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Commodity price monitor

January 2020

Prepared for ACMA

*Strictly private
and confidential*

February 2020



pwc

Contents

Commodity trend dashboard		5
Iron & Steel		8
1	Iron Ore	9
2	Pig Iron	10
3	Wire Rod	11
4	Steel Billets	12
5	Hot-Rolled (HR) Coils	13
6	Cold-Rolled (CR) Coils	14
7	Steel Scrap (Heavy Melting)	15
Ferro-alloys		16
8	Ferro titanium	17
9	Ferro chrome	18
10	Ferro molybdenum	19
11	Ferro vanadium	20
12	Ferro silicon	21

***To navigate this report
on-screen (in pdf format)***

From any page – click on the section title in the header navigation bar

From this Contents page – click on the title of the section or sub-section

From the contents listing on any section divider – click on the title of the sub-section

Contents

13	EN8 Alloy Steel (Forging)	22
14	Stainless Steel	23
15	20MnCr5 Alloy Steel (Forging)	24
Base Metals		25
16	Aluminium	26
17	Copper	27
18	Zinc	28
19	Lead	29
20	Nickel	30
21	Tin	31
22	Magnesium	32
Precious Metals		33
23	Precious Metals	34
Polymers & Rubber		35
24	Low density polyethylene (LDPE)	36

***To navigate this report
on-screen (in pdf format)***

From any page – click on the section title in the header navigation bar

From this Contents page – click on the title of the section or sub-section

From the contents listing on any section divider – click on the title of the sub-section

Contents

25	Polypropylene (PP)	37
26	Rubber	38
Appendices		39
27	Forex Movement	40
28	Crude Oil	41
29	Commodity Specifications	42

***To navigate this report
on-screen (in pdf format)***

From any page – click on the section title in the header navigation bar

From this Contents page – click on the title of the section or sub-section

From the contents listing on any section divider – click on the title of the sub-section

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	4% ▲	
	Domestic low grade		
	Domestic high grade		
Pig Iron	International	11% ▲	
	Domestic	10% ▲	
Stainless steel	Domestic		-4% ▼
	Domestic		-4% ▼
Wire rod	International		-6% ▼
	Domestic	6% ▲	
Steel Billets	International	4% ▲	
	Domestic	9% ▲	
Hot-rolled coils	International	17% ▲	
	Domestic	8% ▲	
Cold-rolled coils	International	11% ▲	
	Domestic	9% ▲	
Steel Scrap	Domestic	10% ▲	
EN8	Domestic		-1% ▼
20MnCr5	Domestic		-1% ▼
Ferro-alloys			
Ferro titanium	International		-3% ▼
Ferro chrome	International		-4% ▼
	Domestic		-2% ▼
Ferro molybdenum	International		0% ▼
Ferro vanadium	International		-10% ▼
Ferro silicon	International	3% ▲	
	Domestic	20% ▲	

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

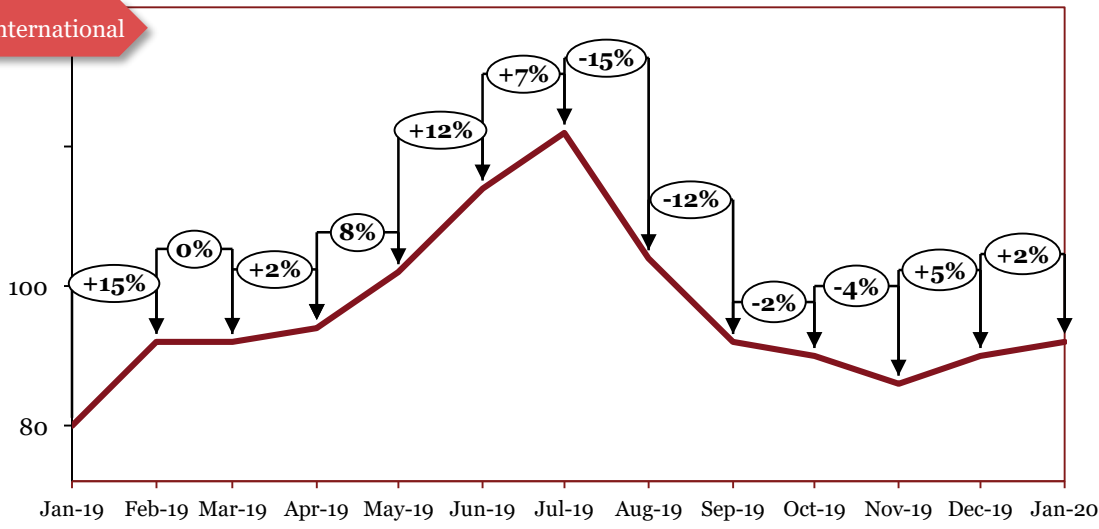
Commodity	Region	Q-o-Q Up	Q-o-Q Down
Base Metals			
Aluminum	International	1.0% ▲	
	Domestic	6% ▲	
Copper	International	3% ▲	
	Domestic	1% ▲	
Zinc	International		-1% ▼
	Domestic		-3% ▼
Lead	International		-6% ▼
	Domestic		-3% ▼
Nickel	International		-12% ▼
	Domestic		-10% ▼
Tin	International	2.3% ▲	
	Domestic	2% ▲	
Magnesium	International	0% ▲	
Precious Metals			
Platinum	International	9% ▲	
Palladium	International	25% ▲	
Rhodium	International	51% ▲	
Polymers			
Low density polyethylene (LDPE)	International	3% ▲	
	Domestic		-1% ▼
Polypropylene (PP)	International		-4.9% ▼
	Domestic		-4% ▼
Rubber	Domestic	6% ▲	
Currency Exchange			
Dollar	International		-1% ▼
Pound	International		0% ▼
Euro	International	1% ▲	
Yen	International		-2% ▼

Iron & Steel

Iron & Steel		8
1	Iron Ore	9
2	Pig Iron	10
3	Wire Rod	11
4	Steel Billets	12
5	Hot-Rolled (HR) Coils	13
6	Cold-Rolled (CR) Coils	14
7	Steel Scrap (Heavy Melting)	15

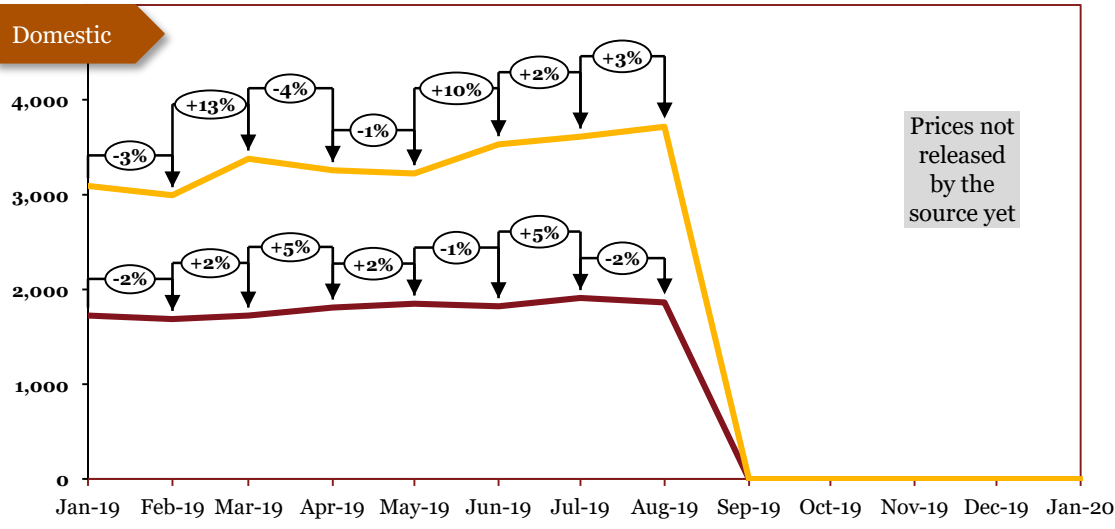
Iron Ore

International



Source: Crisil

Domestic



Source: Crisil

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

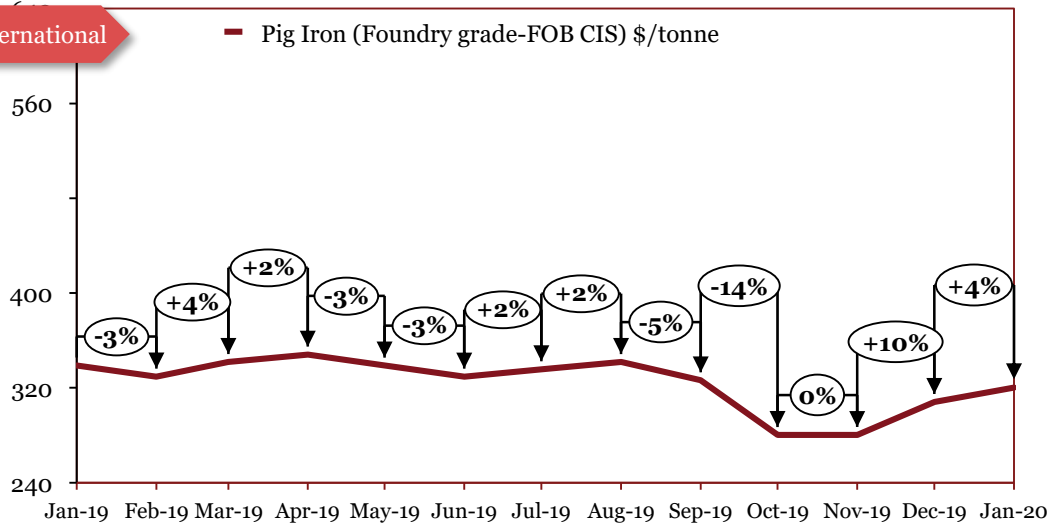
Period	*Int'l	*Dom	
	\$/tonne	Rs/tonne	
		65% & below	65% & above
Jan-19	80	1,723	3,090
Feb-19	92	1,687	2,994
Mar-19	92	1,724	3,378
Apr-19	94	1,807	3,258
May-19	102	1,848	3,224
Jun-19	114	1,822	3,531
Jul-19	122	1,910	3,611
Aug-19	104	1,863	3,715
Sep-19	92	-	-
Oct-19	90	-	-
Nov-19	86	-	-
Dec-19	90	-	-
Jan-20	92	-	-

Outlook

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. In December, international prices rose as capacity at the Vale mine was capped for safety reasons. In January, international prices rose slightly thanks to renewed optimism in China, despite the effects of the coronavirus epidemic toward the end of the month.

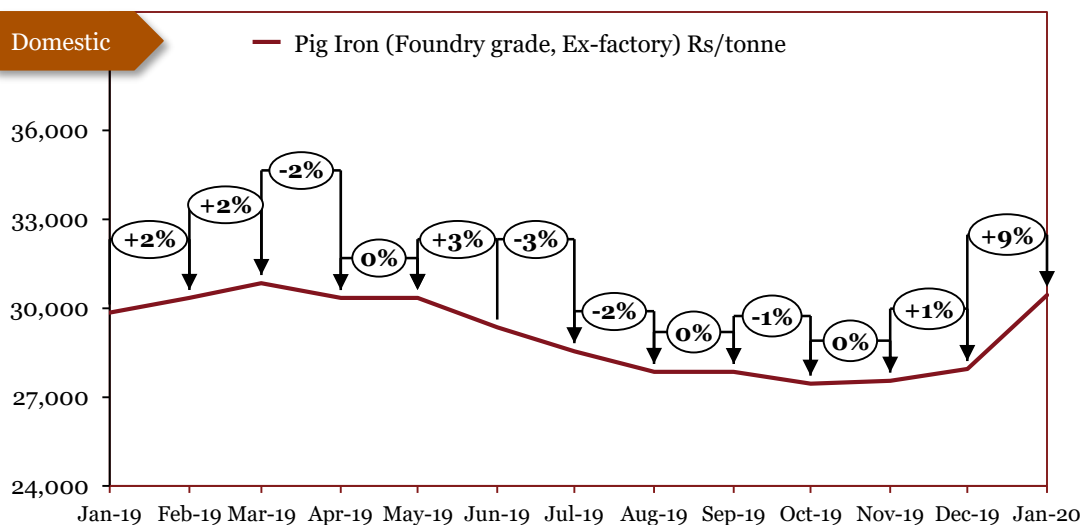
Pig Iron

International



Source: Crisil

Domestic



Source: Crisil

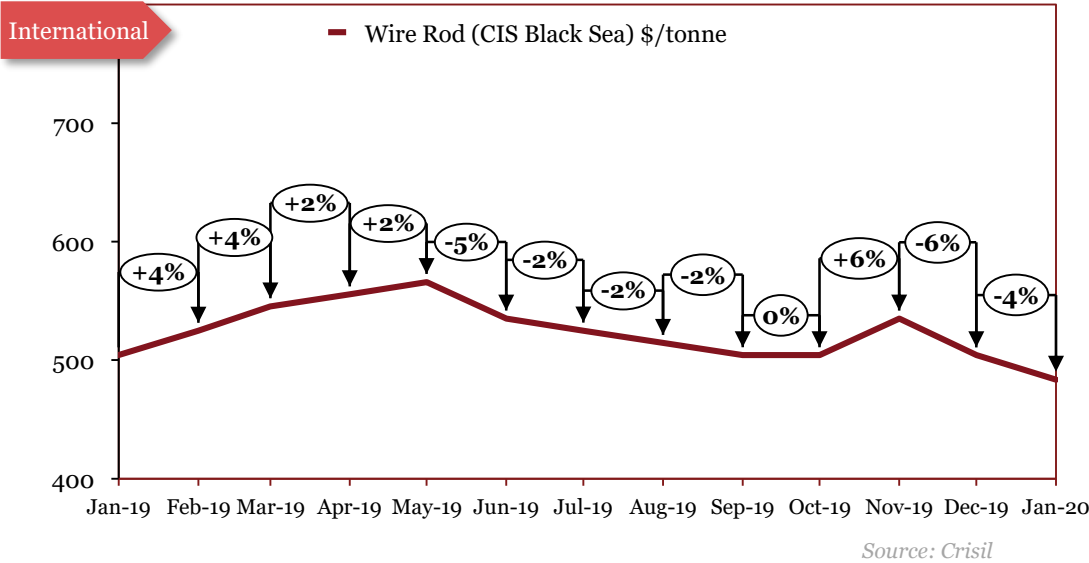
*The actual prices may vary depending on city, player, grade etc.

Monthly Average Prices		
Period	*Int'l	*Dom
	\$/tonne	Rs/tonne
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
Dec-19	308	27,950
Jan-20	320	30,450

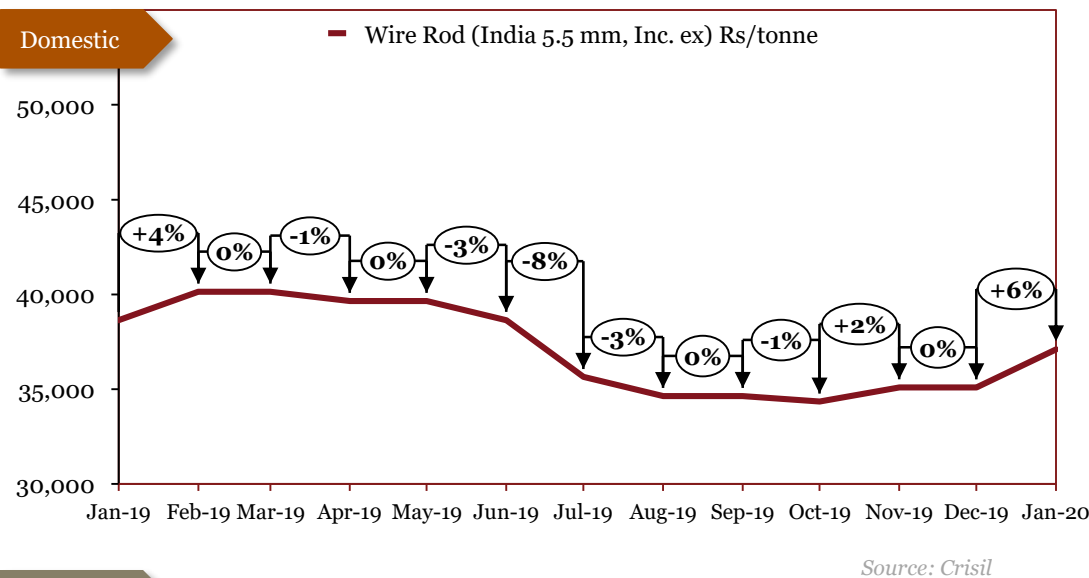
Outlook

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. In December, international prices rose owing to higher scrap prices, alongside strong Chinese demand. Domestic prices rose simultaneously. In January, prices continued to rise, with strong demand in China in the early part of the month. Domestic prices rose simultaneously.

Wire Rod



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
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
Dec-19	504	35,094
Jan-20	484	37,094



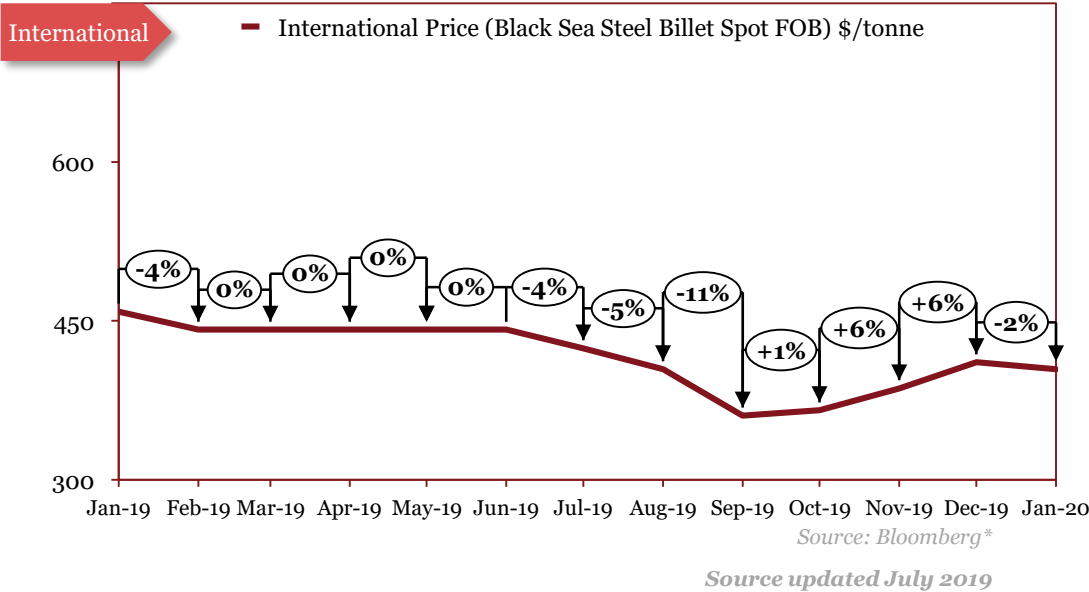
*The actual prices may vary depending on city, player, grade etc.

Outlook

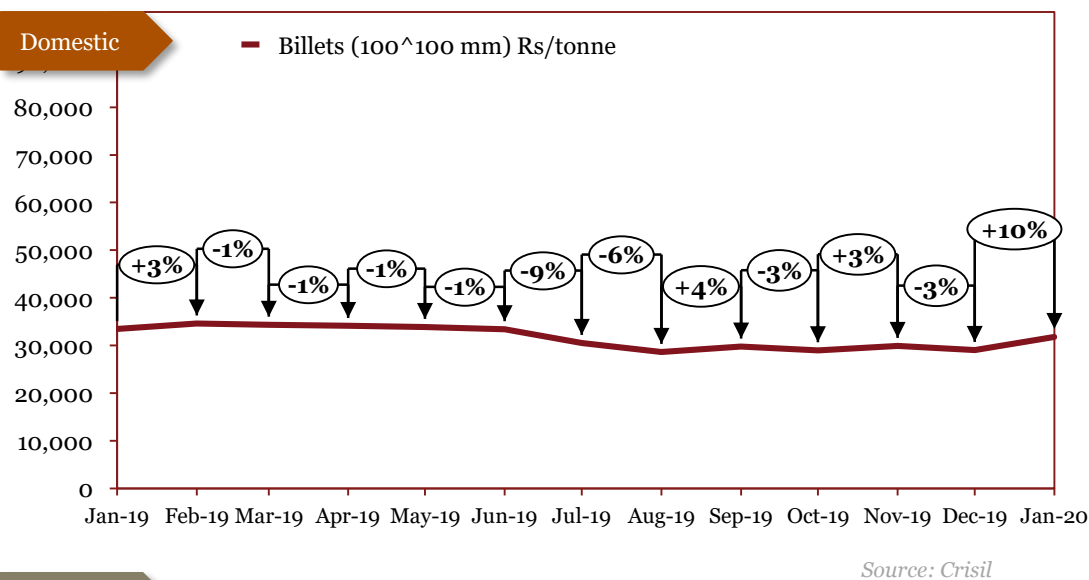
In April 2019, international prices rose in line with steel and steel product prices whereas domestic wire rod prices declined primarily owing to muted demand sentiment. In May, domestic prices remained stagnant due to muted demand growth. In June, international and domestic prices declined due to lower 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. In December, international prices fell due to lower rebar prices and weak demand while domestic prices remained constant due to stable market conditions. In January, international prices fell on an oversupply of steel in the market, while domestic prices rose after the government imposed country-specific duties on specific markets.

^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)
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	424	33400
Aug-19	404	28633
Sep-19	361	29750
Oct-19	366	28967
Nov-19	386	29900
Dec-19	411	29033
Jan-20	404	31800



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

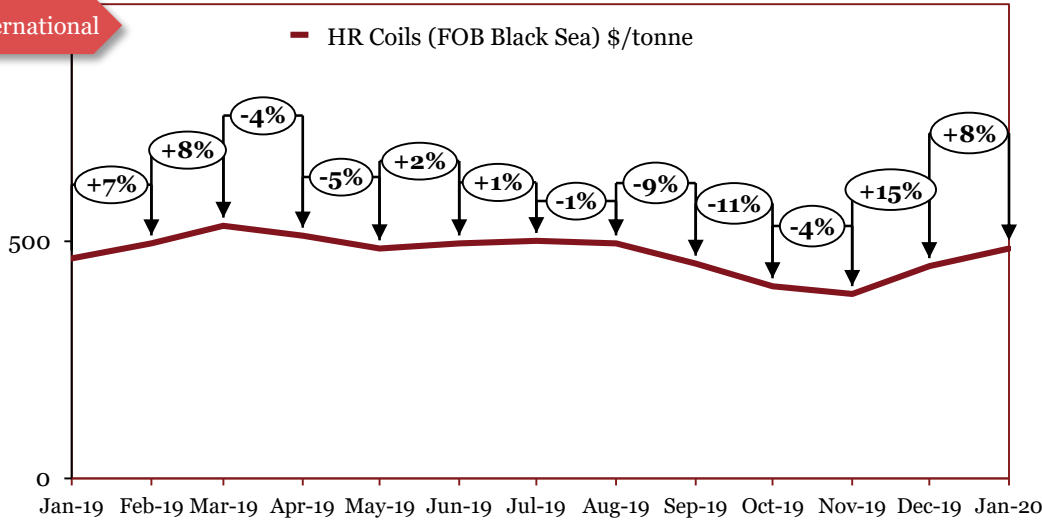
Outlook

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 fell due to 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 fell on account of weak demand, while rising costs for finished long steel products and semi finished materials led to a rise in prices in India. From October to December, International prices began to recover on account of higher demand due to higher scrap prices. In October, domestic prices fell due to weak demand for rebar. In November, domestic prices rose on account of rising seaborne scrap prices. In December, domestic prices fell due to weak demand for steel products like rebar. In January, international prices fell marginally while domestic prices rose on the back of renewed investment in infrastructure and growth in the automobile industry.

^International prices changed due to change in the grade

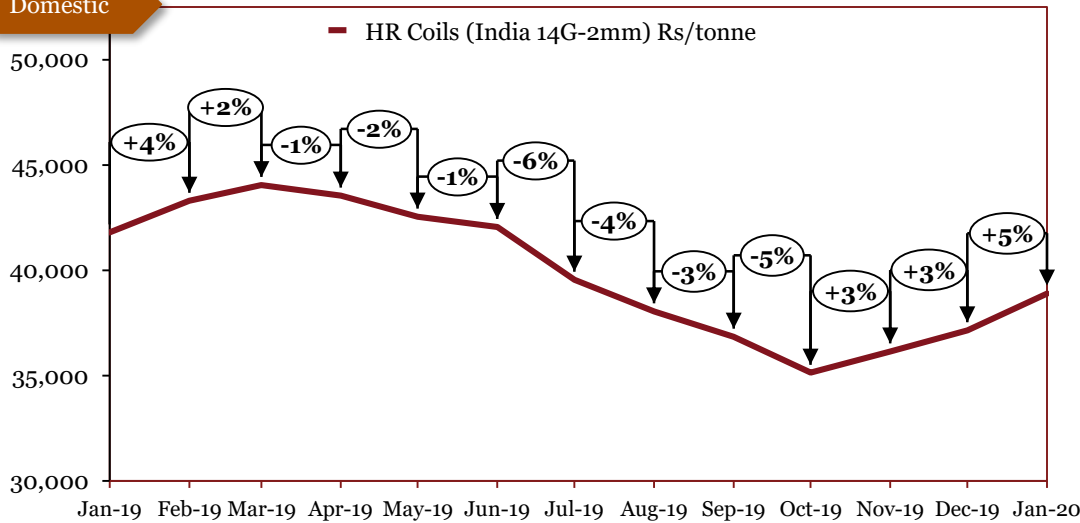
Hot-Rolled (HR) Coils

International



Source: Crisil

Domestic



Source: Crisil

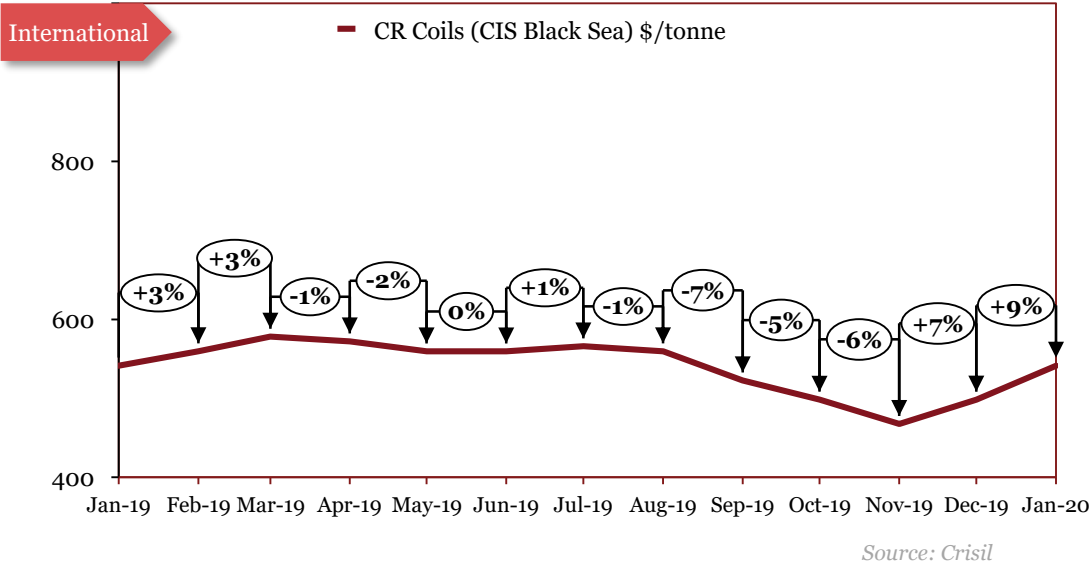
Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Jan-19	464	41,800
Feb-19	496	43,300
Mar-19	533	44,050
Apr-19	512	43,550
May-19	485	42,550
Jun-19	496	42,050
Jul-19	501	39,550
Aug-19	496	38,050
Sep-19	453	36,850
Oct-19	405	35,150
Nov-19	389	36,150
Dec-19	448	37,150
Jan-20	485	38,900

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

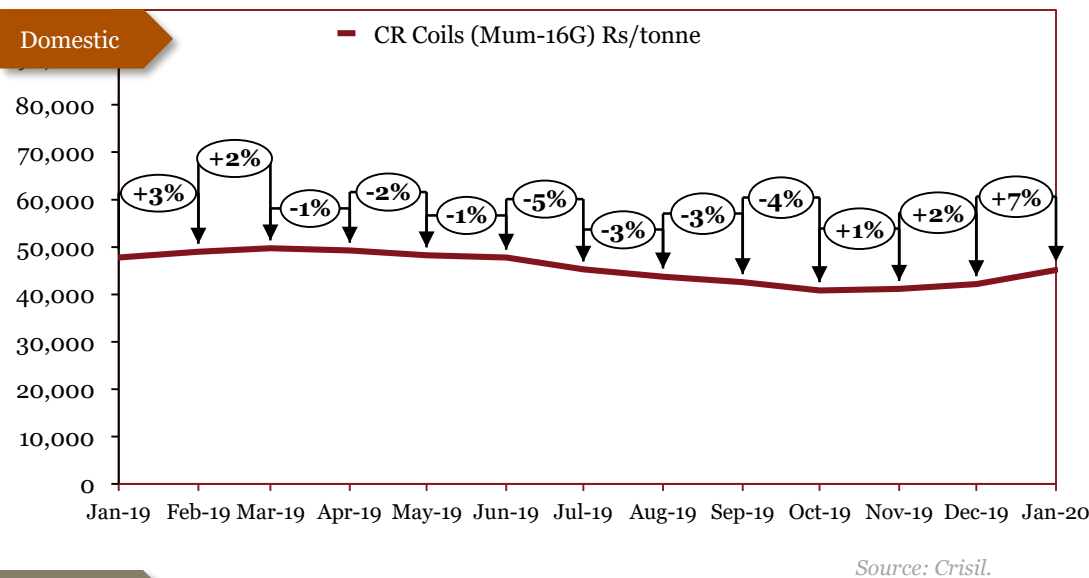
Outlook

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. In December, international prices rose on recovering demand from infrastructure and automotive sectors, whilst domestic prices rose thanks to stronger export margins. In January, international prices rose thanks to strong demand and high input prices domestic prices continued to rise due to stronger performance from the infrastructure and automobile sectors.

Cold-Rolled (CR) Coils



Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
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
Dec-19	498	42,150
Jan-20	541	45,150

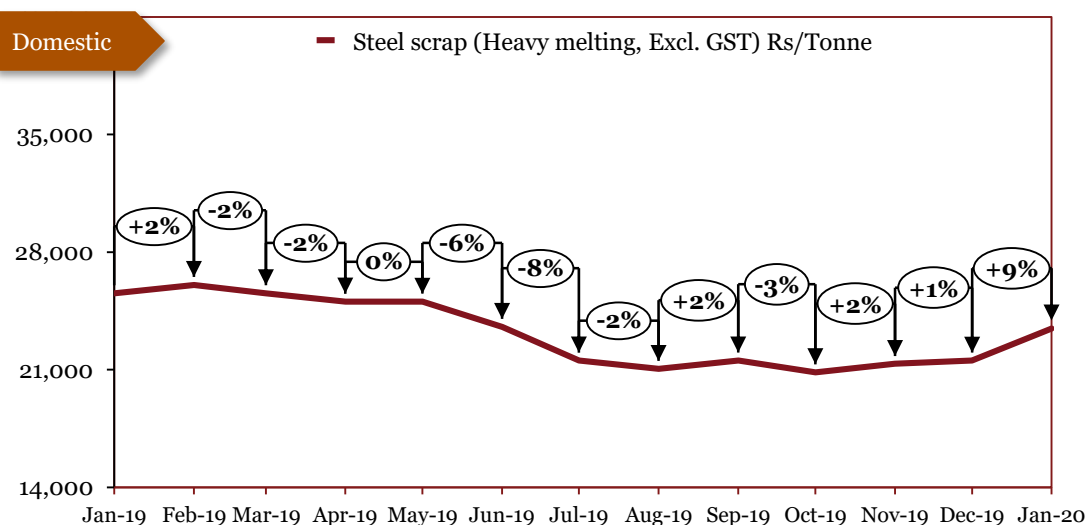


*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In December, international prices rose mirroring HR Coil prices, while domestic prices rose on the backs of international rate increases. In January, both international and domestic prices rose in conjunction with hot-rolled coil prices.

Steel Scrap (Heavy Melting)



Source: CRISIL

Monthly Average Prices	
Period	*Dom (Rs/Tonne)
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
Dec-19	21550
Jan-20	23450

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

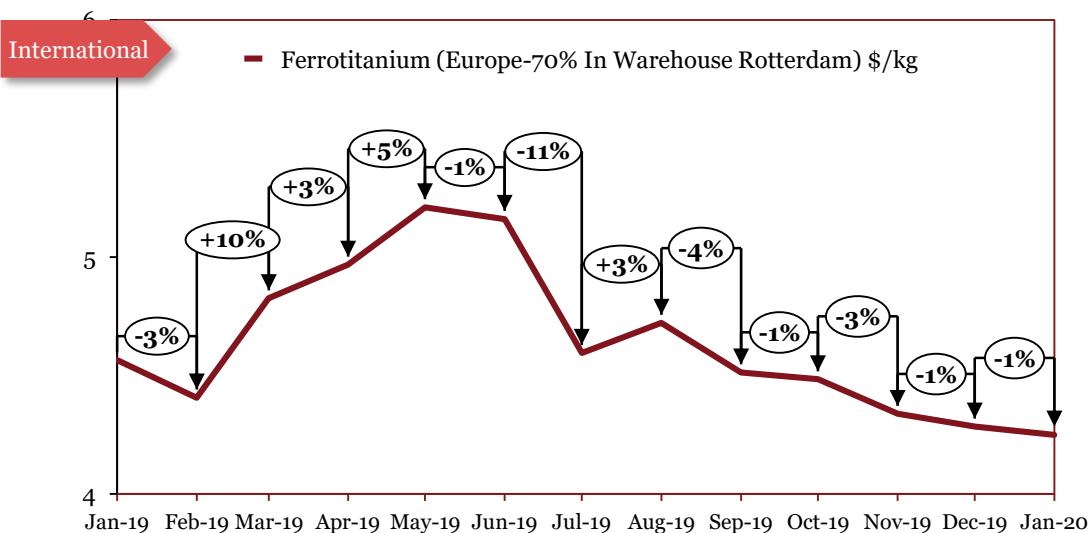
Outlook

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. In December, prices rose owing to stronger steel demand in the market. In January, domestic prices rose strongly owing to higher demand for steel, buoyed by the performance of the infrastructure and automotive sectors.

<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)
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
Dec-19	4.28
Jan-20	4



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

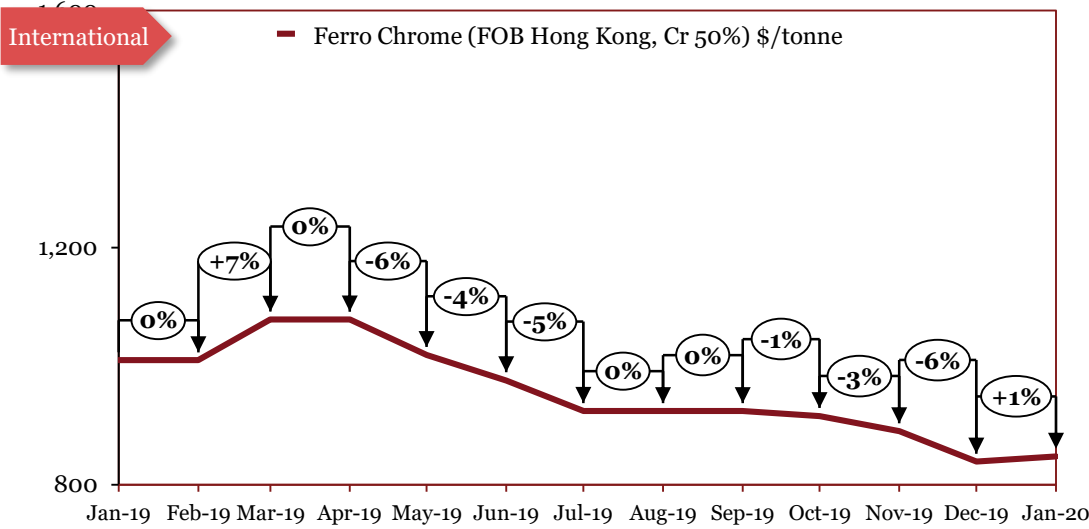
*The actual prices may vary depending on city, player, grade etc.

Outlook

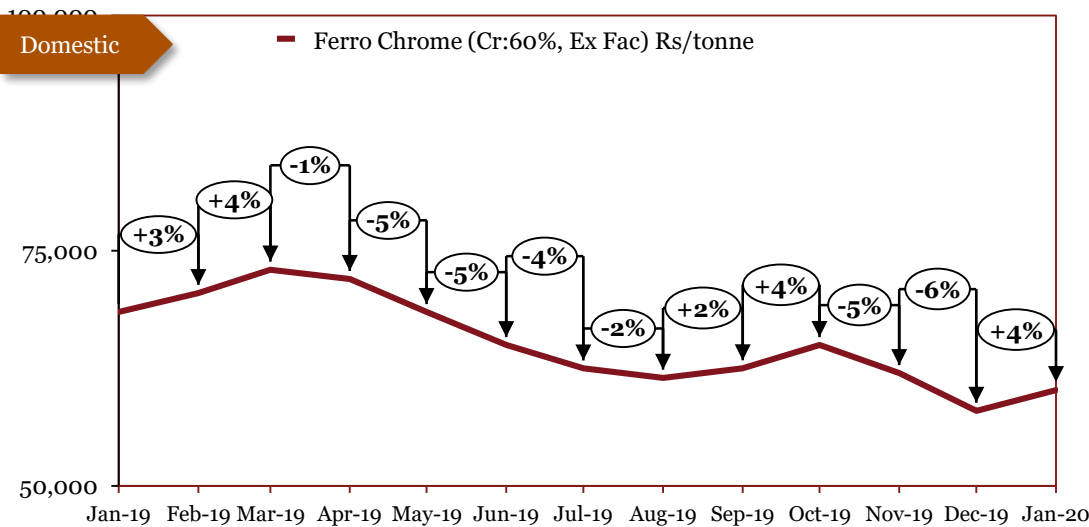
In October 2018, high-volume sales to Europe from Russia dragged down prices. From November 2018, ferrotitanium prices have witnessed consistently declining trend owing to unfavourable market conditions which has continued till February 2019. In March, ferrotitanium prices increased owing to increased 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. In December, prices remained fairly steady, with a slight decline. In January, the downward trend in prices continued on muted demand.

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

Ferro chrome



Source: Crisil



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
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
Dec-19	839	58000
Jan-20	847	60200

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

Outlook

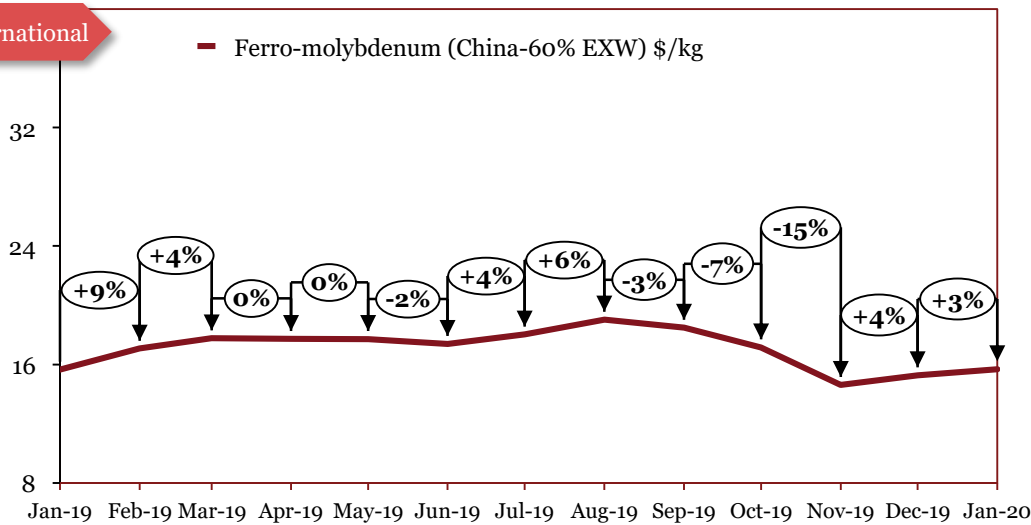
In May, international and domestic prices declined on the back of continued weakening in demand. In June, domestic & international prices of ferro-chrome continued to decline owing to declining stainless steel production globally. In July, ferro-chrome prices fell both globally & domestically due to 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. In December, international prices fell due to weak demand in Europe and oversupply in China. Domestic prices fell due to cheaper Chinese competition. In January international prices remained fairly stable following months of decline while domestic prices rose following production cuts.

Ferro molybdenum

Monthly Average Prices

Period	*^Int'l (\$/kg)
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
Dec-19	15
Jan-20	16

International



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

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

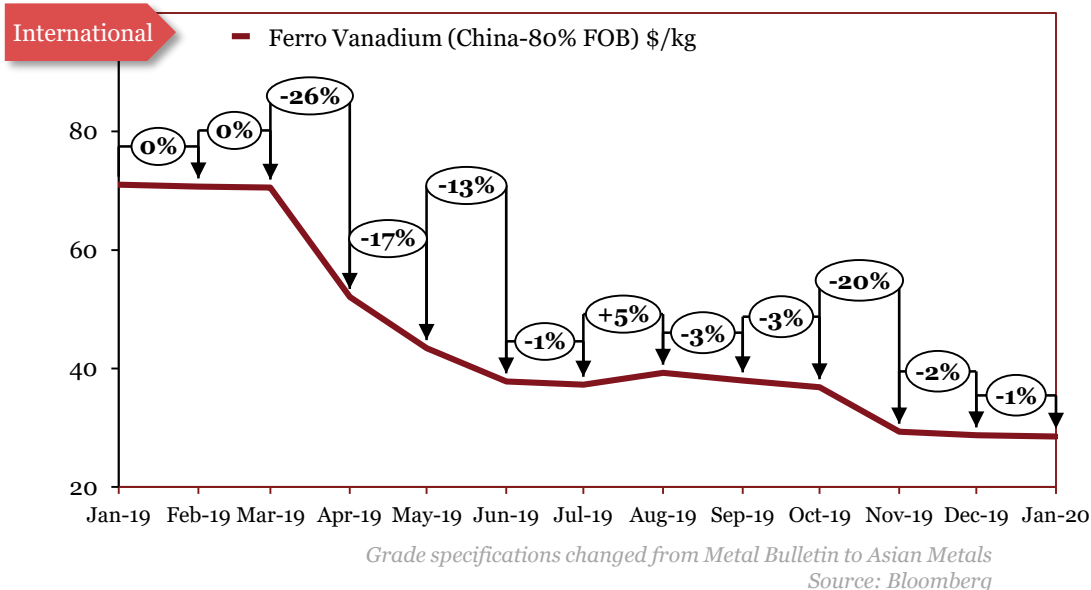
Outlook

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. In December, molybdenum prices slowly began to stabilise after months of decline. In January, prices rose on the backs of strong industrial demand from automotive and other industries.

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

Ferro vanadium

Monthly Average Prices	
Period	*Int'l (\$/kg)
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
Dec-19	29
Jan-20	29

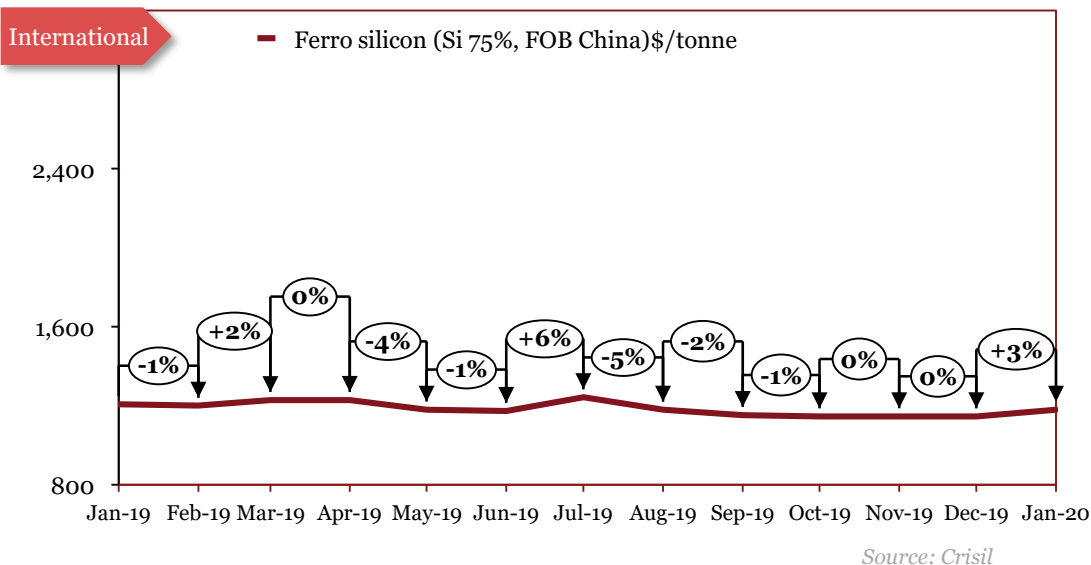


*The actual prices may vary depending on city, player, grade etc.

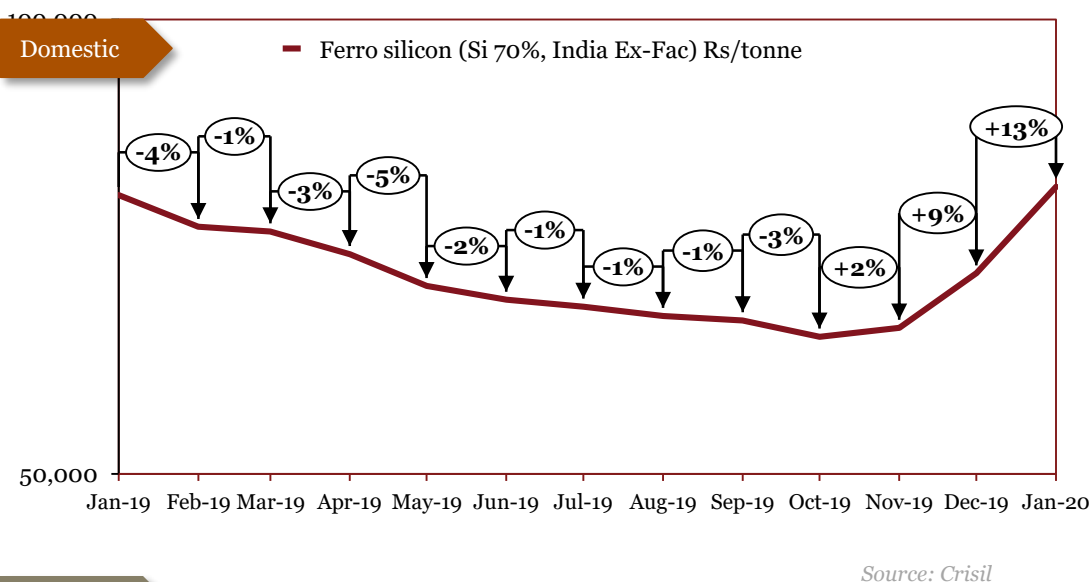
Outlook

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. In December, prices continued to fall due to vanadium being substituted with niobium, alongside slow enforcement of new rebar regulations in China. In January prices fell minimally on stable market conditions.

Ferro silicon



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
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	67,400
Sep-19	1,152	66,900
Oct-19	1,145	65,100
Nov-19	1,145	66,100
Dec-19	1,145	72,100
Jan-20	1,180	81,600



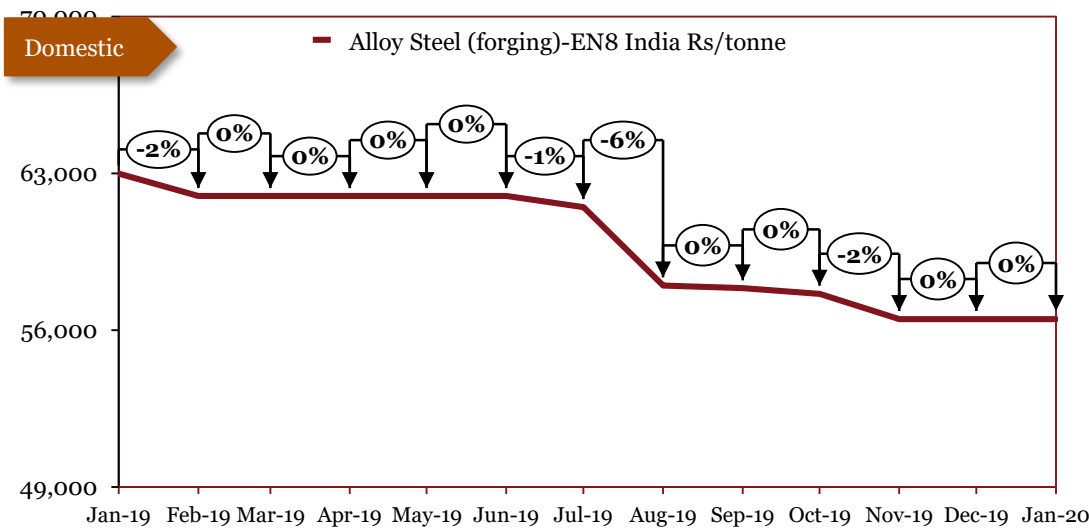
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In December, international prices remained constant on account of stable market conditions, while domestic prices rose due to shortage of supply with sellers, caused partly by declining output from Bhutan. In January, international prices rose due to supply constraints in China whilst domestic prices rose on the back of a shortage of charcoal in factories causing production problems.

EN8 Alloy Steel (Forging)

Monthly Average Prices	
Period	*Dom (Rs/tonne)
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
Dec-19	56,500
Jan-20	56,500



Source: PwC Research

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

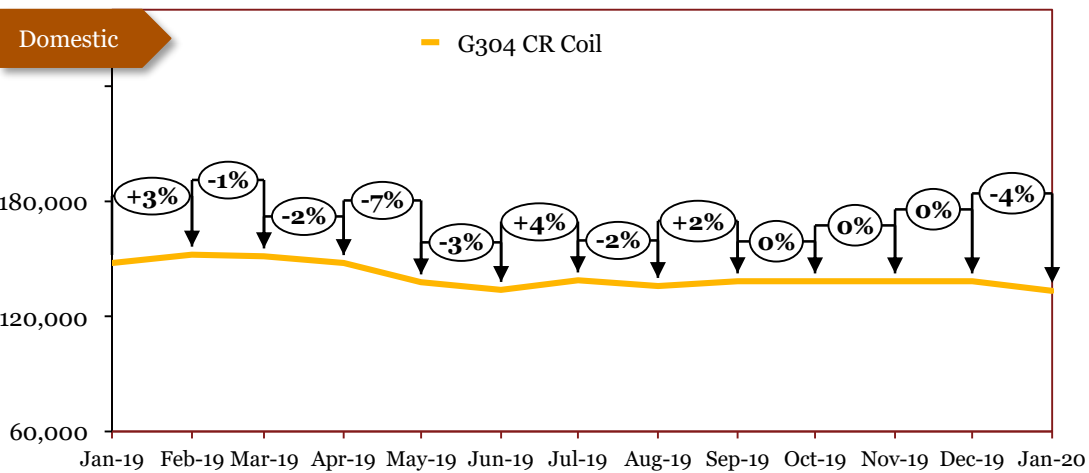
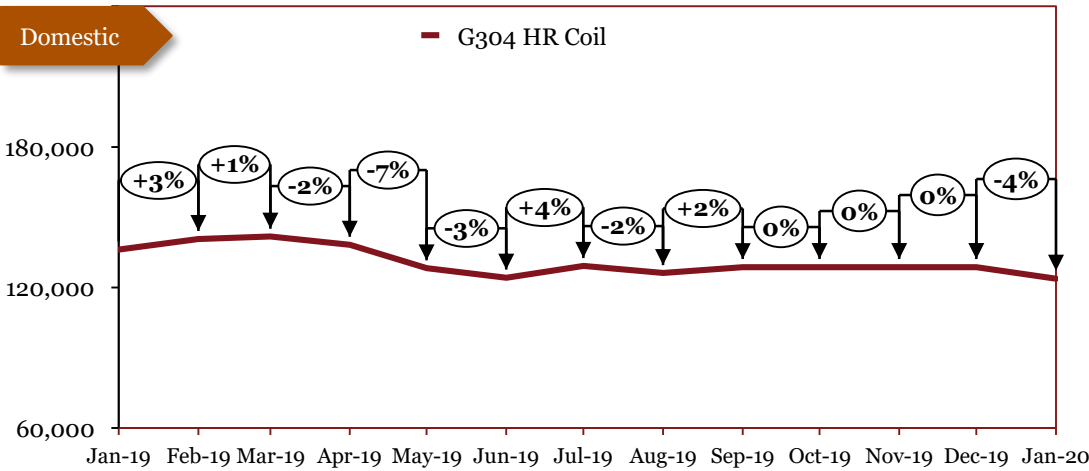
Outlook

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. In December, prices remained constant on stable market conditions. In January,, prices remained unchanged thanks to stable market conditions.

Stainless Steel

Monthly Domestic Average Prices

Period	*G304 HR (Rs/tonne)	*G304 CR (Rs/tonne)
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
Dec-19	128,700	138,250
Jan-20	123,700	133,250



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

Source: PwC Research

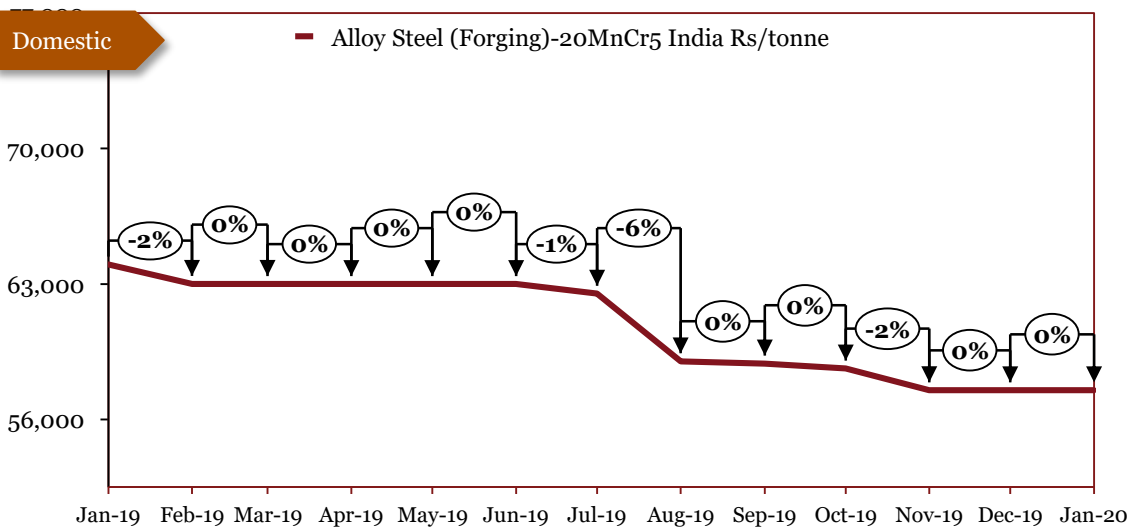
Outlook

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. In December, international and domestic prices remained unchanged on stable market conditions. In January, prices fell due to an excess of supply over demand in the market.

20MnCr5 Alloy Steel (Forging)

Monthly Average Prices

Period	*Dom (Rs/tonne)
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
Dec-19	57,500
Jan-20	57,500



Source: PwC Research

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

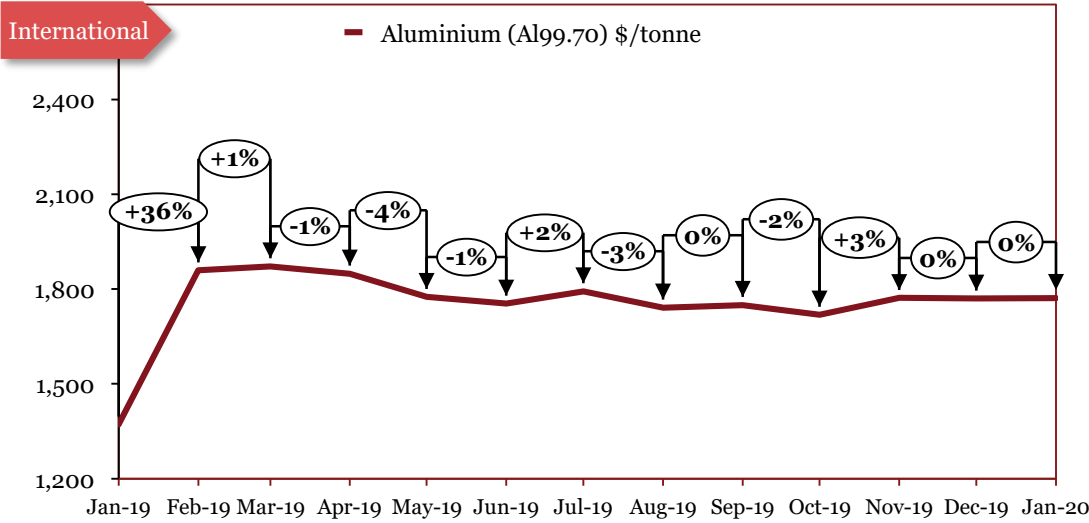
Outlook

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. In December, prices remained unchanged. In January, prices remained unchanged thanks to stable market conditions.

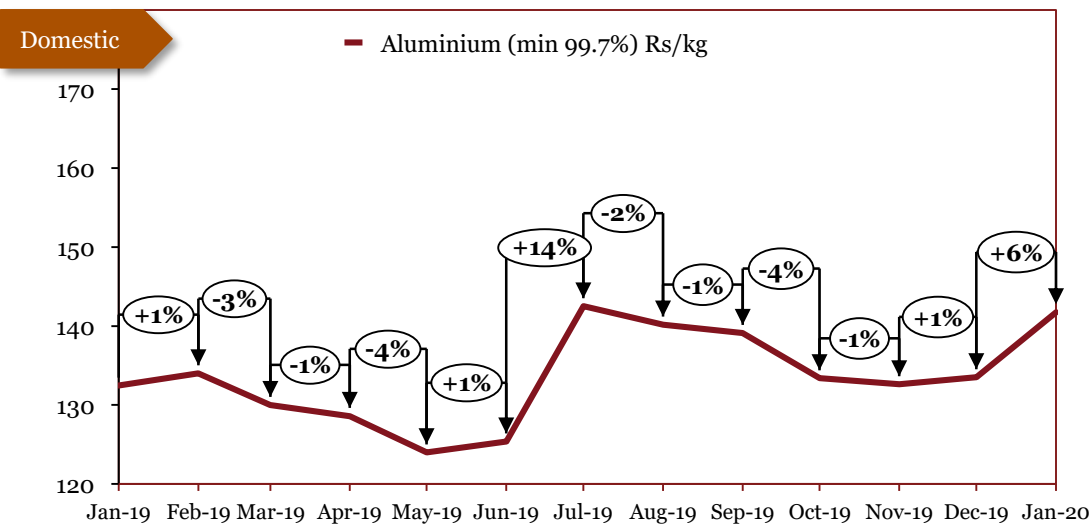
Base Metals

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)
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	1772	133
Dec-19	1770	134
Jan-20	1771	142

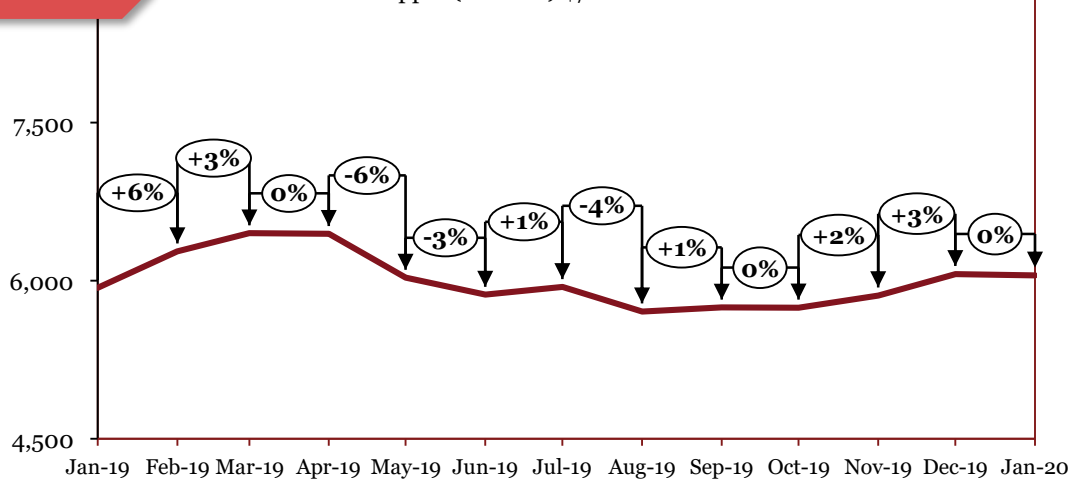
Outlook

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. In December, international prices remained unchanged, whilst domestic prices rose slightly on improved sentiment and economic conditions. In January, international prices remained unchanged, while domestic prices rose. In January, international prices were stable while domestic prices rose thanks to improving macro-economic sentiment.

Copper

International

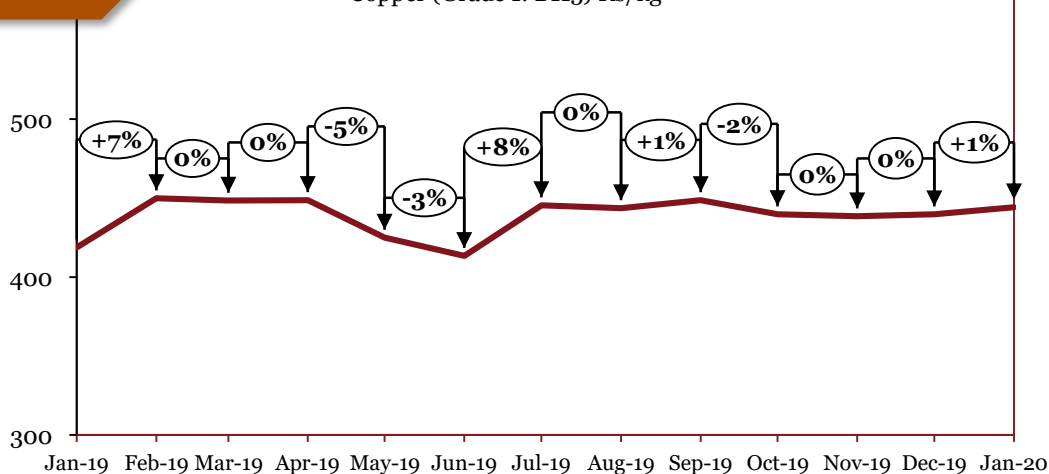
— Copper (Grade A) \$/tonne



Source: LME

Domestic

— Copper (Grade 1: B115) Rs/kg



Source: MCX

Monthly Average Prices

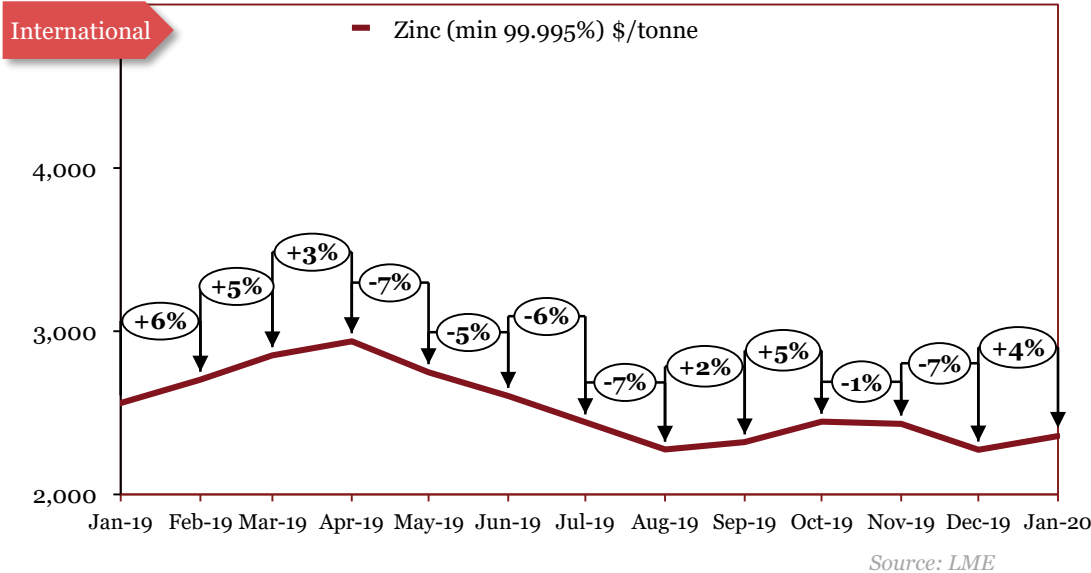
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Jan-19	5,932	419
Feb-19	6,278	450
Mar-19	6,450	448
Apr-19	6,445	449
May-19	6,028	425
Jun-19	5,868	413
Jul-19	5,939	445
Aug-19	5,708	444
Sep-19	5,745	449
Oct-19	5,742	440
Nov-19	5,859	438
Dec-19	6,062	440
Jan-20	6,049	444

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

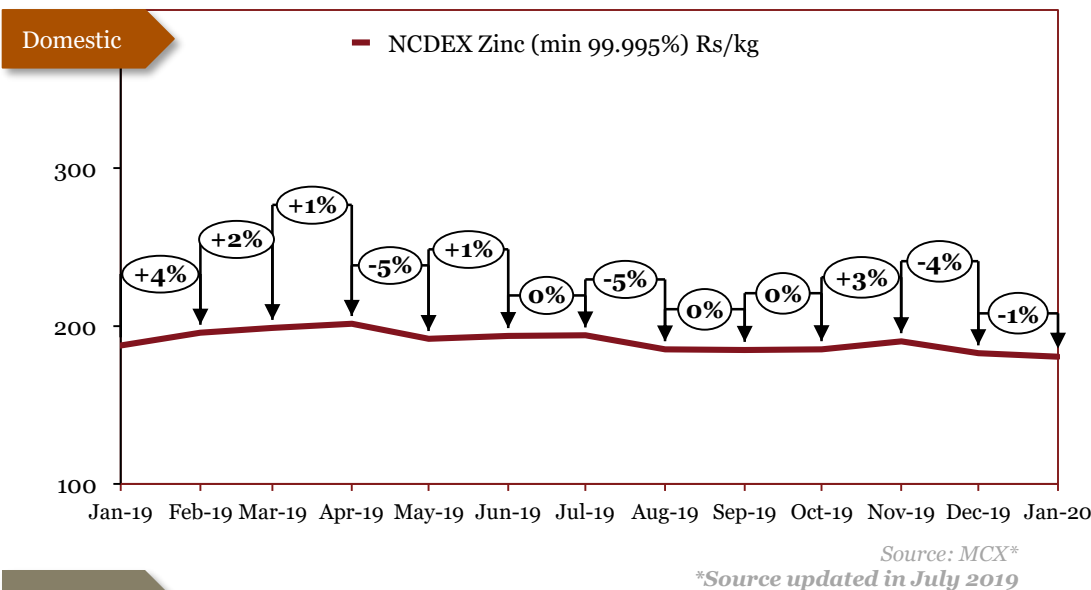
Outlook

. 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. In December, international prices rose on positive sentiment about a US-China trade deal, while domestic prices remained stable. In January, international prices remained unchanged whereas domestic prices rose mildly thanks to better macro-economic sentiment.

Zinc



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
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
Dec-19	2,273	183
Jan-20	2,357	181

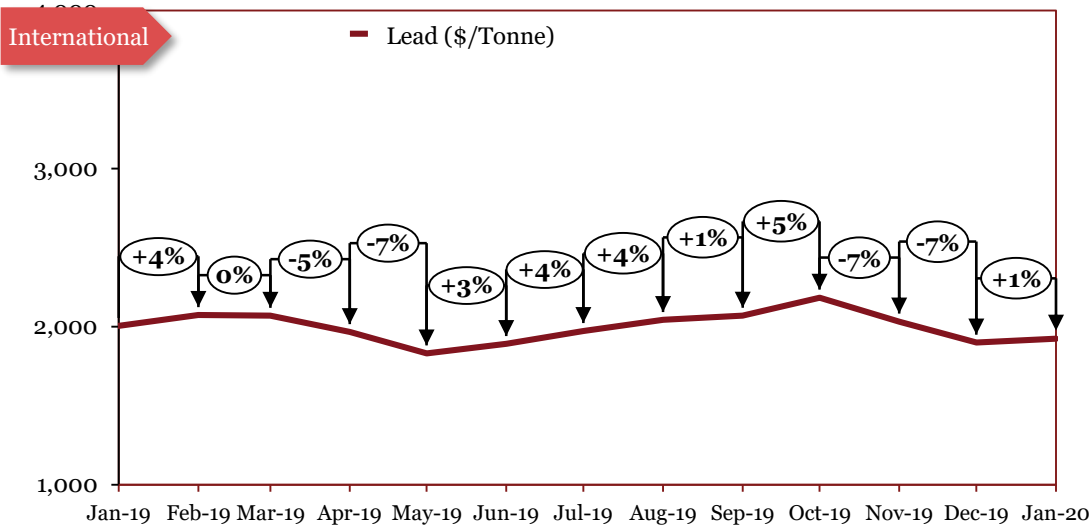


*The actual prices may vary depending on city, player, grade etc.

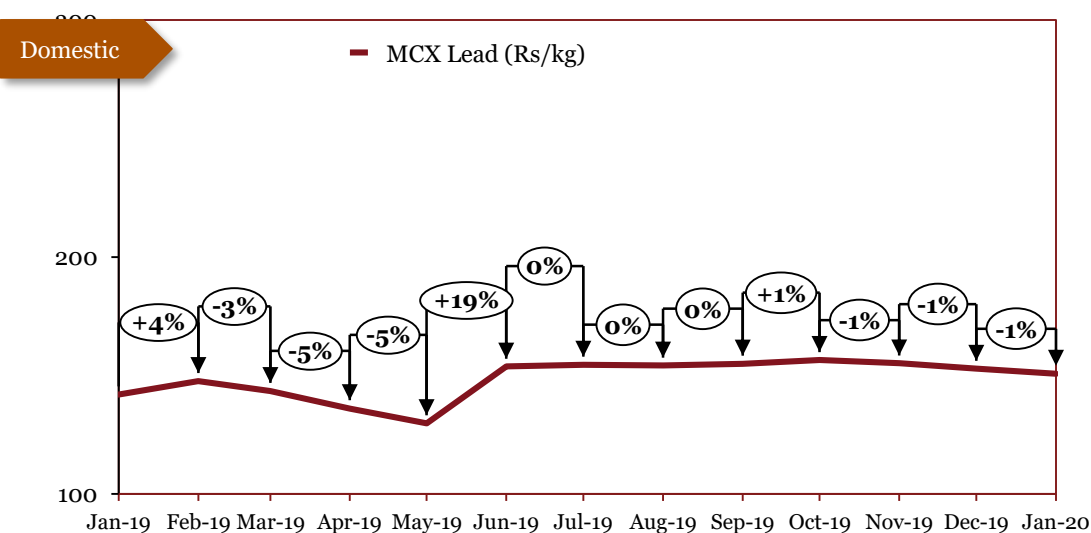
Outlook

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. In December, Zinc prices fell globally owing to oversupply in China stoking demand concerns, while domestic prices fell on the backs of slackened demand. In January, international prices rose on higher demand in preparation for the US-China trade agreement. Domestic prices fell marginally on oversupply in the market.

Lead



Source: LME



Source: MCX

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
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
Dec-19	2,273	153
Jan-20	2,357	151

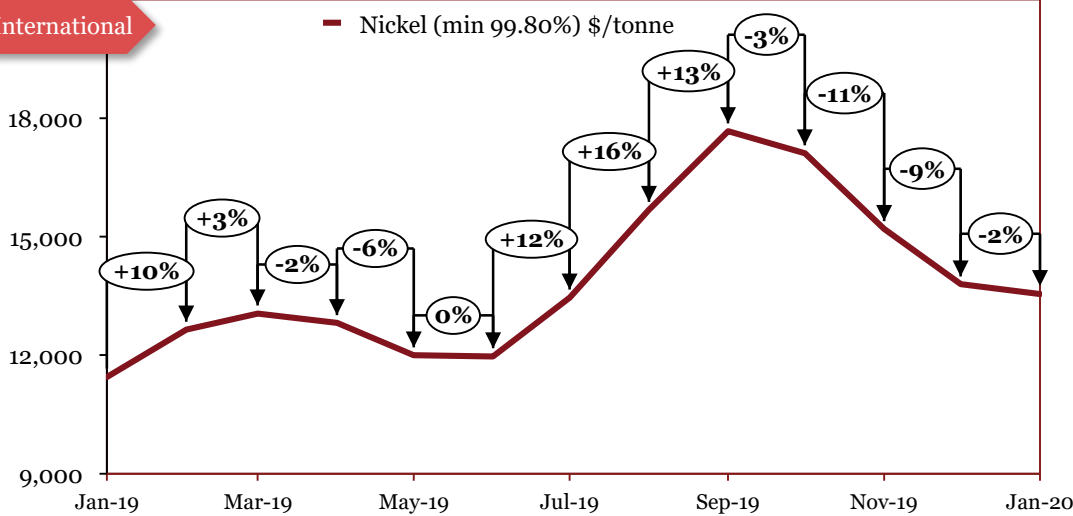
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In December, international prices retreated further due to weak demand, particularly in the automobile space. China is the world's largest consumer. Domestically, lead prices were down only slightly thanks to demand from battery producers. In January, international prices remained fairly stable, still affected by poor demand. Domestic prices fell marginally.

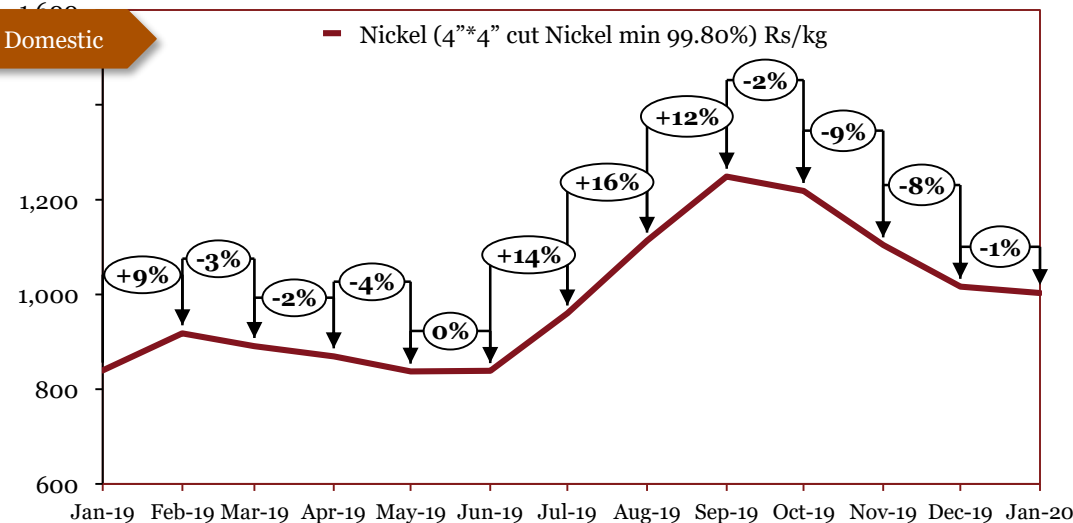
Nickel

International



Source: LME

Domestic



Source: MCX*

*Source updated in July 2019

Monthly Average Prices

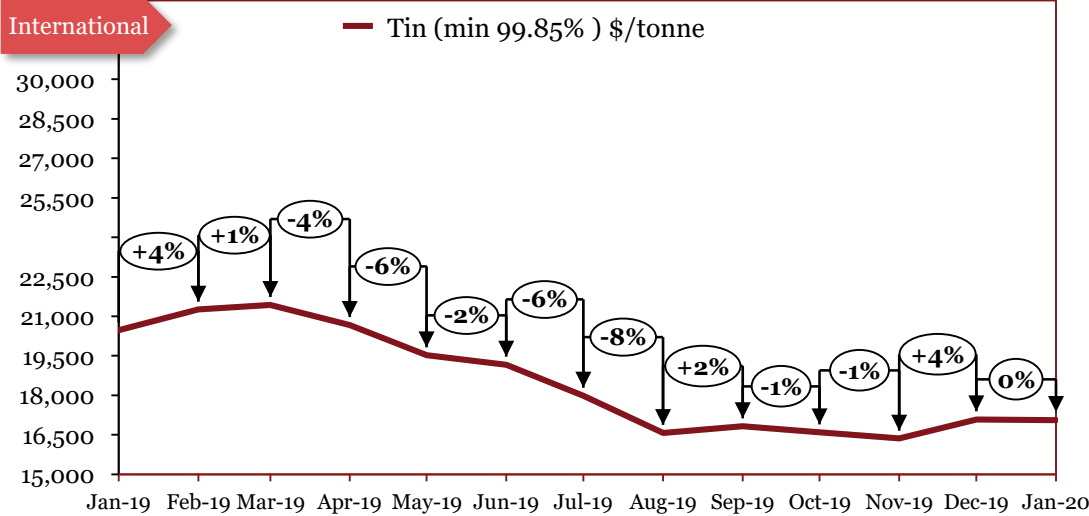
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Jan-19	11,452	839
Feb-19	12,647	918
Mar-19	13,056	891
Apr-19	12,815	869
May-19	11,995	837
Jun-19	11,967	839
Jul-19	13,459	960
Aug-19	15,678	1,114
Sep-19	17,668	1,248
Oct-19	17,108	1,218
Nov-19	15,195	1,104
Dec-19	13,797	1,016
Jan-20	13,549	1,003

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

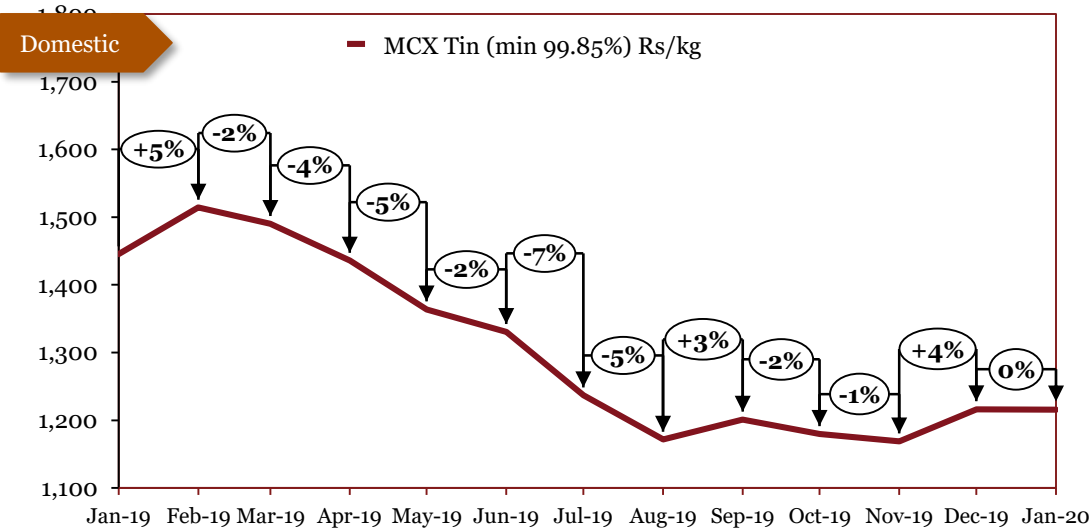
Outlook

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. In December, Nickel prices continued to correct domestically and internationally on oversupply in the market, particularly large Chinese imports. In January, international prices were hurt by the trade war as well as fears of the coronavirus epidemic. Domestic prices followed suit in declining.

Tin



Source: LME



Source: MCX

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
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
Dec-19	17,083	1,216
Jan-20	17,062	1,216

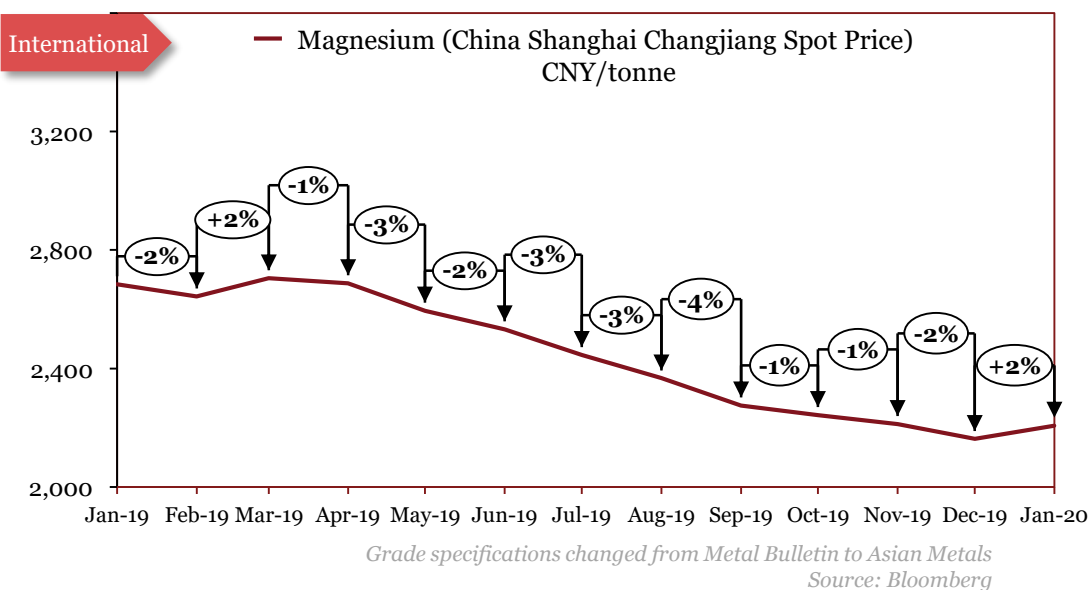
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In December, international prices finally looked to be picking up thanks to positive demand and the hopes of a US-China trade agreement. Domestic prices also rose in tandem with international prices. In January, international and domestic prices both remained unchanged.

Magnesium

Monthly Average Prices	
Period	*Int'l (\$/tonne)
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
Dec-19	2162
Jan-20	2207



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

Outlook

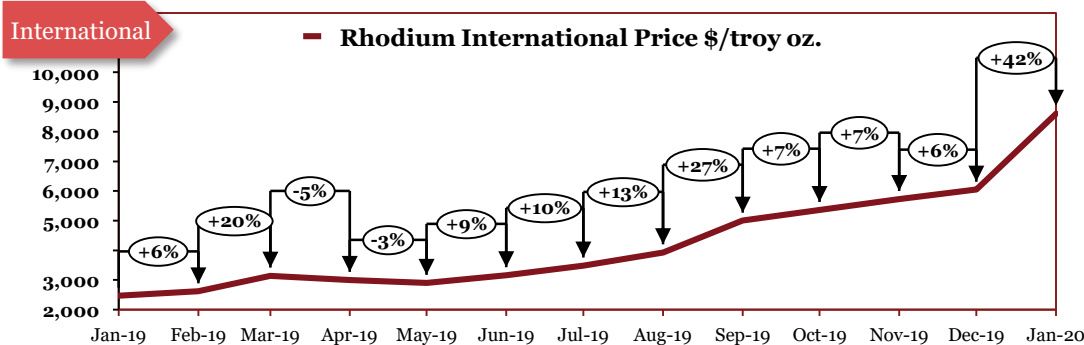
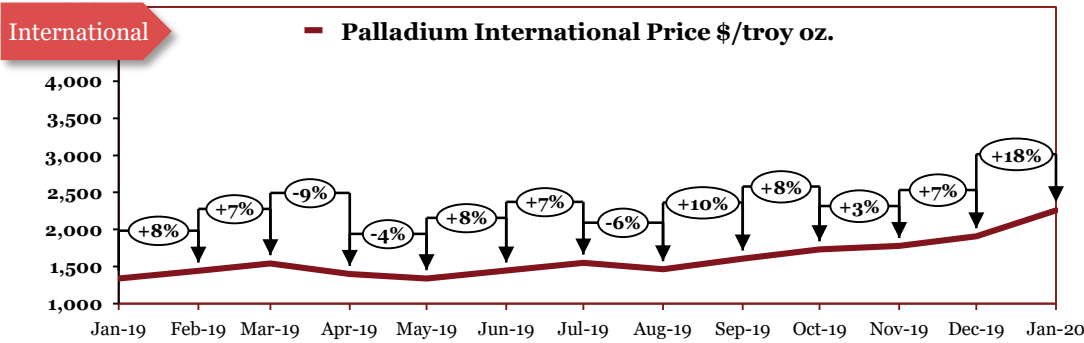
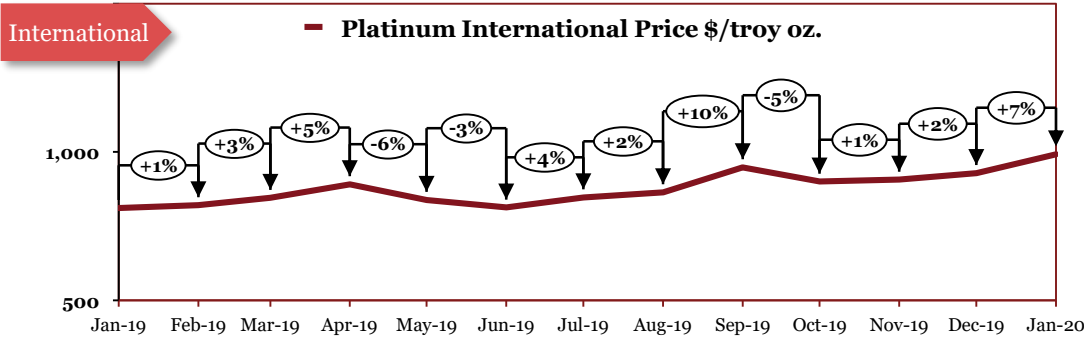
In May, June and July, magnesium prices have witnessed increasing trend owing to favourable market conditions. In August, prices continued to rise. In September, prices rose on account of tighter supply. In October, magnesium prices continued with increasing trend. In November and December 2018, magnesium 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. In December, the downward trend of prices continued. In January, magnesium prices rebounded slightly

^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
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
Dec-19	929	1909	6046
Jan-20	993	2258	8609

Source: Johnson Matthey

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

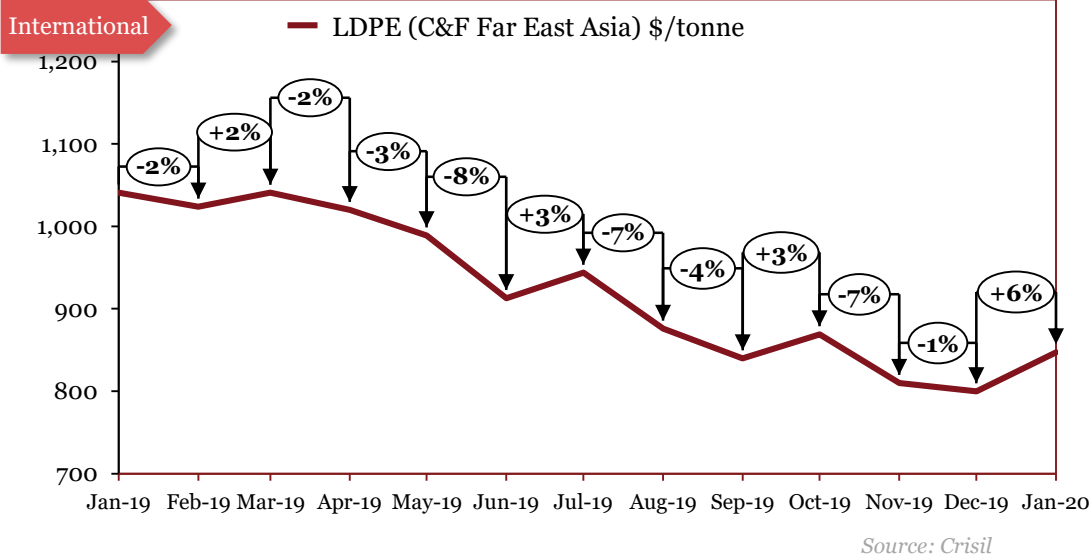
Outlook

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. In December, prices of Rhodium and Palladium continued to rise exponentially as demand from auto manufacturers continued to outstrip supply, while platinum prices rose steadily, being a popular investment. In January, rhodium and palladium prices continued to rise due to demand from carmakers for their catalytic converters to manage stricter emissions rules. Platinum prices rose in conjunction, though at a lesser rate, reflecting the shift from petrol to hybrid cars that use palladium rather than platinum.

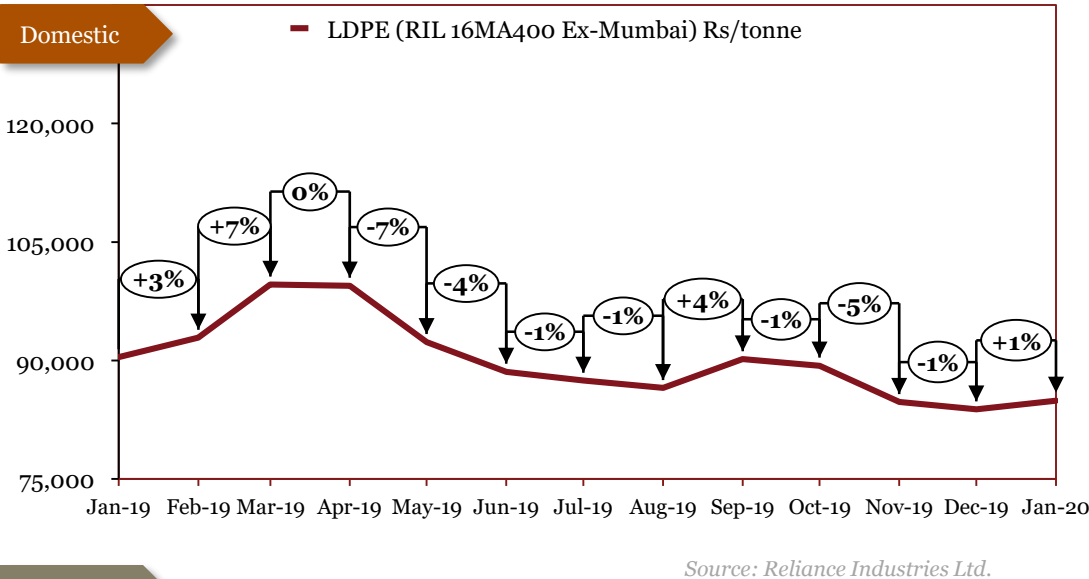
Polymers & Rubber

	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)
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
Dec-19	800	83,814
Jan-20	847	84,922

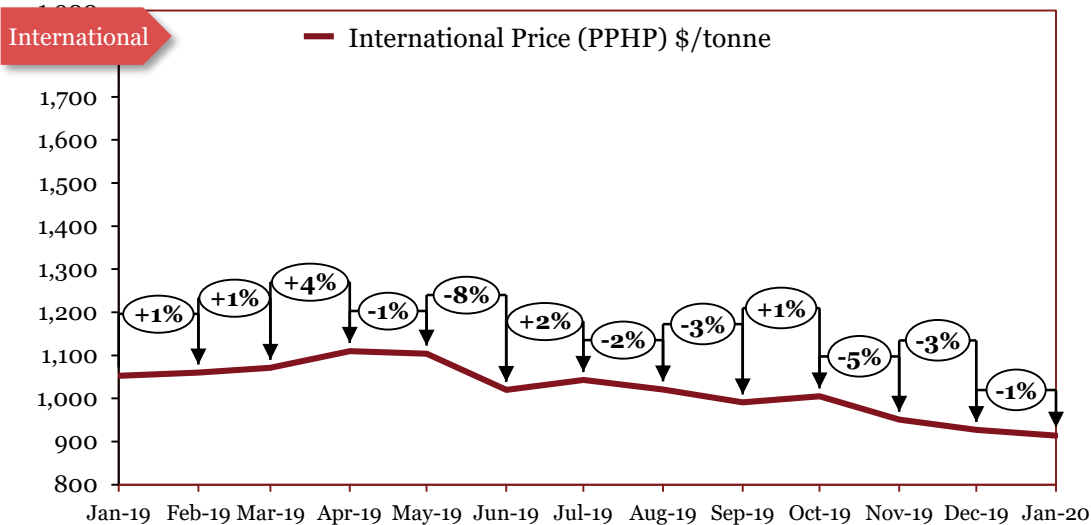


*The actual prices may vary depending on city, player, grade etc.

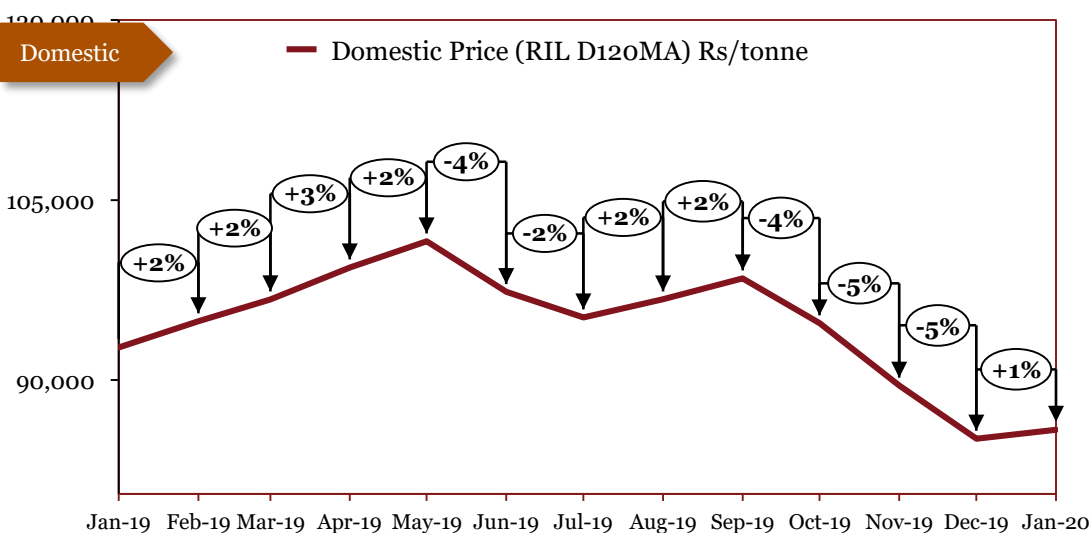
Outlook

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. In December, prices internationally and domestically continued to decline as oversupply in the market met sluggish demand. In January, international prices rose due to plant shutdowns in Japan and Thailand, with domestic prices also rising.

Polypropylene (PP)



Source: Crisil



Source: Reliance Industries Ltd.

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
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
Dec-19	927	85,116
Jan-20	914	85,862

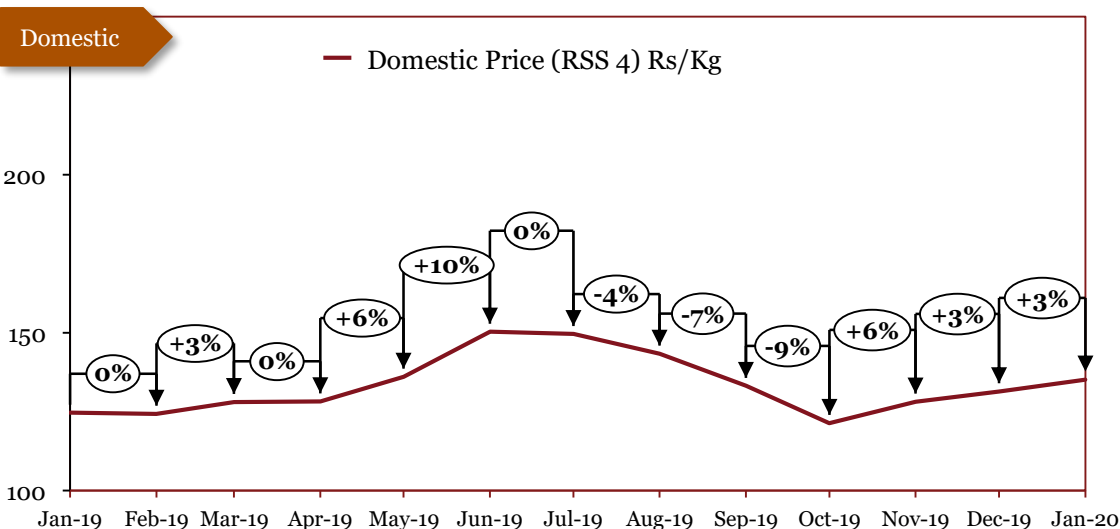
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In December, international and domestic prices continued to decline, with ample inventory in the market as buyers resisted building up stocks. In January, the trend of falling international prices continued thanks to a production surge in China, while domestic prices rose on tighter availability of product in the domestic market.

Rubber

Monthly Average Prices	
Period	*Dom (Rs/kg)
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
Dec-19	131
Jan-20	135



Source: Rubber board

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

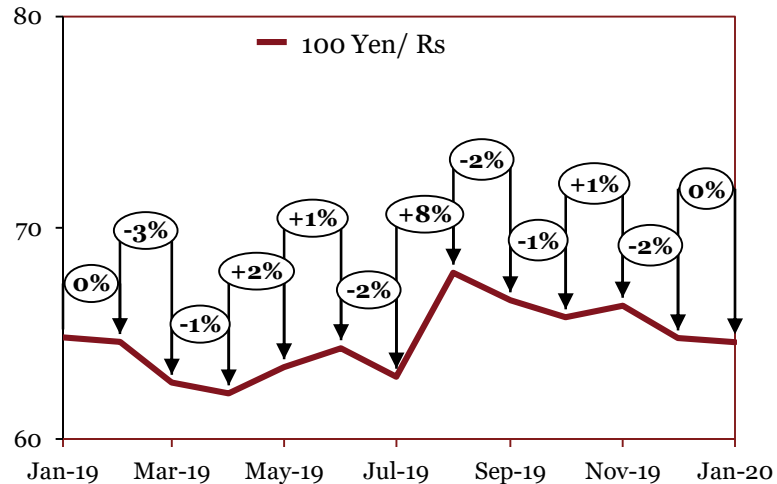
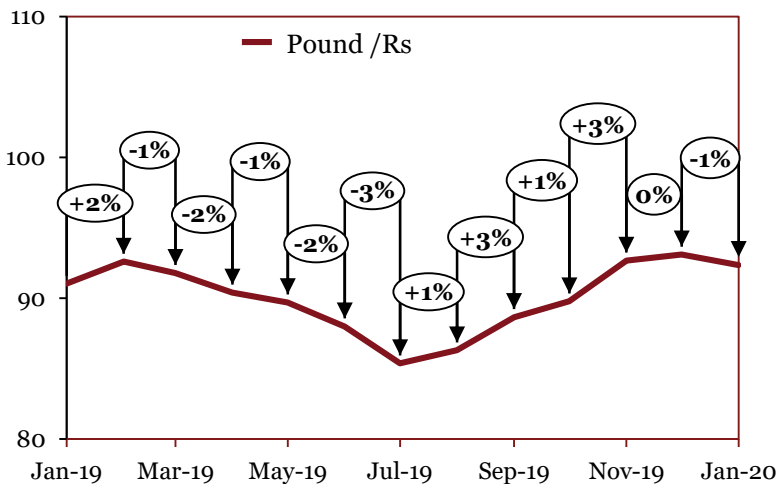
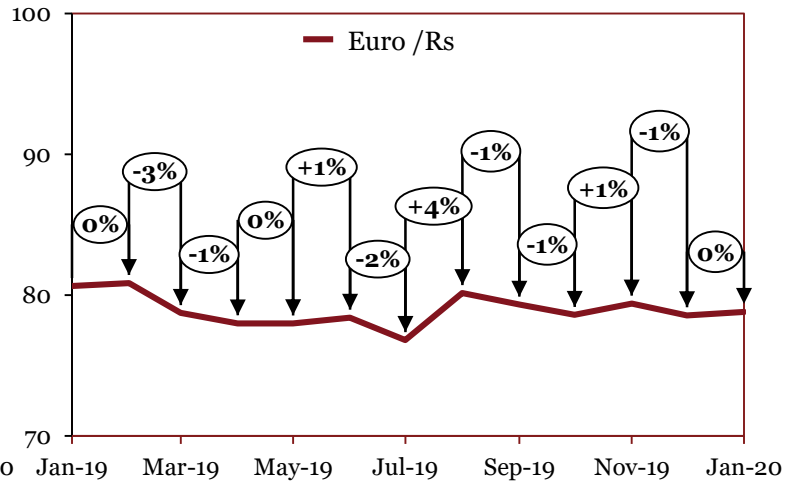
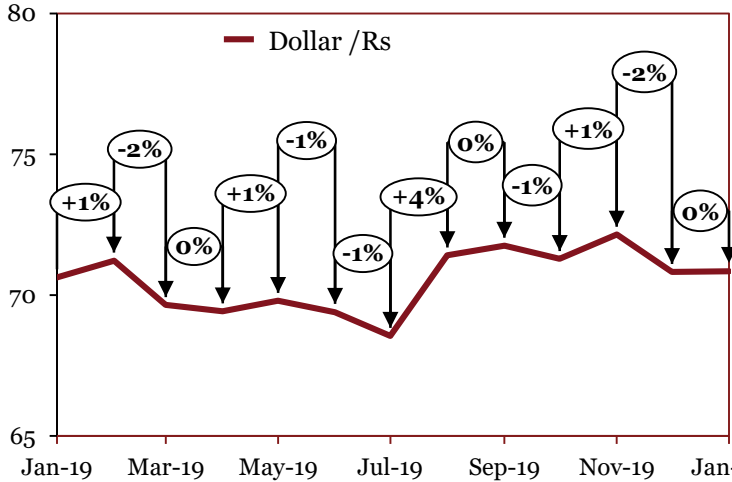
Outlook

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. In December, rubber prices rose due to the Pestalotiopsis disease on rubber plantations lowering international supply, alongside the higher oil price and the breakthrough in US-China trade relations. In January prices continued to trend upwards due to worsening supply problems.

Appendices

	Appendices	39
27	Forex Movement	40
28	Crude Oil	41
29	Commodity Specifications	42

Forex Movement

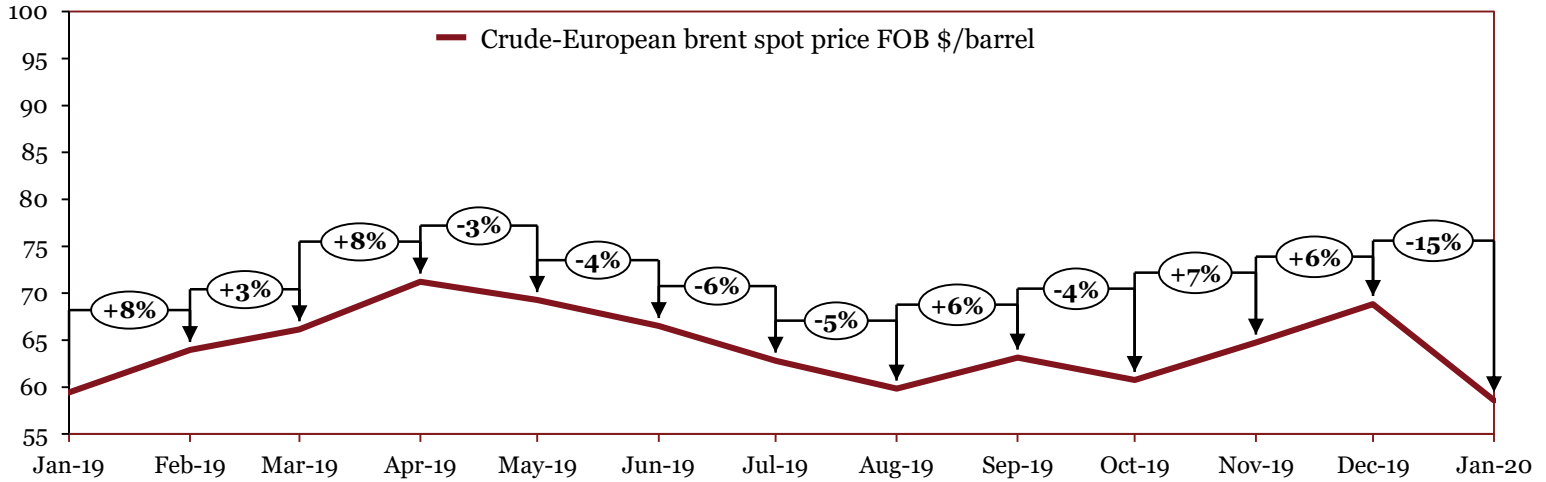


Source: Reserve Bank of India

Monthly Average Prices (Rs)

	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
\$	71	71	70	69	70	69	69	71	72	71	72	71	71
£	81	81	79	78	78	78	77	80	79	79	79	93	92
€	81	81	79	78	78	78	77	80	79	79	79	79	79
¥	65	65	63	62	63	64	63	68	67	66	66	65	65

Crude Oil



Source: EIA

Monthly Average Prices (\$/barrel)

	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
	59	64	66	71	69	67	63	60	63	61	65	69	59

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	Bloomberg -Black Sea Steel Billet Spot FOB <i>Previously: FOB Latin America FOB CIS Black Sea</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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