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Commodity price monitor

September -19

Prepared for ACMA

*Strictly private
and confidential*

October 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

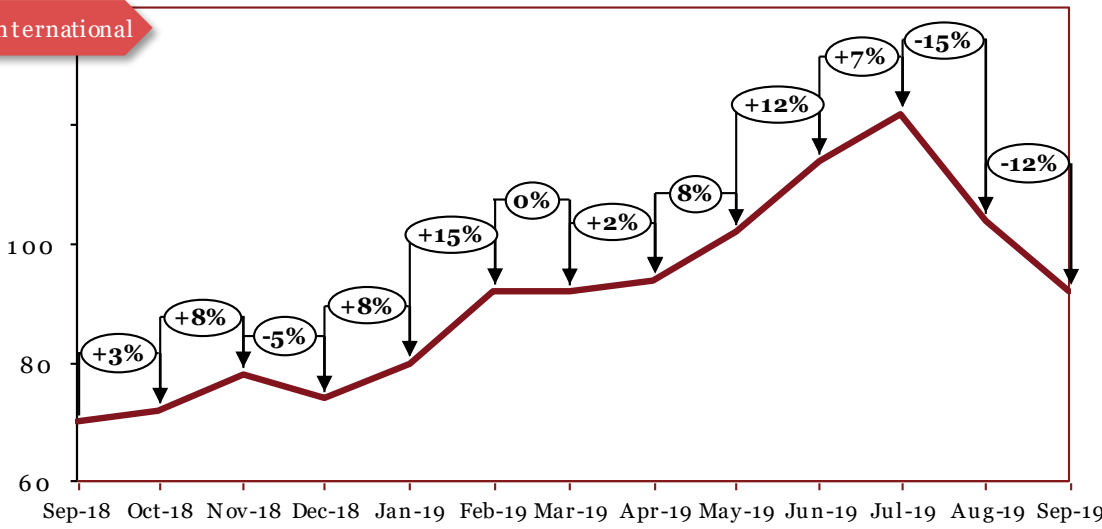
Commodity	Region	Q-o-Q Up	Q-o-Q Down
Base Metals			
Aluminum	International		-2% ▼
	Domestic	12% ▲	
Copper	International		-5% ▼
	Domestic	4% ▲	
Zinc	International		-15% ▼
	Domestic		-4% ▼
Lead	International	7% ▲	
	Domestic	11% ▲	
Nickel	International	27% ▲	
	Domestic	31% ▲	
Tin	International		-13% ▼
	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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Iron Ore

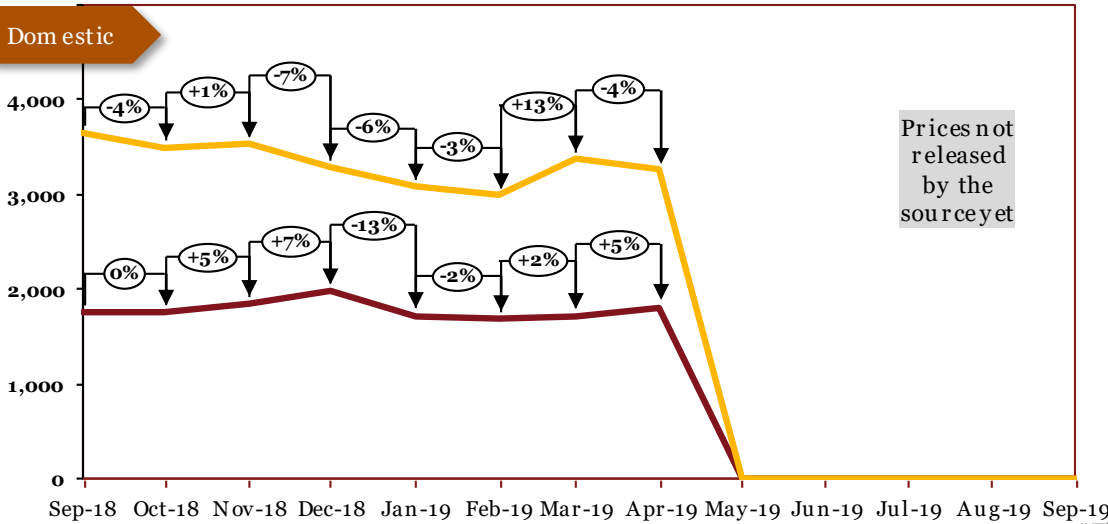
International



Source: Crisil

Period	*Int'l	*Dom	
	\$/tonne	Rs/tonne	
		65% & below	65% & above
Sep-18	70	1,760	3,648
Oct-18	72	1,759	3,501
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	-	-
Jun-19	114	-	-
Jul-19	122	-	-
Aug-19	104	-	-
Sep-19	92	-	-

Domestic



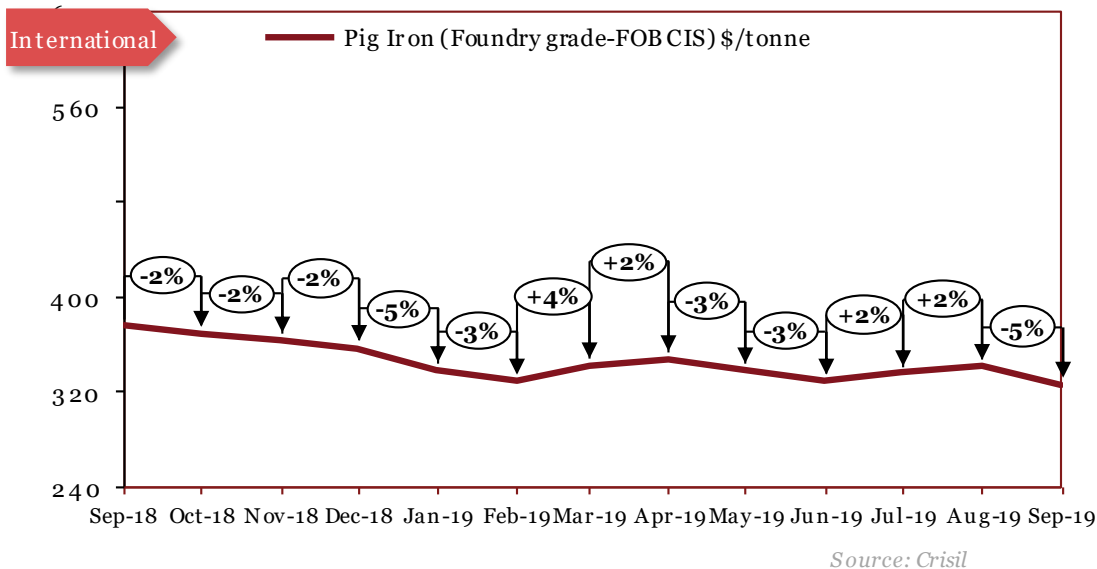
Source: Crisil

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

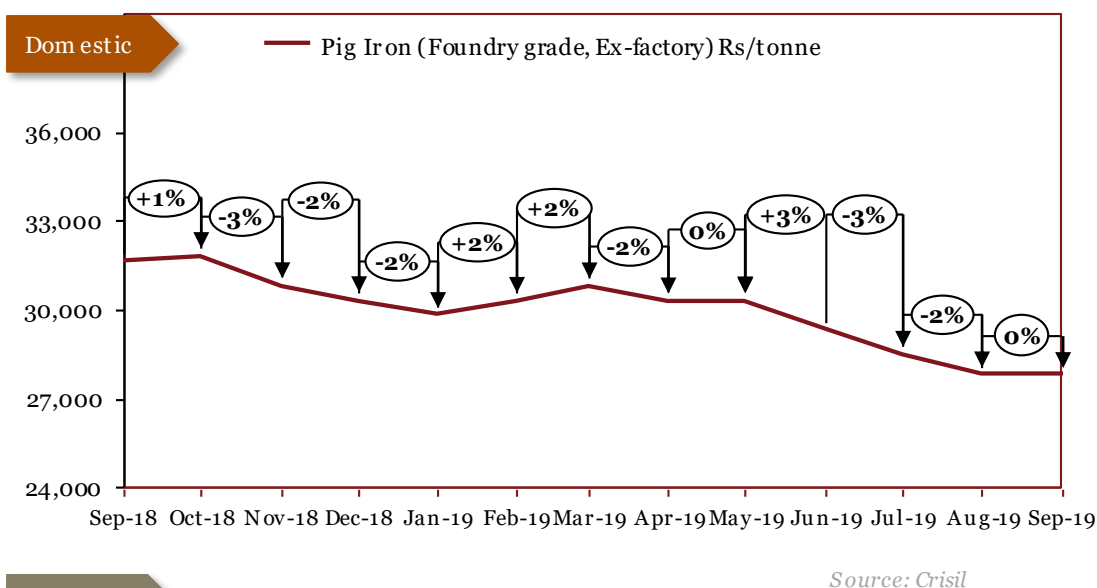
Outlook

In March 2019, prices remained unchanged due to stable market conditions. Domestic prices of iron ore increased on the back of increasing prices of inputs such as coking coal. In April, international iron ore prices continued to rise on account of supply disruptions from key mines in Brazil and Australia and China's fiscal stimulus seen as strengthening steel consumption. In May, supply disruptions from Brazil's Vale mines continued leading to diminished inventories globally pushing up international prices. 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. In September, international prices continued to fall globally as supplies continued to normalize.

Pig Iron



Monthly Average Prices		
Period	*Int'l	*Dom
	\$/tonne	Rs/tonne
Sep-18	376	31,650
Oct-18	370	31,850
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

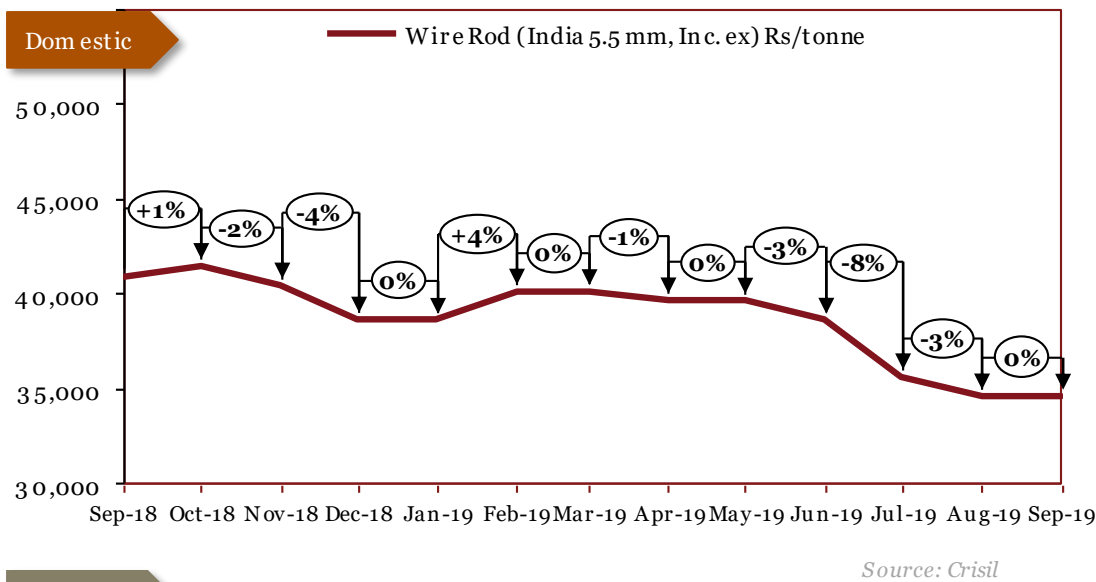
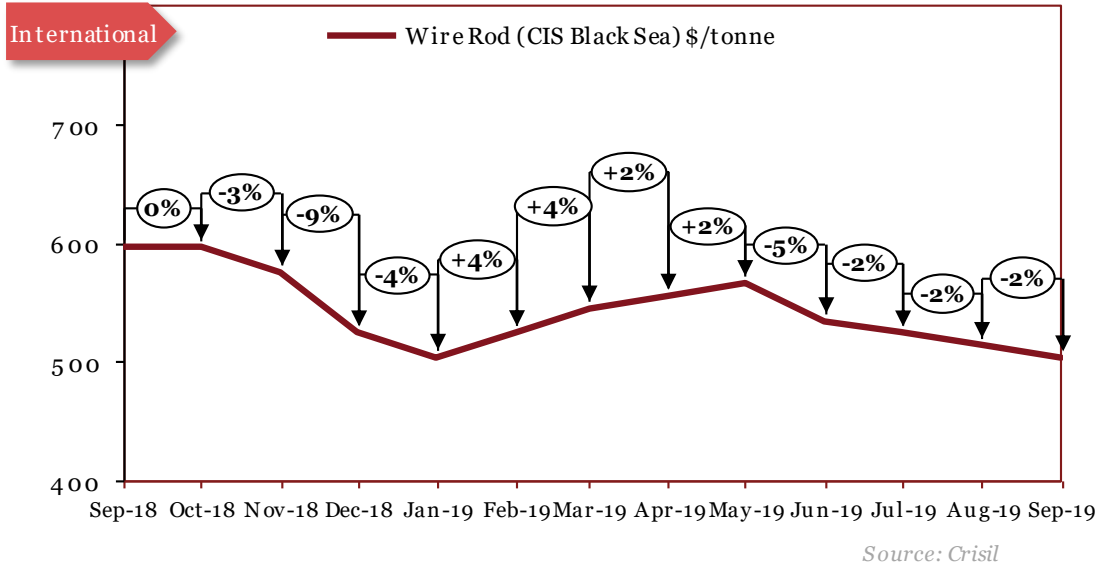


*The actual prices may vary depending on city, player, grade etc.

Outlook

In April 2019, international prices rose on account of increase in raw material prices. Domestic pig iron prices declined led by fall in steel prices and muted demand. On raw material front, decrease in iron ore prices and coking coal prices during the month further pressurized prices. In May, high prices of raw material such as iron ore and low demand from foundries led to stagnation of domestic prices. On the international front, prices dropped on the back of weak demand. 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.

Wire Rod



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
Sep-18	597	40,944
Oct-18	597	41,444
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

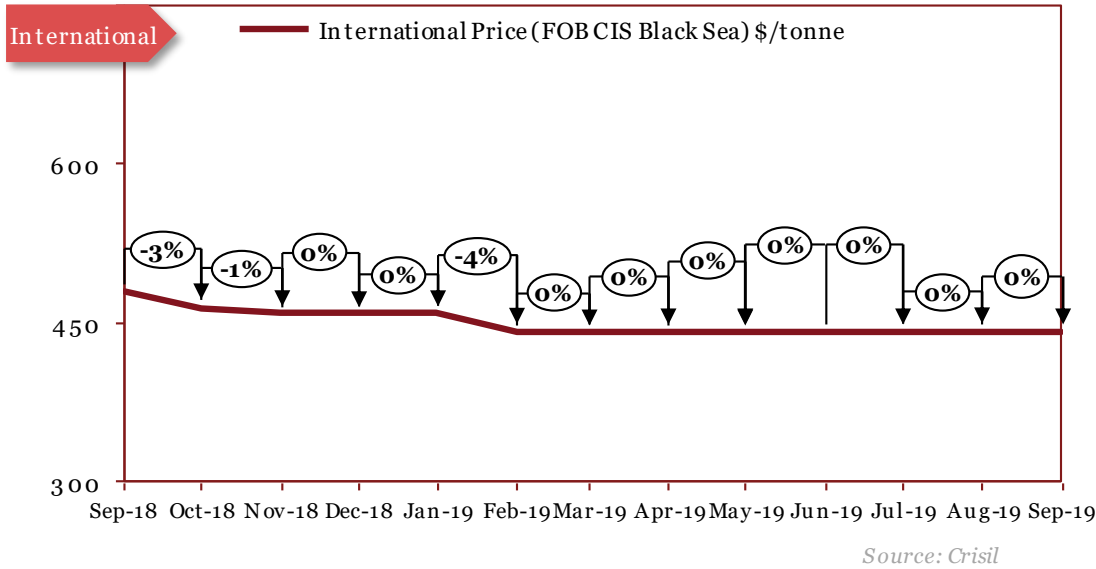
*The actual prices may vary depending on city, player, grade etc.

Outlook

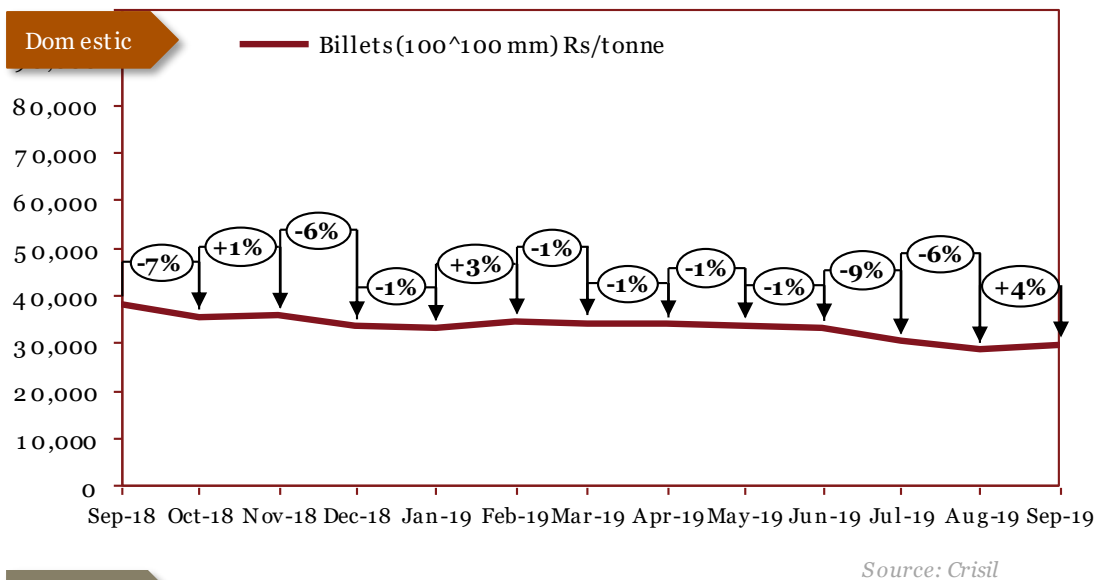
In November, domestic prices fell owing to sluggish demand sentiment. In December, fall in global prices and domestic supply situation led to decrease in domestic prices. In January 2019, prices recorded a decline primarily owing to subdued demand. In February, prices increased due to elevated raw material 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 and sentiment. In May, domestic prices remained stagnant due to muted demand and growth. In June, international and domestic prices declined due to lower demand and 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.

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

Steel Billets



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
Sep-18	479	38,200
Oct-18	465	35,667
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	34,100
May-19	442	33,867
Jun-19	442	30,533
Jul-19	442	33,400
Aug-19	442	28,633
Sep-19	442	29,750



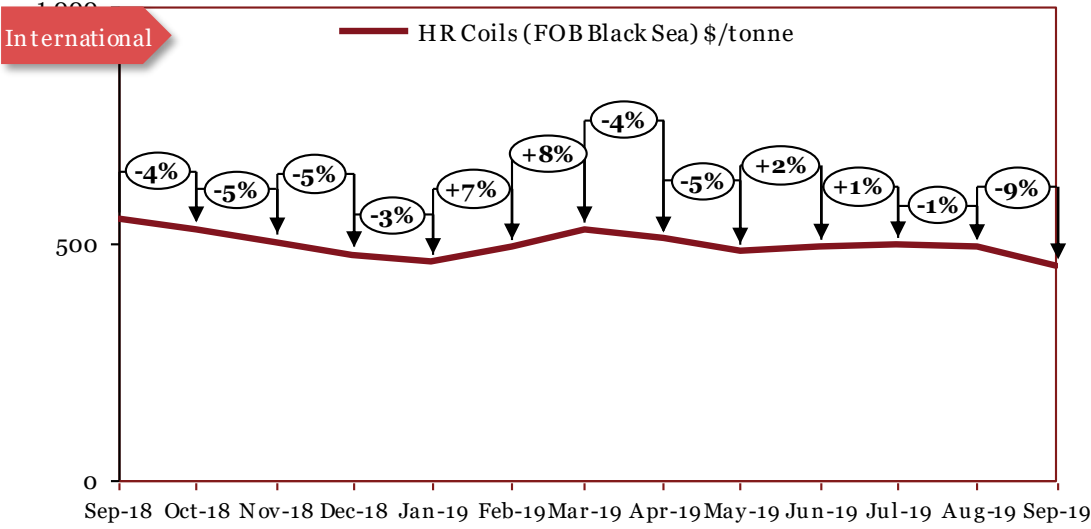
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Outlook

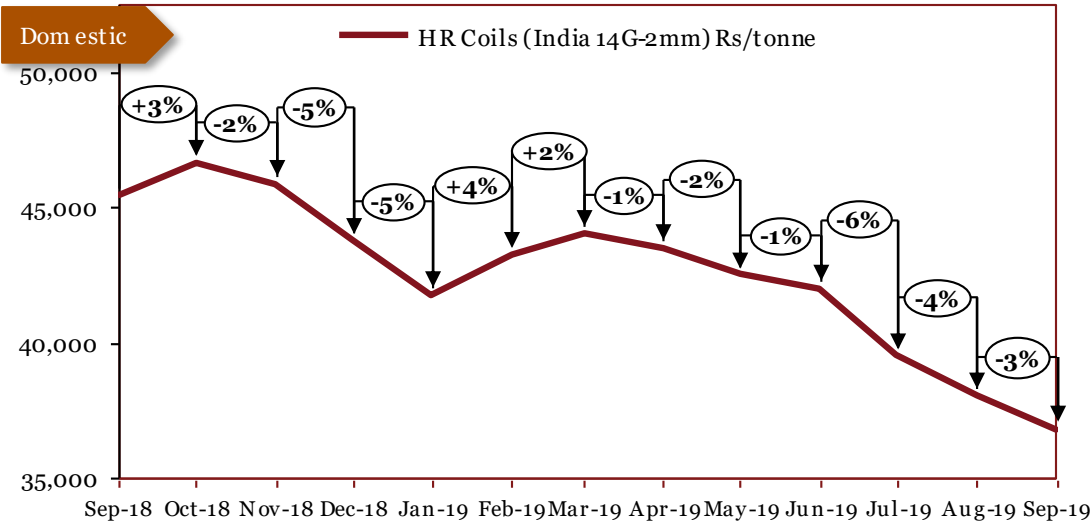
In January 2019, prices remained unchanged due to stable demand-supply conditions. In February, domestic prices increased due to improved demand, especially from construction sector. In March, domestic steel billet prices fell whereas international prices remained unchanged. In April, international prices 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.

^International prices changed due to change in the grade

Hot-Rolled (HR) Coils



Source: Crisil



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Sep-18	554	45,500
Oct-18	533	46,700
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

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

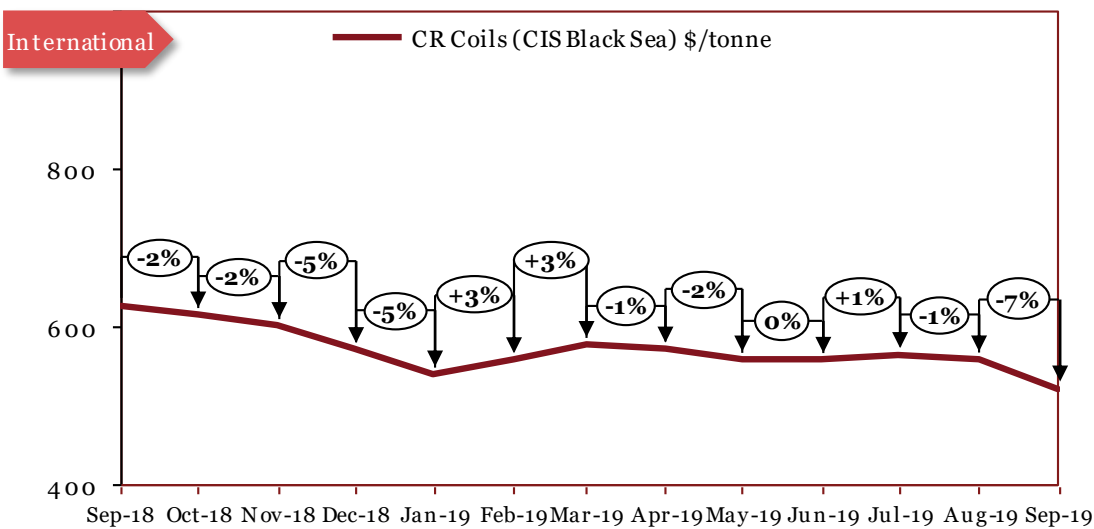
Outlook

In March, temporary production cuts in China led to higher international prices. In line with International prices, domestic prices increased led by healthy domestic demand. In the month of April 2019, international prices declined on back of muted demand. In line with International prices, domestic prices declined led by moderation in domestic demand. In May, international prices decreased due to muted demand. Domestic prices fell too due to moderation in demand (especially from auto sector). 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.

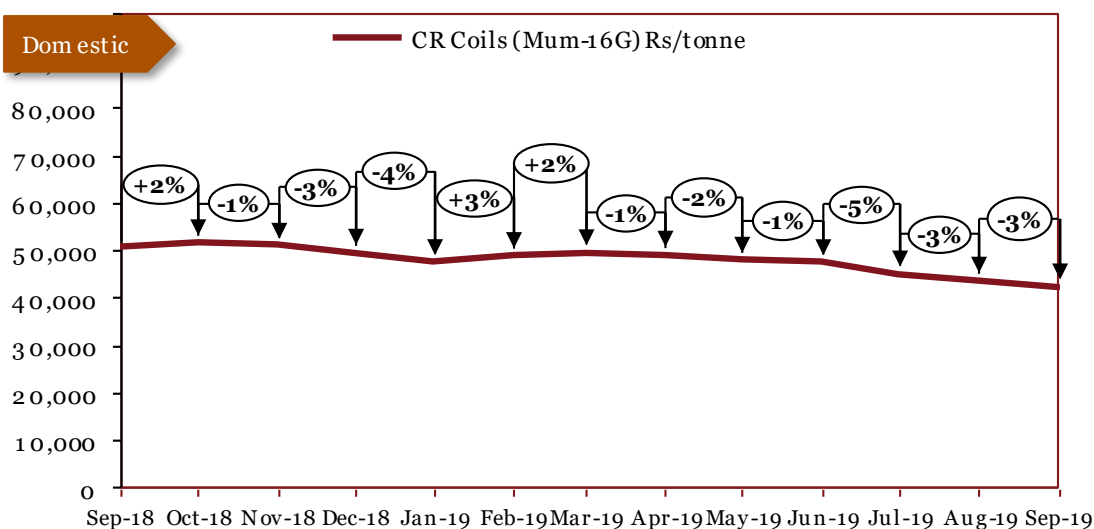
Cold-Rolled (CR) Coils

Monthly Average Prices

Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Sep-18	627	50,722
Oct-18	615	51,900
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



Source: Crisil



Source: Crisil.

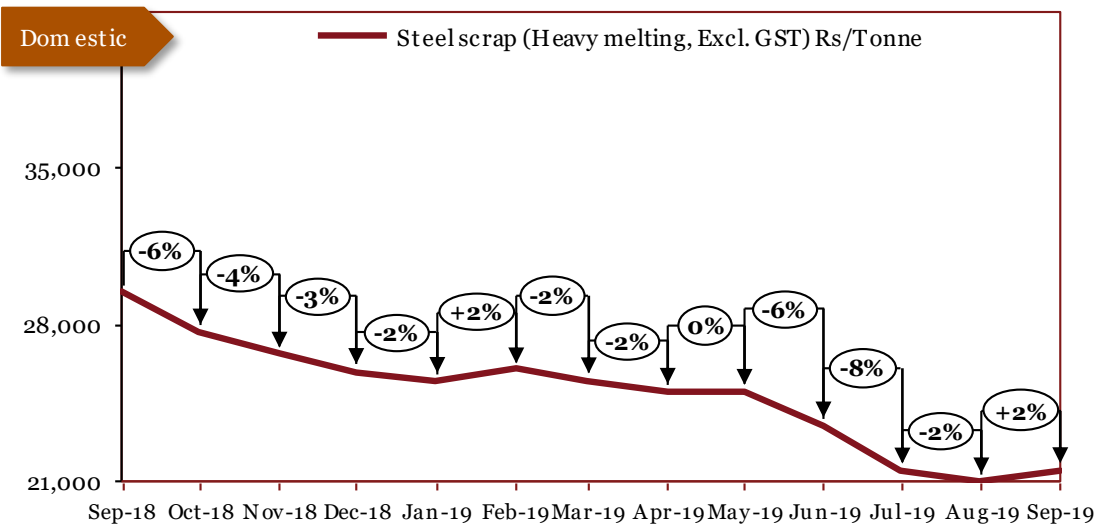
*The actual prices may vary depending on city, player, grade etc.

Outlook

In December, international indexed CR coil prices declined in December 2018 on back of declining international HR prices. In January 2019, prices continued declining trend. In February, both international and domestic prices increased in line with HR prices. International indexed CR coil price increased in March 2019 on back of increasing international HR prices. Domestic CR prices increased in line with HR prices. 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.

Steel Scrap (Heavy Melting)

Monthly Average Prices	
Period	*Dom (Rs/Tonne)
Sep-18	29500
Oct-18	27750
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



Source: CRISIL

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

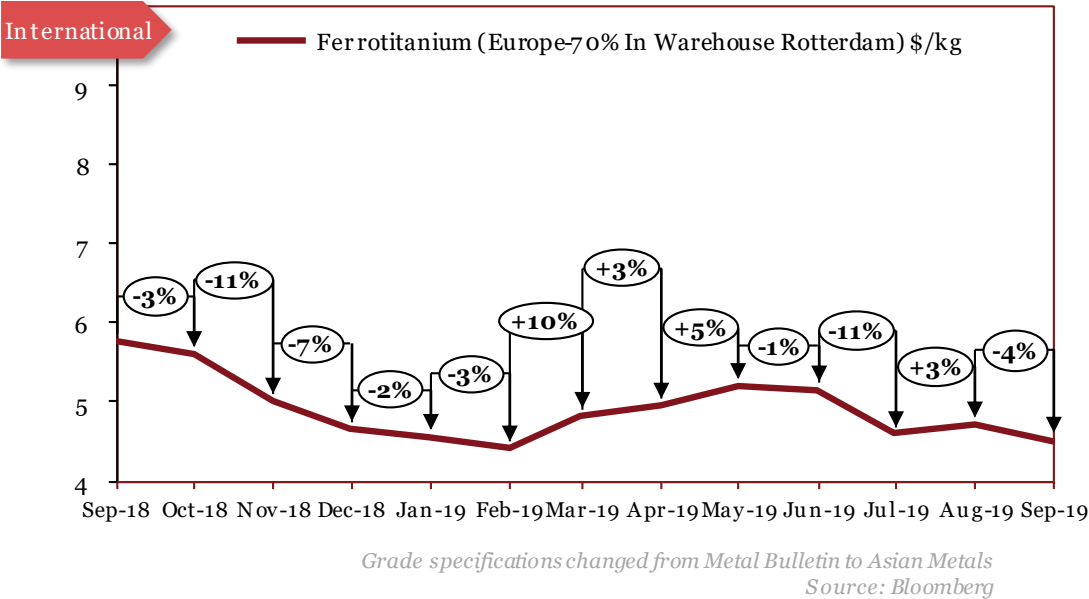
Outlook

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 a 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 ensured prices continued to fall. In September, domestic prices began to inch up due to stronger sentiment following the stabilisation of international prices.

<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)
Sep-18	5.78
Oct-18	5.61
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



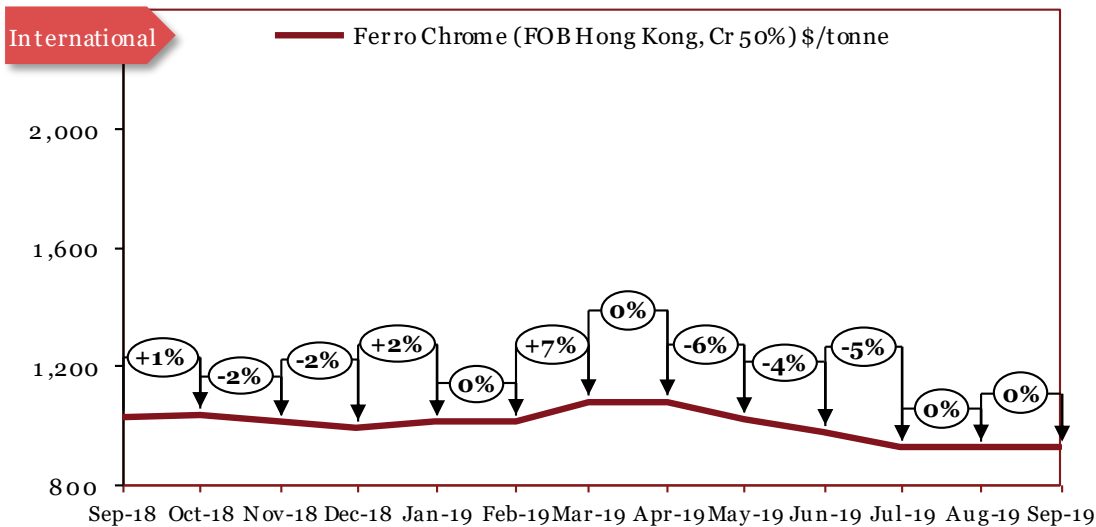
*The actual prices may vary depending on city, player, grade etc.

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.

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

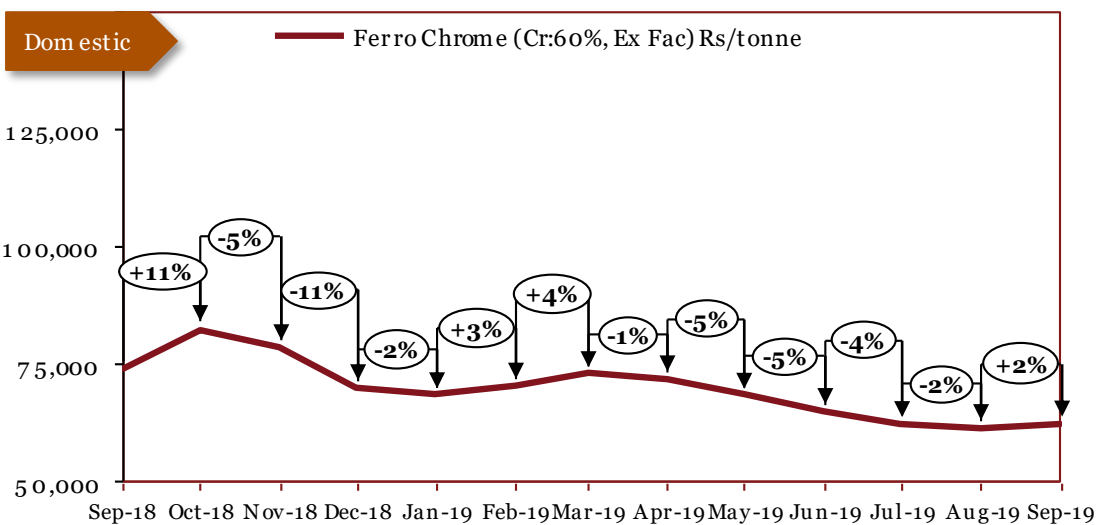
Ferro chrome



Source: Crisil

Monthly Average Prices		
Period	*Int'l	*Dom
	(\$/tonne)	(Rs/tonne)
Sep-18	1,027	74,000
Oct-18	1,036	83,500
Nov-18	1,010	78,500
Dec-18	993	70,000
Jan-19	1,010	68,500
Feb-19	1,010	70,500
Mar-19	1,079	73,000
Apr-19	1,079	72,000
May-19	1,019	68,500
Jun-19	976	65,000
Jul-19	924	62,500
Aug-19	924	61,500
Sep-19	924	62,500

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



Source: Crisil

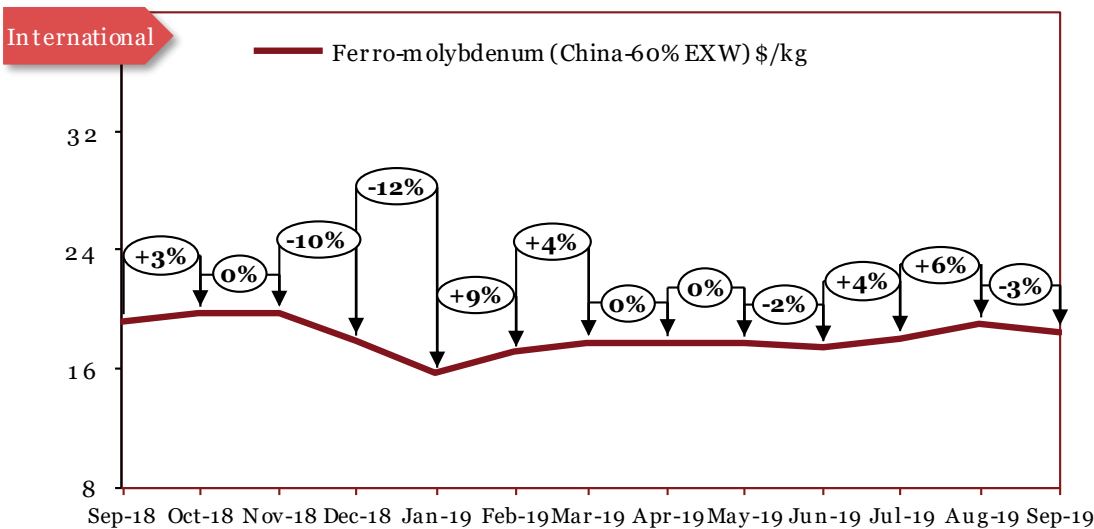
Outlook

International index price of ferro chrome in February remained stable owing to muted Chinese demand. On domestic front, prices recorded an increase on back of rise in chrome ore prices. In March, international index price of ferro chrome increased amidst healthy Chinese demand, led by increase in alloy tender prices and power constraints in two major ferro-chrome producing regions in China. On domestic front, prices recorded an increase on back of rise in chrome ore prices. 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.

Ferro molybdenum

Monthly Average Prices

Period	*^Int'l (\$/kg)
Sep-18	19
Oct-18	20
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



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

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

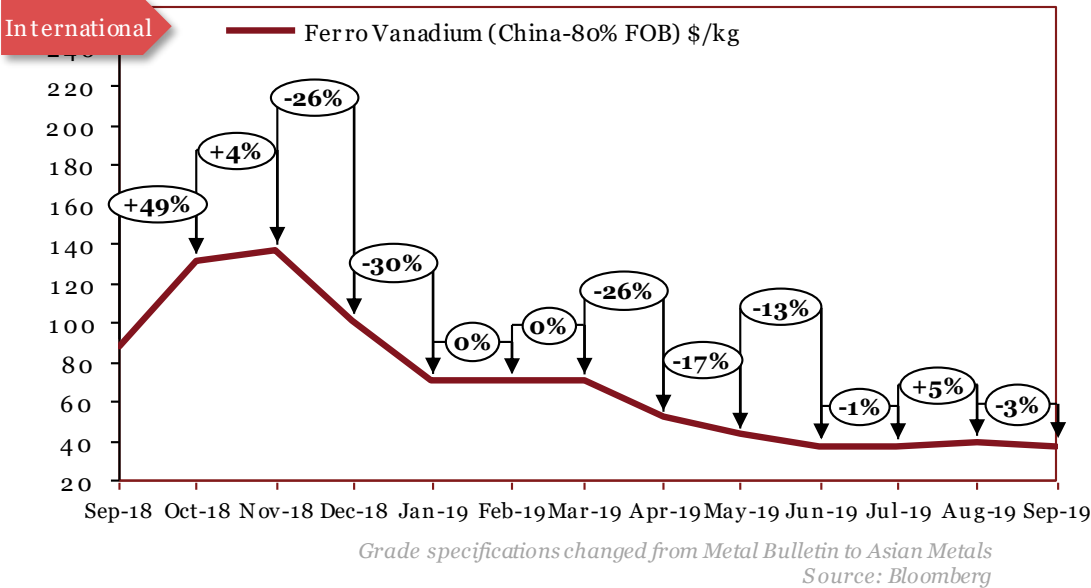
Outlook

The prices in March increased as the demand increased. In May, production from Chinese ferro molybdenum producers and global copper producers (molybdenum is produced as a by-product of copper production) acted as a cap for ferro molybdenum prices by enabling stable supply. 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.

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

Ferro vanadium

Monthly Average Prices	
Period	*Int'l (\$/kg)
Sep-18	88
Oct-18	131
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

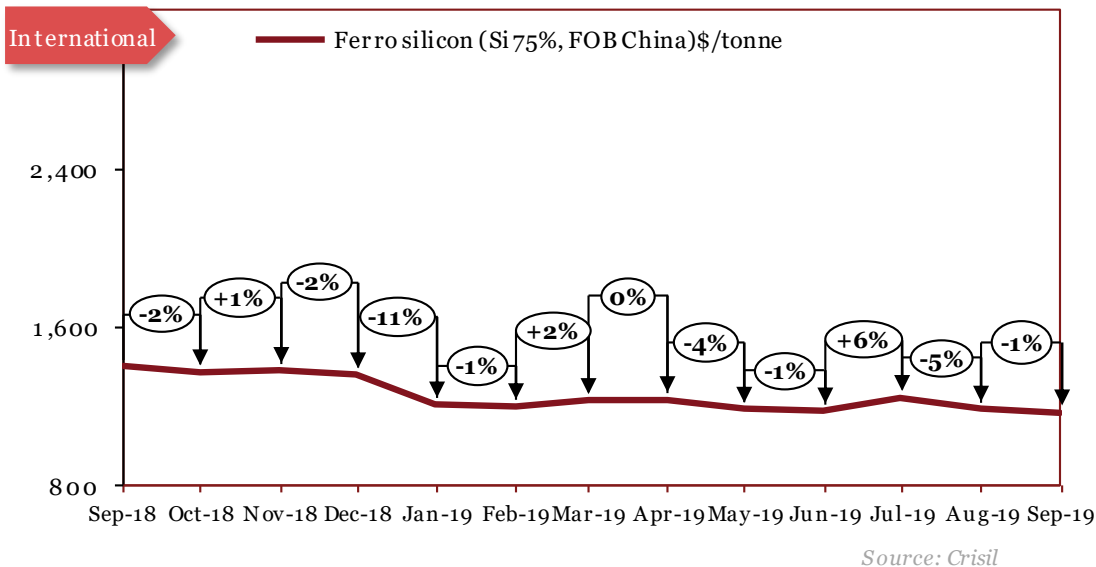


*The actual prices may vary depending on city, player, grade etc.

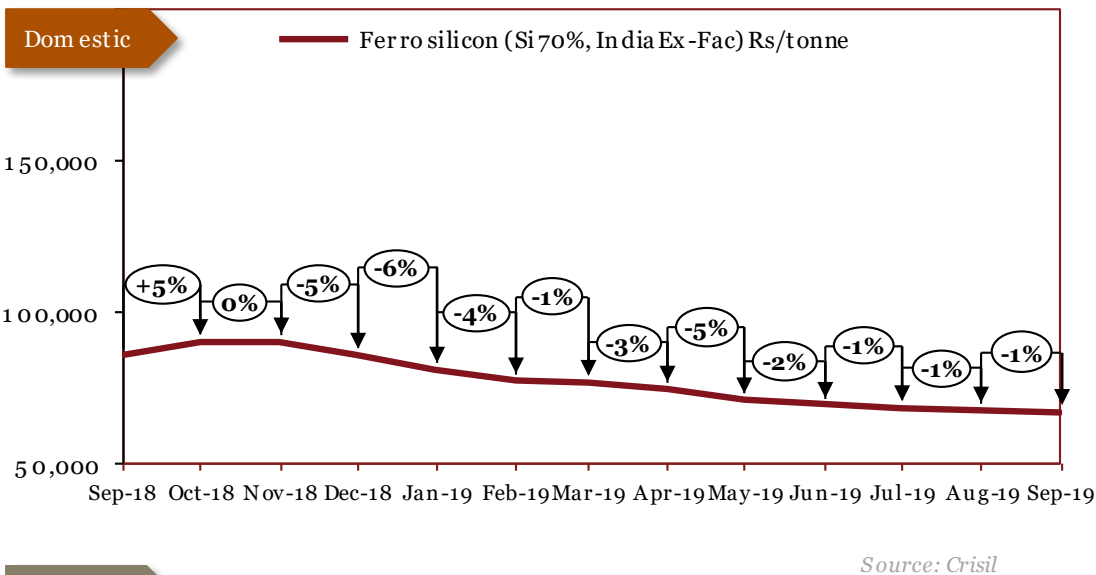
Outlook

Since November 2018, ferro-vanadium prices have witnessed declining trend owing to weak buying interest and unfavourable market sentiment. 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.

Ferro silicon



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Sep-18	1,401	85,500
Oct-18	1,373	90,000
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	1,166	74,200



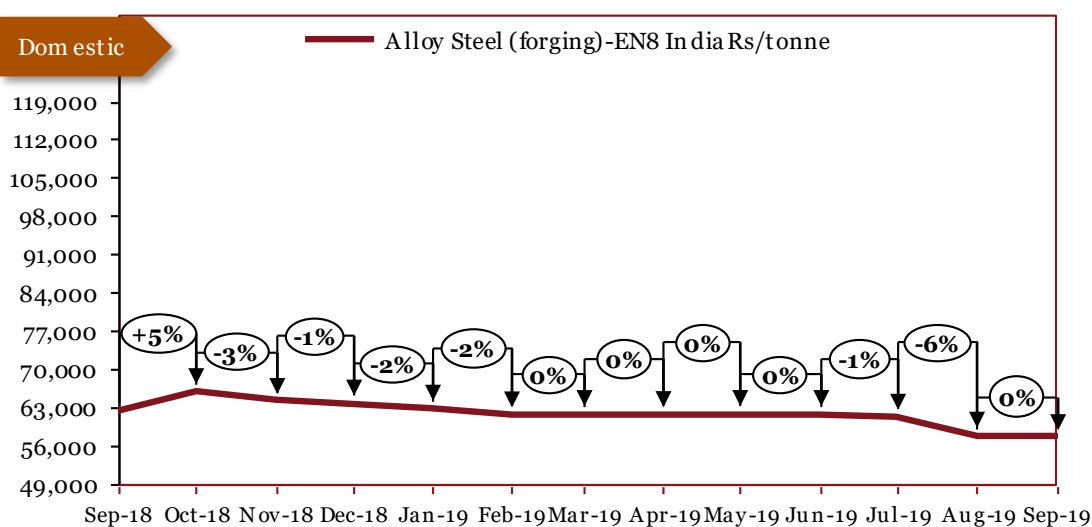
*The actual prices may vary depending on city, player, grade etc.

Outlook

International ferro silicon prices increased in March 2019 with marginal improvement in demand, especially in China. 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.

EN8 Alloy Steel (Forging)

Monthly Average Prices	
Period	*Dom (Rs/tonne)
Sep-18	62,800
Oct-18	66,200
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



Source: PwC Research

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

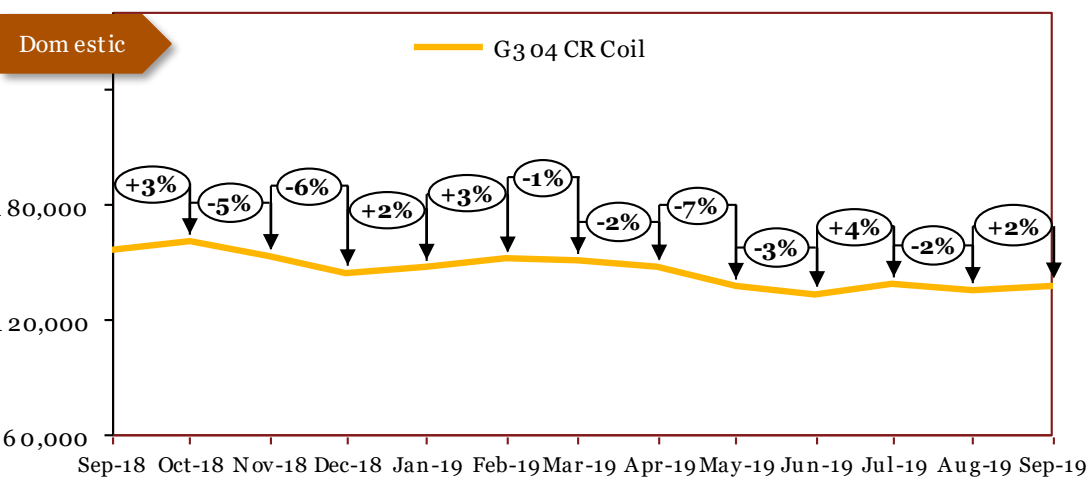
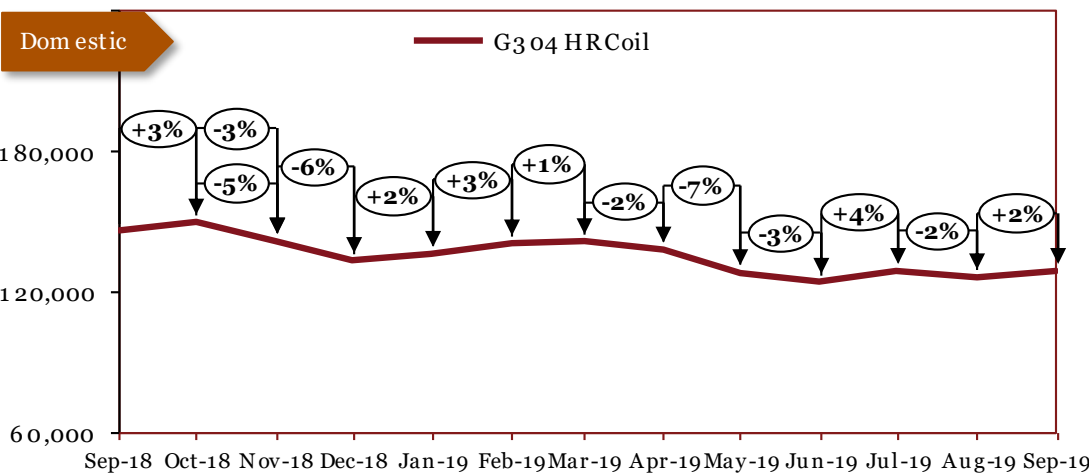
Outlook

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

Stainless Steel

Monthly Domestic Average Prices

Period	*G304 HR (Rs/tonne)	*G304 CR (Rs/tonne)
Sep-18	145,700	157,250
Oct-18	149,700	161,250
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



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

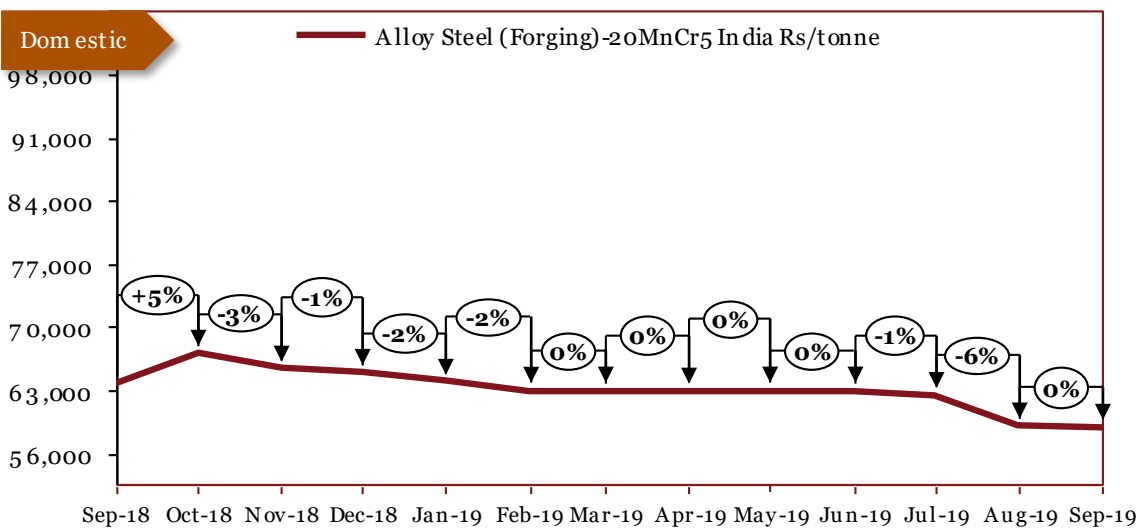
Source: PwC Research

Outlook

In April, the domestic prices decreased owing to the reduced demand and continued higher supply. 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 continue 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.

20MnCr5 Alloy Steel (Forging)

Monthly Average Prices	
Period	*Dom (Rs/tonne)
Sep-18	63,800
Oct-18	67,200
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



Source: PwC Research

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

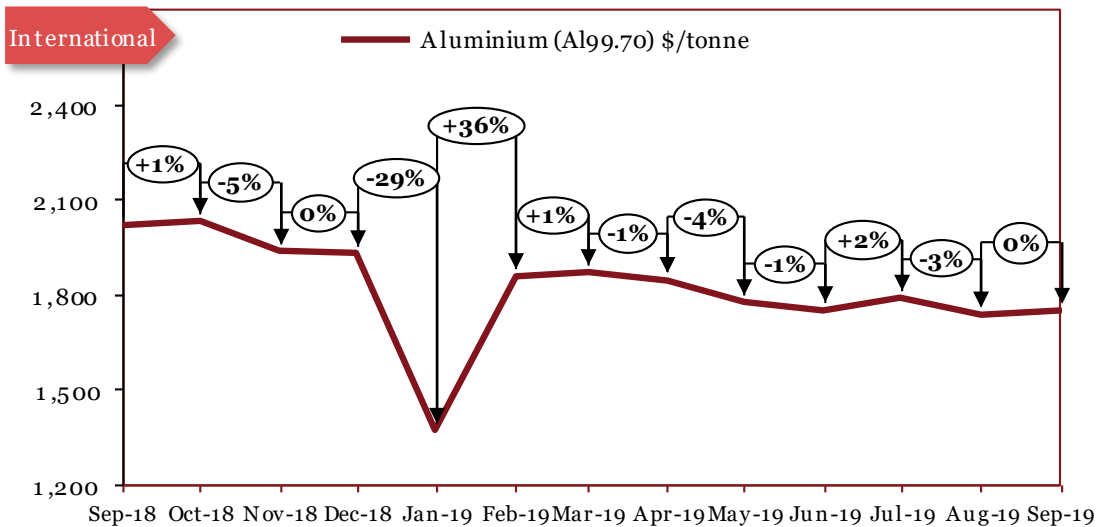
Outlook

In March, the domestic prices increased due to increased demand. 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, prices 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.

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

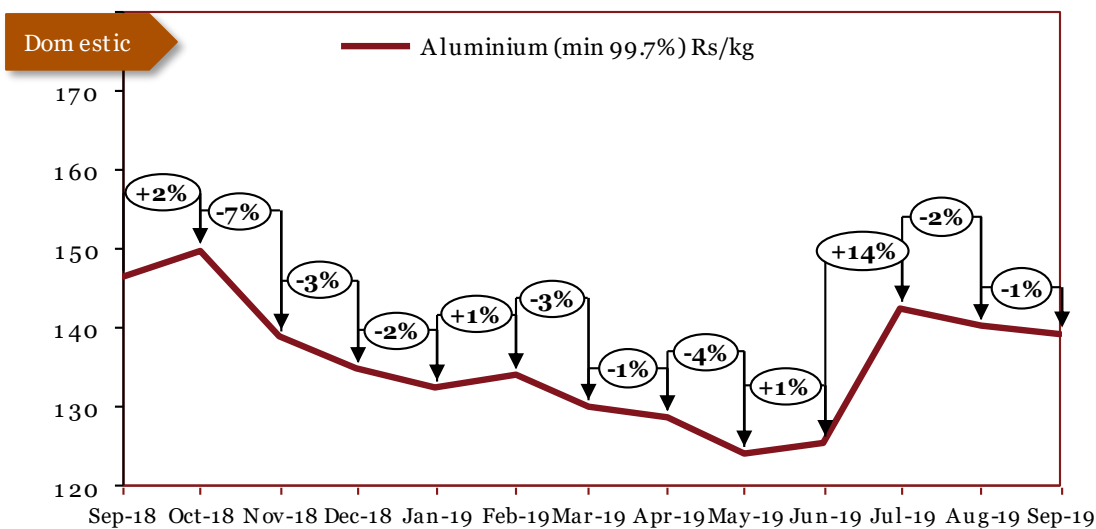
Aluminium



Source: LME

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Sep-18	2,023	146
Oct-18	2,034	150
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

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



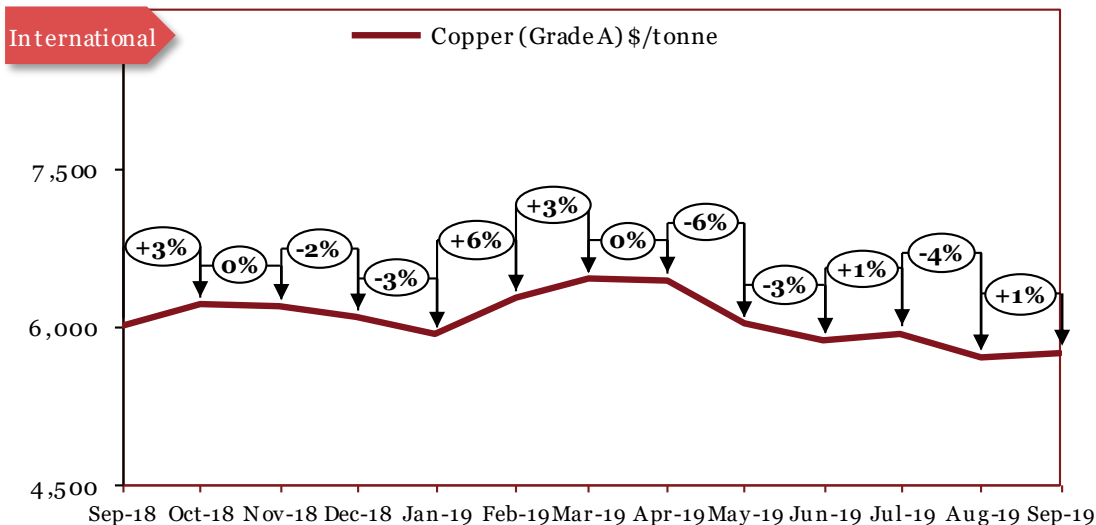
Source: MCX*

*Source updated in July 2019

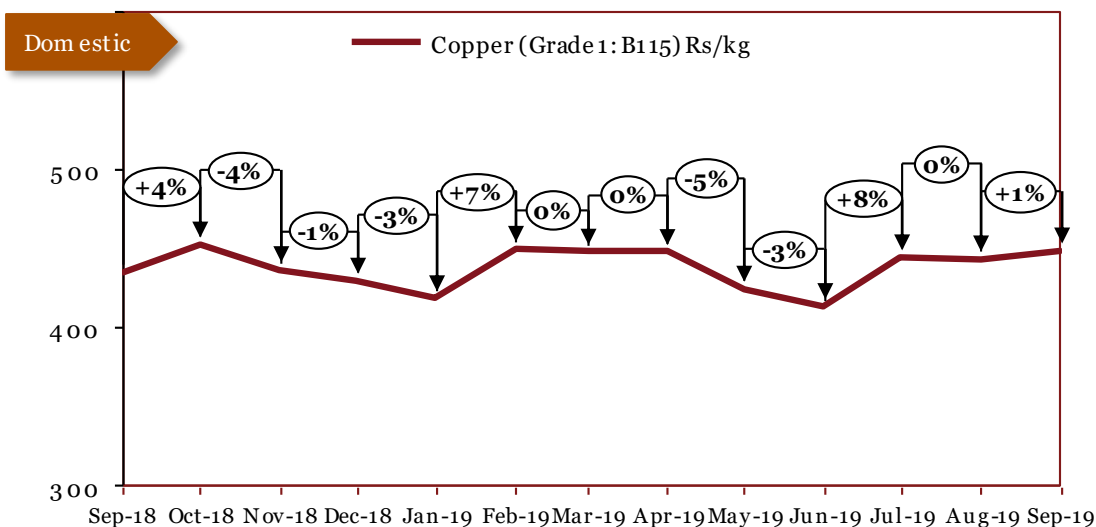
Outlook

In February, the international and domestic prices remained steady compared to last month due to balanced supply-demand conditions in the market. In March, the international prices decreased owing to the strengthening of the dollar and simmering trade concerns between US and China. Domestic market followed suit. 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.

Copper



Source: LME



Source: MCX

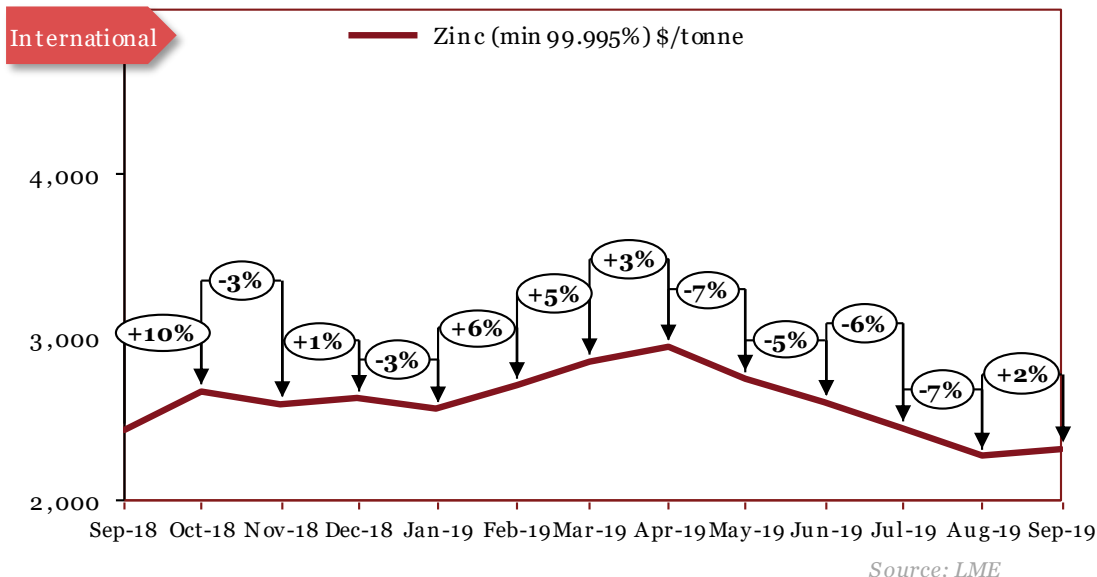
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Sep-18	6,020	436
Oct-18	6,215	453
Nov-18	6,192	437
Dec-18	6,094	430
Jan-19	5,932	419
Feb-19	6,278	450
Mar-19	6,450	448
Apr-19	6,445	449
May-19	6,028	425
Jun-19	5,868	413
Jul-19	5,939	445
Aug-19	5,708	444
Sep-19	5,745	449

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

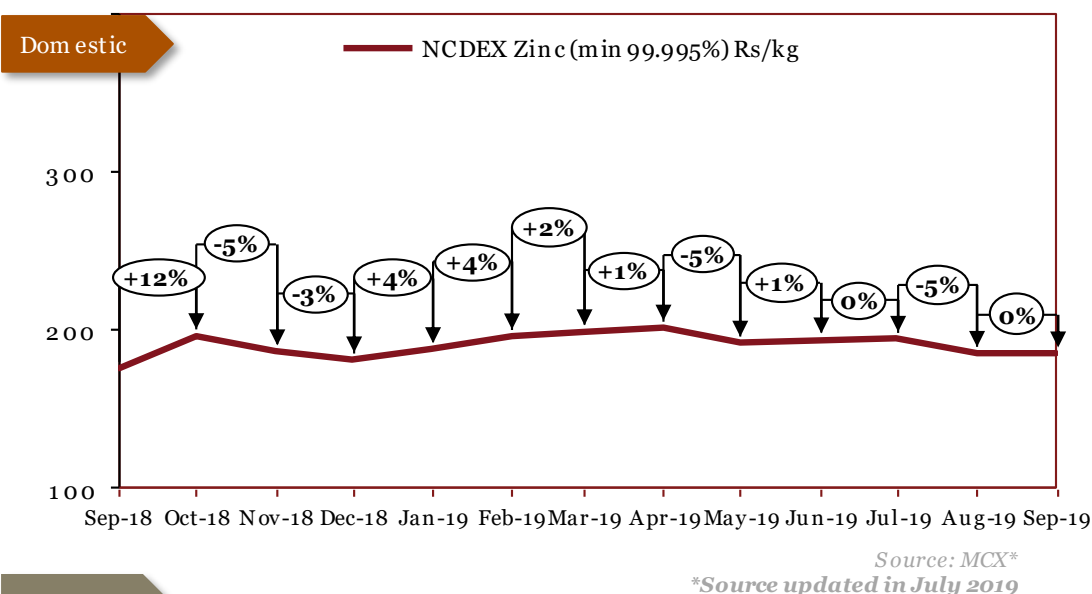
Outlook

In January 2019, domestic prices reflected trend in global prices. In February, prices increased as global demand outpaces supply. Domestic prices followed suit. In March, international prices increased on the back of positive sentiment due to progress with US-China trade talks. 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.

Zinc



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Sep-18	2,433	176
Oct-18	2,671	197
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

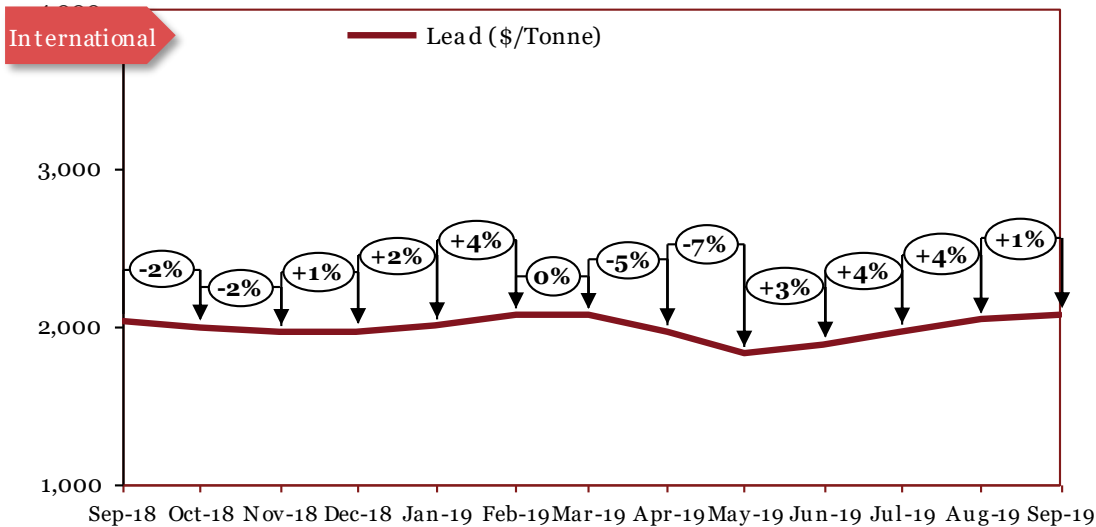


*The actual prices may vary depending on city, player, grade etc.

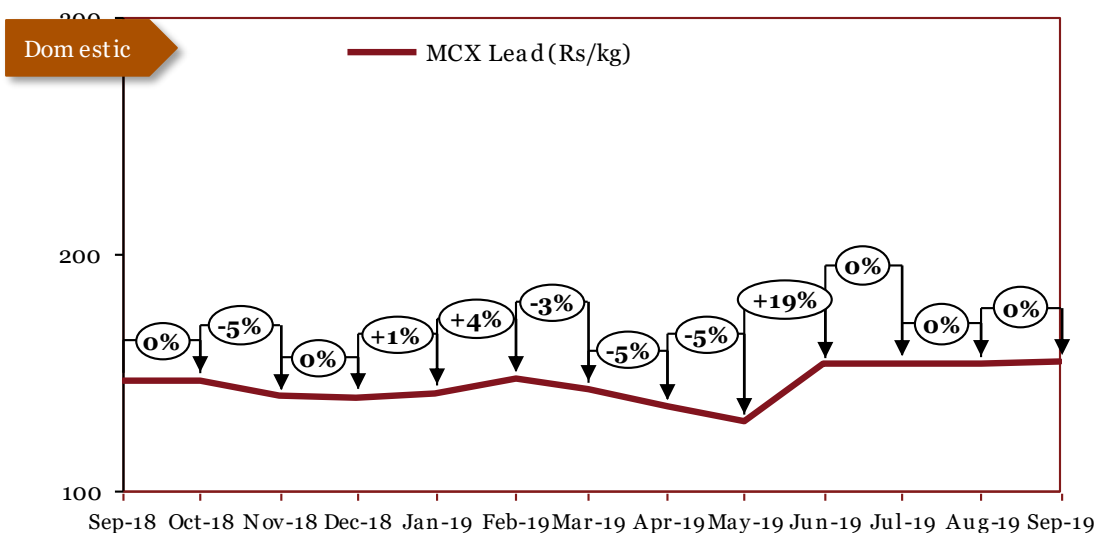
Outlook

In December, prices in the international registered increase whereas prices in the domestic market continued to fall due to dampened demand. In January 2019, international prices increased whereas domestic prices fell. In February, increasing trend in domestic prices continued. In March, international zinc prices rose on back of rising global base metal prices and domestic zinc prices increased on account of demand and 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.

Lead



Source: LME



Source: MCX

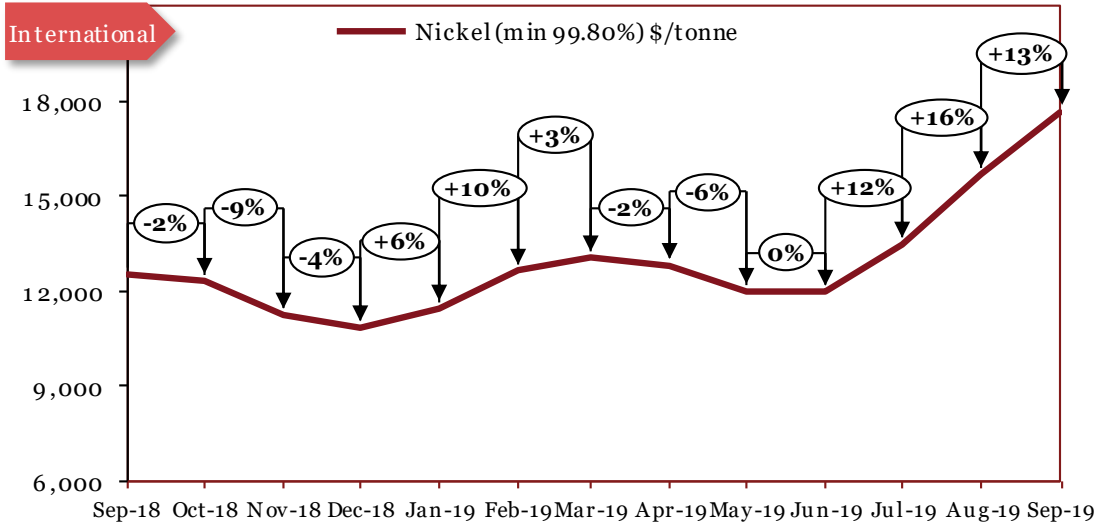
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Sep-18	2,042	147
Oct-18	2,001	147
Nov-18	1,962	140
Dec-18	1,974	140
Jan-19	2,004	142
Feb-19	2,075	148
Mar-19	2,070	143
Apr-19	1,966	136
May-19	1,830	130
Jun-19	1,891	154
Jul-19	1,974	155
Aug-19	2,043	154
Sep-19	2,070	155

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

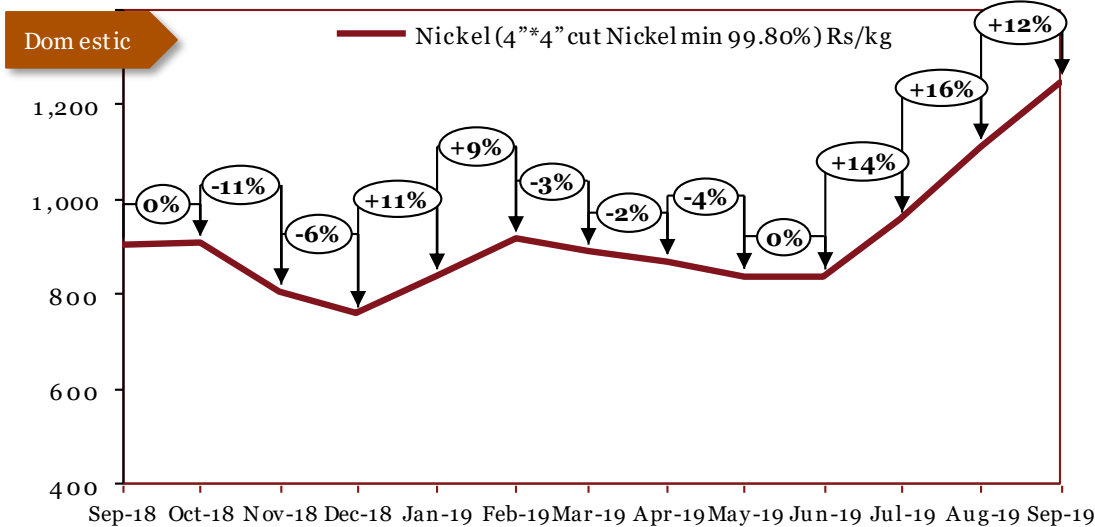
Outlook

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.

Nickel



Source: LME



Source: MCX*

*Source updated in July 2019

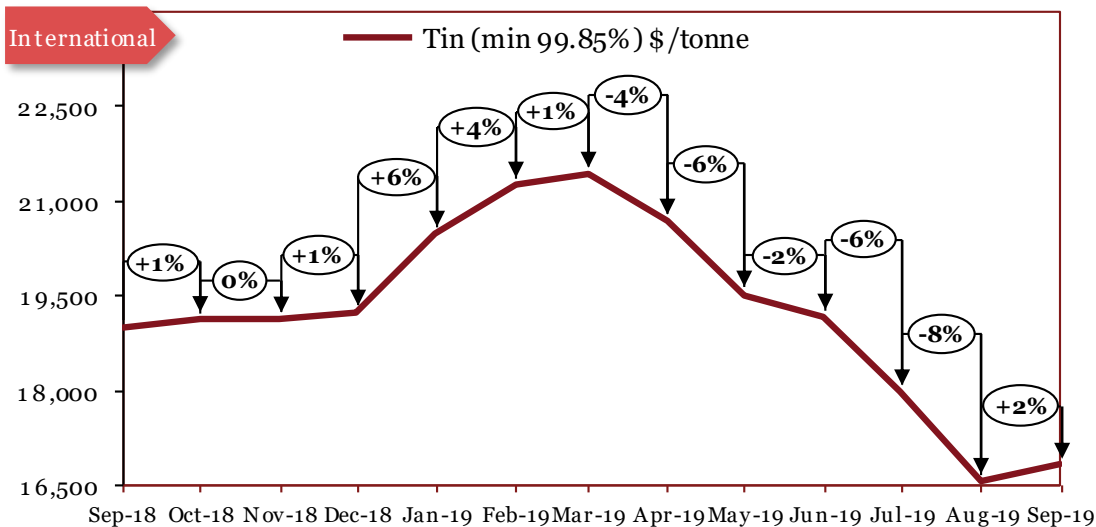
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Sep-18	12,524	906
Oct-18	12,323	909
Nov-18	11,249	806
Dec-18	10,833	759
Jan-19	11,452	839
Feb-19	12,647	918
Mar-19	13,056	891
Apr-19	12,815	869
May-19	11,995	837
Jun-19	11,967	839
Jul-19	13,459	960
Aug-19	15,678	1,114
Sep-19	17,668	1,248

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

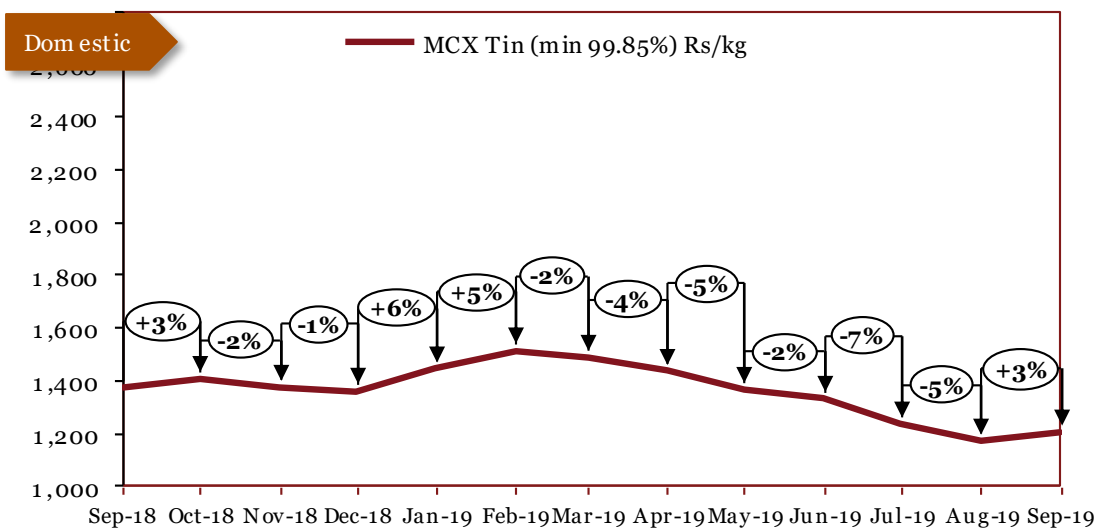
Outlook

In December, nickel prices declined, following the price trends of other base metals. In January 2019, domestic nickel prices rose on account of limited supply. In February, prices increased as demand outpaced supply. In March, global prices rose on account of positive sentiment owing to positive US-China trade talks. Prices in domestic market fell due to subdued demand. 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.

Tin



Source: LME



Source: MCX

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Sep-18	18,990	1,372
Oct-18	19,117	1,408
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

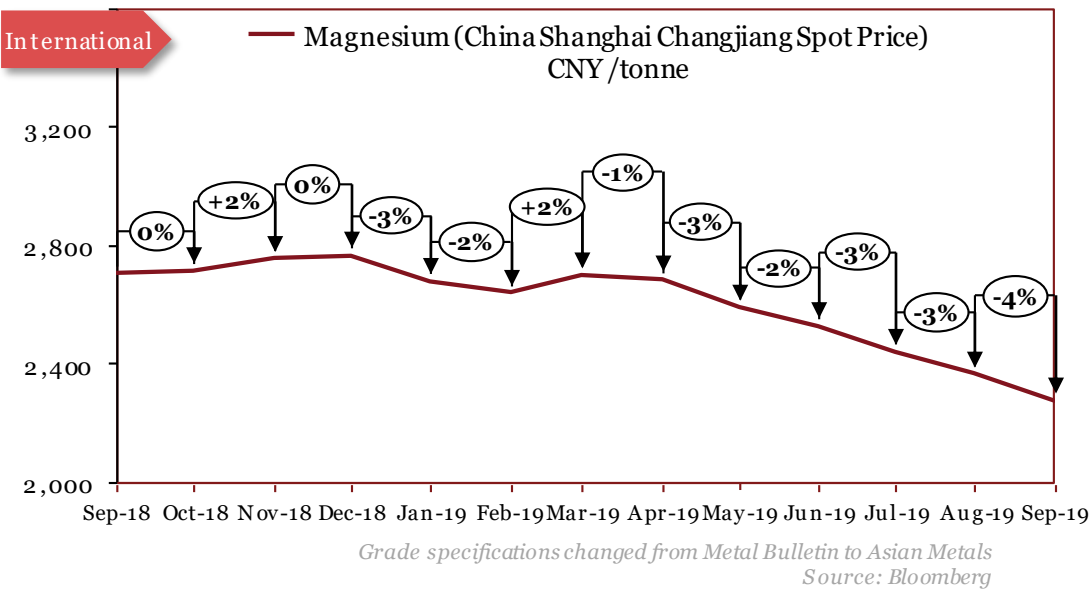
*The actual prices may vary depending on city, player, grade etc.

Outlook

In January 2019, international prices witnessed increase due to supported by improving market sentiment amid ongoing trade talks between China and the United States. 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.

Magnesium

Monthly Average Prices	
Period	*Int'l (\$/tonne)
Sep-18	2,708
Oct-18	2,719
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



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

Outlook

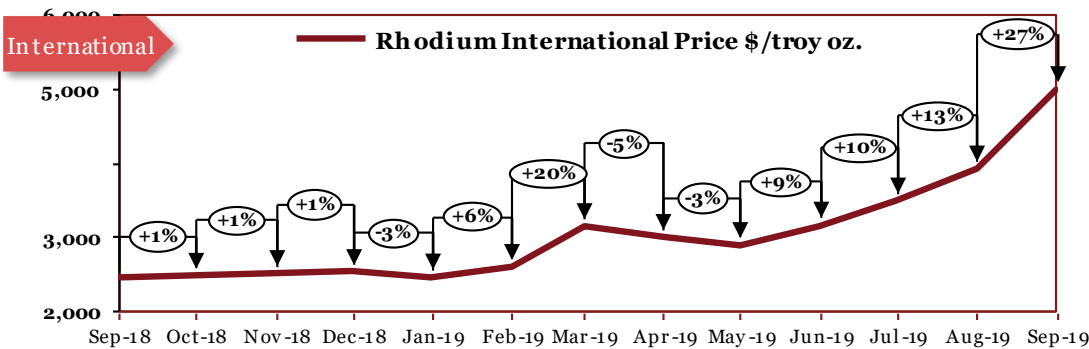
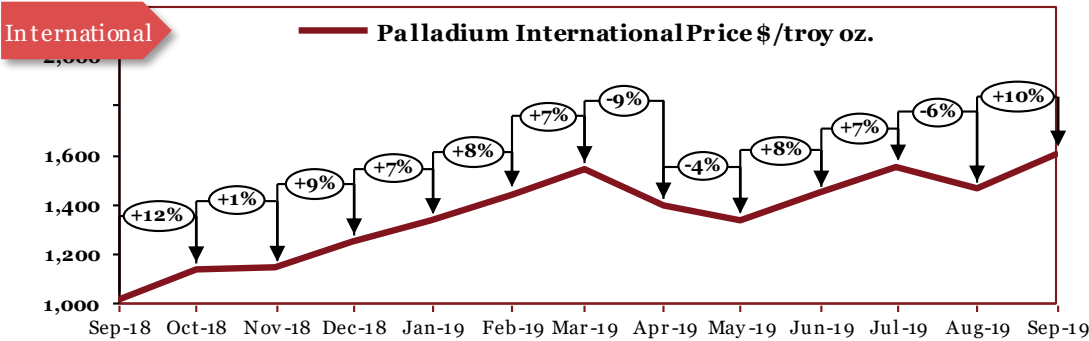
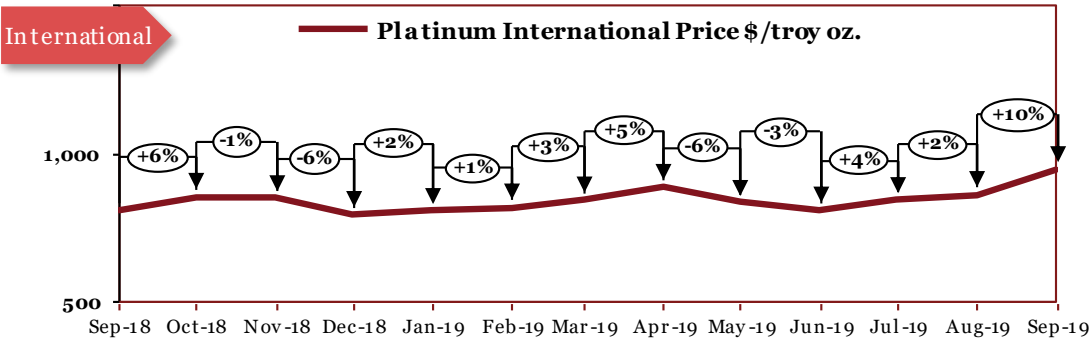
In April, the prices decreased owing to the slack in demand. In May, June and July, magnesium prices have witnessed increasing trend owing to favourable market conditions. In August, prices continued to rise. In September, prices rose on account of tighter supply. In October, magnesium prices continued 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.

^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
Sep-18	808	1,017	2,463
Oct-18	856	1,138	2,490
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

Source: Johnson Matthey

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

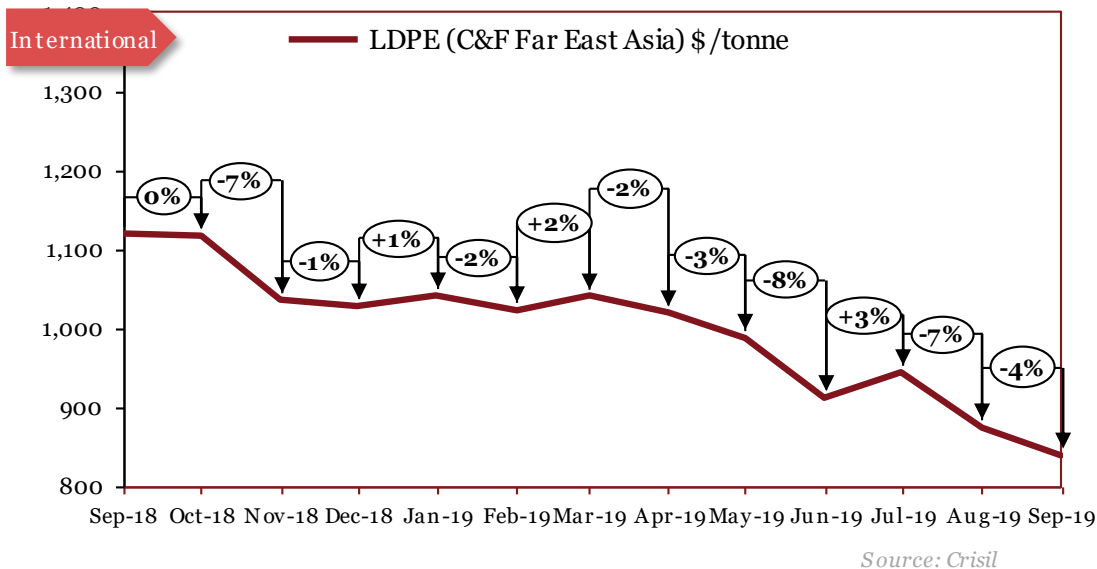
Outlook

In April, platinum prices continued with rising trend. Palladium prices witnessed decrease owing to sluggish performance of both US and China auto markets. In May, prices for Palladium and Rhodium declined due to production cuts across automobile manufacturers on the back of high unsold inventory. Platinum prices fell due to decline in quantity of exports to global markets. 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.

Polymers & Rubber

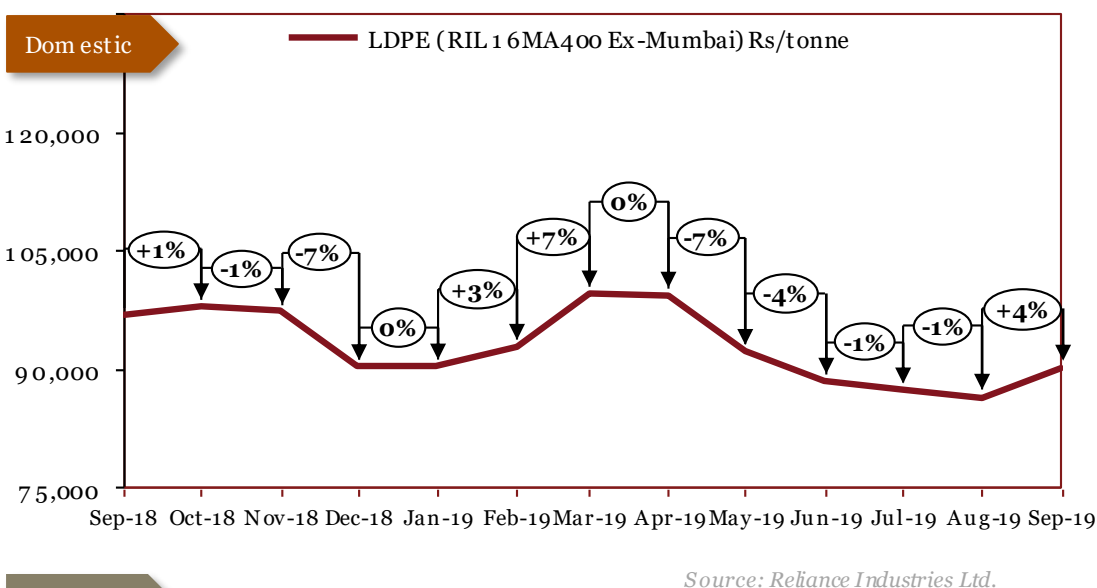
Polymers & Rubber		35
24	Low density polyethylene (LDPE)	36
25	Polypropylene (PP)	37
26	Rubber	38

Low density polyethylene (LDPE)



Monthly Average Prices

Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Sep-18	1,121	96,819
Oct-18	1,118	97,927
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

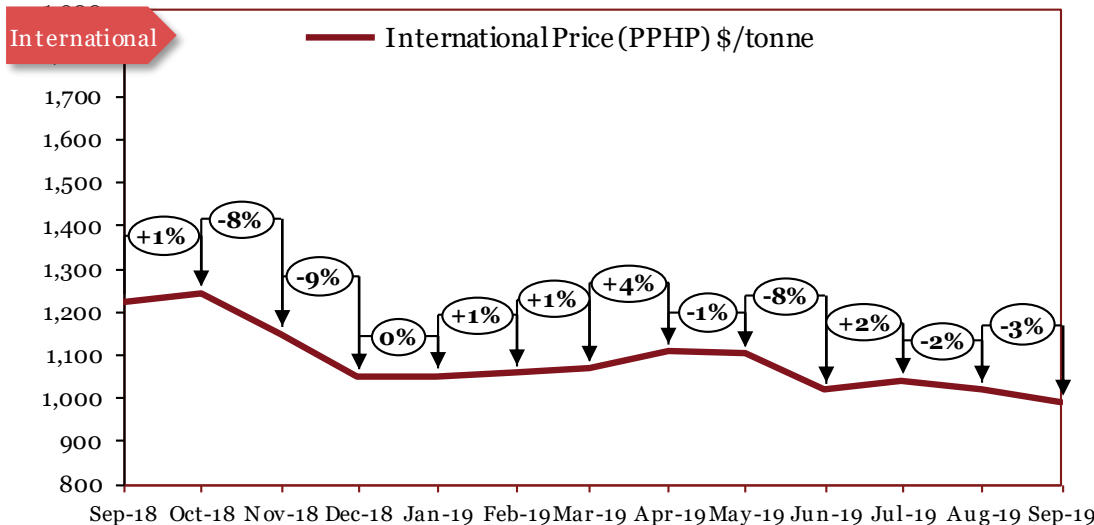


*The actual prices may vary depending on city, player, grade etc.

Outlook

In October, global prices saw flat growth. In November, prices witnessed decline. In December, prices fell due to fall in feedstock prices. Prices remained unchanged in January 2019 due to stable market conditions. 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

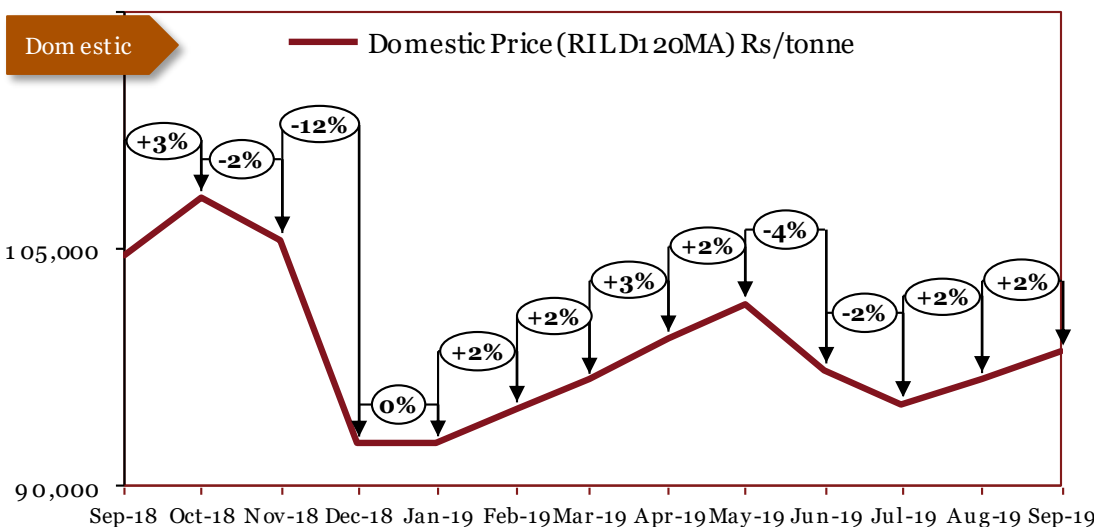
Polypropylene (PP)



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Sep-18	1,226	104,628
Oct-18	1,244	108,234
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

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



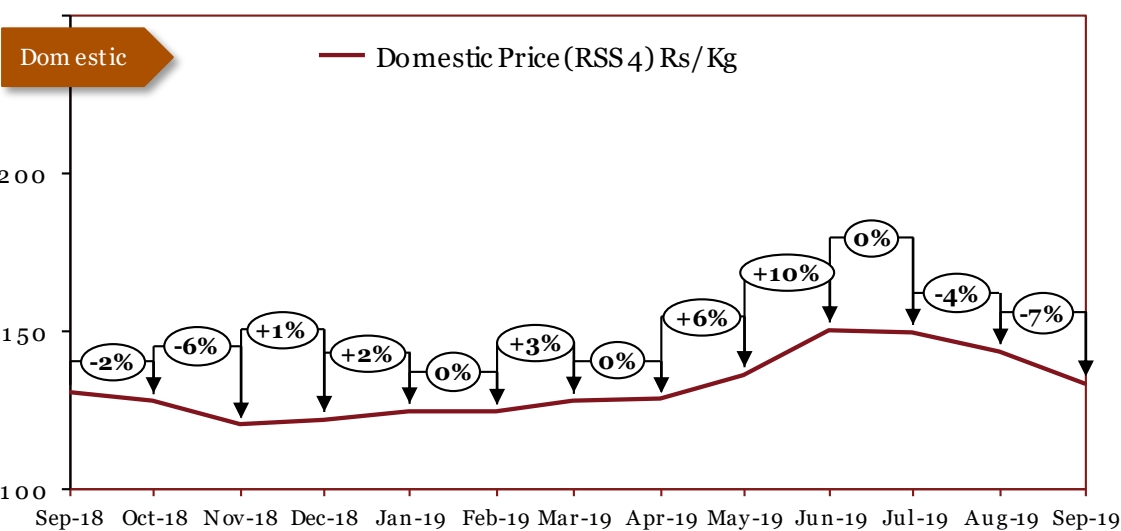
Source: Reliance Industries Ltd.

Outlook

In December 2018, PPHP prices decreased primarily on account of decline in feedstock propylene prices. In January 2019, prices remained the same as last month. In February 2019, international and domestic prices witnessed increase. 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.

Rubber

Monthly Average Prices	
Period	*Dom (Rs/kg)
Sep-18	130
Oct-18	128
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



Source: Rubber board

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

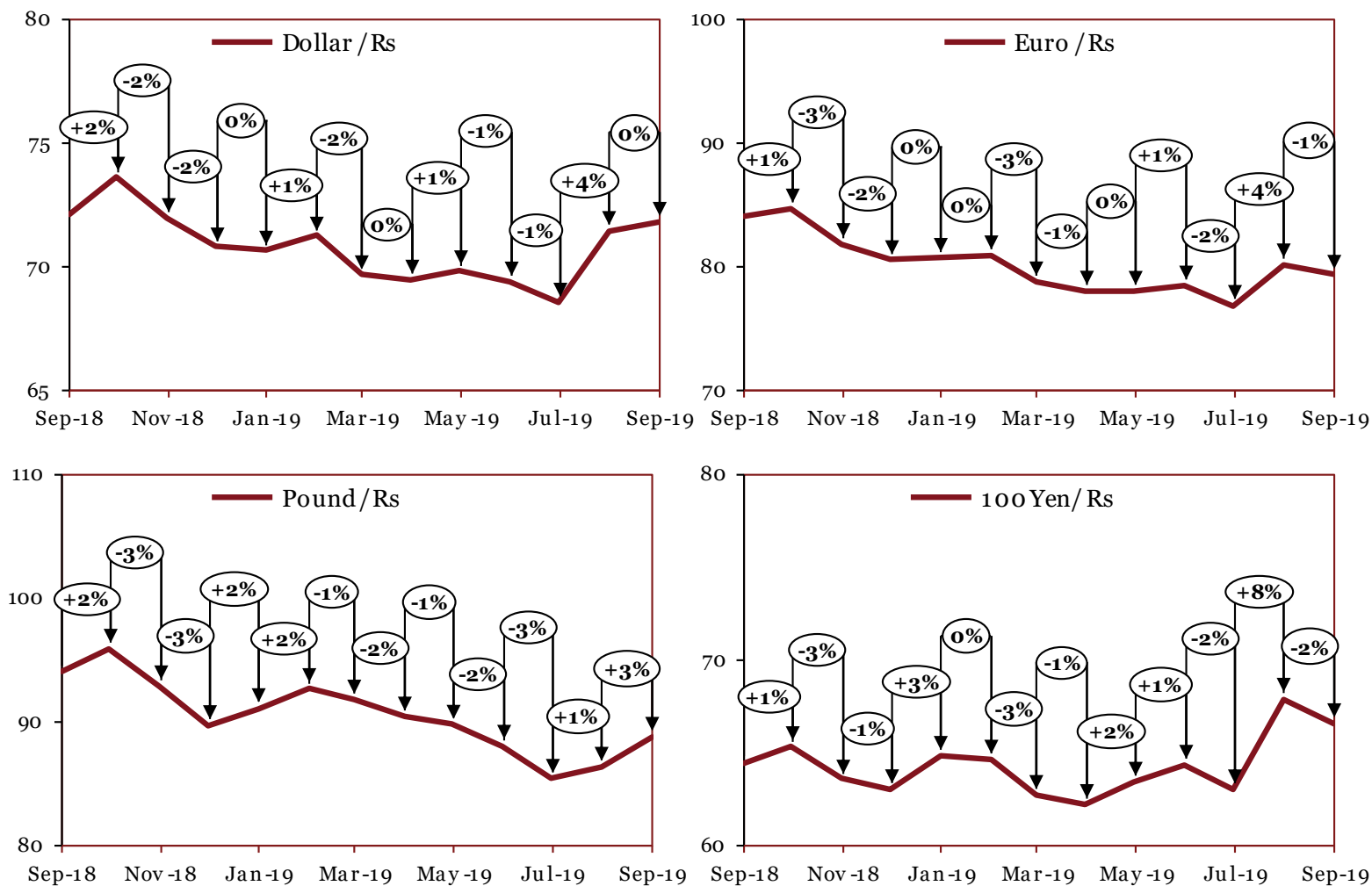
Outlook

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.

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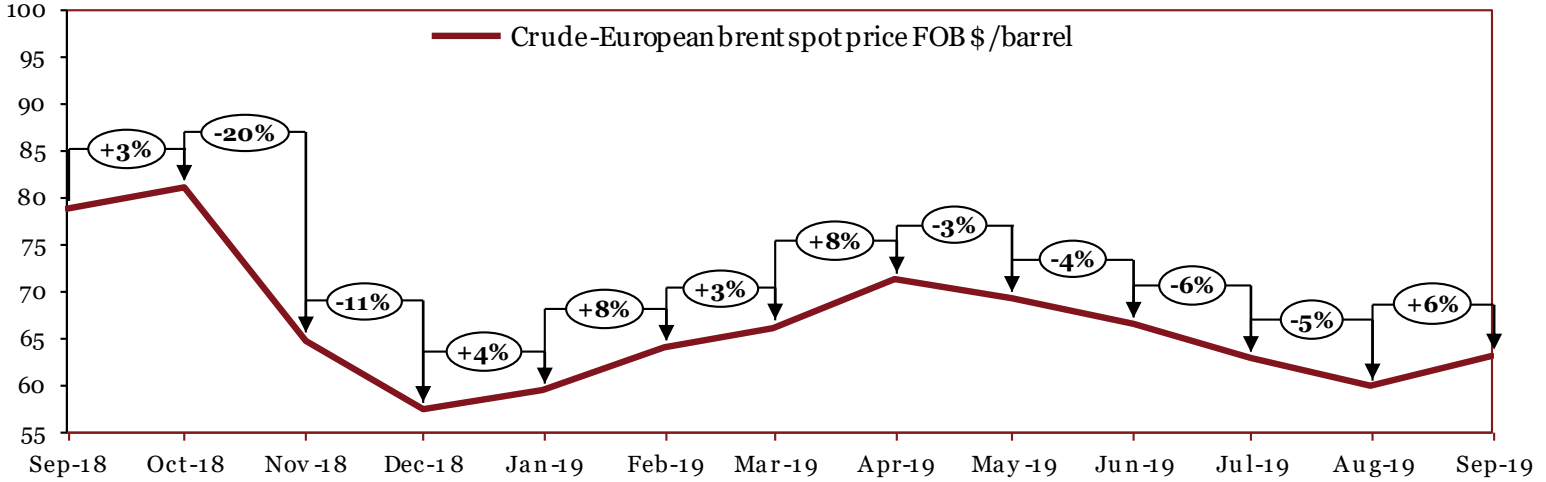
Forex Movement



Source: Reserve Bank of India

Monthly Average Prices (Rs)													
	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19
\$	72	74	72	71	71	71	70	69	70	69	69	71	72
£	84	85	82	80	81	81	79	78	78	78	77	80	79
€	94	96	93	90	91	93	92	78	78	78	77	80	79
¥	64	65	64	63	65	65	63	78	78	78	77	80	79

Crude Oil



Source: EIA

Monthly Average Prices (\$/barrel)													
	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19
	79	81	65	57	59	64	66	71	69	67	63	60	63

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" x 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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