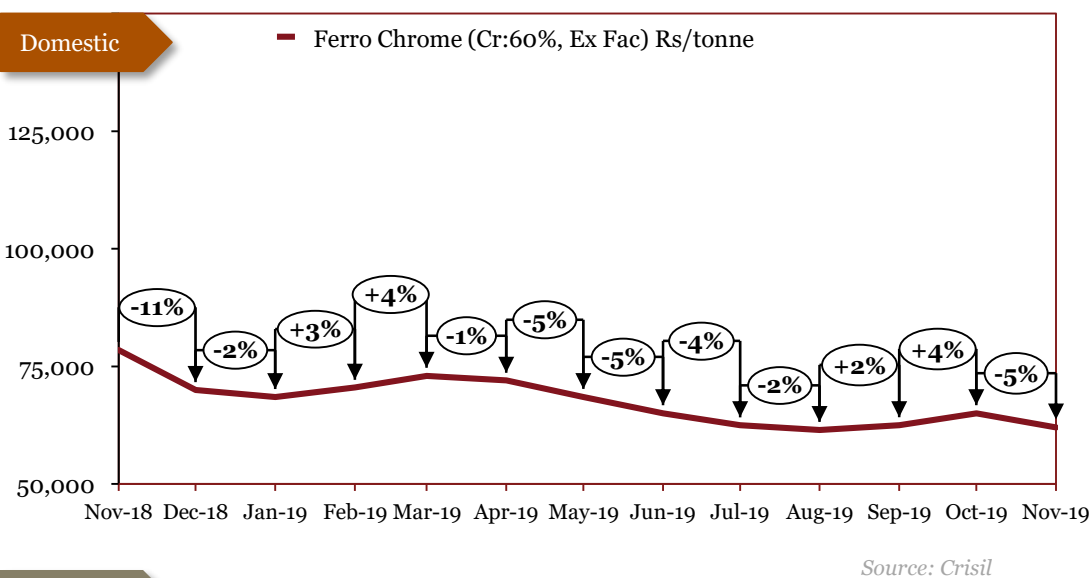
In October 2018, high-volume sales to Europe from Russia dragged down prices. From November 2018, ferrotitanium prices have witnessed consistently declining trend owing to unfavourable market conditions which has continued till February 2019. In March, ferrotitanium prices increased owing to increased demand and potentially reduced supply from one major supplier. In April, increasing trend in prices continued. In May, supply worries from a major producer in UK forced prices to continue an upward trend. In June, prices trended marginally downward due to fears of weakening demand from the European steel market. In July, poor demand from major markets such as Europe pushed prices down significantly. In August, the price rose thanks to growing demand. In September, international prices fell owing to weak demand in the European steel market following a weak summer. In October, international prices fell due to weak European demand. In November, international prices kept falling due to unfavourable market conditions.

^International prices changed due to change in grades at the source

Ferro chrome



| Monthly Average Prices | | |
|------------------------|-------------------|-----------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/tonne) |
| Nov-18 | 1,010 | 78,500 |
| Dec-18 | 993 | 70,000 |
| Jan-19 | 1010 | 68,500 |
| Feb-19 | 1010 | 70,500 |
| Mar-19 | 1079 | 73,000 |
| Apr-19 | 1079 | 72000 |
| May-19 | 1019 | 68500 |
| Jun-19 | 976 | 65000 |
| Jul-19 | 924 | 62500 |
| Aug-19 | 924 | 61500 |
| Sep-19 | 924 | 62500 |
| Oct-19 | 916 | 65000 |
| Nov-19 | 890 | 62000 |



*The actual prices may vary depending on city, player, grade etc.

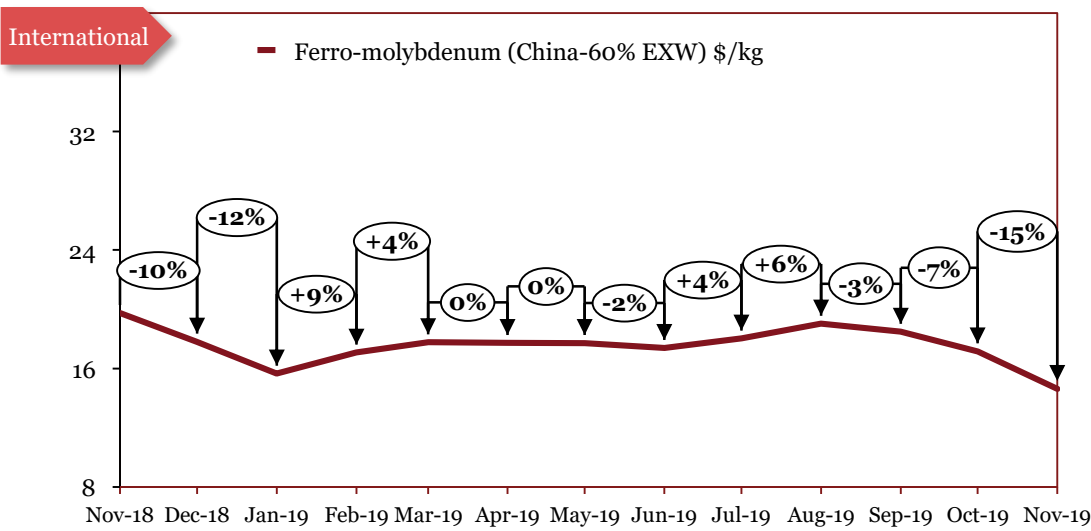
Outlook

International index price of ferro chrome remained unchanged in April amidst stable Chinese demand. On domestic front, prices recorded a decline on back of weak demand. In May, international and domestic prices declined on the back of continued weakening in demand. In June, domestic & international prices of ferro-chrome continued to decline owing to declining stainless steel production globally. In July, ferro-chrome prices fell both globally & domestically due to a 2.5% reduction(by volume) in production of stainless steel year-on-year. In August, global prices remained constant, while domestic prices fell due to weakening demand. In September, international prices remained unchanged, whilst domestic ferrochrome prices rose domestically despite weak demand thanks to the higher price of Chrome ore. In October, international prices fell owing to weak demand and the trade war, whilst improving slightly domestically. In November, prices internationally declined again, owing to oversupply in the market and uncertainty regarding the trade war, whilst domestically prices fell owing to weak demand.

Ferro molybdenum

Monthly Average Prices

| Period | *^Int'l (\$/kg) |
|--------|-----------------|
| Nov-18 | 20 |
| Dec-18 | 18 |
| Jan-19 | 16 |
| Feb-19 | 17 |
| Mar-19 | 18 |
| Apr-19 | 18 |
| May-19 | 18 |
| Jun-19 | 18 |
| Jul-19 | 17 |
| Aug-19 | 19 |
| Sep-19 | 18 |
| Oct-19 | 17 |
| Nov-19 | 15 |



Grade specifications changed from Metal Bulletin to Asian Metals
 Source: Bloomberg

*The actual prices may vary depending on city, player, grade etc.

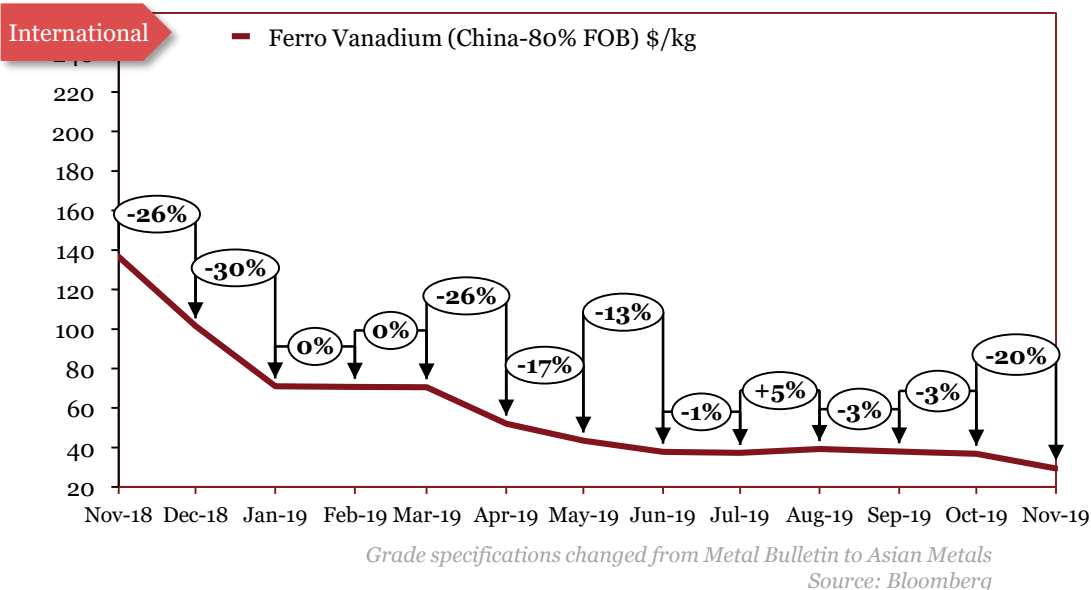
Outlook

In June and July, prices continued with declining trend. In August, declining trend in prices was reversed on account of firm demand. In September, prices remained stable. Prices increased in October 2018. Prices witnessed declining trend since November 2018, following the price movements in other ferro-alloys. In February 2019, declining trend was reversed. In March, prices increased owing to demand growth. In April, increasing trend in prices continued. In May, stable market conditions resulted in stable prices. In June, prices decreased due to easing demand from major steel producers such as China. In July, prices increased due to limited availability of raw materials such as molybdenum concentrate. Strong sentiment spilt into the Molybdenum market, with a rise in raw material price raising prices overall. In August, international prices rallied after a shortage of supply in China led to a growth in the Chinese domestic market. In September, international prices fell on the back of rigid demand in the market. In October, prices continued to fall through the quarter due to weak metal demand and weak demand in the ferro-alloys market. In November, prices continued to fall as producers sold their stocks at discounts and demand was affected by weak demand for stainless steel.

^International prices changed due to change in grades at the source

Ferro vanadium

| Monthly Average Prices | |
|------------------------|----------------|
| Period | *Int'l (\$/kg) |
| Nov-18 | 137 |
| Dec-18 | 101 |
| Jan-19 | 71 |
| Feb-19 | 71 |
| Mar-19 | 71 |
| Apr-19 | 52 |
| May-19 | 43 |
| Jun-19 | 38 |
| Jul-19 | 37 |
| Aug-19 | 39 |
| Sep-19 | 38 |
| Oct-19 | 37 |
| Nov-19 | 29 |

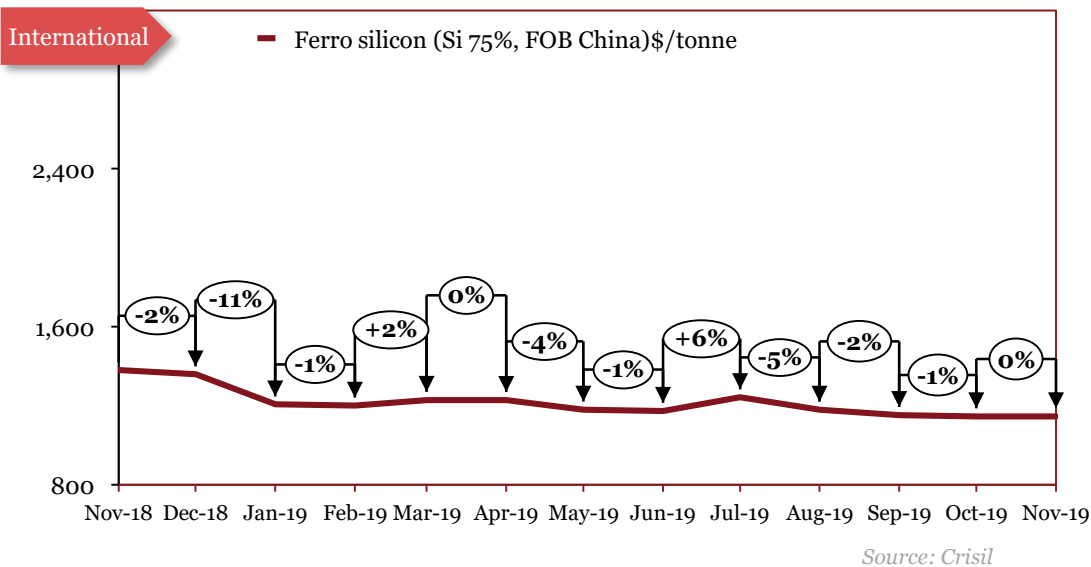


*The actual prices may vary depending on city, player, grade etc.

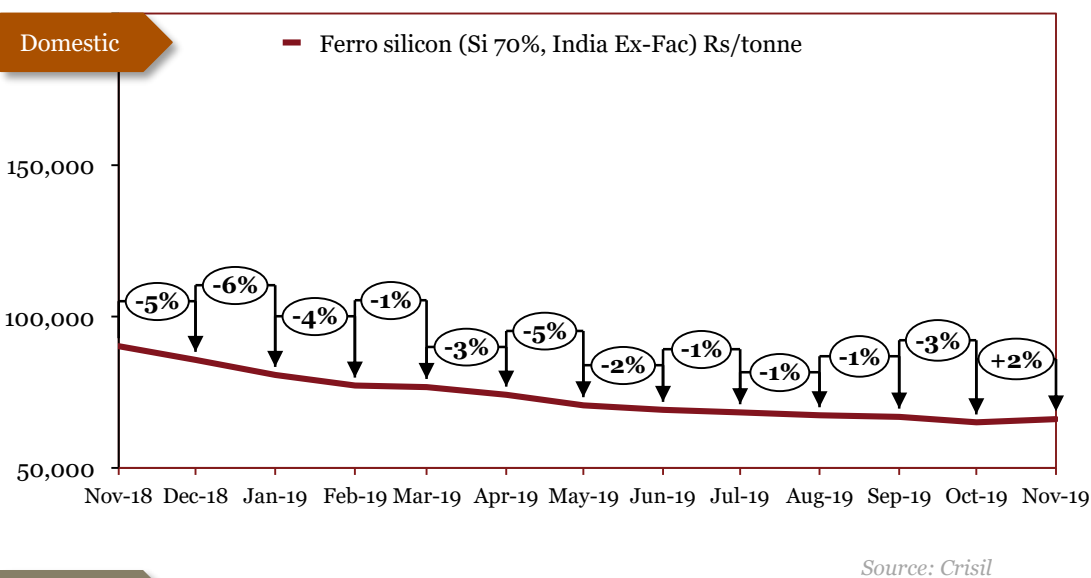
Outlook

Prices remained unchanged in February 2019 due to stable market conditions. In March, prices remained unchanged due to stable market conditions. In April, prices increased due to strong demand from Chinese market, which in turn can be partly attributed to increase in demand arising from the implementation of new rebar manufacturing standards in China. In May, prices continued to decline due to sluggish demand from the European automotive sector. In June, prices continued to fall sharply due to weak summer demand in China & Europe. In July, Ferro Vanadium prices decreased marginally due to almost stable market conditions compared to June. In August, there was an increase in price boosted by improving demand. In September, prices internationally fell on account of a strong Chinese market dissuading foreign importers, with a large gap between Chinese and European prices. In October, prices continued to decrease as European producers worked to offload excess inventory in a time of weak demand. In November, international prices fell due to a sudden increase in Chinese production.

Ferro silicon



| Monthly Average Prices | | |
|------------------------|-------------------|-----------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/tonne) |
| Nov-18 | 1,380 | 90,200 |
| Dec-18 | 1,359 | 85,700 |
| Jan-19 | 1,208 | 80,700 |
| Feb-19 | 1,201 | 77,200 |
| Mar-19 | 1,228 | 76,700 |
| Apr-19 | 1,228 | 74,200 |
| May-19 | 1,180 | 70,700 |
| Jun-19 | 1,173 | 69,200 |
| Jul-19 | 1,242 | 68,400 |
| Aug-19 | 1,180 | 74,200 |
| Sep-19 | 1,152 | 74,200 |
| Oct-19 | 1,145 | 74,200 |
| Nov-19 | 1,145 | 74,200 |



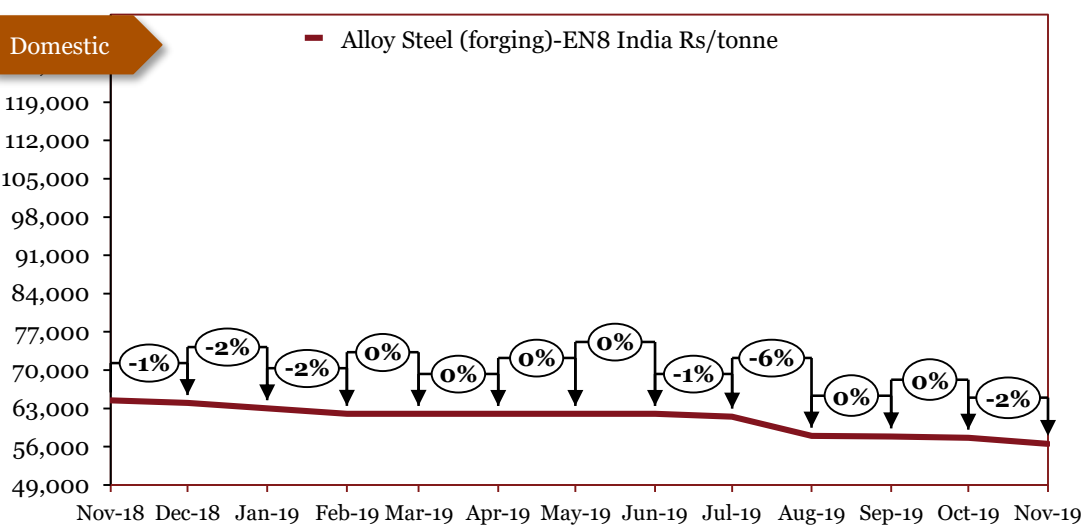
*The actual prices may vary depending on city, player, grade etc.

Outlook

International ferro silicon prices remained constant in April 2019 owing to moderation in demand, especially in China. Domestic ferro silicon prices declined on the back of weak demand. In May, lower prices were seen as a result on increased supplies and lower tender prices. In June, prices dropped due to additional supply in markets which resulted in producers lowering their prices. In July, international prices increased due to reduced supply stemming from plant maintenance in major production hubs. Domestically, the demand scenario remained comparable to June, as reflected in the prices. In August, the export price in the international market continued to fall amid persistent weak demand and tough international competition. Domestically the price fell due to weakening demand. In September, international prices declined, due to a strong buyers market with high inventory and expectations of continued decrease in price, particularly in China. Domestic prices followed suit, continuing to decline due to weak demand. In October, international prices remained fairly stable, as suppliers were able to counter weak demand with tight supply. In November, international prices remained constant on account of stable market conditions, while domestic prices rose on account of tighter supply.

EN8 Alloy Steel (Forging)

| Monthly Average Prices | |
|------------------------|-----------------|
| Period | *Dom (Rs/tonne) |
| Nov-18 | 64,500 |
| Dec-18 | 64,000 |
| Jan-19 | 63,000 |
| Feb-19 | 62,000 |
| Mar-19 | 62,000 |
| Apr-19 | 62,000 |
| May-19 | 62,000 |
| Jun-19 | 62,000 |
| Jul-19 | 61,500 |
| Aug-19 | 58,000 |
| Sep-19 | 57,875 |
| Oct-19 | 57,625 |
| Nov-19 | 56,500 |



Source: PwC Research

*The actual prices may vary depending on city, player, grade etc.

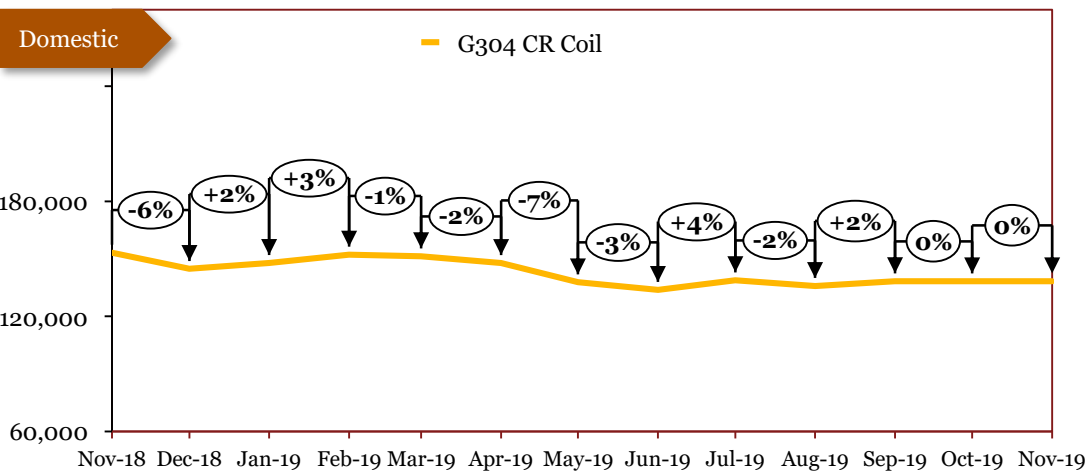
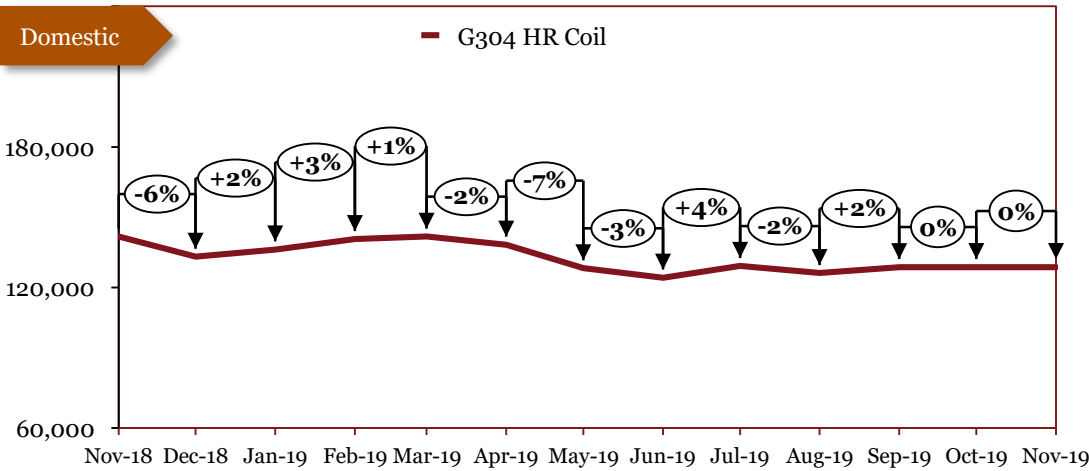
Outlook

In August, prices continued to fall. In September, prices increased along with price rise in other steel products. In October, prices increased in line with other products whose prices depend on the fundamentals of the economy. In November, domestic prices witnessed decline. In December, prices declined further owing to a decrease in the Chinese market. In January 19, prices continued with declining trend. In February, declining trend continued. In March, prices remained unchanged due to stable market conditions. In April, market conditions remained unchanged, reflecting in the prices for the month. In May, market conditions continued to remain unchanged resulting in stable prices. In June, prices remain unchanged once again, stemming from stable market conditions. In July, prices declined marginally due to a lower growth forecast in India. In August, global prices fell due to the fall in the price of Nickel. In September, domestic prices remained unchanged due to stable market conditions. In October, the prices remained constant. In November prices declined due to a difficult demand environment caused by the struggles of the automotive and manufacturing sectors.

Stainless Steel

Monthly Domestic Average Prices

| Period | *G304 HR (Rs/tonne) | *G304 CR (Rs/tonne) |
|--------|------------------------|------------------------|
| Nov-18 | 141,700 | 153,250 |
| Dec-18 | 133,200 | 144,750 |
| Jan-19 | 136,200 | 147,750 |
| Feb-19 | 146,700 | 152,250 |
| Mar-19 | 141,700 | 151,250 |
| Apr-19 | 138,200 | 147,750 |
| May-19 | 128,200 | 137,750 |
| Jun-19 | 124,200 | 133,750 |
| Jul-19 | 129,200 | 138,750 |
| Aug-19 | 126,200 | 135,750 |
| Sep-19 | 128,700 | 138,250 |
| Oct-19 | 128,700 | 138,250 |
| Nov-19 | 128,700 | 138,250 |



*The actual prices may vary depending on city, player, grade etc.

Source: PwC Research

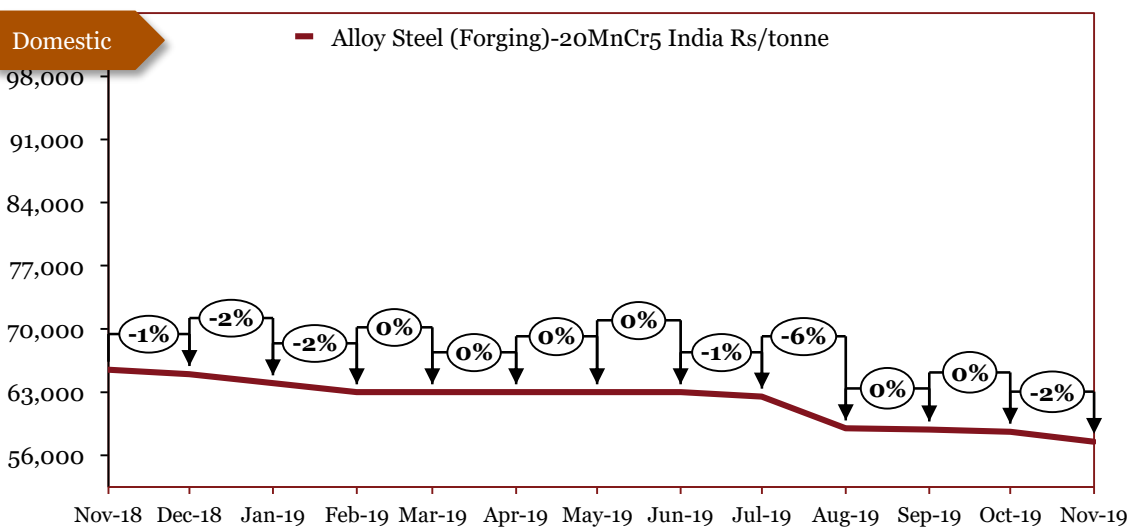
Outlook

In May, declining trend was reversed as prices increased. In June, prices increased owing to strong demand. In July, domestic prices for stainless steel declined following global cues. In August, prices remained the same owing to stable market conditions. In September, prices continued to remain stable. In October, prices increased after flat trend over past months. In November, international and domestic prices decreased simultaneously. In December, prices continues to decline. In January 2019, domestic prices increased on account of increase in price of raw material imports. In February, increasing trend in HR and CR coil prices continued. In March, price trend from previous months was reversed. In April, prices continued to decline. In May, prices declined marginally due to weak Nickel prices. In June, prices declined due weak demand scenario and fall in price of inputs such as ferro-alloys. In July, prices increased as producers cut down supply and costs of vital inputs, such as coking coal, increased. In August, global prices fell on weak demand and high inventories. In September, international prices rose owing to skyrocketing Nickel prices. This increase was mirrored by domestic prices. In October, prices remained stable domestically and internationally. In November, domestic as well as international prices continued to remain unchanged.

20MnCr5 Alloy Steel (Forging)

Monthly Average Prices

| Period | *Dom (Rs/tonne) |
|--------|--------------------|
| Nov-18 | 65,500 |
| Dec-18 | 65,000 |
| Jan-19 | 64,000 |
| Feb-19 | 63,000 |
| Mar-19 | 63,000 |
| Apr-19 | 63,000 |
| May-19 | 63,000 |
| Jun-19 | 63,000 |
| Jul-19 | 62,500 |
| Aug-19 | 59,000 |
| Sep-19 | 58,875 |
| Oct-19 | 58,625 |
| Nov-19 | 57,500 |



Source: PwC Research

*The actual prices may vary depending on city, player, grade etc.

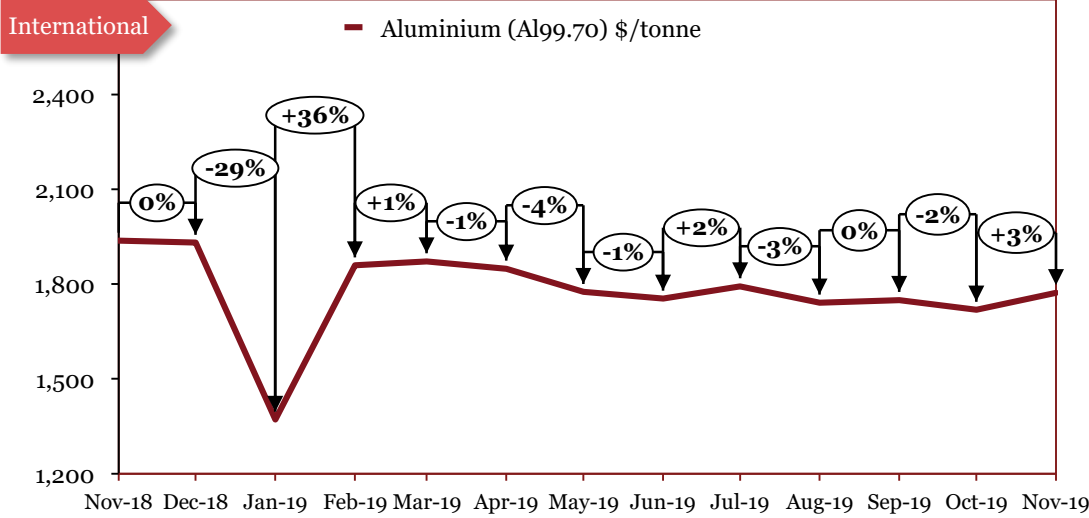
Outlook

In April, prices remained constant due to stable market conditions and increased in May along with other steel products. In June, prices increased in step with other steel products. Similarly, prices in the domestic market fell in line with other steel products owing to muted demand. In August, process continued to fall. In September, domestic prices reversed declining trend. In October, declining trend in prices was reversed. In November, prices fell due to muted demand. Prices fell in line with other steel products. In January 2019, prices continued with declining trend. In February, prices remained unchanged due to stable market conditions. In March, prices remained unchanged due to stable market conditions. In April, market conditions remained unchanged, reflecting in the prices for the month. In May, market conditions continued to remain unchanged resulting in stable prices. In June, prices continued to hold stable. In July, prices declined marginally due to a lower growth forecast in India. In August, prices continued to fall, owing to weakening demand and oversupply of inventory. In September, domestic prices managed to stay constant as the auto slowdown was followed by a large decrease in production. In October, prices remained stable. In November, prices fell due to weak demand, partly down to the Auto slowdown.

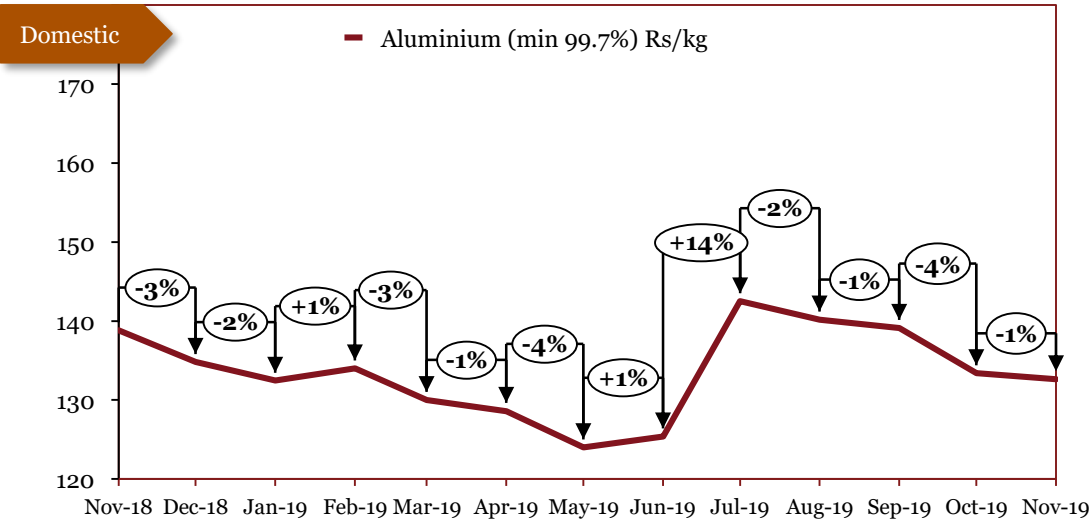
Base Metals

| | | |
|--------------------|-----------|-----------|
| Base Metals | | 25 |
| 16 | Aluminium | 26 |
| 17 | Copper | 27 |
| 18 | Zinc | 28 |
| 19 | Lead | 29 |
| 20 | Nickel | 30 |
| 21 | Tin | 31 |
| 22 | Magnesium | 32 |

Aluminium



Source: LME



Source: MCX*

*Source updated in July 2019

*The actual prices may vary depending on city, player, grade etc.

| Monthly Average Prices | | |
|------------------------|-------------------|--------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/kg) |
| Nov-18 | 1,937 | 139 |
| Dec-18 | 1,931 | 135 |
| Jan-19 | 1,371 | 132 |
| Feb-19 | 1,859 | 134 |
| Mar-19 | 1,872 | 130 |
| Apr-19 | 1,849 | 129 |
| May-19 | 1,775 | 124 |
| Jun-19 | 1,754 | 125 |
| Jul-19 | 1,793 | 142 |
| Aug-19 | 1,741 | 140 |
| Sep-19 | 1,749 | 139 |
| Oct-19 | 1,718 | 133 |
| Nov-19 | 1,772 | 133 |

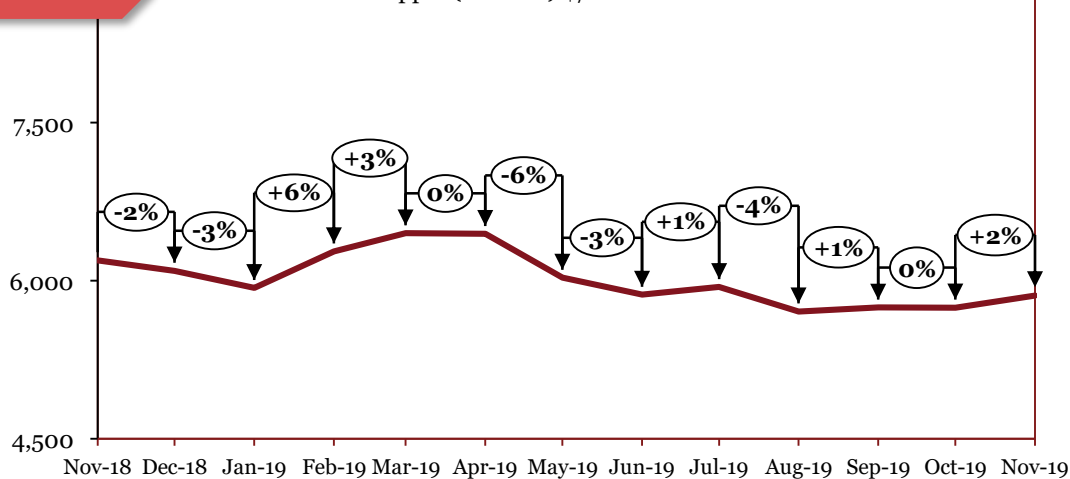
Outlook

In April, prices decreased owing to many aluminium companies shedding capacity in China after situation of overcapacity in the past couple of months. In May, domestic iron prices declined due muted demand stemming from General Elections. International prices declined due to trade tensions between China & the US. In June, international prices declined slightly due to weak manufacturing data from top economies. Domestically, aluminium prices increased slightly due to superior demand conditions. In July, aluminium prices increased globally due to curbs on exports of aluminium scrap by China which tightened supply in the market. In August, global prices fell due to a decrease in demand caused by the global trade war, while domestic prices fell due to competition from Chinese imports. In September, international Aluminium prices remained unchanged owing to more stable market conditions. Domestic prices fell slightly due to weaker economic conditions. In October, international prices fell despite lower production, partly due to weak demand from the Chinese auto sector, while the slowdown in the Indian auto sector hurt domestic prices. In November, international prices were up following trade negotiations between the US and China, while domestic prices continued to suffer from weak demand.

Copper

International

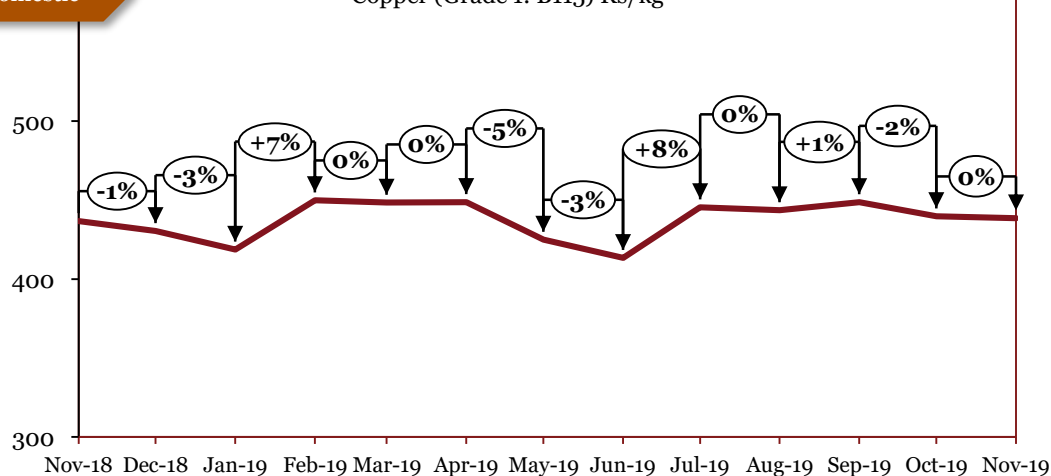
— Copper (Grade A) \$/tonne



Source: LME

Domestic

— Copper (Grade 1: B115) Rs/kg



Source: MCX

| Monthly Average Prices | | |
|------------------------|-------------------|--------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/kg) |
| Nov-18 | 6,192 | 437 |
| Dec-18 | 6,094 | 430 |
| Jan-19 | 5,932 | 419 |
| Feb-19 | 6,278 | 450 |
| Mar-19 | 6,450 | 448 |
| Apr-19 | 6,445 | 449 |
| May-19 | 6,028 | 425 |
| Jun-19 | 5,868 | 413 |
| Jul-19 | 5,939 | 445 |
| Aug-19 | 5,708 | 444 |
| Sep-19 | 5,745 | 449 |
| Oct-19 | 5,742 | 440 |
| Nov-19 | 5,859 | 438 |

*The actual prices may vary depending on city, player, grade etc.

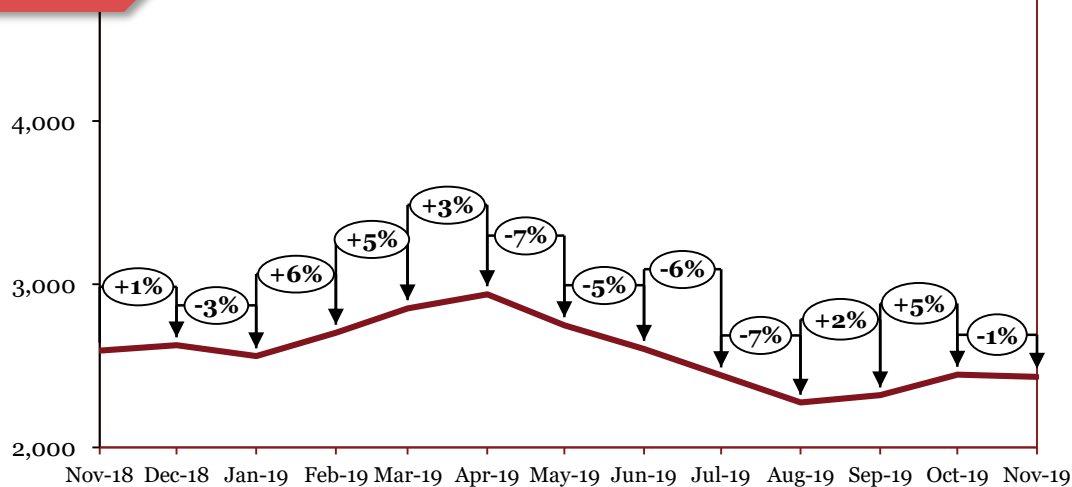
Outlook

In April, prices remained unchanged due to stable market conditions. In May, prices fell due to profit booking by traders and also lower demand in both domestic and international markets. In June, international Copper prices fell due to weak production data released by China and a threat of tariffs imposed by the US on Mexico. Domestically, prices fell due to slackened demand from consuming industries. In July, domestic prices increased due to higher demand in the spot market. Globally, prices increased marginally due to stable market conditions. In August, domestic prices remained flat, whereas Copper sank to a two-year low globally, as renewed trade hostilities between the U.S. and China reinforced fears about the world economy. In September, international copper prices rallied after reaching their lowest point, partly due to disruptions at mines affecting the global supply chain and due to demand from the renewable energy manufacturing market. Domestic prices rose thanks to strong household demand for consumer goods as well as from higher demand for power. In October, international prices remained unchanged despite uncertainty around the trade war, whilst domestic prices fell due to weak manufacturing demand. In November, prices rose internationally thanks to hopes of a US-China trade deal, while remaining stable domestically.

Zinc

International

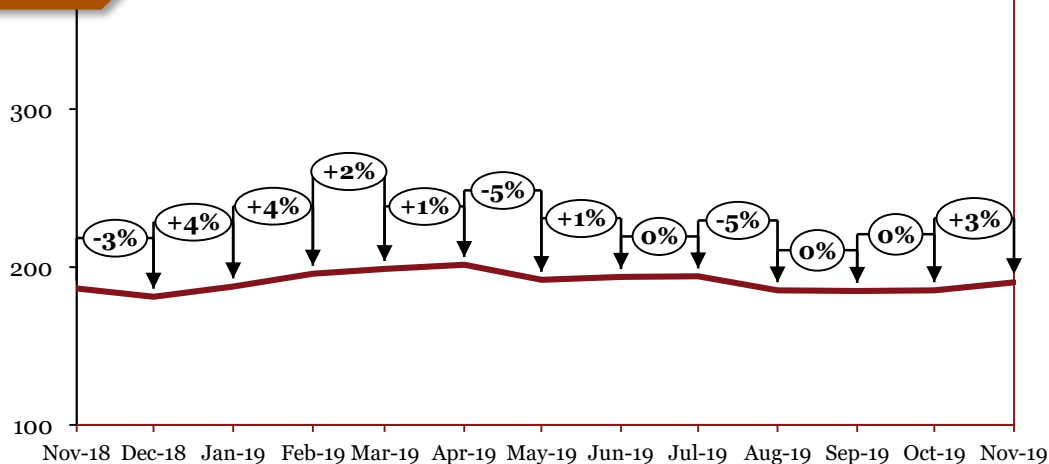
Zinc (min 99.995%) \$/tonne



Source: LME

Domestic

NCDEX Zinc (min 99.995%) Rs/kg



Source: MCX*

*Source updated in July 2019

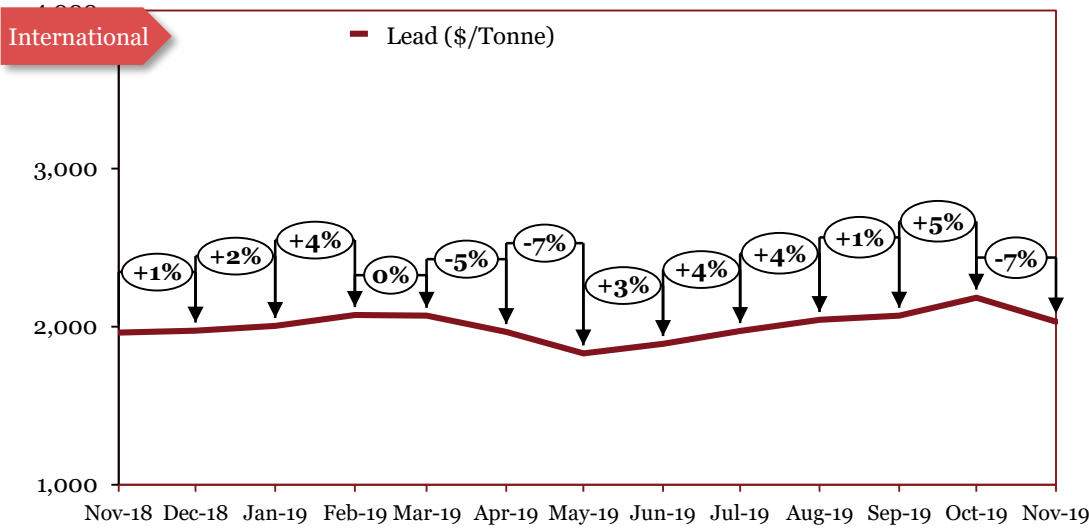
| Monthly Average Prices | | |
|------------------------|-------------------|--------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/kg) |
| Nov-18 | 2,592 | 187 |
| Dec-18 | 2,625 | 181 |
| Jan-19 | 2,558 | 188 |
| Feb-19 | 2,702 | 196 |
| Mar-19 | 2,851 | 199 |
| Apr-19 | 2,938 | 201 |
| May-19 | 2,747 | 192 |
| Jun-19 | 2,602 | 194 |
| Jul-19 | 2,441 | 194 |
| Aug-19 | 2,275 | 185 |
| Sep-19 | 2,319 | 185 |
| Oct-19 | 2,445 | 185 |
| Nov-19 | 2,432 | 190 |

*The actual prices may vary depending on city, player, grade etc.

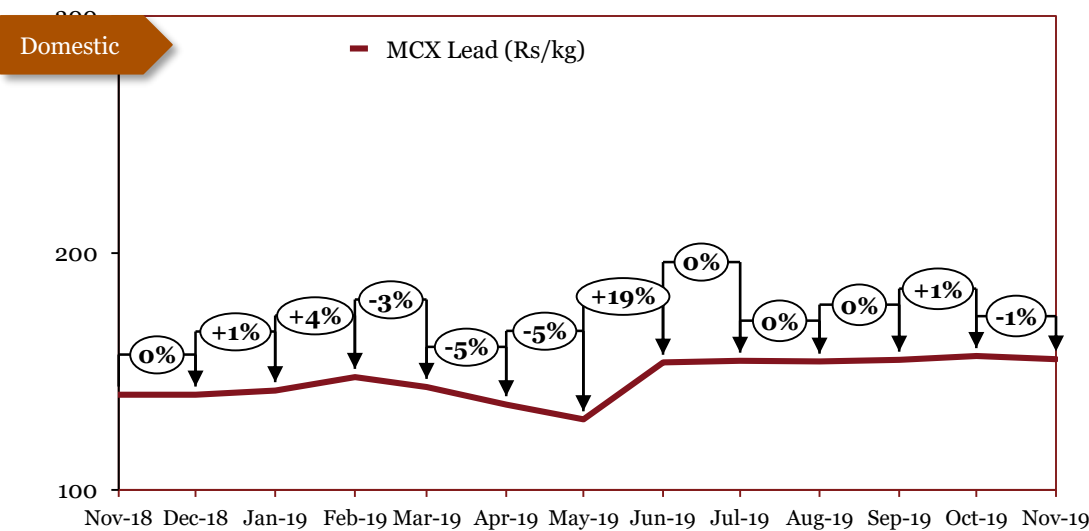
Outlook

In March, international zinc prices rose on back of rising global base metal prices and domestic zinc prices increased on account of demand growth. In April, increasing price trend continued. In May, international prices fell due to re-opening of some mines globally. Domestically, there was muted demand in the market resulting in lower prices. In June, international Zinc prices retreated due to rising inventories. In India, prices increased marginally due to an increment in the demand scenario. In July, international zinc prices fell owing to lower demand from major markets. Domestically, prices remained stable on the back of unchanged market conditions. In August, Zinc prices fell domestically, owing to a decrease in demand from suppliers. Globally, prices declined owing to fears over a trade war and a state of oversupply in the market. In September, internationally, Zinc prices recovered from the large fall the previous month due to improving demand. Domestic prices remained unchanged thanks to stable market conditions. In October, international Zinc prices rose on the back of a shortage of supply. Domestic prices remained unchanged for the second month running, down to stability in the market. In November, international price recovery slowed due to oversupply in the market, while domestic prices rose on strong demand.

Lead



Source: LME



Source: MCX

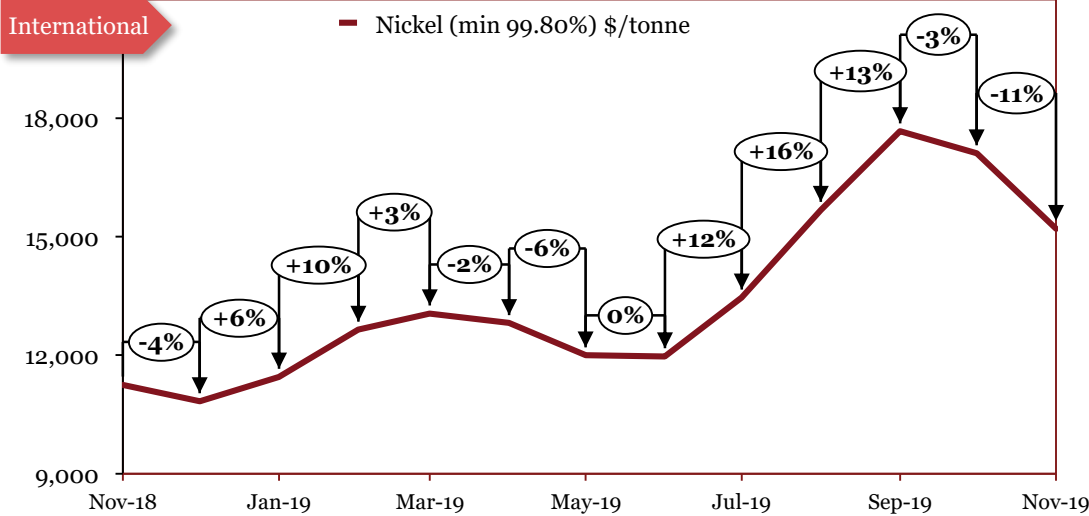
| Monthly Average Prices | | |
|------------------------|-------------------|--------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/kg) |
| Nov-18 | 1,962 | 140 |
| Dec-18 | 1,974 | 140 |
| Jan-19 | 2,004 | 142 |
| Feb-19 | 2,075 | 148 |
| Mar-19 | 2,070 | 143 |
| Apr-19 | 1,966 | 136 |
| May-19 | 1,830 | 130 |
| Jun-19 | 1,891 | 154 |
| Jul-19 | 1,974 | 155 |
| Aug-19 | 2,043 | 154 |
| Sep-19 | 2,070 | 155 |
| Oct-19 | 2,184 | 157 |
| Nov-19 | 2,031 | 155 |

*The actual prices may vary depending on city, player, grade etc.

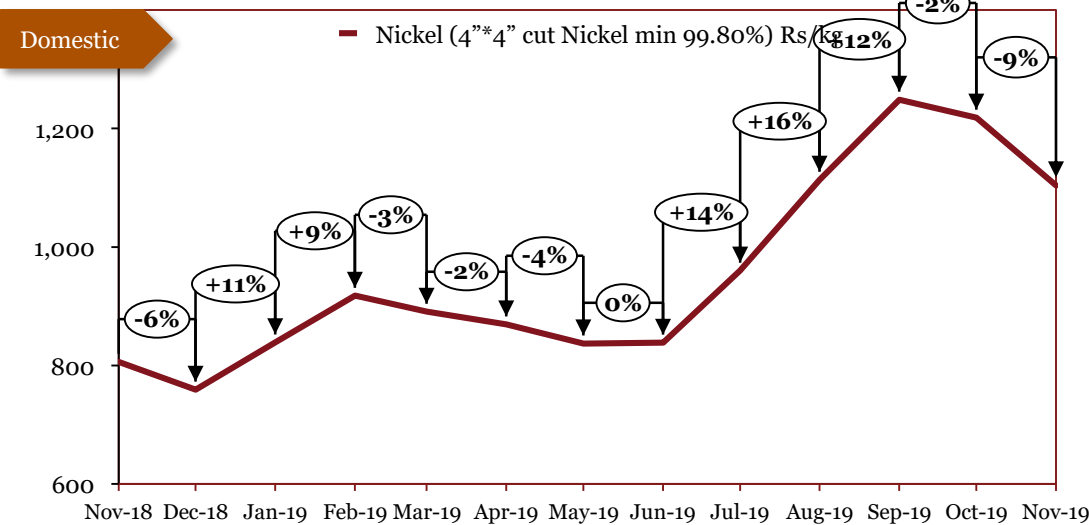
Outlook

International lead prices are almost back to July 2018 levels after a slump in prices in previous months owing to high international inventories. Domestically, lead prices are back to 2018 July 2018 levels after a sharp demand uptake in May. In July, domestic market conditions remained stable which led to stagnant prices. Internationally, production cuts on the back of inventory correction measures by producers saw prices increase. In August, Lead prices were stagnant domestically but witnessed growth globally due to sharper demand. In September, international prices continued to rise thanks to supply shocks in Australia and Bolivia, while domestic lead prices remained stable. In October, international prices rose thanks to higher demand from battery makers in the physical market. Domestic prices also rose thanks to rising demand. In November, international prices fell due to the increase in production in China, alongside the expected reopening of a key Australian mine in the near future. Domestic prices followed suit in declining.

Nickel



| Monthly Average Prices | | |
|------------------------|-------------------|--------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/kg) |
| Nov-18 | 11,249 | 806 |
| Dec-18 | 10,833 | 759 |
| Jan-19 | 11,452 | 839 |
| Feb-19 | 12,647 | 918 |
| Mar-19 | 13,056 | 891 |
| Apr-19 | 12,815 | 869 |
| May-19 | 11,995 | 837 |
| Jun-19 | 11,967 | 839 |
| Jul-19 | 13,459 | 960 |
| Aug-19 | 15,678 | 1,114 |
| Sep-19 | 17,668 | 1,248 |
| Oct-19 | 17,108 | 1,218 |
| Nov-19 | 15,195 | 1,104 |



Source: LME

Source: MCX*

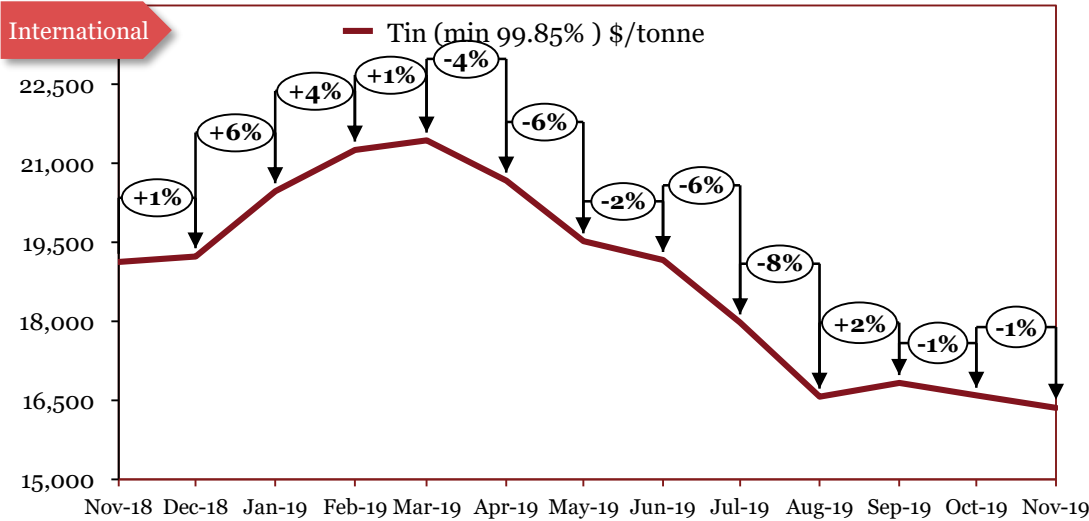
*Source updated in July 2019

*The actual prices may vary depending on city, player, grade etc.

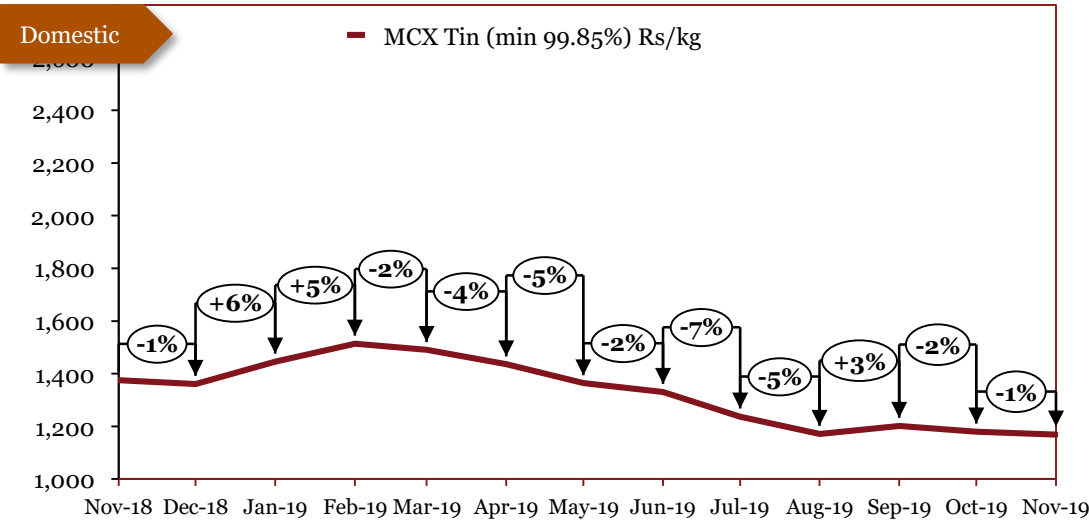
Outlook

In April, nickel prices fell owing to increased market supply. Domestic prices fell owing to subdued demand. In May, prices fell due to volatility in demand stemming from electric vehicle production numbers. In June, both international & domestic Nickel prices remain unchanged due to a balance of demand, supply and inventory levels. In July, Nickel prices increased sharply domestically as well as internationally due to low global inventory, which is almost at a 7 year low. In August, Nickel prices rose domestically and internationally owing to tight supply constraints, growing demand from China for use in building electric vehicles and supply threats from major manufacturers in Indonesia and Papua New Guinea. In September, international as well as domestic Nickel prices continued to surge upwards due to supply curbs in Indonesia and demand from electric vehicle manufacturers. In October, Nickel prices began to slide downwards as supply uncertainties were countered by weakening demand from China and easing of supply constraints in the physical market. In November, international as well as domestic prices fell due to increasing supplies, alongside the resumption of exports from Indonesia.

Tin



Source: LME



Source: MCX

| Monthly Average Prices | | |
|------------------------|-------------------|--------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/kg) |
| Nov-18 | 19,130 | 1,376 |
| Dec-18 | 19,232 | 1,361 |
| Jan-19 | 20,471 | 1,445 |
| Feb-19 | 21,257 | 1,514 |
| Mar-19 | 21,433 | 1,490 |
| Apr-19 | 20,671 | 1,436 |
| May-19 | 19,520 | 1,364 |
| Jun-19 | 19,163 | 1,331 |
| Jul-19 | 17,981 | 1,237 |
| Aug-19 | 16,567 | 1,172 |
| Sep-19 | 16,828 | 1,201 |
| Oct-19 | 16,592 | 1,180 |
| Nov-19 | 16,360 | 1,169 |

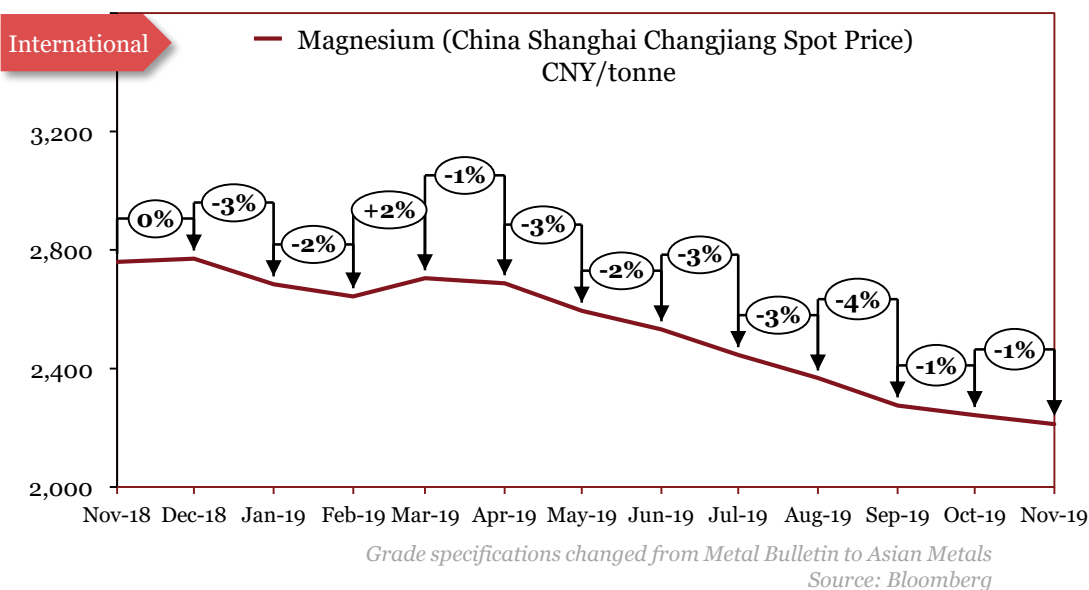
*The actual prices may vary depending on city, player, grade etc.

Outlook

In February, tin prices increased in line with other base metal prices. International prices continued existing trend in March. Domestic prices fell due to subdued demand. In April, increasing trend in international prices was reversed. In May, Tin prices continued to decline due to weak demand stemming from drop in semiconductor sales. In June, international and domestic Tin prices continued to slide owing to weaker demand from consuming industries. In July, international and domestic prices have continued to slide due to high inventory levels, stemming from a poor global demand scenario. In August, Tin prices fell globally due to uncertainty around the trade war, alongside decline in production of semiconductors in China, the primary usage of tin. In September, the fall in international prices was stopped by a cut in Chinese production, with domestic prices following suit. In October, international prices fell due to weaker demand from the electronics sector caused by the trade war. Domestic prices decreased due to weaker demand. In November international prices corrected slightly downwards, alongside domestic prices.

Magnesium

| Monthly Average Prices | |
|------------------------|-------------------|
| Period | *Int'l (\$/tonne) |
| Nov-18 | 2,760 |
| Dec-18 | 2,770 |
| Jan-19 | 2,684 |
| Feb-19 | 2,643 |
| Mar-19 | 2,705 |
| Apr-19 | 2,688 |
| May-19 | 2,595 |
| Jun-19 | 2,532 |
| Jul-19 | 2,445 |
| Aug-19 | 2,367 |
| Sep-19 | 2,275 |
| Oct-19 | 2,243 |
| Nov-19 | 2,212 |



*The actual prices may vary depending on city, player, grade etc.

Outlook

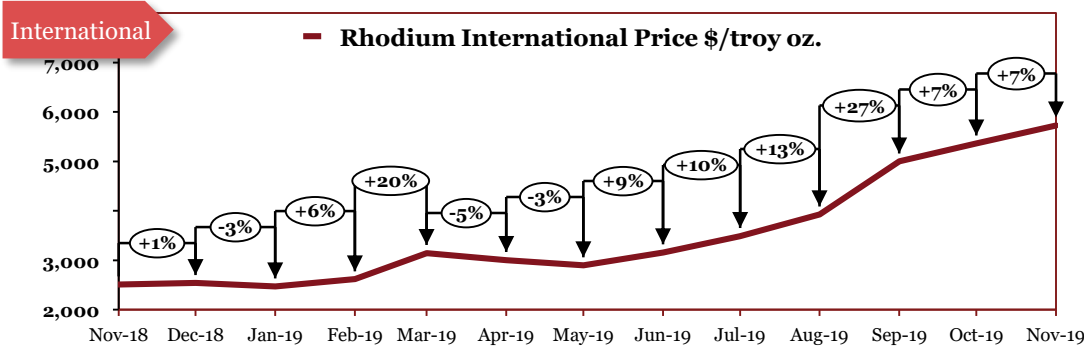
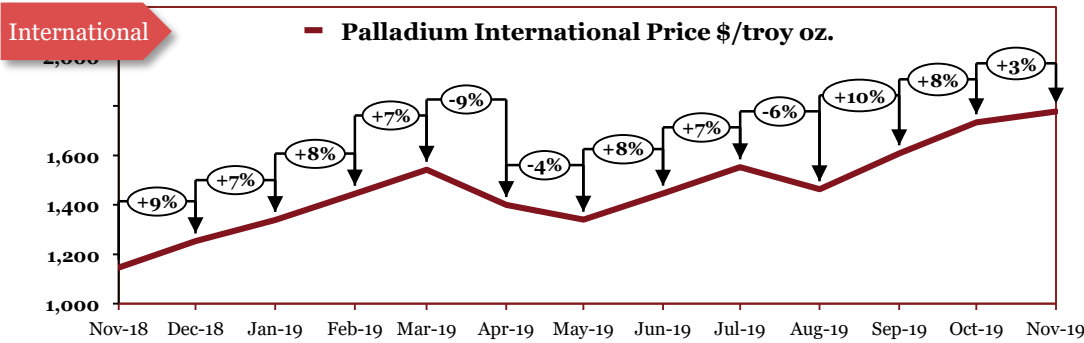
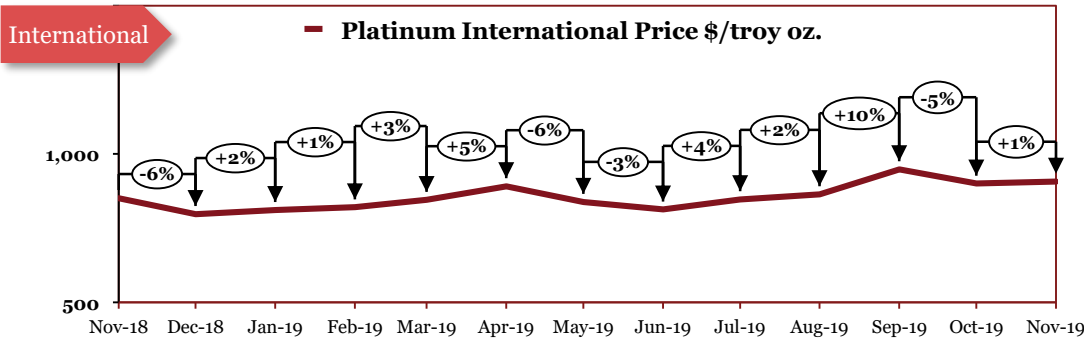
In May, June and July, magnesium prices have witnessed increasing trend owing to favourable market conditions. In August, prices continued to rise. In September, prices rose on account of tighter supply. In October, magnesium prices continued with increasing trend. In November and December 2018, magnesium prices rose on account of tight market supply primarily from China and decreased in January 2019 with fall in demand. In February, magnesium prices continued to fall. In March, price trend was reversed. In April, prices fell owing to subdued demand. In May, the declining trend in prices continued due to low demand across global markets. In June, prices fell due to oversupply in the market from Turkey. In July, prices continued to slide due to lower demand from international markets. In August, a surplus of supply in the market led to a continued drop in prices globally. In September, the trend of international prices falling continued due to weak demand from buyers. In October, prices fell further due to weak demand in China and internationally. In November, prices continued on their downward trajectory due to weak market conditions.

^International prices changed due to change in grades at the source

Precious Metals

| | | |
|----|------------------------|-----------|
| | Precious Metals | 33 |
| 23 | Precious Metals | 34 |

Precious Metals



| Monthly Average Prices (\$/Oz) | | | |
|--------------------------------|-----|-------|-------|
| Period | Pt | Pd | Rh |
| Nov-18 | 851 | 1,145 | 2,512 |
| Dec-18 | 797 | 1,253 | 2,539 |
| Jan-19 | 811 | 1,338 | 2,473 |
| Feb-19 | 821 | 1,441 | 2,616 |
| Mar-19 | 845 | 1,542 | 3,144 |
| Apr-19 | 891 | 1399 | 3001 |
| May-19 | 838 | 1340 | 2900 |
| Jun-19 | 813 | 1446 | 3157 |
| Jul-19 | 847 | 1552 | 3487 |
| Aug-19 | 863 | 1462 | 3929 |
| Sep-19 | 948 | 1608 | 5001 |
| Oct-19 | 901 | 1,733 | 5,363 |
| Nov-19 | 907 | 1777 | 5728 |

Source: Johnson Matthey

*The actual prices may vary depending on city, player, grade etc.

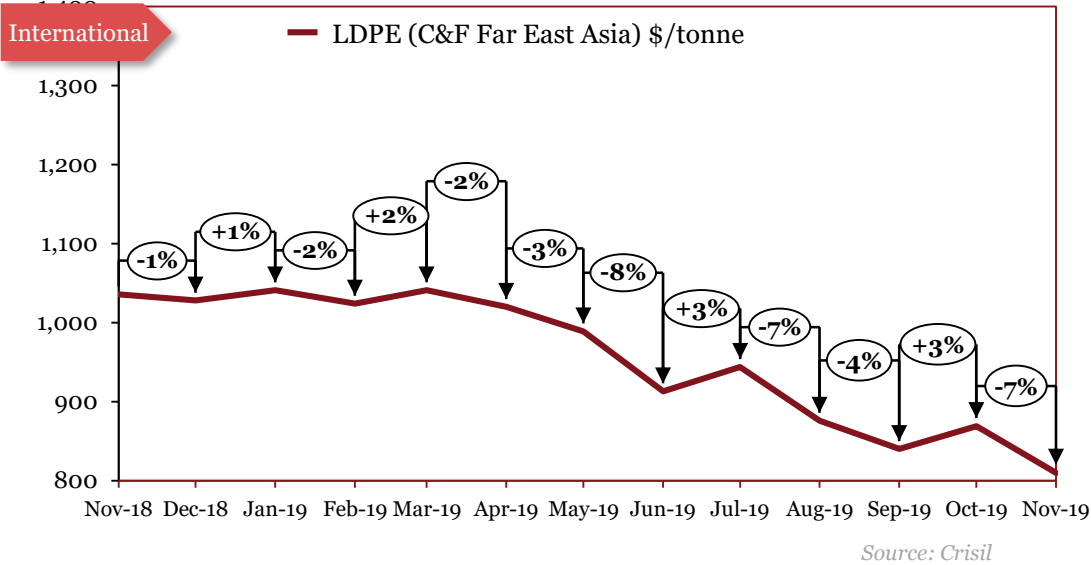
Outlook

In June, platinum prices fell and palladium & rhodium prices increased as auto-manufacturers decided to favour the 2 more expensive metals due to improved emissions results. In July, platinum prices increased due to supply disruptions from mines in South Africa. Demand for palladium and rhodium continued to increase as stricter emissions norms cause manufacturers to look at more effective albeit expensive metals. In August, demand for Rhodium grew with higher global demand from the auto sector, whereas Platinum and Palladium revenue grew due to expectations of higher demand due to tougher environmental standards. In September, Palladium prices continued to rise thanks to strict environmental rules and demand from auto manufacturers, whereas Rhodium prices benefited from stricter emissions standards driving demand from auto firms. Platinum prices also soared, briefly hitting \$1000. In October, the rise in Palladium and Rhodium prices were powered by strong demand from vehicle manufacturers dealing with higher emissions standards, while Platinum prices fell. In November, Rhodium and Palladium prices continued to rise to new highs due to demand from vehicle manufacturers, while Platinum rose marginally.

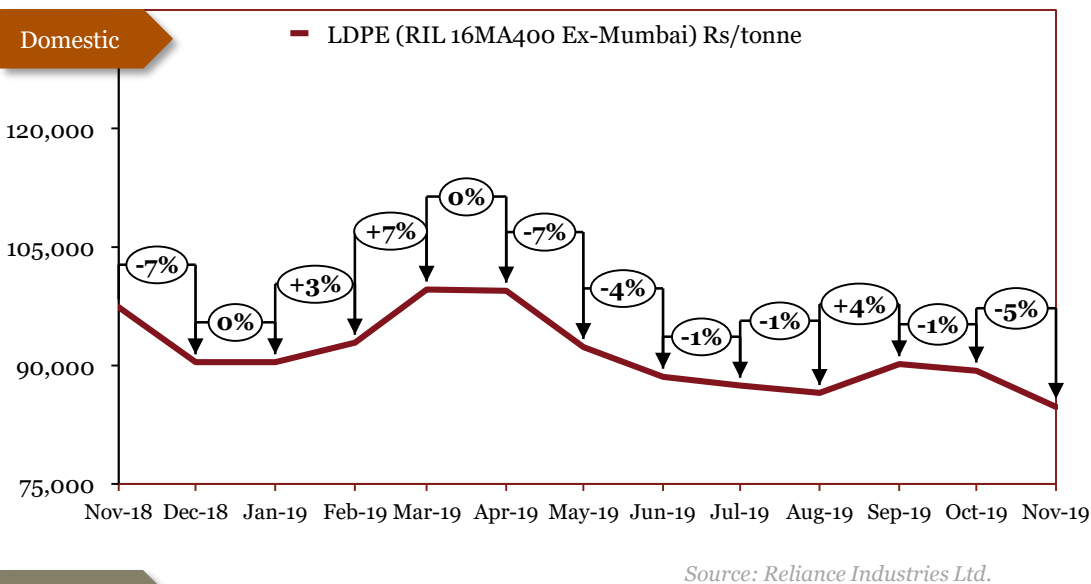
Polymers & Rubber

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Low density polyethylene (LDPE)



| Monthly Average Prices | | |
|------------------------|-------------------|-----------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/tonne) |
| Nov-18 | 1,036 | 97,378 |
| Dec-18 | 1,028 | 90,411 |
| Jan-19 | 1,041 | 90,411 |
| Feb-19 | 1,024 | 92,911 |
| Mar-19 | 1,041 | 99,611 |
| Apr-19 | 1,020 | 99,468 |
| May-19 | 989 | 92,325 |
| Jun-19 | 913 | 88,579 |
| Jul-19 | 944 | 87,460 |
| Aug-19 | 876 | 86,526 |
| Sep-19 | 840 | 90,160 |
| Oct-19 | 869 | 89,337 |
| Nov-19 | 810 | 84,747 |

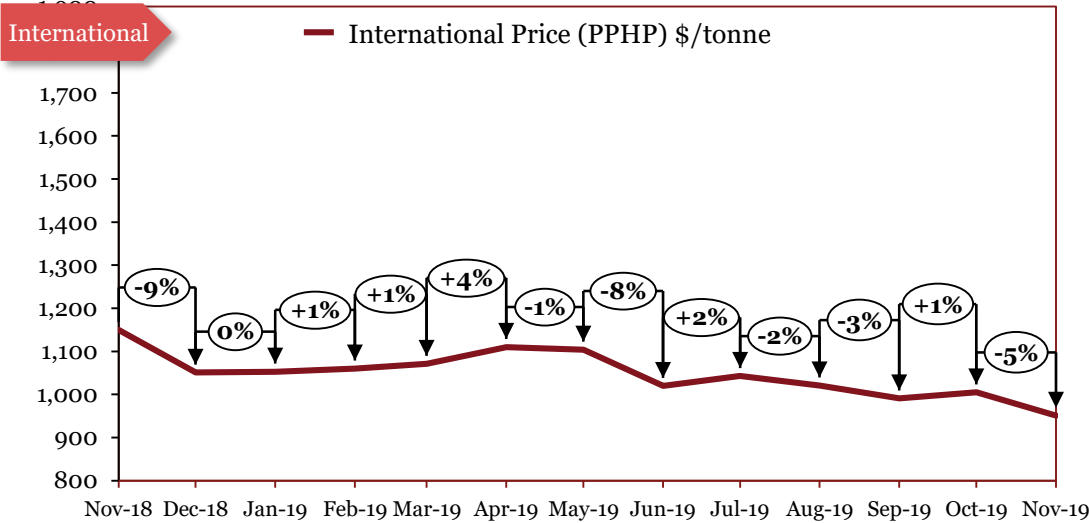


*The actual prices may vary depending on city, player, grade etc.

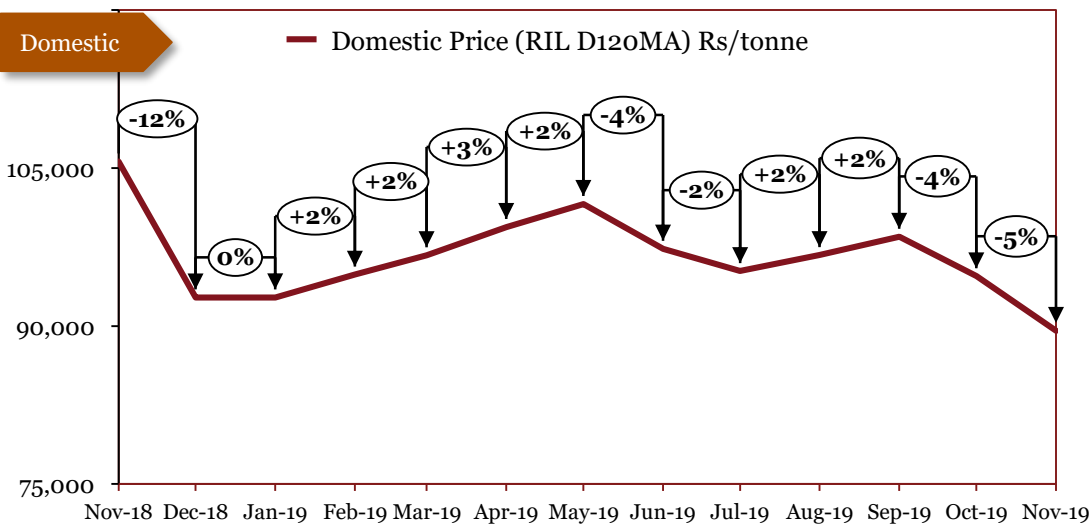
Outlook

In February, international prices decreased due to muted demand, a contributing factor to which was due to Chinese lunar new year holidays. In March, international prices and domestic prices increased. In April, domestic prices witnessed decrease. In May, domestic prices fell sharply owing to a price war that has resulted from new capacity in the US coming on-stream. In June, new manufacturing units scaled up production resulting in an oversupply in the market. This has caused prices to fall both globally & domestically. In July, international prices increased slightly due to a rollover for ethylene contract prices in the futures market. Domestically also, prices remained stable due to unchanged demand-supply conditions in the market. In August, prices fell due to an oversupply of product and a lack of compensating demand, whilst remaining fairly stable domestically. In September, while international prices continued to slide due to oversupply, domestic prices rose, partly due to supply shocks from Saudi Arabia oilfield attack. In October, international prices rose thanks to tighter spot supply, while domestic prices fell as supply was normalised. In November prices fell internationally and domestically as producers sought to drop their excess inventory, due to overproduction in the United States

Polypropylene (PP)



Source: Crisil



Source: Reliance Industries Ltd.

| Monthly Average Prices | | |
|------------------------|----------------------|--------------------|
| Period | *Int'l (\$/tonne) | *Dom (Rs/tonne) |
| Nov-18 | 1,150 | 105,618 |
| Dec-18 | 1,051 | 92,718 |
| Jan-19 | 1,053 | 92,718 |
| Feb-19 | 1,060 | 94,885 |
| Mar-19 | 1,060 | 94,885 |
| Apr-19 | 1,071 | 96,718 |
| May-19 | 1,104 | 101,567 |
| Jun-19 | 1,020 | 97,334 |
| Jul-19 | 1,043 | 95,219 |
| Aug-19 | 1,021 | 96,735 |
| Sep-19 | 991 | 98,474 |
| Oct-19 | 1,005 | 94,729 |
| Nov-19 | 951 | 89,533 |

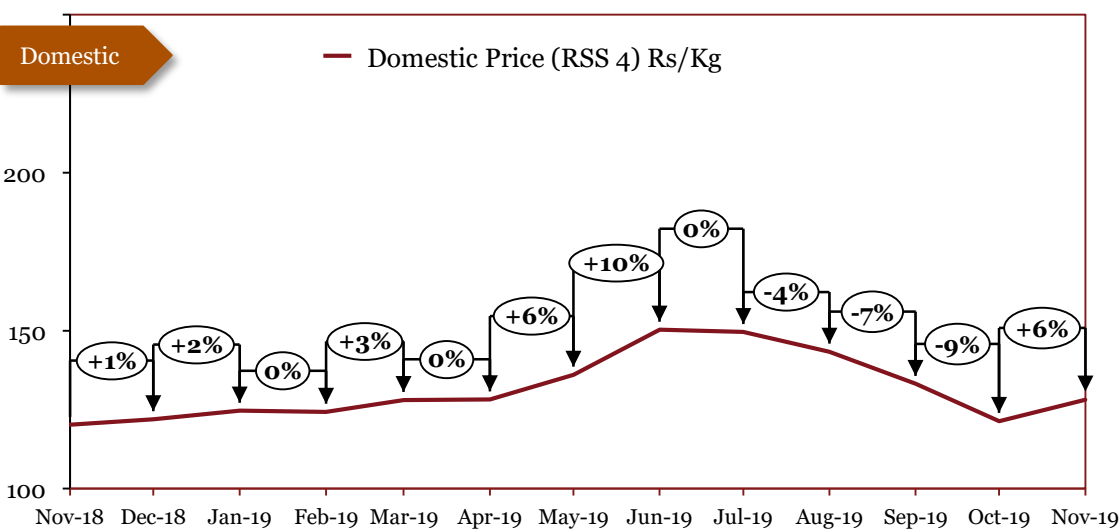
*The actual prices may vary depending on city, player, grade etc.

Outlook

In March 2019, PP prices increased on account of supply tightness in the market. However, further increase in price was restricted due to no uptick in the demand. In April, domestic prices continued rising trend. In May, domestic prices of PP continued to increase due to supply issues, maintenance shutdowns and restricted supply among major grades of PP. In June, PP prices declined internationally and globally as plants shut for maintenance came back on-stream increasing supply in markets. In July, international PP prices recovered slightly after the slump in June on the back of decreasing inventories as capacity was rectified in July. Domestically, prices decreased due to a continued slump in domestic demand. In August, polypropylene prices across the Asian regions dropped, triggered by persistent bearish demand trends and a sharp fall in PP futures. In September, while prices continued to slide internationally due to weak demand and issues surrounding international tariffs, domestic prices were rose following the rise in crude prices due to the events in Saudi Arabia. In October, international prices rose, while domestic prices were cut to try and incentivize buying. In November, prices fell domestically and internationally on account of oversupply and a period of weak demand from the plastics industry.

Rubber

| Monthly Average Prices | |
|------------------------|--------------|
| Period | *Dom (Rs/kg) |
| Nov-18 | 120 |
| Dec-18 | 122 |
| Jan-19 | 125 |
| Feb-19 | 124 |
| Mar-19 | 128 |
| Apr-19 | 128 |
| May-19 | 136 |
| Jun-19 | 150 |
| Jul-19 | 150 |
| Aug-19 | 143 |
| Sep-19 | 133 |
| Oct-19 | 121 |
| Nov-19 | 128 |



Source: Rubber board

*The actual prices may vary depending on city, player, grade etc.

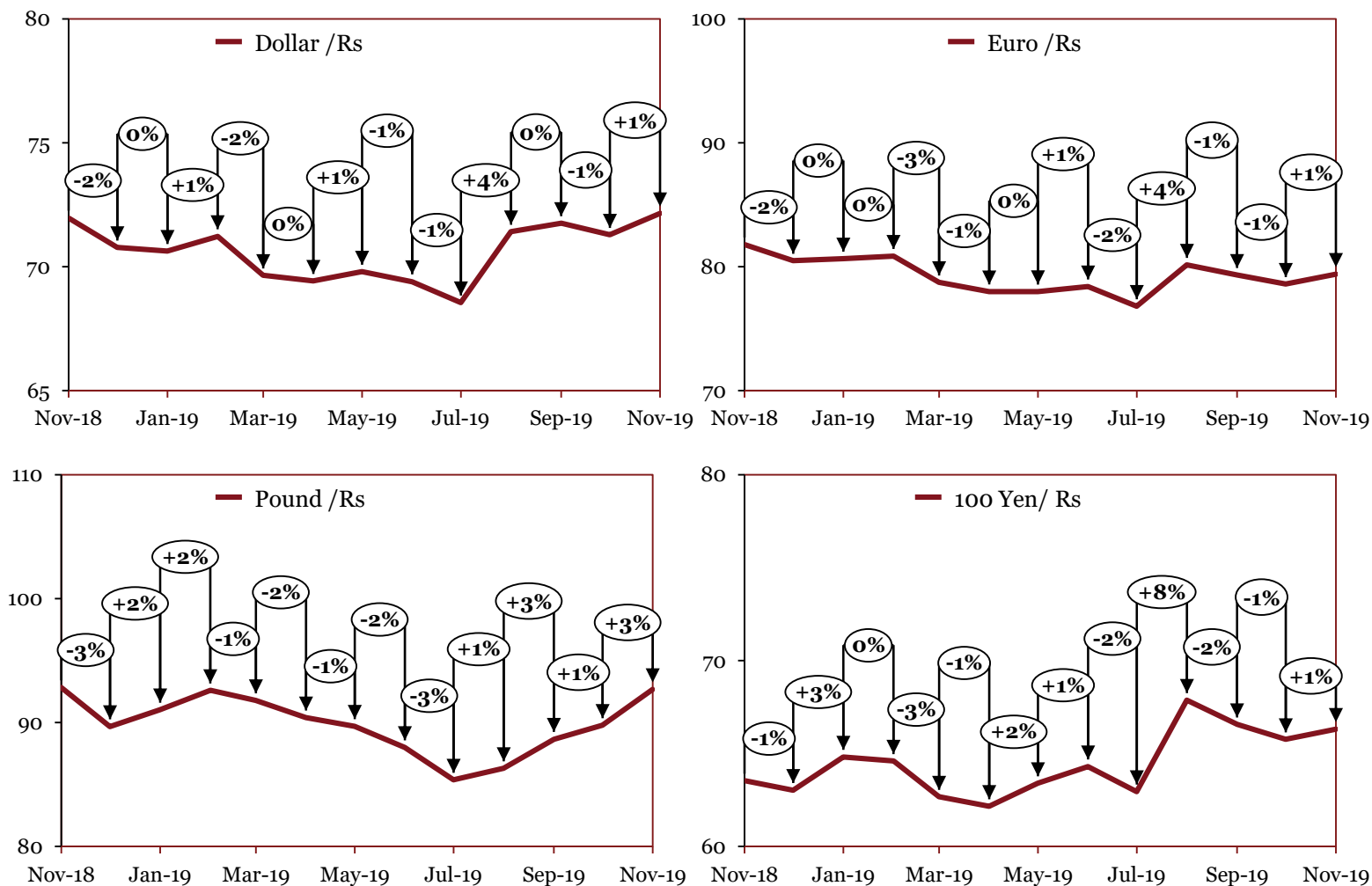
Outlook

In December, prices increased owing to improved market conditions from last month. In January 2019, growth trend in prices was maintained due to fall in output and rise in demand. In February, domestic prices followed trends in international market and decreased owing to negative market sentiment and uncertainty in the global economy. In March, price trend was reversed. In April, prices remained unchanged due to stable market conditions. In May, rubber prices continued to increase due to supply constraints amid speculation that farmers are holding back stocks in anticipation of higher prices. In June, rubber prices increased substantially due to high demand of domestic rubber stemming from high import duties on rubber. In July, rubber prices remained unchanged owing to stable market conditions. In August, Plummeting global prices and muted demand from tyre makers drove down the price of natural rubber in India. In September, domestic prices continued to fall due to weak demand from auto manufacturers as well as large inventories held by rubber manufacturers. In November, prices rose domestically as continuing rains prevented tapping, leading to weak production.

Appendices

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Forex Movement

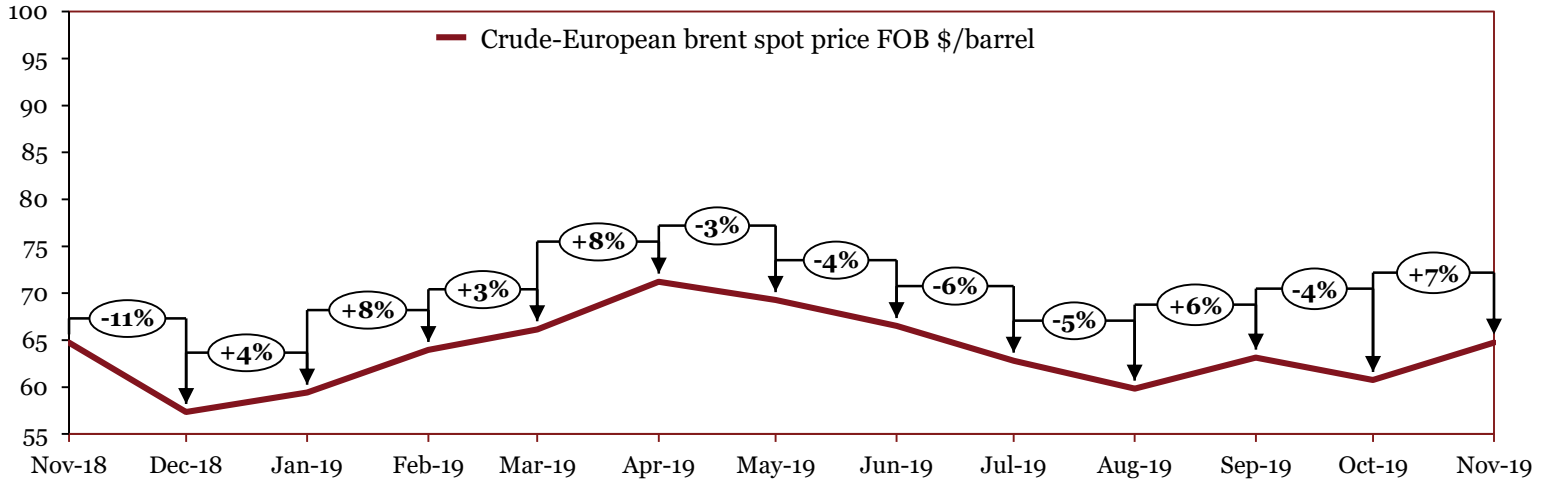


Source: Reserve Bank of India

Monthly Average Prices (Rs)

| | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 | Oct-19 | Nov-19 |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| \$ | 72 | 71 | 71 | 71 | 70 | 69 | 70 | 69 | 69 | 71 | 72 | 71 | 72 |
| £ | 82 | 80 | 81 | 81 | 79 | 78 | 78 | 78 | 77 | 80 | 79 | 79 | 79 |
| € | 93 | 90 | 91 | 93 | 92 | 78 | 78 | 78 | 77 | 80 | 79 | 79 | 79 |
| ¥ | 64 | 63 | 65 | 65 | 63 | 78 | 78 | 78 | 77 | 80 | 79 | 79 | 79 |

Crude Oil



Source: EIA

Monthly Average Prices (\$/barrel)

| | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 | Oct-19 | Nov-19 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 65 | 57 | 59 | 64 | 66 | 71 | 69 | 67 | 63 | 60 | 63 | 61 | 65 |

Commodity Specifications

| Commodity | International | Domestic |
|--------------------------|--|---|
| Iron Ore | IOECI635 Index (CIF China) - (Fe63.5%) CIF China | Crisil - Grade 1: 58% to below 60% Fe Fines - Grade 2: 60% to below 62% Fe Fines - Grade 3: 62% to below 65% Fe Fines - Grade 4: 65% and above Fe Fines |
| Pig Iron | Crisil -Foundry grade FOB CIS | Crisil -Foundry grade ex-factory, India |
| Stainless steel | NA | PwC Research -G 304 CR Coil -G 304 HR Coil |
| Wire rod | Crisil -CIS Black Sea (US \$/Tonne) | Crisil - Wire rods: 5.5 mm (Prices are inclusive of excise duty by exclusive of VAT/Sales tax) |
| Steel Billets | Crisil -FOB CIS Black Sea <i>Previously: FOB Latin America</i> | Crisil - 100^100 mm (Avg. prices collated from 2-3 locations) |
| Hot-rolled coils | Crisil -FOB Black Sea | Crisil - 14G 2mm (Avg. prices collated from 2-3 locations) |
| Cold-rolled coils | Crisil -(CIS) FOB Black Sea | Crisil - Mumbai 16G (Avg. prices collated from 2-3 locations) |
| Steel Scrap | NA | Crisil - Heavy melting (excl. GST) |
| EN 8 | NA | PwC Research -EN8 Alloy forging |
| 20MnCr5 | NA | PwC Research -Alloy forging |
| Ferro titanium | Ferrotitanium (Europe-70% In Warehouse Rotterdam) <i>Previously: Ferrotitanium (min 70% in warehouse Rotterdam, Europe) \$/kg</i> | NA |
| Ferro chrome | Crisil : FOB Hong Kong Cr 50% | Crisil: Ex-factory Cr 60% |
| Ferro molybdenum | Ferro-molybdenum (China-60% EXW) <i>Previously: Ferro-molybdenum (65%min in warehouse Rotterdam, Europe) \$/kg</i> | NA |

Commodity Specifications

| Commodity | International | Domestic |
|-----------------------|--|---|
| Ferro vanadium | Ferro Vanadium (China -80% FOB) \$/kg <i>Previously: Ferrovandium 78-82% V max 1.5% Si FOB North America warehouse USD/lbs</i> | NA |
| Ferro silicon | Crisil - FOB China Si 75% | Crisil - Ex-factory Si 70% |
| Aluminium | LME -Primary aluminium with impurities no greater than the chemical composition of one of the registered designations: •P1020A in the North American and International Registration Record entitled “International Designations and Chemical Composition Limits for Unalloyed Aluminium” (revised March 2007) •Al99.70 in the GB/T 1196-2008 Standard entitled “Unalloyed aluminium ingots for remelting” | NCDEX, MCX (July’19 onwards) -Primary aluminium 99.7% purity (minimum) form: ingots, T-bars, |
| Copper | LME -Grade A copper must conform to the chemical composition of one of the following standards: •BS EN 1978:1998 - Cu-CATH-1 •GB/T 467-2010 - Cu-CATH-1 •ASTM B115-10 - cathode Grade 1 | MCX - Grade 1 electrolytic copper as per B115 specification |
| Zinc | LME -Special high-grade zinc of 99.995% purity (minimum) must conform to the chemical composition of one of the following standards: •BS EN 1179:2003 - 99.995% grade •ISO 752:2004 - ZN-1 grade •ASTM B6-12 - LME grade •GB/T 470-2008 - Zn99.995 grade | NCDEX, MCX (July’19 onwards) - Zinc of 99.995% minimum purity. Zinc must conform with the 99.995% graded chemical composition of BS EN 1179:1996 Standard entitled “Zinc and Zinc alloys primary Zinc” Form: ingots |

Commodity Specifications

| Commodity | International | Domestic |
|--|---|---|
| Lead | LME - Lead of 99.97% purity (minimum) conforming to BS EN 12659:1999 - GB/T 469/2005 | MCX - Lead ingots with minimum purity of 99.97% |
| Nickel | LME - Nickel of 99.80% purity (minimum) conforming to B39-79 (2013) - GB/T 6516-2010 | NCDEX, MCX (July'19 onwards) - 4"*4" approved pure cut Nickel of 99.80% purity (minimum) |
| Tin | LME - Tin of 99.85% purity (minimum) conforming to BS EN 610:1996 | MCX - The LME approved tin ingot of 99.85 purity (minimum) |
| Magnesium | Magnesium (China Shanghai Changjiang Spot Price) CNY/tonne <i>Previously: Magnesium (99.8% FOB China Main Ports Spot Price) \$/tonne</i> | NA |
| Platinum | Metal in sponge form with minimum purities of 99.95% for platinum and palladium, and 99.9% for rhodium | |
| Palladium | | |
| Rhodium | | |
| Low density polyethylene (LDPE) | International price (C&F FEA) \$/tonne | RIL-16MA400 grade |
| Polypropylene (PP) | International Price (PPHP) \$/tonne | RIL-D120MA grade |
| Rubber Prices | NA | NCDEX/Rubber board - RSS 4 (Ribbed Smoked Sheet 4) ex-warehouse Kochi exclusive of all taxes |
| Forex Movement | RBI reference rates | |
| Crude | European Brent spot price FOB \$/barrel – Energy Information Administration (EIA) | |



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PwC contacts for ACMA Knowledge Partnership

- Kavan Mukhtyar, Partner & Leader-Automotive, PwC India - kavan.mukhtyar@in.pwc.com / +912261198735
- Somnath Chatterjee, ACMA Knowledge Partnership Manager –somnath.chatterjee@in.pwc.com / +91124620724

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