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Commodity price monitor

April -19

Prepared for ACMA

*Strictly private
and confidential*

May 2019



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
Ferro-alloys		15
7	Ferro titanium	16
8	Ferro chrome	17
9	Ferro molybdenum	18
10	Ferro vanadium	19
11	Ferro silicon	20
12	EN8 Alloy Steel (Forging)	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	Stainless Steel	22
14	20MnCr5 Alloy Steel (Forging)	23
Base Metals		24
15	Aluminium	25
16	Copper	26
17	Zinc	27
18	Nickel	28
19	Tin	29
20	Magnesium	30
Precious Metals		31
21	Precious Metals	32
Polymers & Rubber		33
22	Low density polyethylene (LDPE)	34
23	Polypropylene (PP)	35
24	Rubber	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

Appendices		37
25	Forex Movement	38
26	Crude Oil	39
27	Commodity Specifications	40

***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 18-19: Q vs. Q update

Commodity	Region	Q-o-Q Up	Q-o-Q Down
Iron & Steel			
Iron Ore	International	7% ▲	
	Domestic low grade		
	Domestic high grade		
Pig Iron	International	3% ▲	
	Domestic	0% ▲	
Stainless steel	Domestic		-1% ▼
	Domestic		-2% ▼
Wire rod	International	6% ▲	
	Domestic	0% ▲	
Steel Billets	International		-1% ▼
	Domestic		-0% ▼
Hot-rolled coils	International	3% ▲	
	Domestic	1% ▲	
Cold-rolled coils	International	2% ▲	
	Domestic	1% ▲	
EN8	Domestic		-1% ▼
20MnCr5	Domestic		-1% ▼
Ferro-alloys			
Ferro titanium	International	5% ▲	
Ferro chrome	International	4% ▲	
	Domestic	2% ▲	
Ferro molybdenum	International	7% ▲	
Ferro vanadium	International	17% ▲	
Ferro silicon	International	1% ▲	
	Domestic		-5% ▼

ND: Not disclosed by the source

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

Calendar Year 18-19: Q vs. Q update

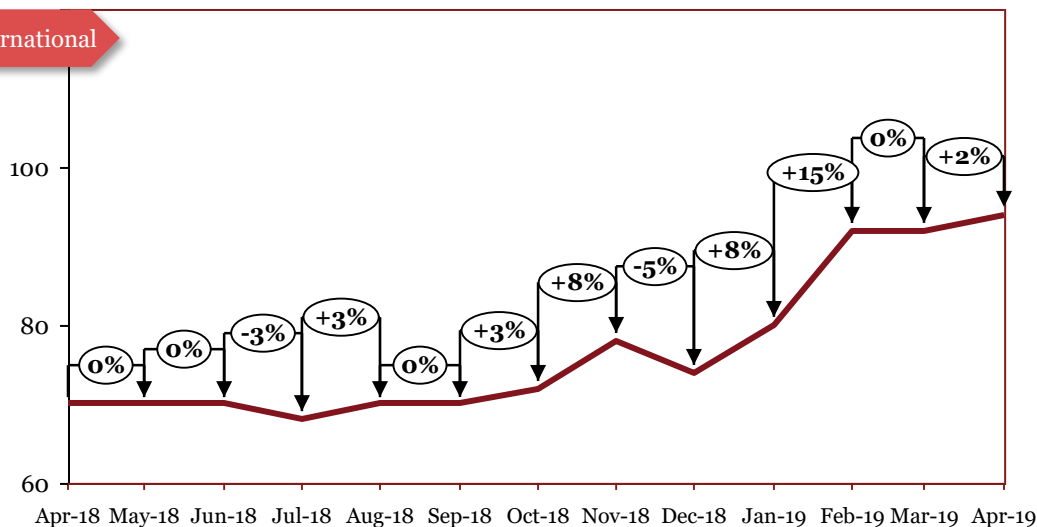
Commodity	Region	Q-o-Q Up	Q-o-Q Down
Base Metals			
Aluminium	International	9% ▲	
	Domestic		-3% ▼
Copper	International	4% ▲	
	Domestic	2% ▲	
Zinc	International	9% ▲	
	Domestic	4% ▲	
Nickel	International	3% ▲	
	Domestic		-2% ▼
Tin	International		-2% ▼
	Domestic		-3% ▼
Magnesium	International	0% ▲	
Precious Metals			
Platinum	International	8% ▲	
Palladium	International		-3% ▼
Rhodium	International	9% ▲	
Polymers			
Low density polyethylene (LDPE)	International		
	Domestic	5% ▲	
Polypropylene (PP)	International		
	Domestic	5% ▲	
Rubber	Domestic	2% ▲	
Currency Exchange			
Dollar	International		-2% ▼
Pound	International		-3% ▼
Euro	International		-2% ▼
Yen	International		-3% ▼

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

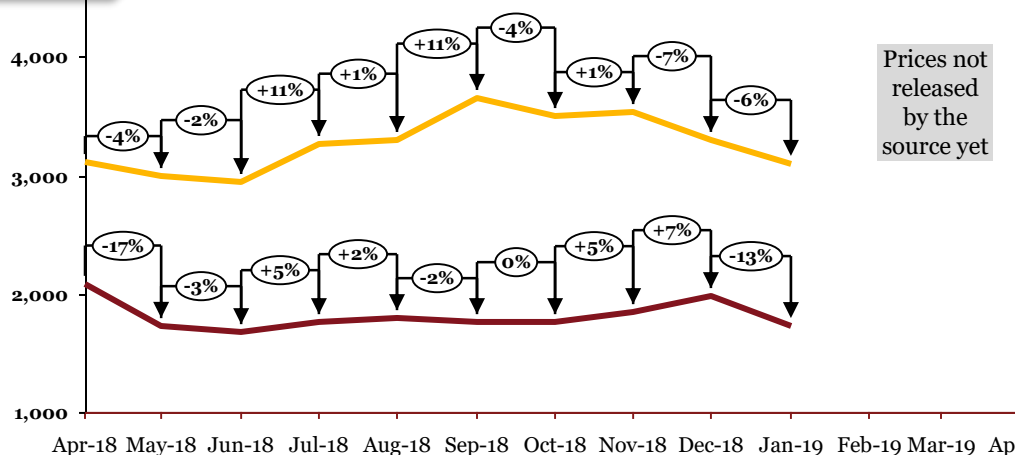
Iron Ore

International



Source: Crisil

Domestic



Source: Crisil

Prices not released by the source yet

Monthly Average Prices			
Period	*Int'l	*Dom	
	\$/tonne	Rs/tonne	
		65% & below	65% & above
Apr-18	70	2,087	3,106
May-18	70	1,726	2,993
Jun-18	70	1,676	2,946
Jul-18	68	1,757	3,264
Aug-18	70	1,799	3,289
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	-	-
Mar-19	92	-	-
Apr-19	94	-	-

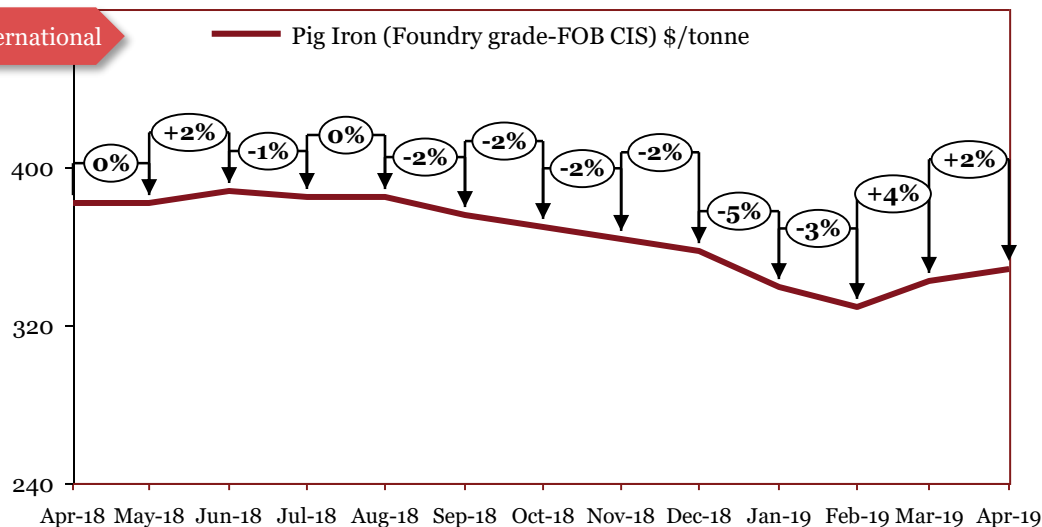
*The actual prices may vary depending on city, player, grade etc.

Outlook

In June, prices in the international market remained unchanged owing to stable demand. In July, expansion in global mine supply, easing in steel prices and renewed production curbs at mills in China blunted overall demand and caused a decline in prices in the international market. In August, international prices rose mainly due to increased demand from China and decreased supply from Brazil. In September, international prices remained stable. In October, international iron ores increased with improvement in steel demand and high import from China. In November, iron ore prices witnessed increase. In December, prices declined owing to sluggish demand. In January, declining trend in international iron ore prices was reversed. In February, supply disruption of Vale's iron ore mine in Brazil, which is expected to hit 70 million tonne of global iron ore production led to concerns over iron ore supply, lifting global prices. In March 2019, prices remained unchanged due to stable market conditions. 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.

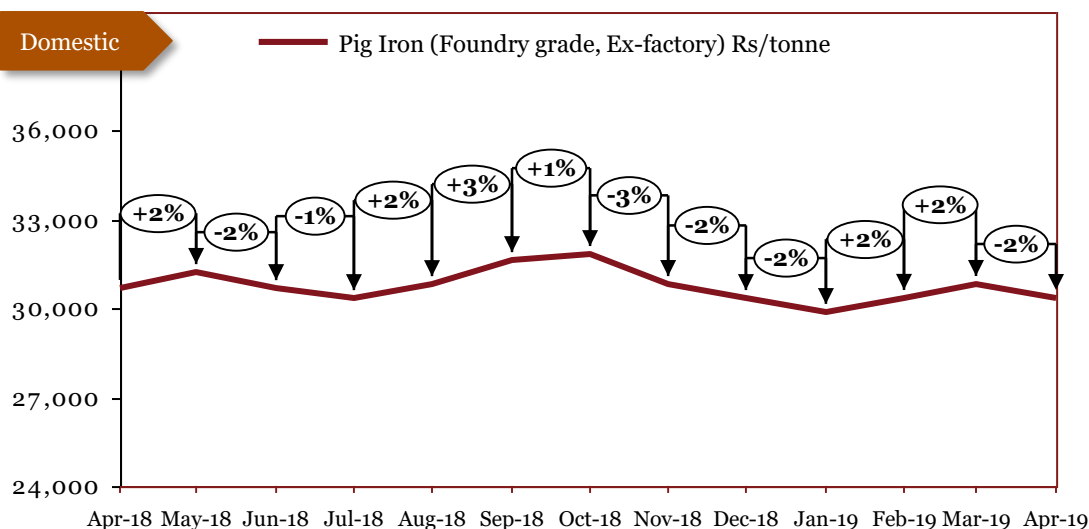
Pig Iron

International



Source: Crisil

Domestic



Source: Crisil

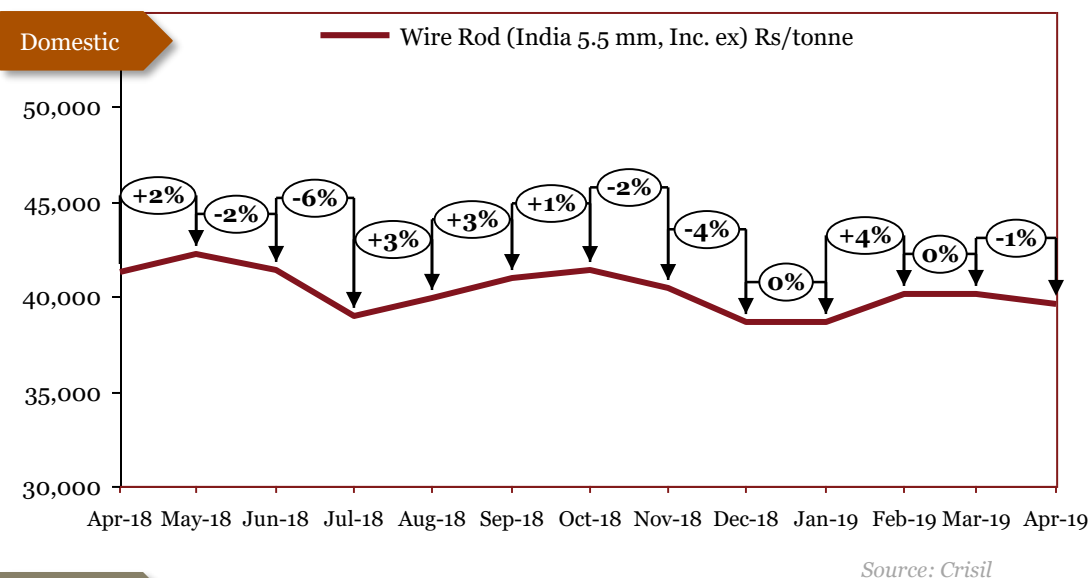
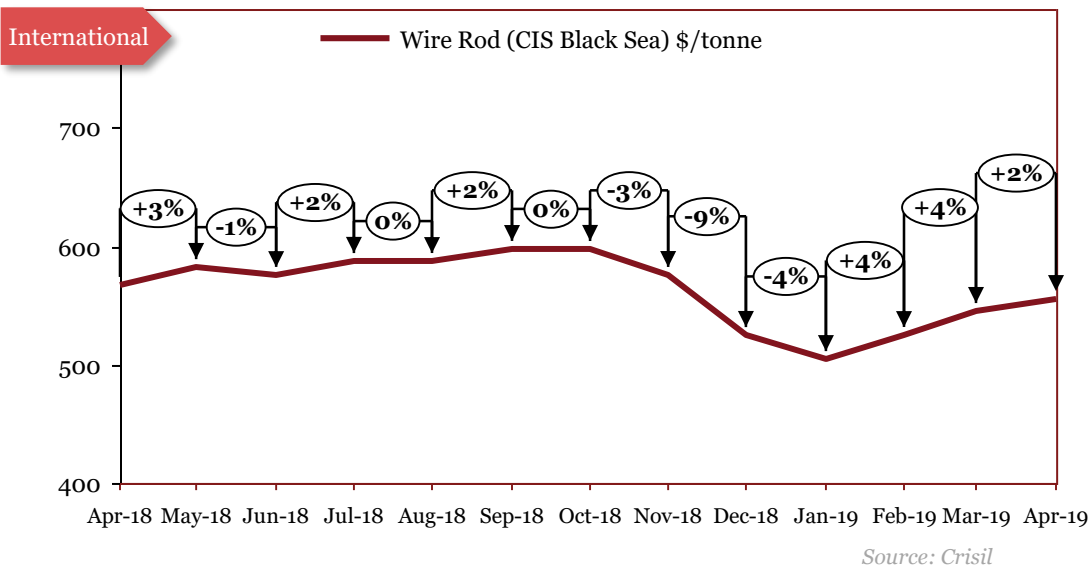
Monthly Average Prices		
Period	*Int'l \$/tonne	*Dom Rs/tonne
Apr-18	382	30,700
May-18	382	31,200
Jun-18	388	30,700
Jul-18	385	30,350
Aug-18	385	30,850
Sep-18	376	31,650
Oct-18	370	31,850
Nov-18	363	30,850
Dec-18	357	30,350
Jan-19	339	29,850
Feb-19	330	30,350
Mar-19	342	30,850
Apr-19	348	30,350

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

Outlook

In August, domestic pig iron prices increased in line with the rising steel prices. Further, rising raw material prices have also pushed up the price. In September, domestic pig iron prices increased during the month on back of higher raw material cost and rising steel prices. In October, pig iron prices increased during the month on back of sustained demand. In November, prices decreased owing to decline in prices of finished steel products. In the month of December 2018, pig iron (foundry grade) prices decreased on back of slump in domestic steel prices. In January 2019, pig iron (foundry grade) prices decreased on account of increased supply in the market. Additionally, decline in iron ore prices as well softening of steel prices put further pressure on pig iron prices. In February 2019, domestic pig iron (foundry grade) prices increased on account of increase in iron ore prices. In the month of March 2019, pig iron (foundry grade) prices increased led by uptick in steel prices and modest demand. 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.

Wire Rod



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-18	568	41,244
May-18	583	42,244
Jun-18	576	41,444
Jul-18	587	38,944
Aug-18	587	39,944
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

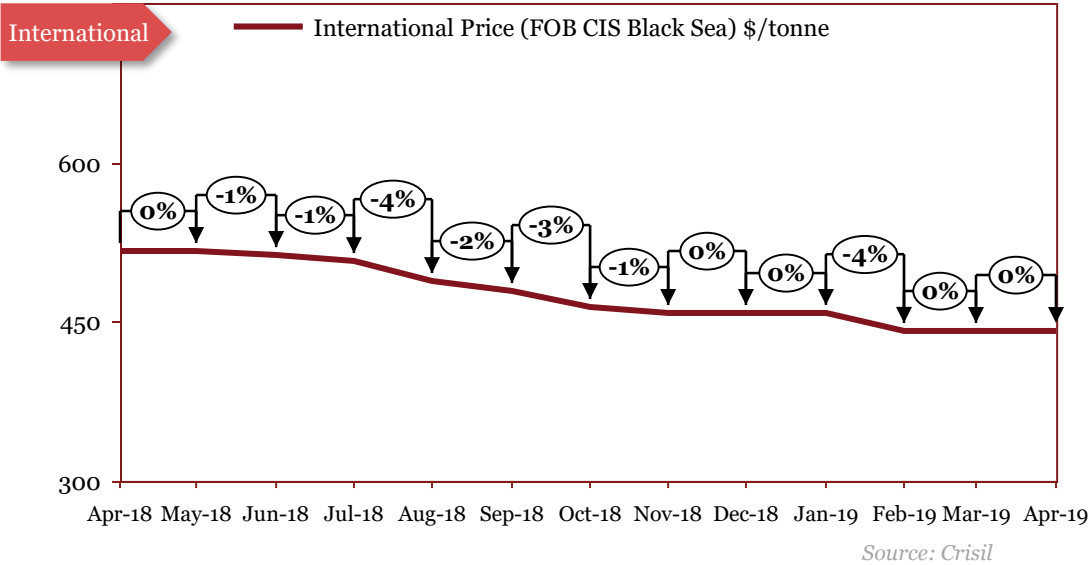
*The actual prices may vary depending on city, player, grade etc.

Outlook

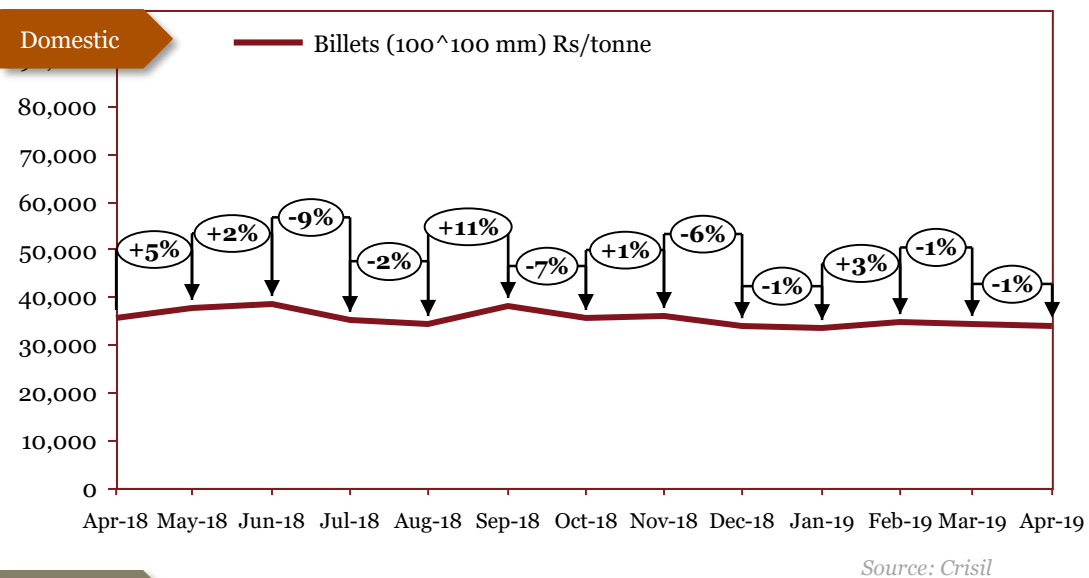
In June, international prices declined owing to subdued demand. Domestic prices decreased primarily owing to muted demand due to onset of monsoon. In July, international prices increased and domestic prices continued to decline owing to decreased demand due to the monsoon season. In August, declining trend in domestic prices was reversed due to small and medium sized players increasing prices due to increased demand. In September, domestic prices increased led by healthy domestic demand and rise in raw material costs. In October, prices increased during the month led by healthy domestic demand, currency depreciation, and rise in raw material costs. 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 sentiment.

^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)
Apr-18	517	34,700
May-18	516	37,467
Jun-18	513	38,367
Jul-18	507	35,050
Aug-18	487	34,300
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



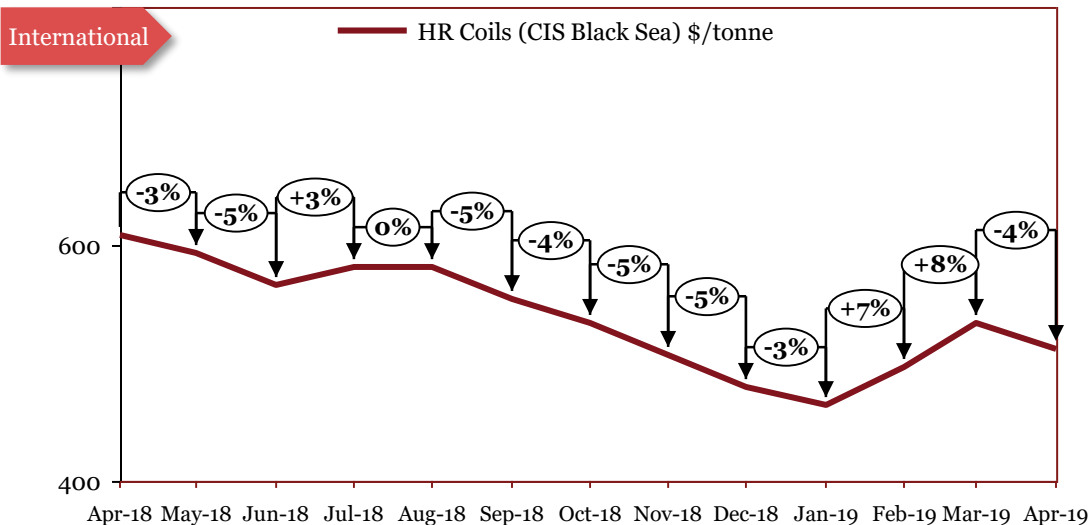
*The actual prices may vary depending on city, player, grade etc.

Outlook

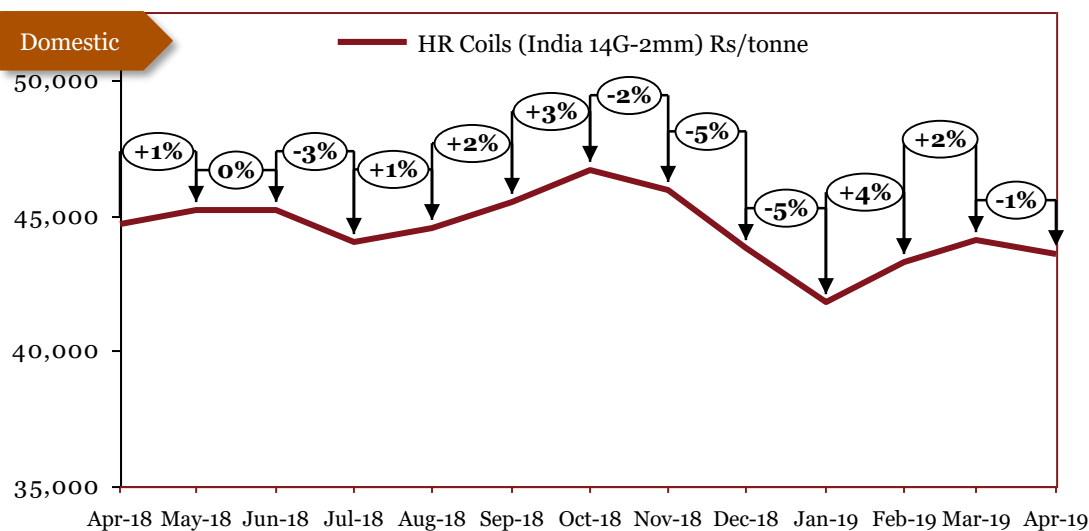
In June, international prices fell due to muted demand amid the threat of an escalating global trade war. Domestic prices rose on account of short supply of scrap. In July, prices in the domestic market fell due to decreased demand owing to fall in construction activity because of the monsoon season and reduced ability to export owing to international trade wars. In August, domestic prices continued to fall. In September, domestic prices increased primarily owing to increased off-take of medium size mills, lower inventories coupled with elevated input material costs. In October, billet prices experienced decline owing to weaker domestic demand. In November, prices fell in the global market due to a return of Chinese producers to the export market leading to increased supply. In December, international prices stagnated while domestic prices fell. 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.

^International prices changed due to change in the grade

Hot-Rolled (HR) Coils



Source: Crisil



Source: Crisil

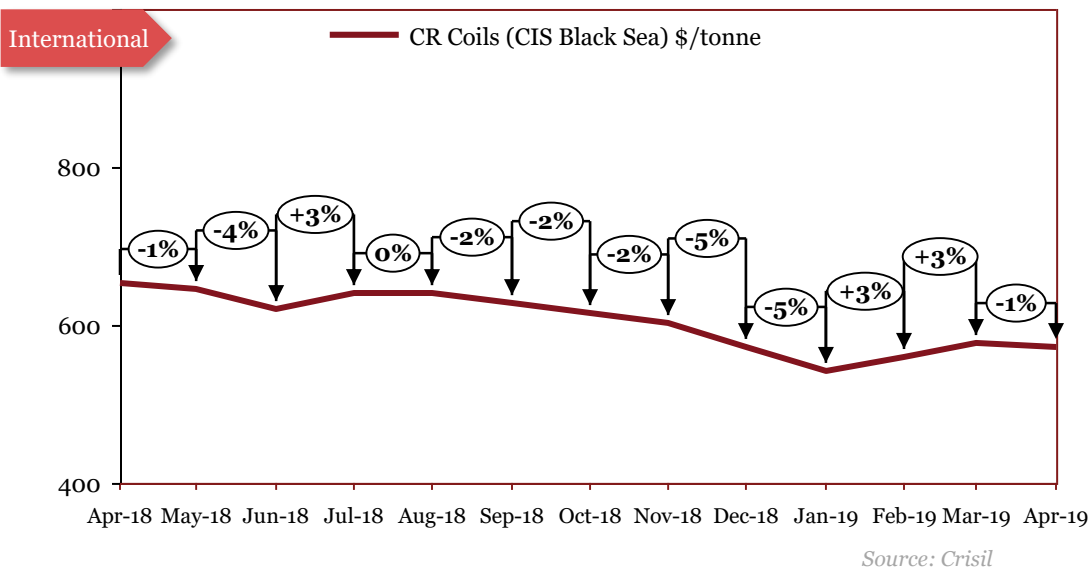
Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Apr-18	608	44,700
May-18	592	45,200
Jun-18	565	45,200
Jul-18	581	44,000
Aug-18	581	44,500
Sep-18	554	45,500
Oct-18	533	46,700
Nov-18	506	45,900
Dec-18	480	43,800
Jan-19	464	41,800
Feb-19	496	43,300
Mar-19	533	44,050
Apr-19	512	43,550

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

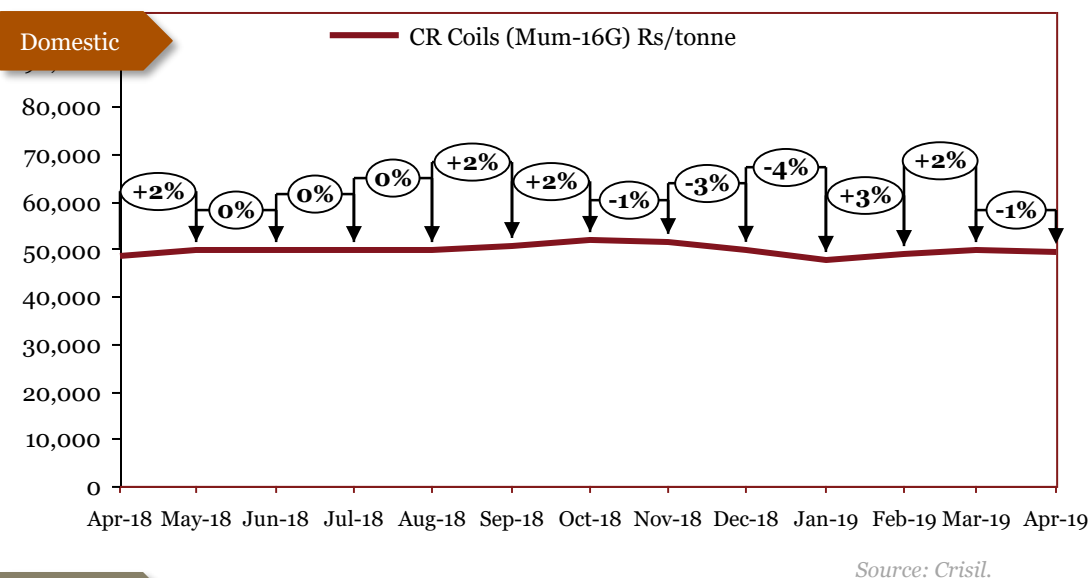
Outlook

In November, prices in the international market fell owing to lacklustre demand and prices in the domestic market fell owing to increased supply. In the month of December 2018, international prices declined on account of weak demand in China's domestic market along with tepid exports demand due to New Year holidays. In line with global prices, domestic prices declined owing to sluggish demand. Further, decline in global steel prices has led to landed costs of imports being more cost effective than domestic offers, leading to decline in domestic prices. In January 2019, international HR coil prices declined owing to weak demand. On domestic front, prices declined amid cost effective imports and bearish export market. In February 2019, international prices increased due to increase in raw material prices. Domestic prices increased in line with international prices. 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.

Cold-Rolled (CR) Coils



Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Apr-18	652	48,722
May-18	652	49,722
Jun-18	621	49,722
Jul-18	640	49,722
Aug-18	640	49,722
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



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

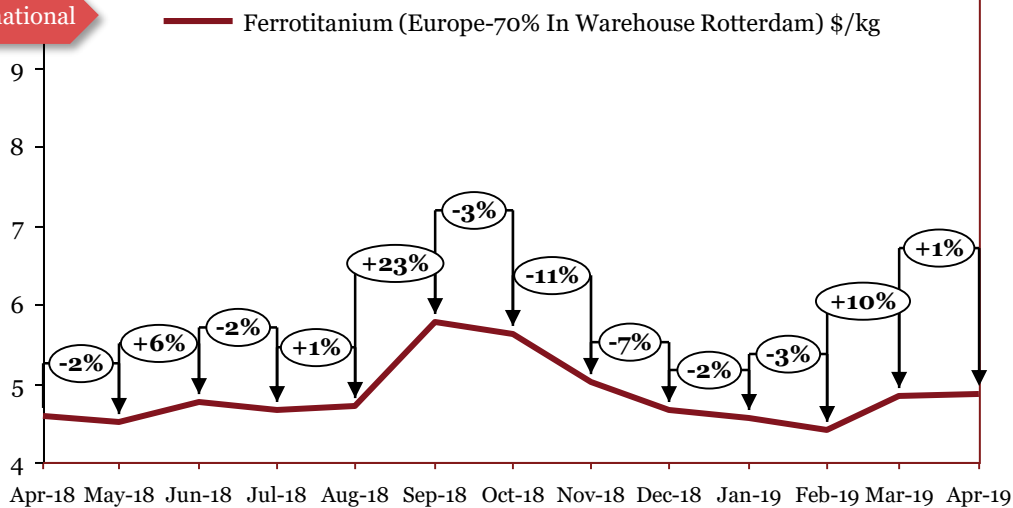
Outlook

In September, International CR coil prices declined on back of declining international HR prices. Domestic CR prices increased during the month, following the same trend as that of the HR coils. International indexed CR coil prices declined in October 2018 on back of declining international HR prices. Domestic CR prices increased during the month, mirroring HR prices trend. In November, international and domestic CR coil prices declined followed trend of declining HR prices. 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.

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

Ferro titanium

International



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

Domestic

Relevant domestic price data not available

Monthly Average Prices

Period	^*Int'l (\$/kg)
Apr-18	4.59
May-18	4.5
Jun-18	4.75
Jul-18	4.66
Aug-18	4.7
Sep-18	5.78
Oct-18	5.61
Nov-18	5
Dec-18	4.66
Jan-19	4.56
Feb-19	4.41
Mar-19	4.83
Apr-19	4.85

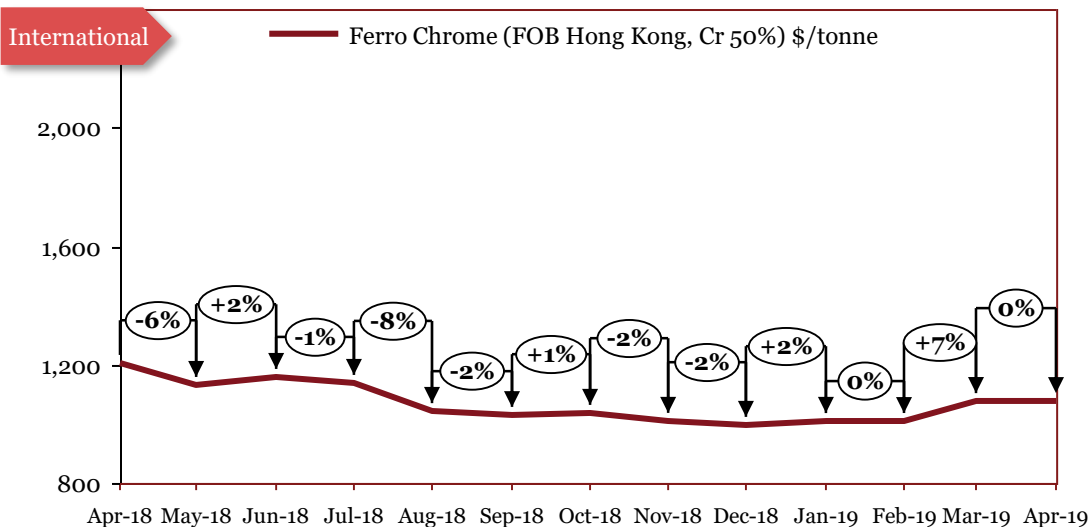
*The actual prices may vary depending on city, player, grade etc.

Outlook

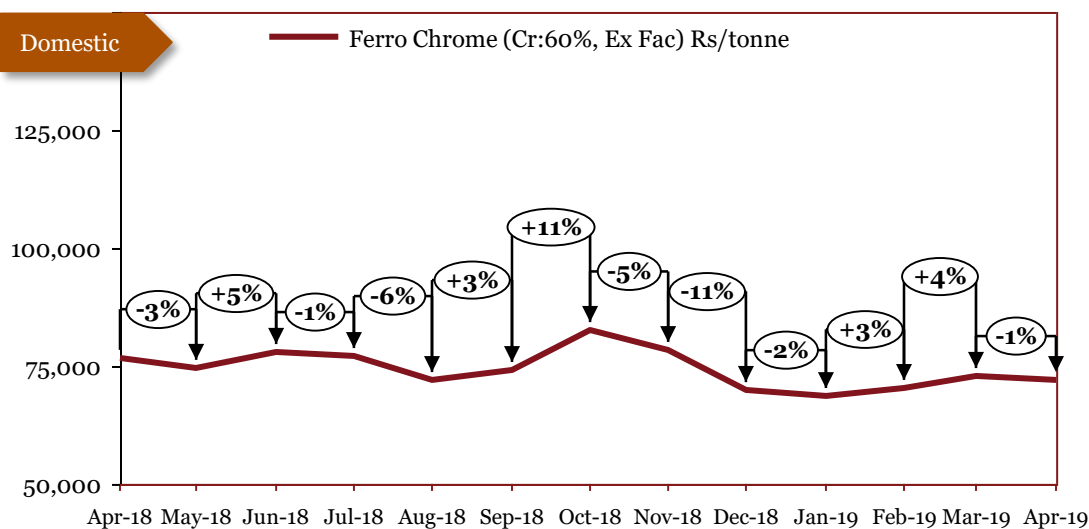
In Feb 2018, the prices remained steady due to balanced market conditions. The traders are awaiting tenders from the global steel mills for deciding the price direction. In March, the prices in Europe increased on the back of the increasing demand. In April and May, prices in the global market declined due to lower demand. Prices increased in June and declined in July due to seasonal slowdown. In August, prices increased due to persistent low supply. Global prices in September increased due to tightness in ferro-titanium availability as well as higher grade scrap - particularly from Russia. In addition, consumer activity picking up after seasonal slowdown also led to increase in prices. 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.

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

Ferro chrome



Source: Crisil



Source: Crisil

Monthly Average Prices		
Period	*Int'l	*Dom
	(\$/tonne)	(Rs/tonne)
Apr-18	1,207	76,500
May-18	1,130	74,500
Jun-18	1,156	78,000
Jul-18	1,147	77,000
Aug-18	1,044	72,000
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

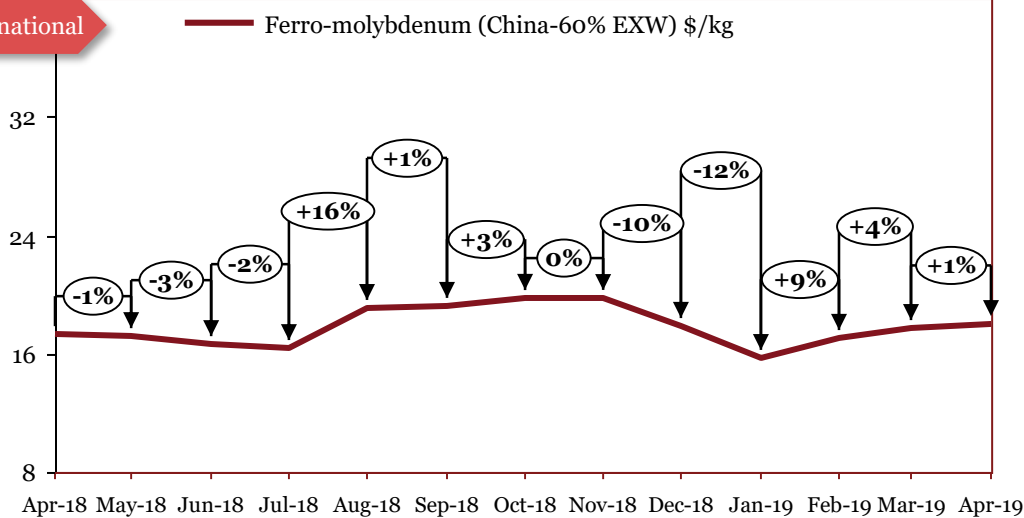
*The actual prices may vary depending on city, player, grade etc.

Outlook

In January 2019, international price of ferro chrome increased on account of slight pick up in Chinese demand. Successive shutdown/production cut by stainless steel mills, and relatively high level of chrome ore stock, coupled with some mills facing capital restraints are the key factors for the restricted growth in Ferro Chrome prices. On domestic front, prices recorded a decline primarily owing to weak demand. 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.

Ferro molybdenum

International



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

Monthly Average Prices

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

Domestic

Relevant domestic price data not available

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

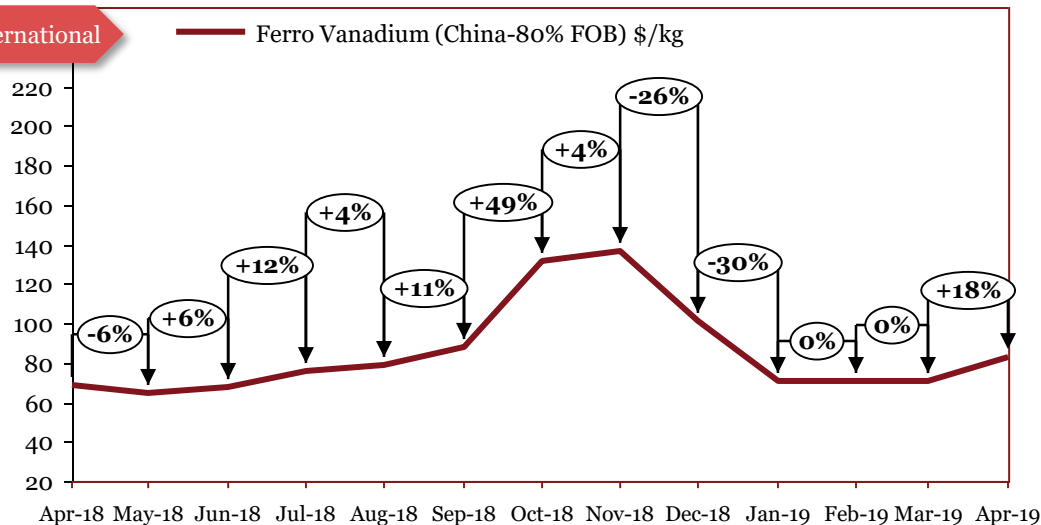
Outlook

In October, the prices decreased due to subdued demand. In December, the prices increased due to tight supply, restocking and increased costs of raw materials. In January 2018, the prices continued to increase on back of the rising demand. In Feb 2018, the prices increased due to continued demand. 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.

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

Ferro vanadium

International



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

Monthly Average Prices

Period	*Int'l (\$/kg)
Apr-18	68
May-18	64
Jun-18	68
Jul-18	76
Aug-18	79
Sep-18	88
Oct-18	131
Nov-18	137
Dec-18	101
Jan-19	71
Feb-19	71
Mar-19	71
Apr-19	83

Domestic

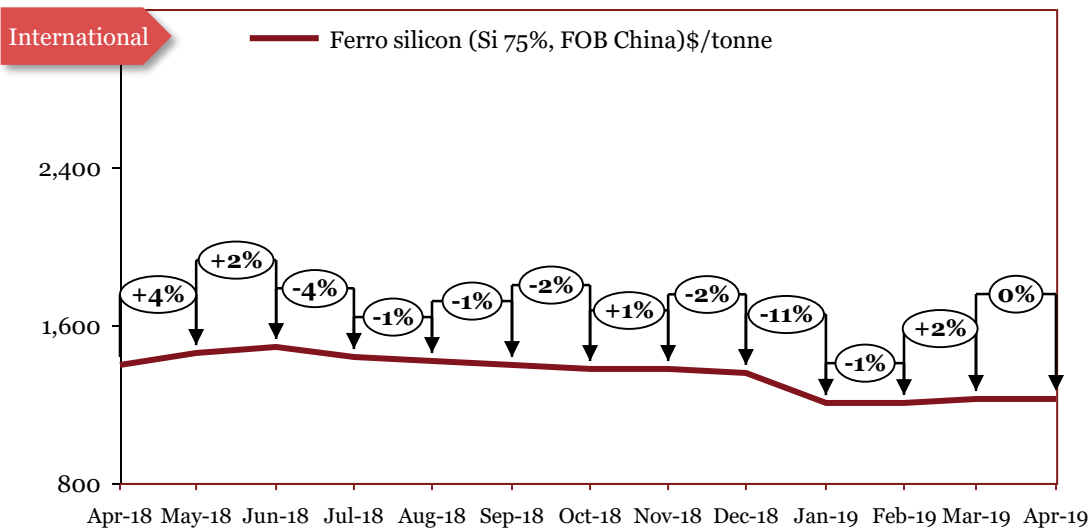
Relevant domestic price data not available

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

Outlook

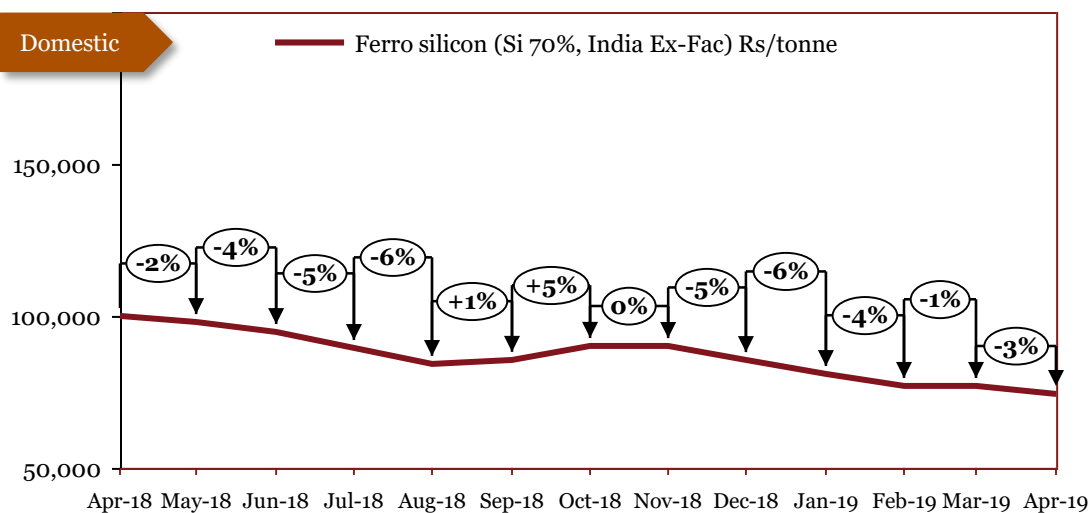
In March, the prices increased owing to the rising supply constraints. In April, the prices increased owing to the increased demand. In May, prices registered a decline due to limited demand. In June and July, prices witnessed increase due to persistent tight supply in the international market. In August, prices continued to rise. In September, global prices continued with increasing trend due to global supply constraints. In October, prices increased due to the impending imposition of stringent rebar standards in China together with tight vanadium supply globally. 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.

Ferro silicon



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-18	1,401	99,700
May-18	1,456	98,200
Jun-18	1,490	94,700
Jul-18	1,442	89,700
Aug-18	1,415	84,500
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



Source: Crisil

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

Outlook

International ferro silicon prices increased while domestic prices remained firm in November 2018 on account of stable demand-supply sentiment for the commodity. International ferro silicon prices declined marginally in December 2018 owing to muted demand. In line with global prices, domestic ferro silicon prices declined on the back of increasing inventories with manufacturers and supply outstripping demand. International ferro silicon prices declined in January 2019 owing to muted demand, especially in China. Many ferro silicon suppliers in China have shifted to the production of silicon carbide due to low demand. In line with global prices, domestic ferro silicon prices declined on the back of increasing inventories with manufacturers and supply outstripping demand. International ferro silicon prices declined in February 2019 owing to muted demand, especially in China. In line with global prices, domestic ferro silicon prices declined on the back of increasing inventories with manufacturers and supply outstripping demand. 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.

EN8 Alloy Steel (Forging)

International

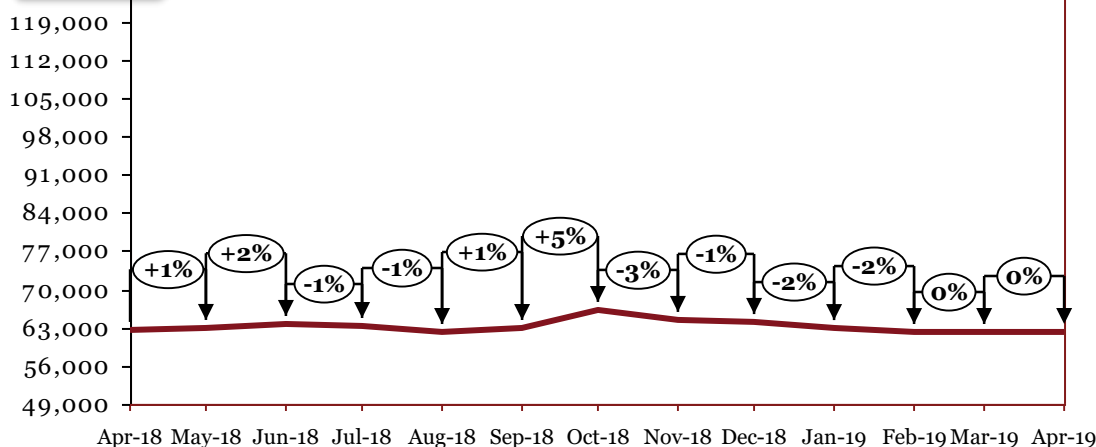
Data not available for relevant (comparable to domestic) grades

Monthly Average Prices

Period	*Dom (Rs/tonne)
Apr-18	62,400
May-18	62,750
Jun-18	63,800
Jul-18	63,200
Aug-18	62,300
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

Domestic

Alloy Steel (forging)-EN8 India Rs/tonne



Source: PwC Research

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

Outlook

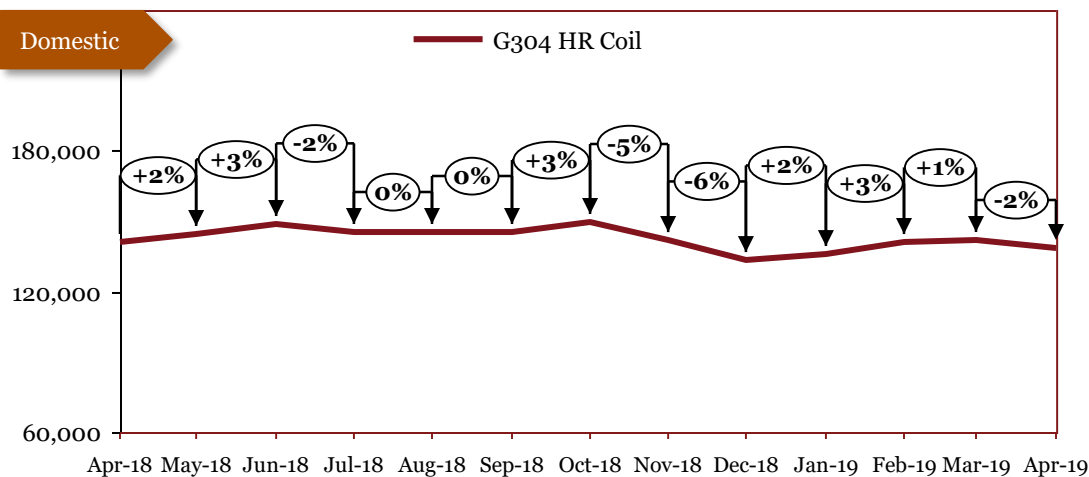
In January and Feb, the prices continued to increase due to increase in the raw material prices. In March, the domestic prices increased due to increased demand. In April, prices remained constant due to stable market conditions and increased in May along with other steel products. Similarly, prices increased in June in step with other steel products. In July, prices fell due to unfavourable demand. 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.

Stainless Steel

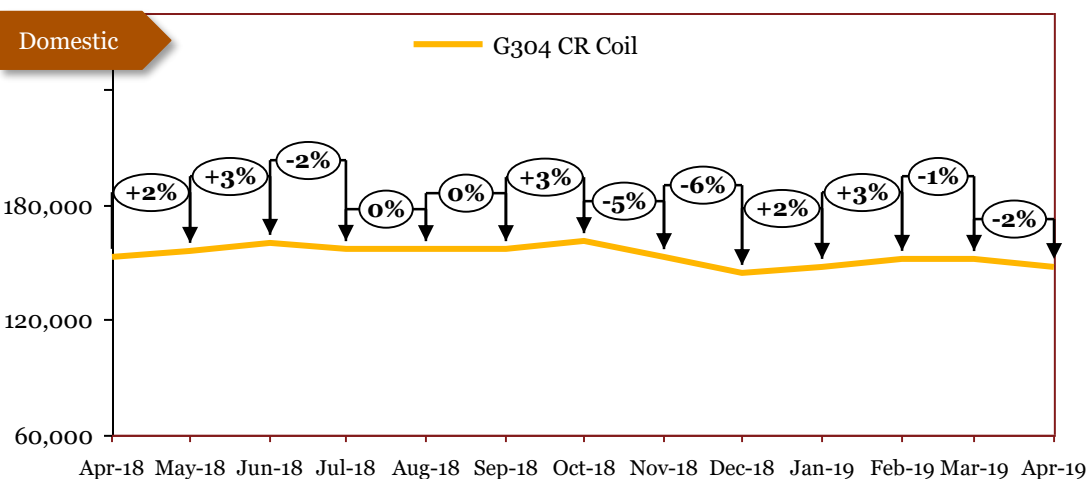
International

Data not available for relevant (comparable to domestic) grades

Domestic



Domestic



Monthly Domestic Average Prices

Period	*G304 HR (Rs/tonne)	*G304 CR (Rs/tonne)
Apr-18	141,200	152,750
May-18	144,700	156,250
Jun-18	148,700	160,250
Jul-18	145,200	156,750
Aug-18	145,200	156,750
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

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

Source: PwC Research

Outlook

In November, the domestic prices followed the suit of international prices, which decreased owing to the reduced demand in China. In December, the domestic prices decreased due to low export demand, caused by stable supply from China. In January 2018, the domestic prices increased owing to the increase in the zinc prices. In Feb 2018, the increase in the domestic prices continued on the back of the rising input material prices. In March, the prices continued to increase on the back of the rising demand. 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 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.

20MnCr5 Alloy Steel (Forging)

International

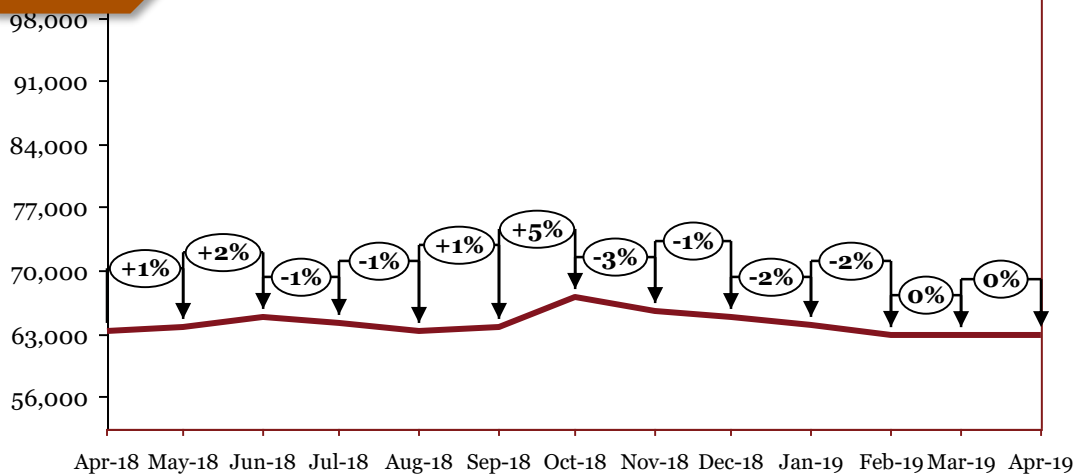
Data not available for relevant (comparable to domestic) grades

Monthly Average Prices

Period	*Dom (Rs/tonne)
Apr-18	63,400
May-18	63,750
Jun-18	64,800
Jul-18	64,200
Aug-18	63,300
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

Domestic

Alloy Steel (forging)-20MnCr5 India Rs/tonne



Source: PwC Research

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

Outlook

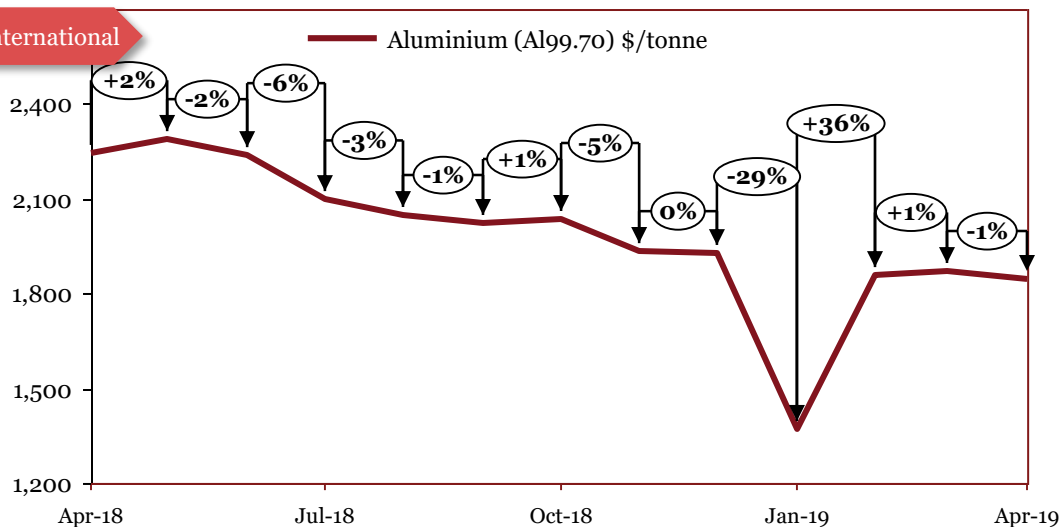
In December, the price hike can be attributed to the rising cost of raw materials. In January and Feb, the prices continued to increase due to increase in the raw material prices. In March, the domestic prices increased due increased demand. In April, prices remained constant due to stable market conditions 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, 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.

Base Metals

Base Metals		24
15	Aluminium	25
16	Copper	26
17	Zinc	27
18	Nickel	28
19	Tin	29
20	Magnesium	30

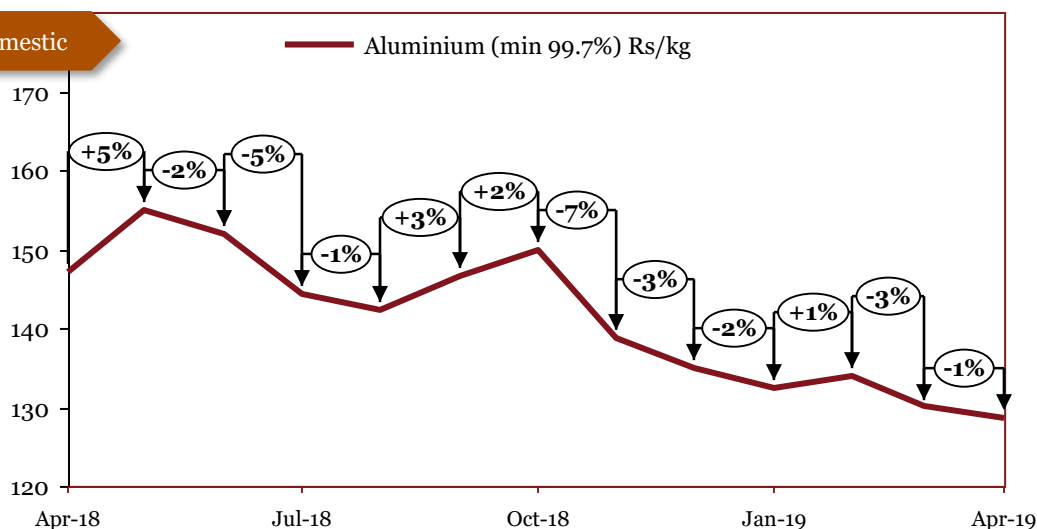
Aluminium

International



Source: LME

Domestic



Source: NCDEX

Monthly Average Prices

Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-18	2,242	147
May-18	2,290	155
Jun-18	2,240	152
Jul-18	2,098	144
Aug-18	2,045	142
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

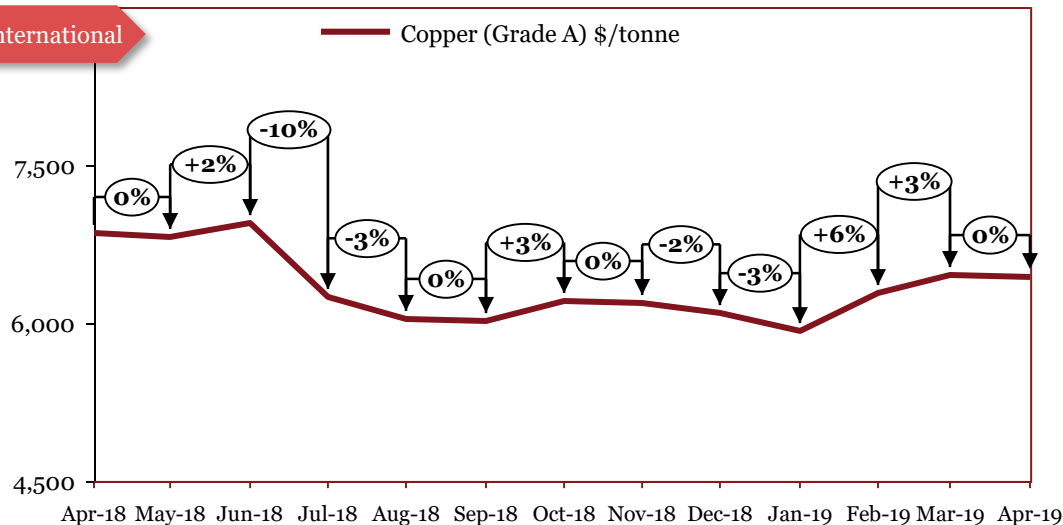
*The actual prices may vary depending on city, player, grade etc.

Outlook

In November, the LME prices fell over the uncertainty in demand from China. The domestic prices have declined comparatively less owing to the sustained local demand. In December, the international prices increased due to the supply disruption in China. However, in the domestic market, the excess supply caused reduction in the prices. In January, trade sanctions imposed by US on Chinese exports led prices to fall in the international market. Domestic market followed the suit. 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.

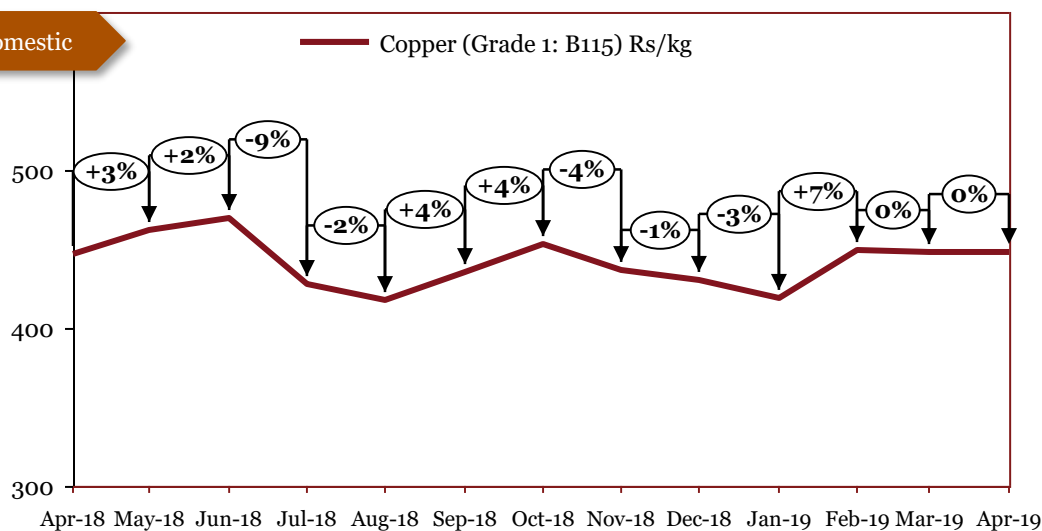
Copper

International



Source: LME

Domestic



Source: MCX

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-18	6,852	447
May-18	6,821	462
Jun-18	6,954	469
Jul-18	6,248	428
Aug-18	6,039	418
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

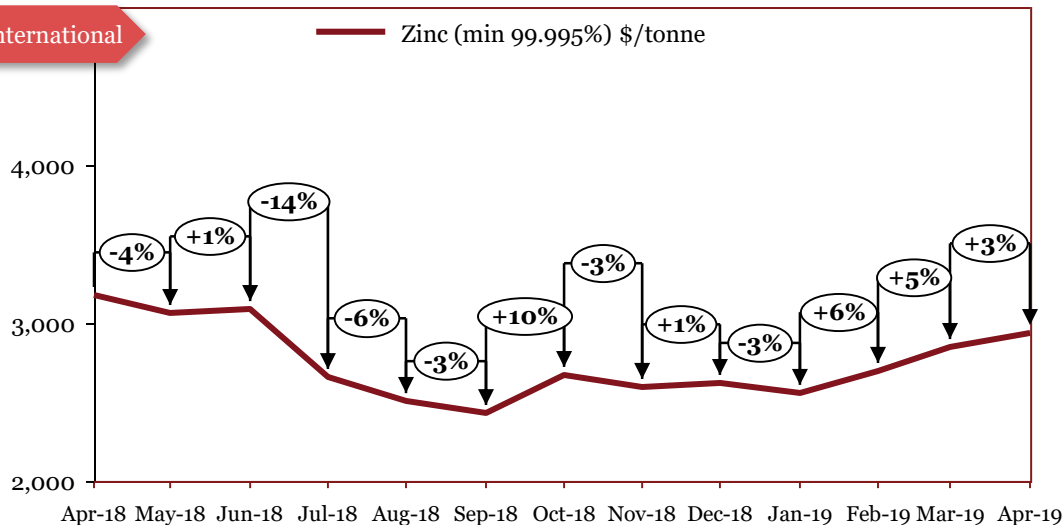
*The actual prices may vary depending on city, player, grade etc.

Outlook

In July, copper prices in the international market fell due to escalating trade war fears and fears of weakening demand from China. Domestic prices also fell due to developments in the international market. In August, international market prices declined owing to dampened demand that can be attributed to fall in value of emerging market currencies. Domestic market prices reflected the trend in international markets. In September, global prices fell further while domestic prices reversed declining trend. In October, international prices increased on account of high volumes of imports to China. Domestic prices rose on account of increased demand from consuming industries. In November, domestic prices followed trend in domestic demand from consuming industries. In December, prices in the international market fell due to lower volumes and continued market worries over a prolonged trade war. 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.

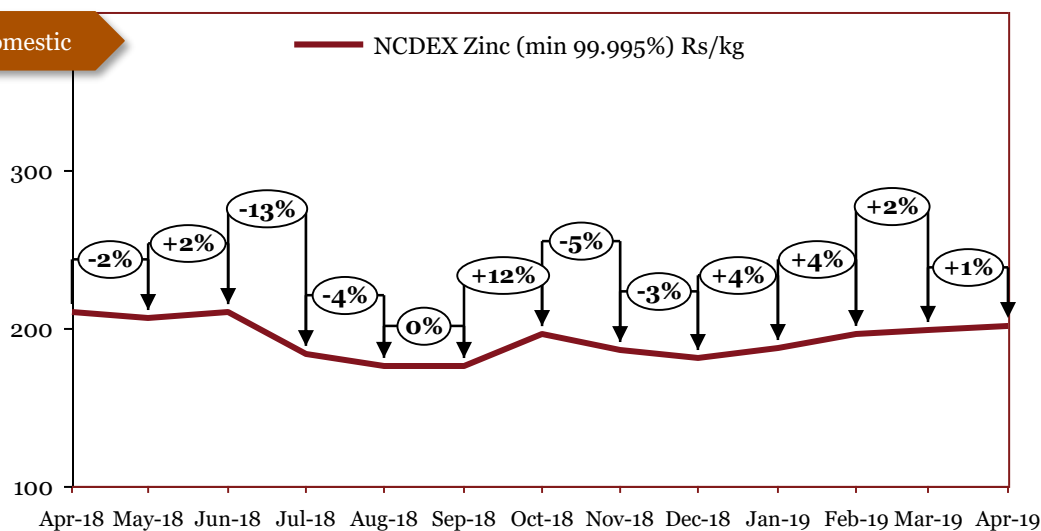
Zinc

International



Source: LME

Domestic



Source: NCDEX

Monthly Average Prices

Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-18	3,183	210
May-18	3,057	206
Jun-18	3,091	210
Jul-18	2,658	183
Aug-18	2,510	175
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

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

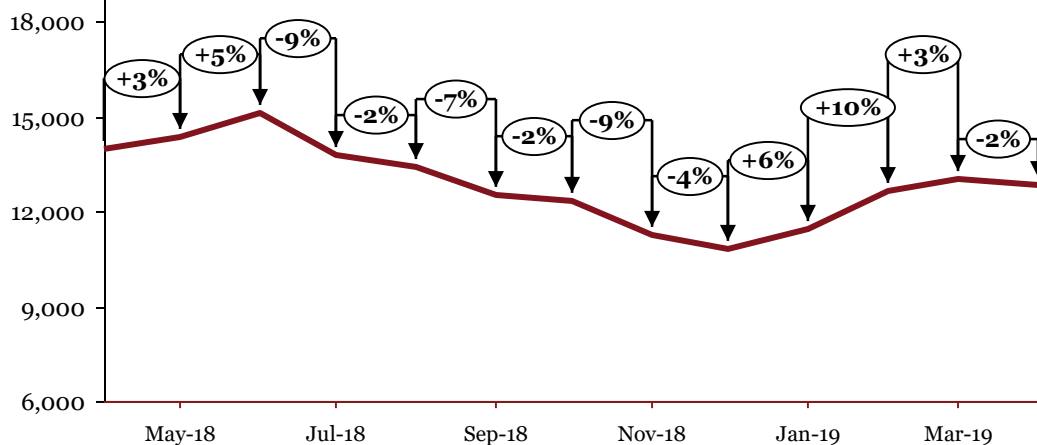
Outlook

In May, international prices fell due to increased supply. Domestic prices fell due to similar increase in output. In June, decline in international prices and domestic prices was stemmed. In July, international prices fell due to surplus supplies and a narrowing deficit. The decline in prices was further catalyzed by escalating trade tensions. Domestic prices fell on the back of weak global cues amid easing demand from consuming industries. In August, zinc prices crashed owing to excess supply in the market and muted demand from China. In September, international prices fell further while domestic prices rose amid sustained demand from alloy industries. In October, global zinc prices rose due to depleting inventories and domestic prices followed suit. In November, prices fell due to slowing demand from major buyers owing to falling economic growth which in turn is putting pressure on prices. 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 growth. In April, increasing price trend continued.

Nickel

International

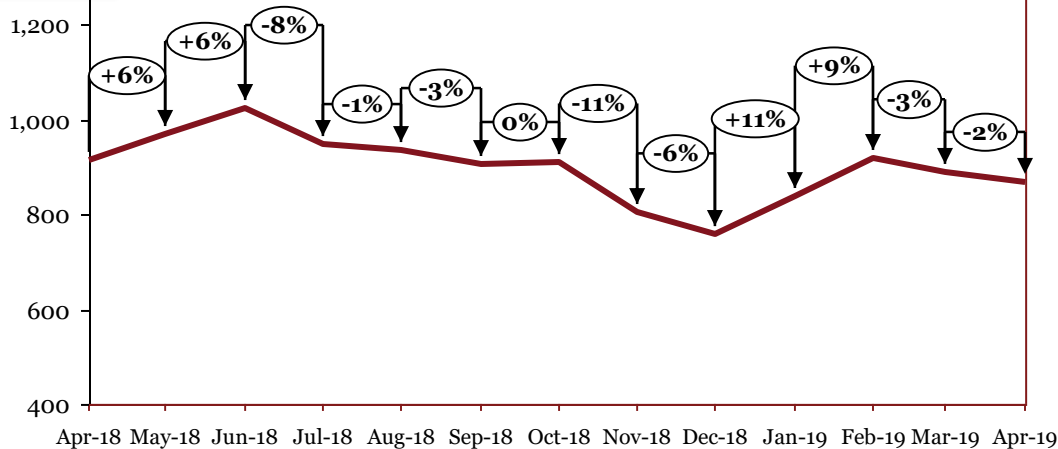
Nickel (min 99.80%) \$/tonne



Source: LME

Domestic

Nickel (4"×4" cut Nickel min 99.80%) Rs/kg



Source: NCDEX

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-18	13,965	915
May-18	14,352	970
Jun-18	15,107	1025
Jul-18	13,768	948
Aug-18	13,429	936
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

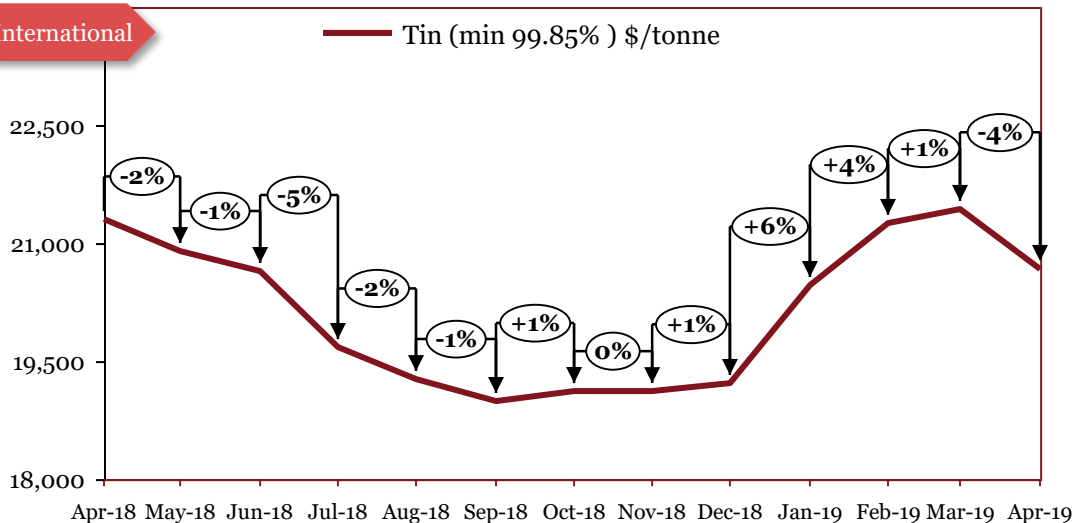
*The actual prices may vary depending on city, player, grade etc.

Outlook

In June, domestic and overseas nickel prices rose after a blast at an iron ore mine in China and amid falling inventories. In addition, anticipation of increased electric vehicle demand and strong demand in the Stainless Steel sector further supported prices. In July, prices in the international market fell due to excess supply and ongoing trade dispute between US and China. Domestic prices followed suit. In August, prices declined following the trend in base metal prices. In September, prices continued to fall. In October, global prices fell due to weakness in the stainless steel market, increasing nickel pig iron production and rising Shanghai nickel inventory. In November, prices fell in the global market due to growing concerns over slowing demand in top consumer China. Domestic prices followed suit. 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.

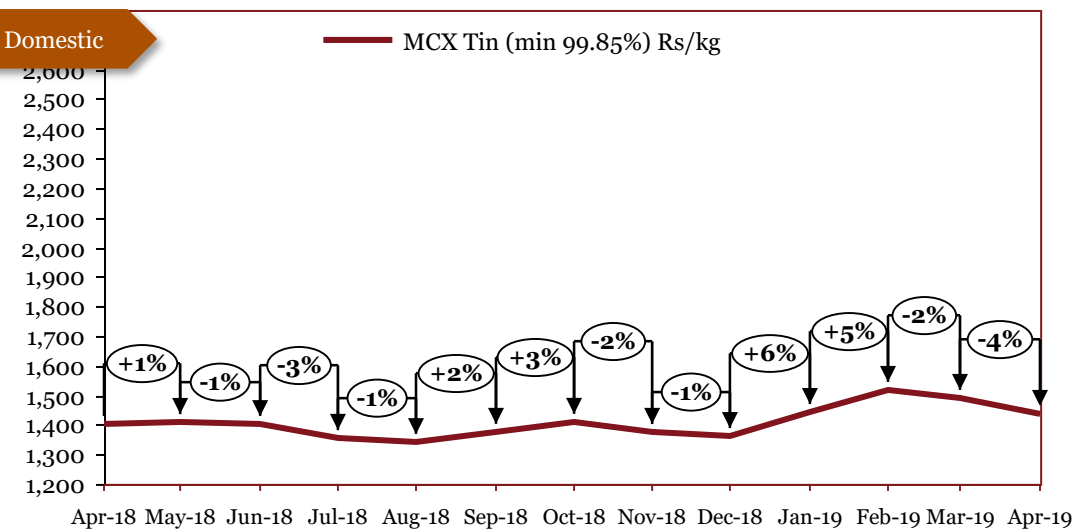
Tin

International



Source: LME

Domestic



Source: MCX

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-18	21,293	1,400
May-18	20,888	1,410
Jun-18	20,652	1,400
Jul-18	19,689	1,353
Aug-18	19,268	1,342
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

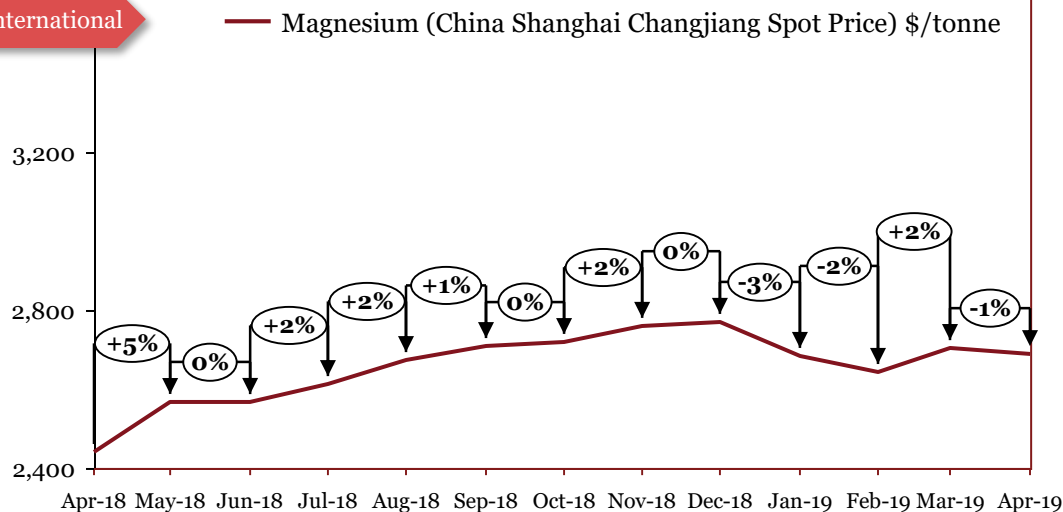
*The actual prices may vary depending on city, player, grade etc.

Outlook

In June, international tin prices fell owing to weak demand. In July, tin prices decreased in line with decrease with price trends for other base metals. In August, prices declined owing to strong dollar and weakening emerging market currencies in the international market. In September, international prices continued to fall while domestic prices witnessed reversed trend. In October, global tin prices increased on concerns of tightened supply. Domestic prices followed international price trend. In November, international prices were unchanged due to stable market conditions. In December, tin outperformed other base metals in the international market. 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.

Magnesium

International



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

Monthly Average Prices

Period	*Int'l (\$/tonne)
Apr-18	2,440
May-18	2,565
Jun-18	2,569
Jul-18	2,612
Aug-18	2,675
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

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

Domestic

Relevant domestic price data not available

Outlook

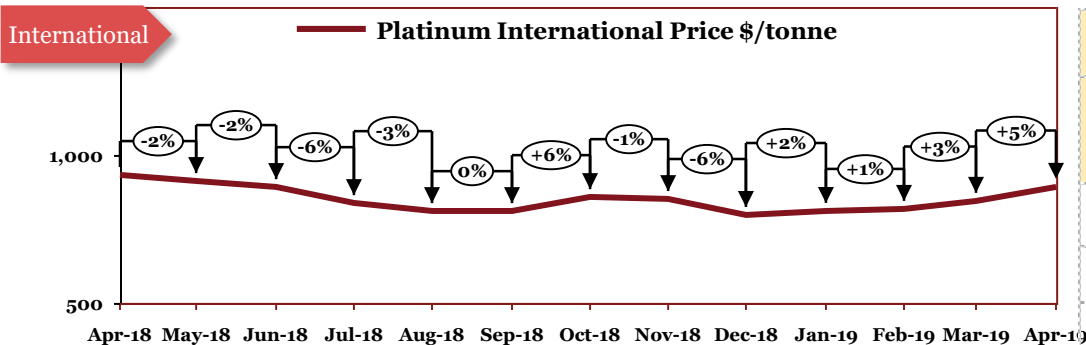
In January 2018, the market remained stable resulting in no fluctuations in prices. In Feb 2018, prices increased due to supply deficits and continued demand. In March, the prices declined due to decrease in the raw material prices. In April, the prices decreased owing to the slack in demand. In May, 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.

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

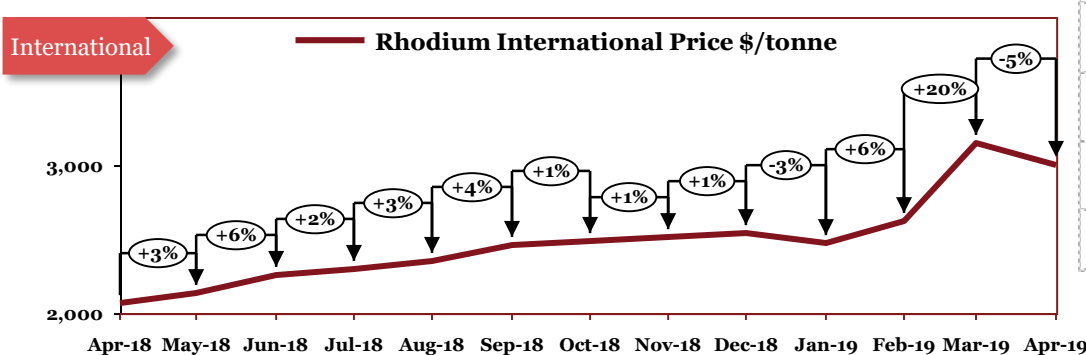
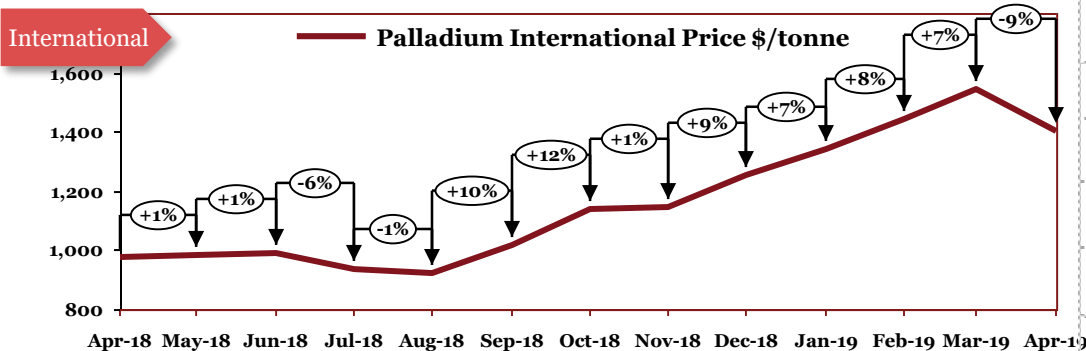
Precious Metals

	Precious Metals	31
21	Precious Metals	32

Precious Metals



Monthly Average Prices (\$/Oz)			
Period	Pt	Pd	Rh
Apr-18	929	975	2,071
May-18	909	984	2,133
Jun-18	890	991	2,255
Jul-18	835	936	2,295
Aug-18	809	924	2,358
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	1,399	3,001



Source: Johnson Matthey

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

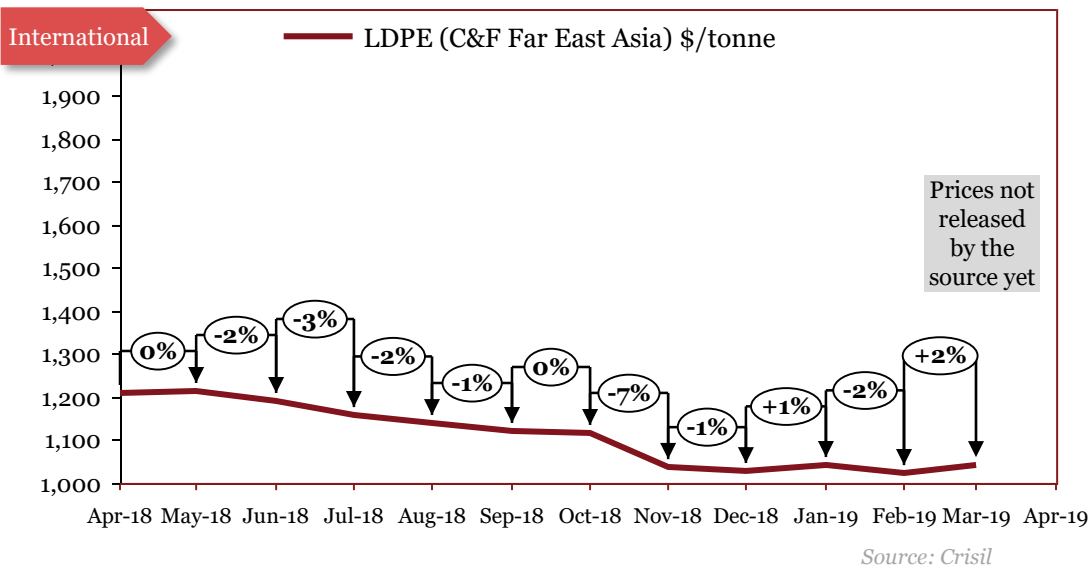
Outlook

In September, rhodium prices increased owing to constricted supply from South Africa. Palladium prices increased on account of expected increase in the amount of palladium needed in every car owing to new emissions standards in China for cars becoming effective in 2020. Concerns over the intensifying trade dispute between the U.S. and China is also a contributor to the gains in palladium prices more recently. In October 2018, palladium prices increased owing to strong fundamentals and platinum prices increased in line with other precious metal price movements. In November, prices were largely unchanged. In December, platinum prices fell due to fall in demand from the automotive industry. Palladium prices increased due to increase in demand for hybrid and electric vehicles. Increase in palladium demand due to aforementioned reasons and limited supply in January 2019 led to continued increase in international market prices. In February, palladium prices rose further as demand outstripped production. In March, rhodium prices increased owing to growing demand and shrinking supply. Platinum prices increased owing to increase in demand from consuming industries. In April, platinum prices continued with rising trend. Palladium prices witnessed decrease owing to sluggish performance of both US and China auto markets.

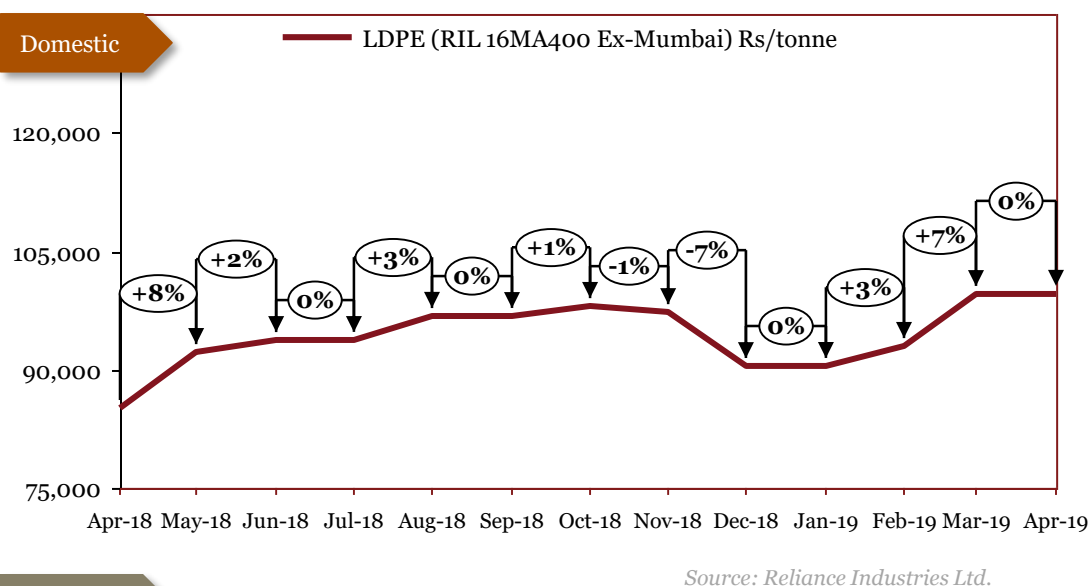
Polymers & Rubber

Polymers & Rubber		33
22	Low density polyethylene (LDPE)	34
23	Polypropylene (PP)	35
24	Rubber	36

Low density polyethylene (LDPE)



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-18	1,210	89,190
May-18	1,214	92,319
Jun-18	1,192	93,819
Jul-18	1,159	93,819
Aug-18	1,137	96,819
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	-	99,468



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

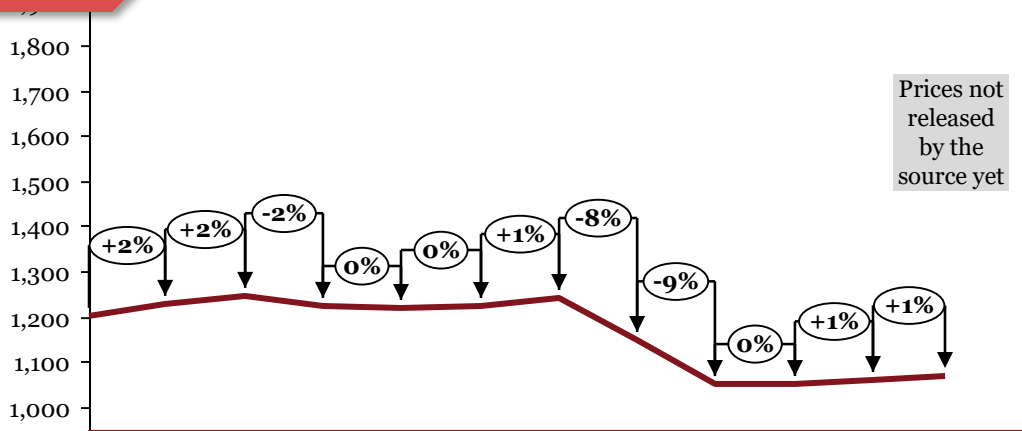
Outlook

In March, the international prices decreased due to ample inventories. The domestic market remained stable. In April, the international prices decreased due to ample supply. In the domestic market, the prices remained flat for most of the month, however, the prices increased towards the end of the month. In May, international prices remained stable. In June, international prices witnessed decline whereas domestic prices continued to rise. In July, international prices fell owing to fall in feedstock ethylene prices coupled with weak demand. In August, international LDPE prices decreased in spite of rise in ethylene prices. On the domestic front, RIL increased domestic and deemed export prices of LDPE. In September, international LDPE prices declined due to weak demand. In October 2018, LDPE prices were stable given no major change in demand-supply. 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.

Polypropylene (PP)

International

International Price (PPHP) \$/tonne

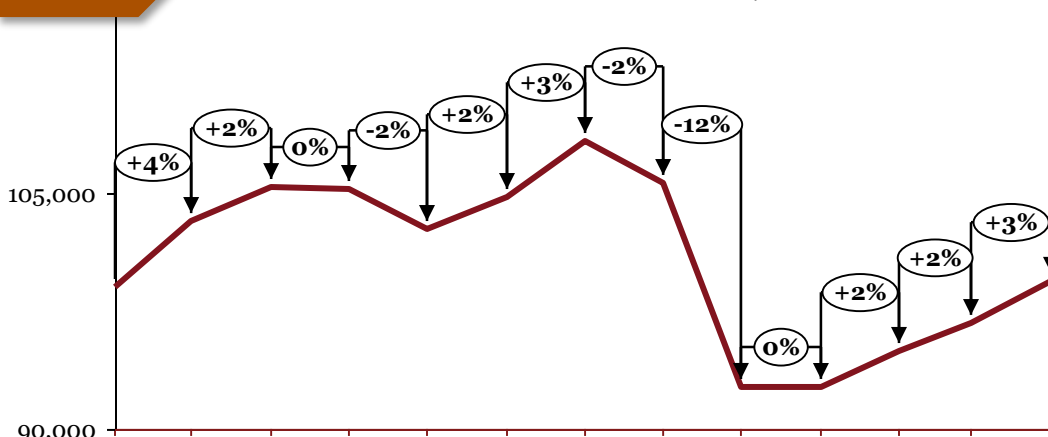


Apr-18 May-18 Jun-18 Jul-18 Aug-18 Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19 Apr-19

Source: Crisil

Domestic

Domestic Price (RIL D120MA) Rs/tonne



Apr-18 May-18 Jun-18 Jul-18 Aug-18 Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19 Apr-19

Source: Reliance Industries Ltd.

Monthly Average Prices

Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-18	1,203	98,988
May-18	1,229	103,128
Jun-18	1,248	105,378
Jul-18	1,224	105,128
Aug-18	1,220	102,628
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	1,071	94,885
Apr-19	-	96,718

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

Outlook

In April, the prices of PP remained range bound. In May, international prices increased due to supply tightness on account of ongoing maintenance turnaround. Domestic prices followed suit. In June, prices rose on account of supply tightness. In July 2018, prices decreased due to decline in feedstock propylene prices coupled with weak demand. In August, despite rise in feedstock propylene prices, international prices were range bound due to weak demand. In September 2018, PP prices increased due to rise in feedstock propylene prices. In October 2018, PP prices increased owing to uptick in demand during second half of month from manufacturing segment as plants resumed normal operations post Chinese golden week holidays. In October 2018, both global and domestic prices witnessed increase. In November, prices declined due to poor demand. 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.

Rubber

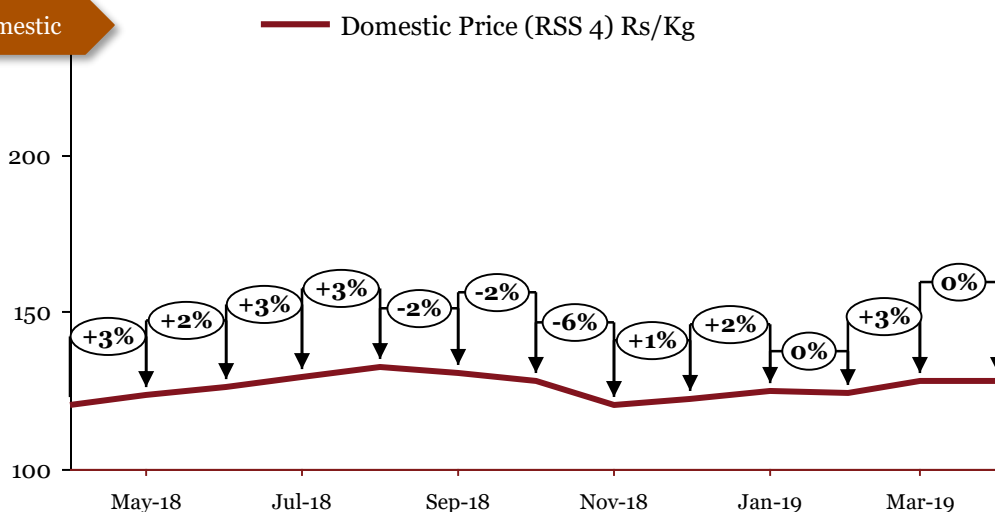
International

Data not available for relevant (comparable to domestic) grades

Monthly Average Prices

Period	*Dom (Rs/kg)
Apr-18	120
May-18	124
Jun-18	126
Jul-18	129
Aug-18	133
Sep-18	130
Oct-18	128
Nov-18	120
Dec-18	122
Jan-19	125
Feb-19	124
Mar-19	128
Apr-19	128

Domestic



Source: Rubber board

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

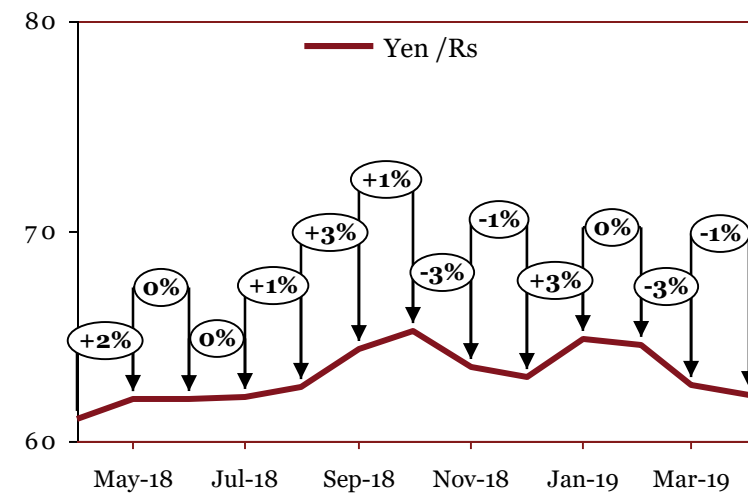
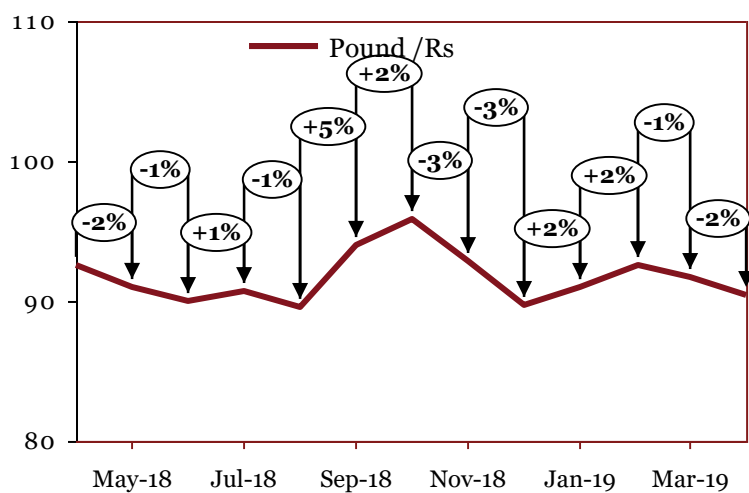
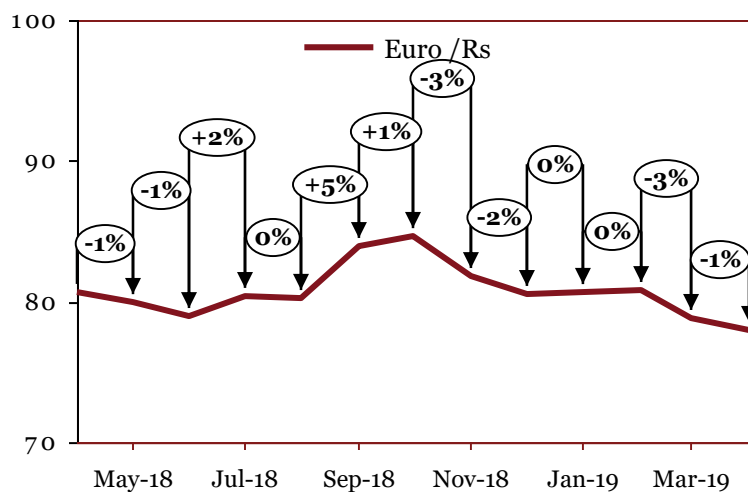
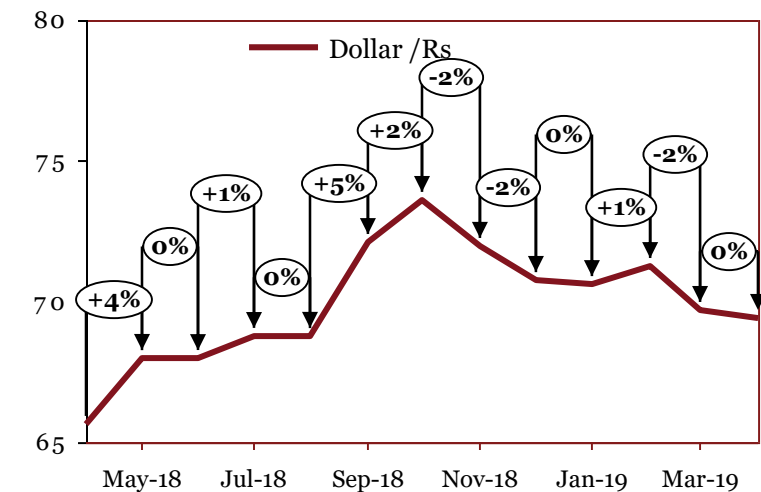
Outlook

In April, the prices decreased owing to the increase in the supply. In May, rising production coupled with high consumption led to an increase in prices. In June, prices rose due to supply tightness, demand from tyre manufacturers to deliver pending natural rubber contracts, and fluctuations in international prices. In July, rubber prices increased due to improved demand. In August, domestic rubber prices increased owing to floods in Kerala. In September, prices declined on account of subdued demand. In October, increasing trend in domestic prices was reversed. In November, prices continued to decline. 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.

Appendices

	Appendices	37
25	Forex Movement	38
26	Crude Oil	39
27	Commodity Specifications	40

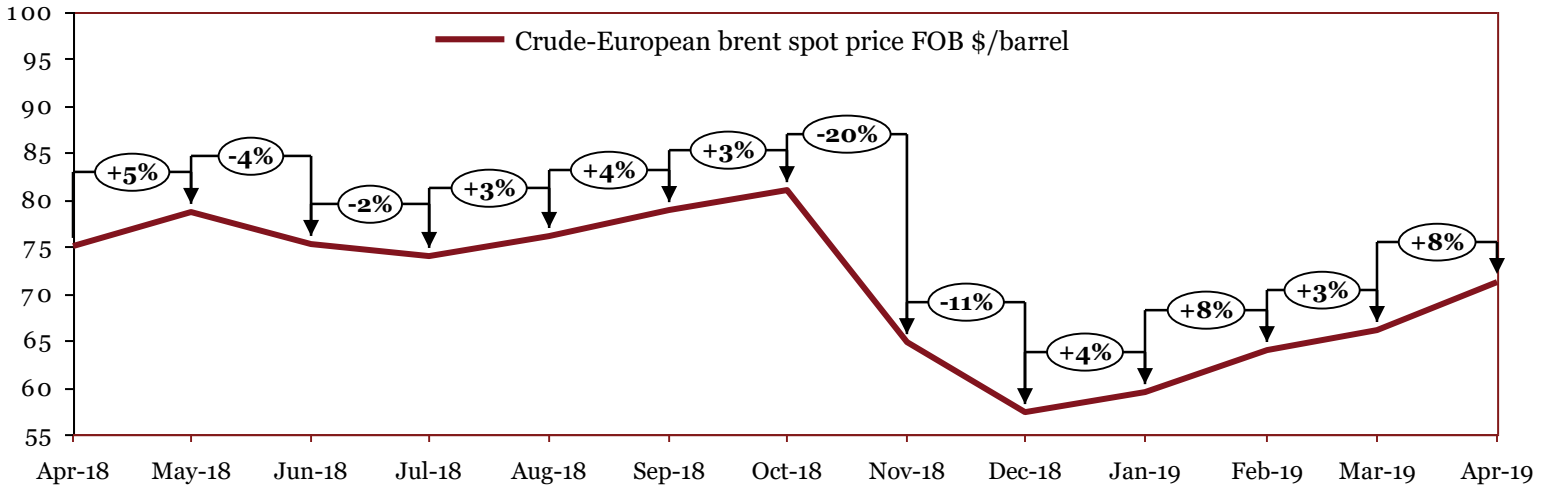
Forex Movement



Source: Reserve Bank of India

Monthly Average Prices (Rs)													
	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19
\$	66	68	68	69	69	72	74	72	71	71	71	70	69
£	93	91	79	80	80	84	85	82	80	81	81	79	78
€	81	80	90	91	90	94	96	93	90	91	93	92	90
¥	61	62	62	62	63	64	65	64	63	65	65	63	62

Crude Oil



Source: EIA

Monthly Average Prices (\$/barrel)													
	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19
	75	79	75	74	75	79	81	65	57	59	64	66	71

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 -CIS 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)
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 (80% in warehouse Pittsburgh, US) \$/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 -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 - 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
Nickel	LME - Nickel of 99.80% purity (minimum) conforming to B39-79 (2013) - GB/T 6516-2010	NCDEX - 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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