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Commodity price monitor

August -20

Prepared for ACMA

*Strictly private
and confidential*

September 2020



pwc

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Commodity trend dashboard

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

Calendar Year 19-20: Q vs. Q update

Commodity	Region	Q-o-Q Up	Q-o-Q Down
Iron & Steel			
Iron Ore	International	18% ▲	
	Domestic low grade		
	Domestic high grade		
Pig Iron	International	11% ▲	
	Domestic	3% ▲	
Stainless steel	Domestic	2% ▲	
	Domestic	2% ▲	
Wire rod	International	6% ▲	
	Domestic	7% ▲	
Steel Billets	International	9% ▲	
	Domestic	2% ▲	
Hot-rolled coils	International	15% ▲	
	Domestic	1% ▲	
Cold-rolled coils	International	5% ▲	
	Domestic	2% ▲	
Steel Scrap	Domestic	3% ▲	
EN8	Domestic	3% ▲	
20MnCr5	Domestic	3% ▲	
Ferro-alloys			
Ferro titanium	International	N/A	
Ferro chrome	International	1% ▲	
	Domestic	0% ▲	
Ferro molybdenum	International	N/A	
Ferro vanadium	International	N/A	
Ferro silicon	International	4% ▲	
	Domestic		-7% ▼

ND: Not disclosed by the source

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

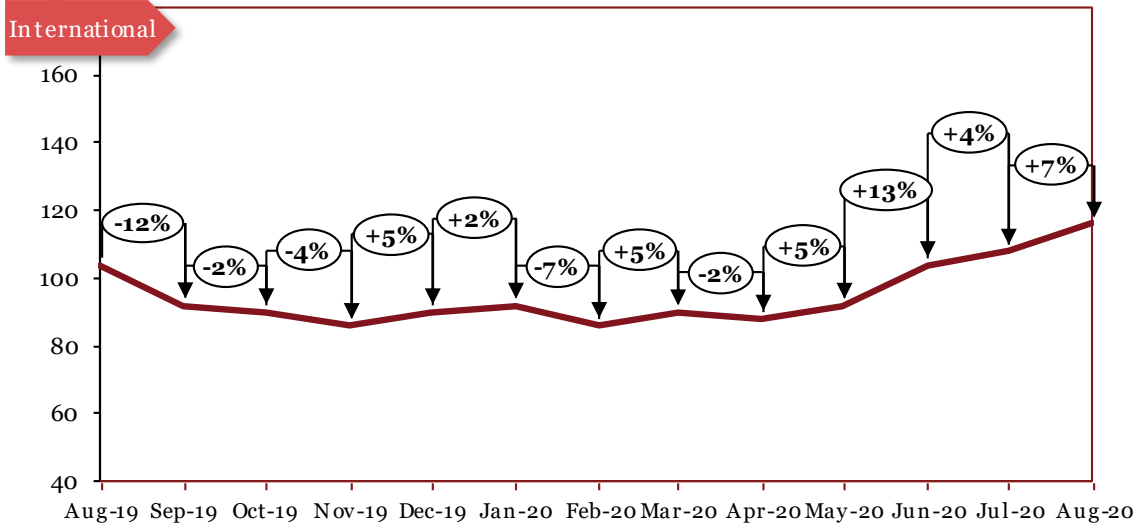
Calendar Year 19-20: Q vs. Q update

Commodity	Region	Q-o-Q Up	Q-o-Q Down
Base Metals			
Aluminum	International	12.9% ▲	
	Domestic	7% ▲	
Copper	International	20% ▲	
	Domestic	21% ▲	
Zinc	International	17% ▲	
	Domestic	17% ▲	
Lead	International	12% ▲	
	Domestic	11% ▲	
Nickel	International	14% ▲	
	Domestic	7% ▲	
Tin	International	11.5% ▲	
	Domestic	N/A	
Magnesium	International	N/A	
Precious Metals			
Platinum	International	12% ▲	
Palladium	International	2% ▲	
Rhodium	International	34% ▲	
Polymers			
Low density polyethylene (LDPE)	International	7% ▲	
	Domestic	6% ▲	
Polypropylene (PP)	International	13% ▲	
	Domestic	3% ▲	
Rubber	Domestic	6% ▲	
Currency Exchange			
Dollar	International		-1% ▼
Pound	International	4% ▲	
Euro	International	1% ▲	
Yen	International		0% ▼

Iron & Steel

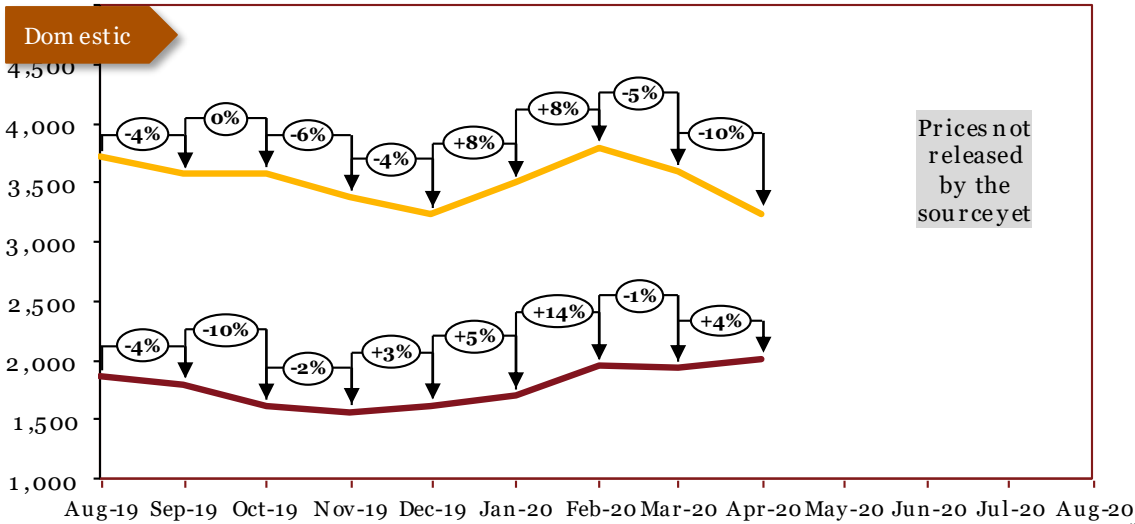
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Iron Ore



Source: Crisil

Period	*Int'l	*Dom	
	\$/tonne	Rs/tonne	
		65% & below	65% & above
Aug-19	104	1,863	3,715
Sep-19	92	1796	3569
Oct-19	90	1608	3574
Nov-19	86	1570	3375
Dec-19	90	1619	3235
Jan-20	92	1704	3499
Feb-20	86	1950	3792
Mar-20	90	1934	3588
Apr-20	88		
May-20	92		
Jun-20	104		
Jul-20	108		
Aug-20	116	0	0



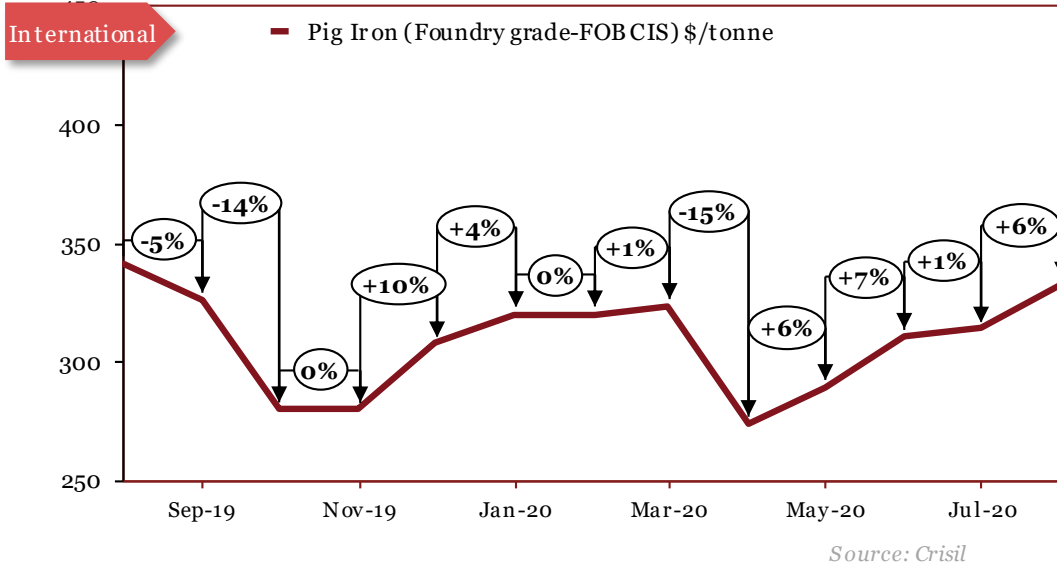
Source: Crisil

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

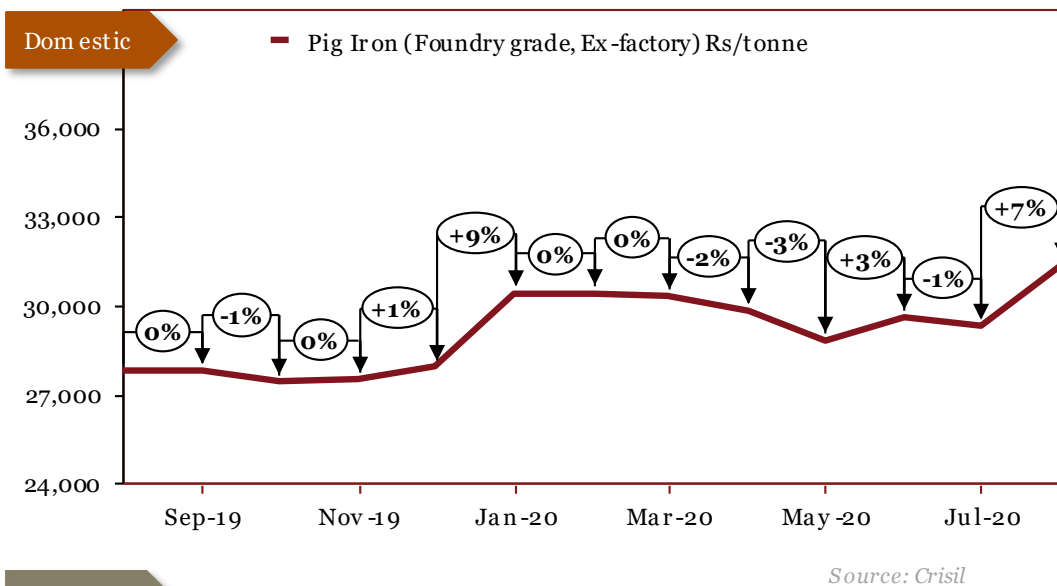
Outlook

In December, international prices rose as capacity at the Vale mine was capped for safety reasons. Domestically, prices rose on a slow recovery in auto and construction sectors. 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. Domestically, price recovery continued. In February, international prices declined thanks to the coronavirus epidemic in China hurting local demand. In March, international prices rose as Chinese factories resumed production in parts of the country unaffected by the COVID-19 pandemic. In April, international prices declined slightly amid the COVID-19 pandemic, but were supported by low production in Brazil and Australia, alongside steady Chinese demand. In May, prices rose as production was disrupted in Brazil and the Vale as the spread of COVID-19 positive cases caused disruptions. Chinese demand continued to boost the segment. In June and July, international prices showed strong recovery due to pent-up demand and supply concerns as economies returned to regular volume levels. In August, international prices rose as Chinese infrastructure spending was aided by a government stimulus, along with supply concerns from Brazil.

Pig Iron



Monthly Average Prices		
Period	*Int'l	*Dom
	\$/tonne	Rs/tonne
Aug-19	342	27,850
Sep-19	326	27850
Oct-19	280	27450
Nov-19	280	27550
Dec-19	308	27950
Jan-20	320	30450
Feb-20	320	30450
Mar-20	323	30350
Apr-20	274	29850
May-20	290	28850
Jun-20	311	29650
Jul-20	314	29350
Aug-20	333	31350

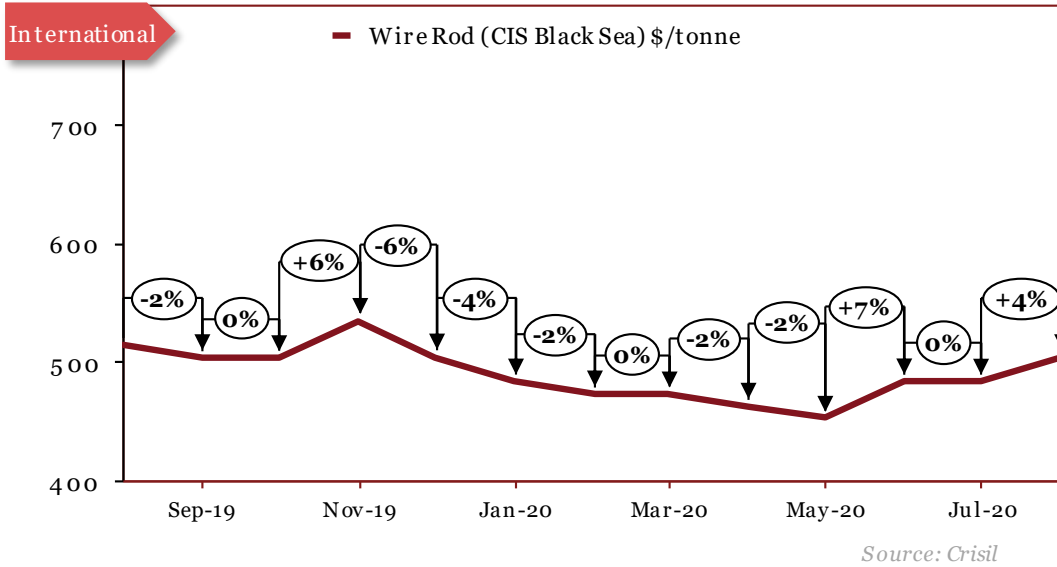


*The actual prices may vary depending on city, player, grade etc.

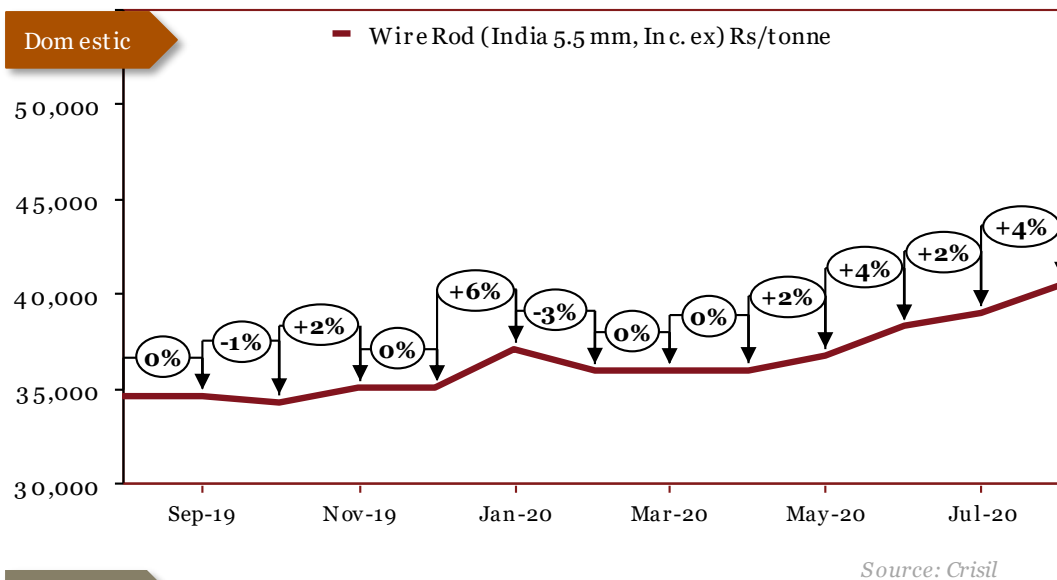
Outlook

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. In February, international as well as domestic prices remained stable. In March, international prices were largely stable as the growth in Chinese demand following the reopening of factories cancelled out the decline in the rest of the world. Domestically prices declined as the COVID-19 pandemic shut down production at factories. In April, international prices fell as lockdown measures caused global industrial demand to fall precipitously. Domestic prices declined on less demand from foundries, partly as a result of the auto industry being shut down. In May, international prices rose as Chinese demand continued to improve, while domestic prices slid further. In June and July, international as well as domestic prices rose due to higher Iron Ore prices. In August, international and domestic prices rose on greater demand from industries, as well as continuing shortage of Iron Ore.

Wire Rod



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
Aug-19	515	34,644
Sep-19	504	34,644
Oct-19	504	34344
Nov-19	535	35094
Dec-19	504	35094
Jan-20	484	37094
Feb-20	473	35994
Mar-20	473	35994
Apr-20	463	35994
May-20	453	36794
Jun-20	484	38294
Jul-20	484	38994
Aug-20	504	40494



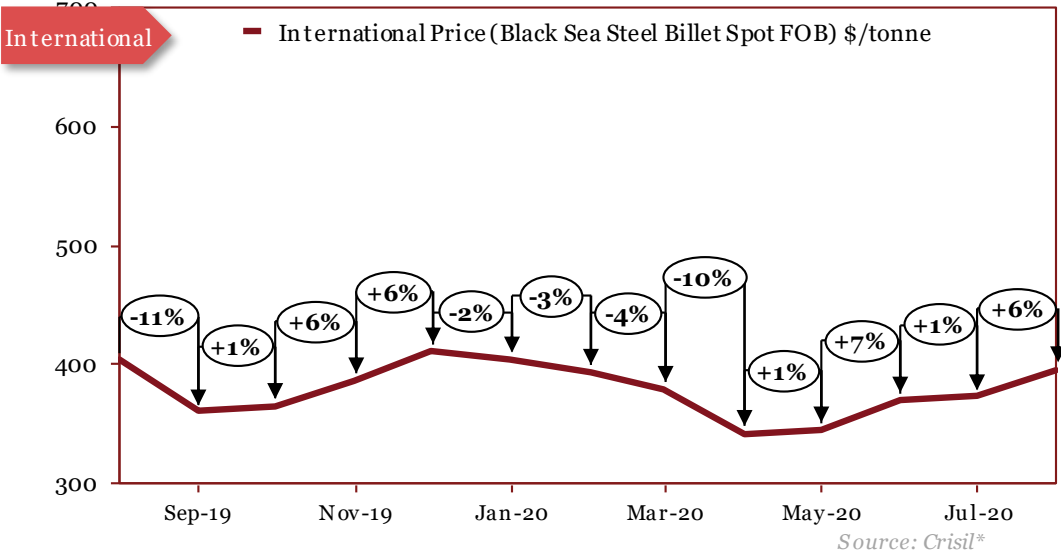
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Outlook

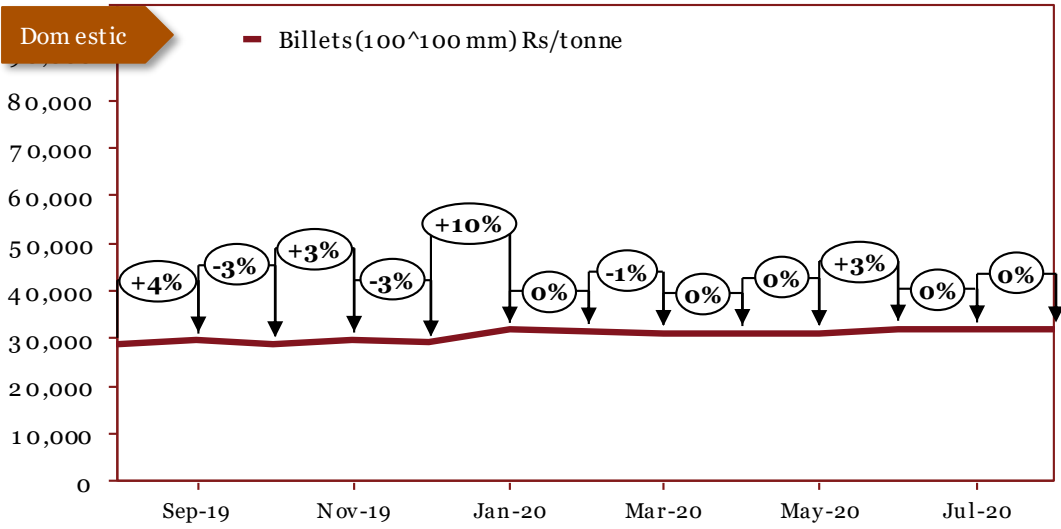
In October, international prices remained stable, while domestic prices fell on weak industrial demand. In November, international as well as domestic prices rose due to higher scrap prices. In December, international prices fell due to lower rebar prices and weak demand while domestic prices remained 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. In February, international prices declined as the coronavirus lockdown decimated Chinese demand. Domestically, prices fell on reduced demand. In March, prices remained unchanged. In April, international prices declined owing to lower demand from factories. Domestically prices remain unchanged. In May, international prices fell slightly, domestic prices picked up on the resumption of industrial activity. In June, prices rose internationally as well as domestically, owing to higher demand from producers. In July, prices stabilized globally while rising slightly domestically. In August, international as well as domestic prices rose on the backs of growing demand, shortage of inventory.

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

Steel Billets



Source: Bloomberg from July 2019 to January 2020



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
Aug-19	404	28633
Sep-19	361	29750
Oct-19	366	28967
Nov-19	386	29900
Dec-19	411	29033
Jan-20	404	31800
Feb-20	393	31650
Mar-20	379	31200
Apr-20	342	31200
May-20	345	31200
Jun-20	371	32100
Jul-20	373	32000
Aug-20	396	31950

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

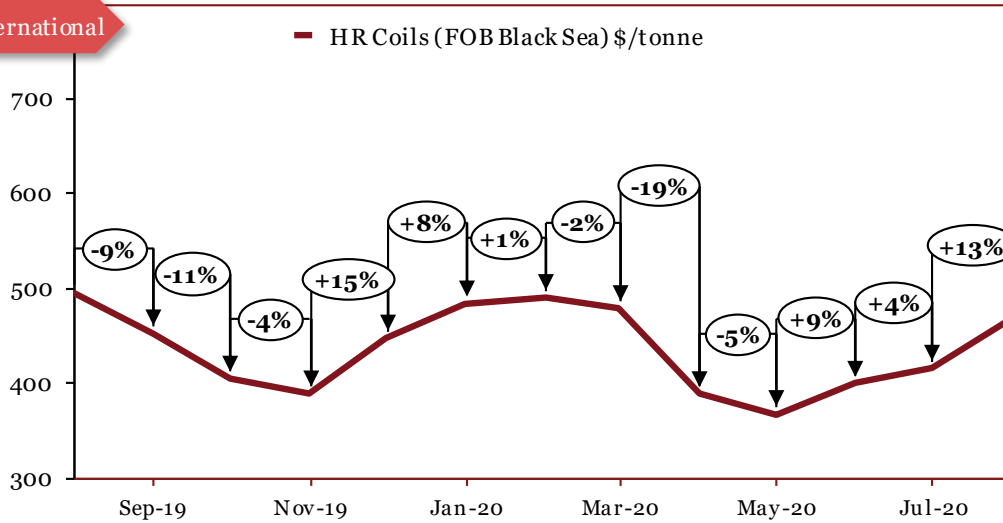
Outlook

From October to December, International prices began to recover on account of higher demand and 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. In February, domestic prices remained consistent due to stable market conditions. In February, domestic prices remained stable. In March, domestic prices declined owing to a weaker rupee and the impact of the COVID-19 pandemic. In April, international prices fell on account of declining demand on account of lockdown measures, while remaining stable domestically. In May, international prices remained stable following the large decline in April, while domestic prices were unchanged. In June, international as well as domestic prices rose due to higher input costs as well as a rise in demand. In July, international prices rose slightly whilst domestic prices remained constant. In August, international billet prices rose on greater demand and a shortage of scrap.

^International prices changed due to change in the grade

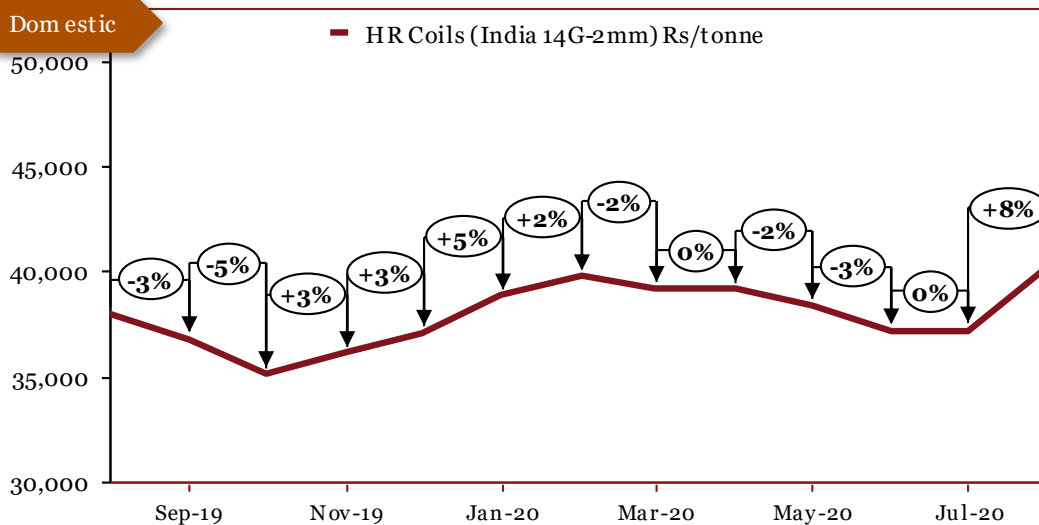
Hot-Rolled (HR) Coils

International



Source: Crisil

Domestic



Source: Crisil

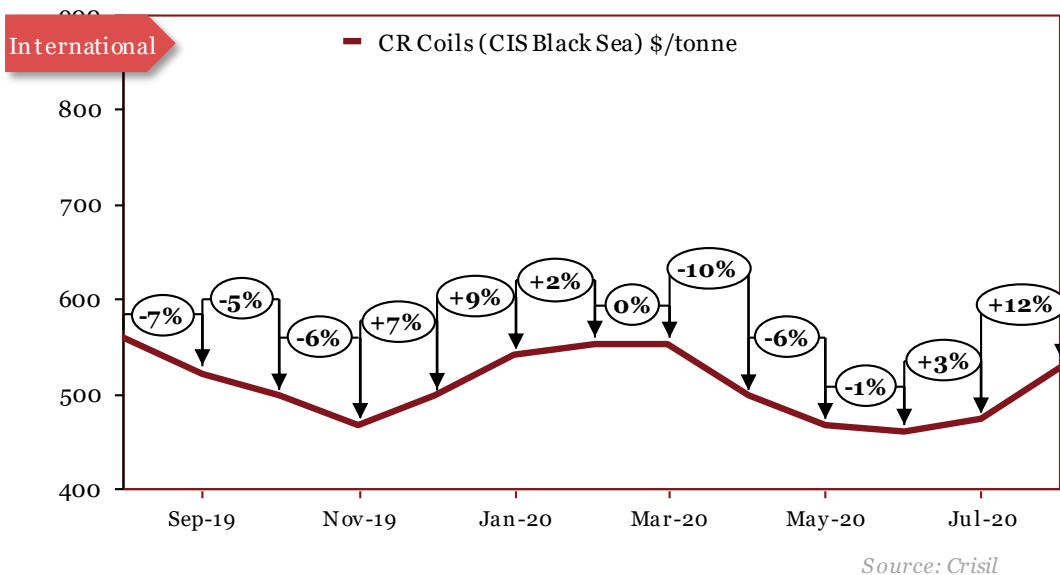
Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Aug-19	496	38,050
Sep-19	453	36,850
Oct-19	405	35,150
Nov-19	389	36,150
Dec-19	448	37,150
Jan-20	485	38,900
Feb-20	490	39,800
Mar-20	480	39,200
Apr-20	389	39,200
May-20	368	38,450
Jun-20	400	37,250
Jul-20	416	37,250
Aug-20	469	40,250

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

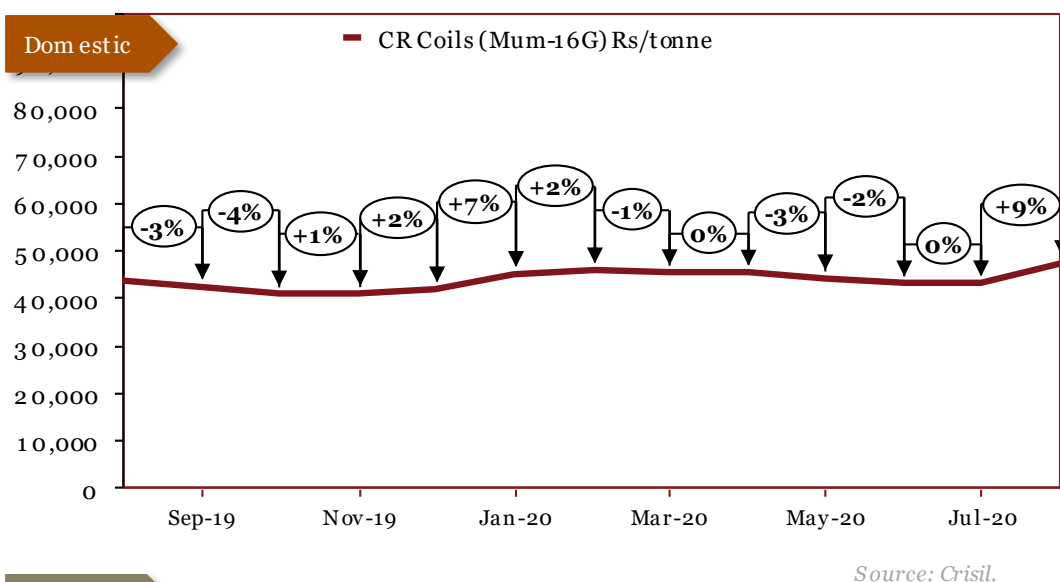
Outlook

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. In February, international prices saw a deceleration due to the impact of the coronavirus. Domestic prices continued to rise as domestic infrastructure spending and production continued to recover. In March, international prices fell due to uncertainty in the market around the COVID-19 pandemic. Domestic prices declined thanks to the national lockdown initiated to contain the COVID-19 pandemic. In April, prices declined as the COVID lockdown shut industries around the world, while domestic prices stayed stable. In May, international prices declined considerably while domestic prices continued to correct downwards, as producers faced up to a weak economy, limited industrial demand, with most major projects remaining on hold. In June, international prices rose due to higher demand and higher input costs, whereas domestic prices fell on weak local demand. In July, international prices continued to rise, while domestic prices remained constant. In August, international and domestic prices rose as stronger demand, primarily from China, returned production to pre-COVID levels.

Cold-Rolled (CR) Coils



Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Aug-19	560	43750
Sep-19	523	42550
Oct-19	498	40850
Nov-19	467	41150
Dec-19	498	42150
Jan-20	541	45150
Feb-20	554	46150
Mar-20	554	45550
Apr-20	498	45550
May-20	467	44350
Jun-20	461	43350
Jul-20	474	43350
Aug-20	529	47350

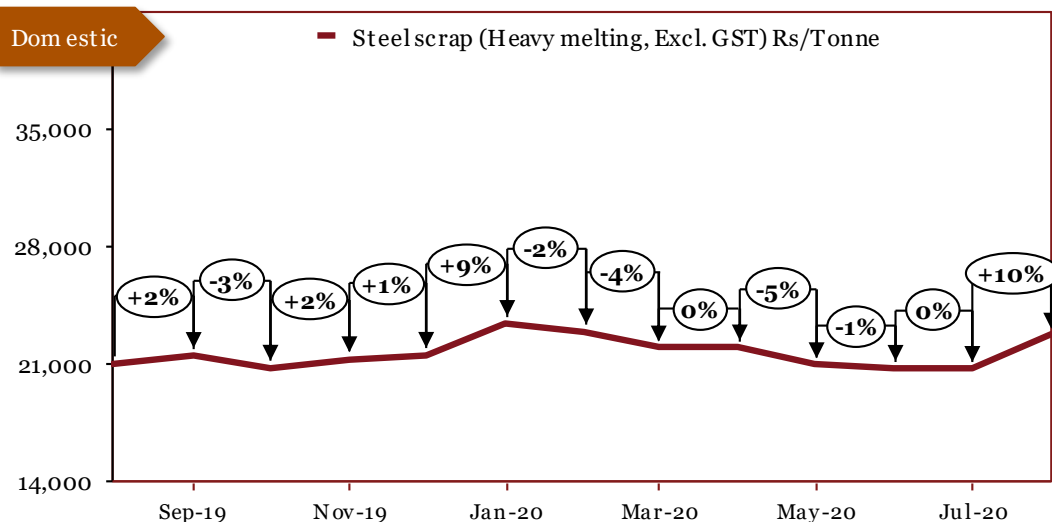


*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In February, international and domestic prices rose in accordance with HR Coil prices. In March, international price growth was halted and prices remained unchanged due to uncertainty around the COVID-19 pandemic, Domestic prices fell concurrently with HR Coil prices. In April, international prices declined on account of COVID-induced shutdowns. In May, prices declined in line with HR Coil prices. In June, international prices declined slightly on weak demand, while domestic prices declined, mirroring the decline in HR coil prices. In July, prices rose internationally on stronger demand, while domestic prices remained constant. In August, prices rose in tandem with HR coil prices.

Steel Scrap (Heavy Melting)



Source: CRISIL

Monthly Average Prices	
Period	*Dom (Rs/Tonne)
Aug-19	21,050
Sep-19	21,550
Oct-19	20,850
Nov-19	21,350
Dec-19	21,550
Jan-20	23,450
Feb-20	23,000
Mar-20	22,000
Apr-20	22,000
May-20	21,000
Jun-20	20,800
Jul-20	20,800
Aug-20	22,800

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

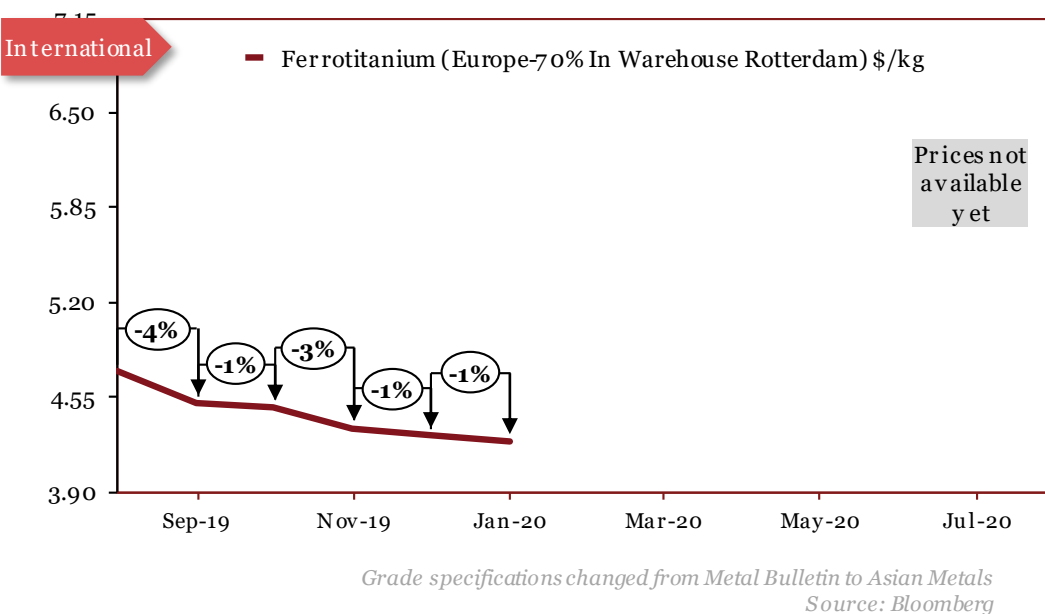
Outlook

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. In February, prices corrected as sentiments were weakened by the spread of the coronavirus. In March, prices declined as the national lockdown shut all factory production across the country. In April, domestic prices remained constant. In May, domestic prices declined as traders reduced orders due to logistical concerns during the lockdown. In June, domestic prices declined on the back of continued weak demand and oversupply in the market, while in July, prices remained constant. In August, domestic prices rose as Indian manufacturers had to contend with global price rise.

<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)
Aug-19	4.72
Sep-19	4.51
Oct-19	4.48
Nov-19	4.34
Dec-19	4.28
Jan-20	4.25
Feb-20	
Mar-20	
Apr-20	
May-20	
Jun-20	
Jul-20	
Aug-20	



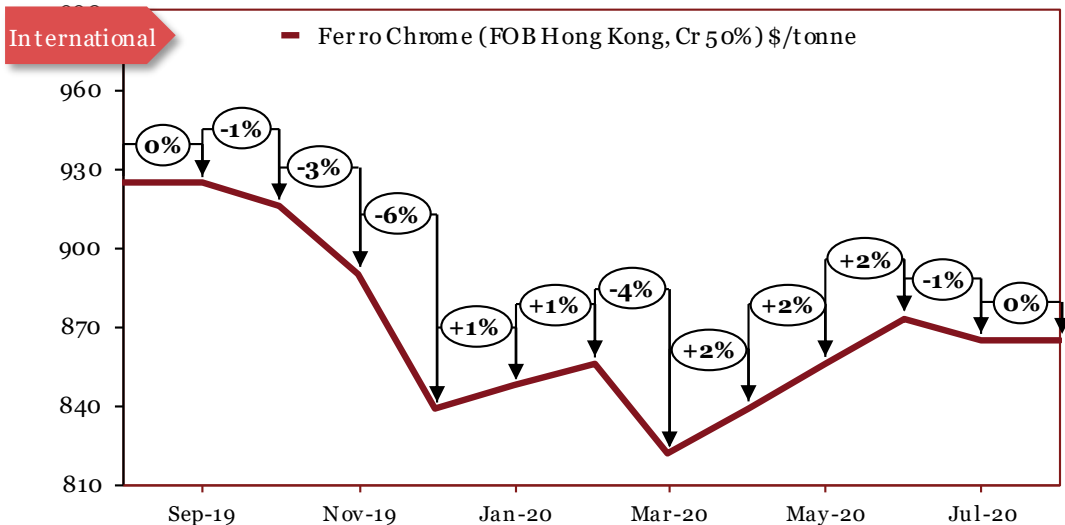
*The actual prices may vary depending on city, player, grade etc.

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.

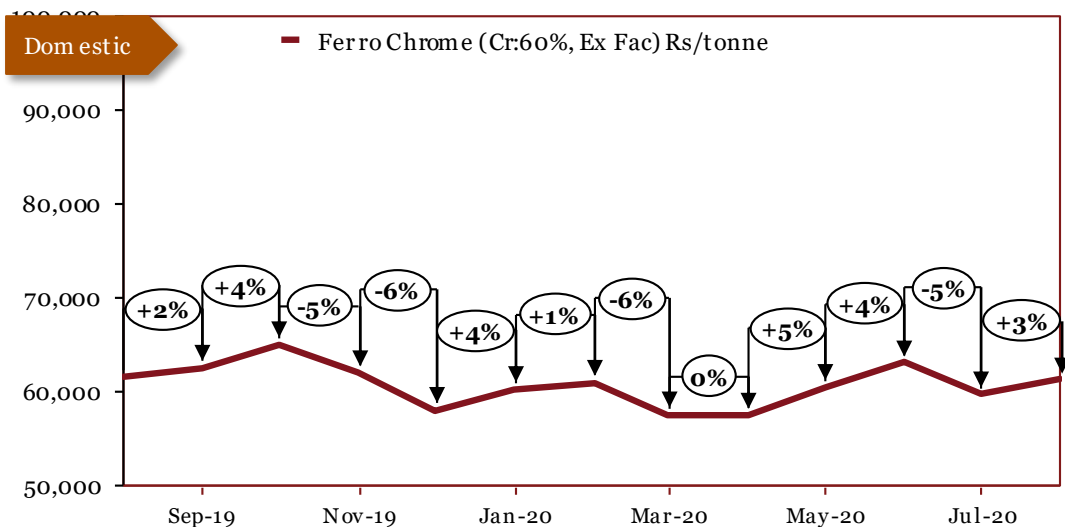
^International prices changed due to change in grades at the source

Ferro chrome



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Aug-19	924	61500
Sep-19	924	62500
Oct-19	916	65000
Nov-19	890	62000
Dec-19	839	58000
Jan-20	847	60200
Feb-20	856	61000
Mar-20	822	57500
Apr-20	839	57500
May-20	856	60500
Jun-20	873	63100
Jul-20	865	59700
Aug-20	865	61300



Source: Crisil

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

Outlook

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. In February, international prices rose marginally after the Chinese New Year holiday and the coronavirus lockdown led to a tightening of supply. Domestic prices decelerated as sentiments were weakened by the coronavirus outbreak. In March, international as well as domestic prices were hurt by bearishness in the stainless steel market caused by the COVID-19 crisis and its containment measures. In April, international prices rose as Chinese factories reopened, while South African mines were shut, reducing supply. Domestic prices remained stable. In May, prices rose globally as South African mines continued to face logistical challenges from lockdown measures, while Chinese demand continued to be strong. In June, international prices rose due to greater demand from China, while domestic prices rose in tandem. In July, international prices declined slightly, while domestic prices fell on weaker demand. In August, international prices stayed stable, while domestic prices rose on shortage of supply.

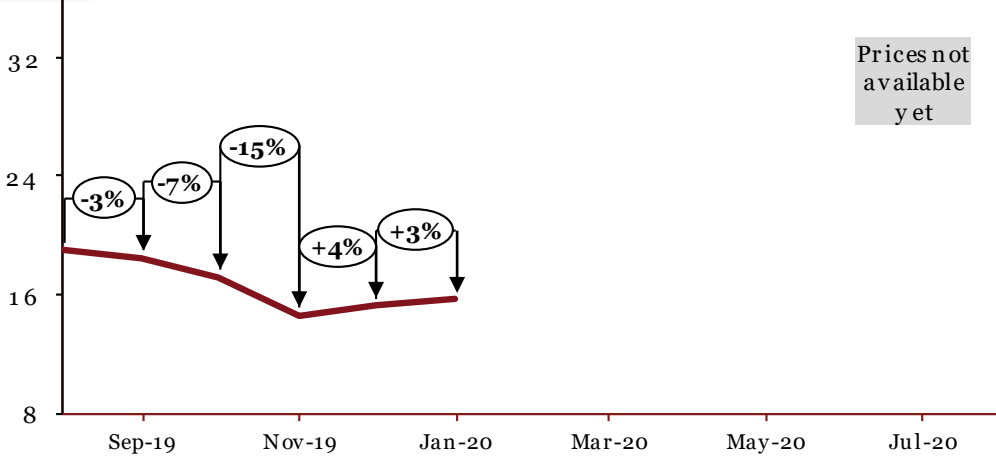
Ferro molybdenum

Monthly Average Prices

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

International

Ferro-molybdenum (China-60% EXW) \$/kg



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

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

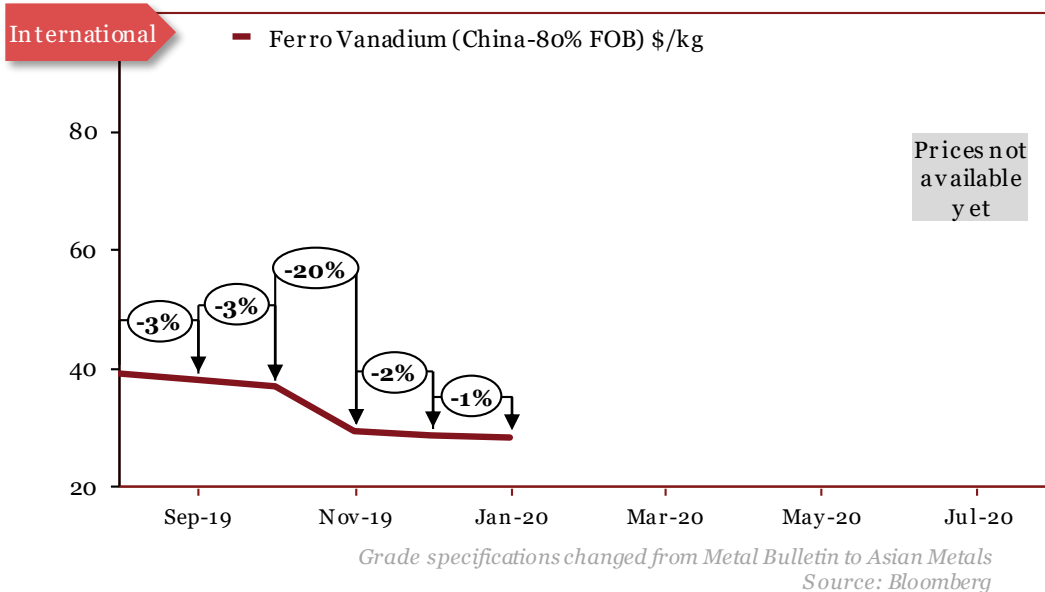
Outlook

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)
Aug-19	39
Sep-19	38
Oct-19	37
Nov-19	29
Dec-19	29
Jan-20	29
Feb-20	
Mar-20	
Apr-20	
May-20	
Jun-20	
Jul-20	
Aug-20	

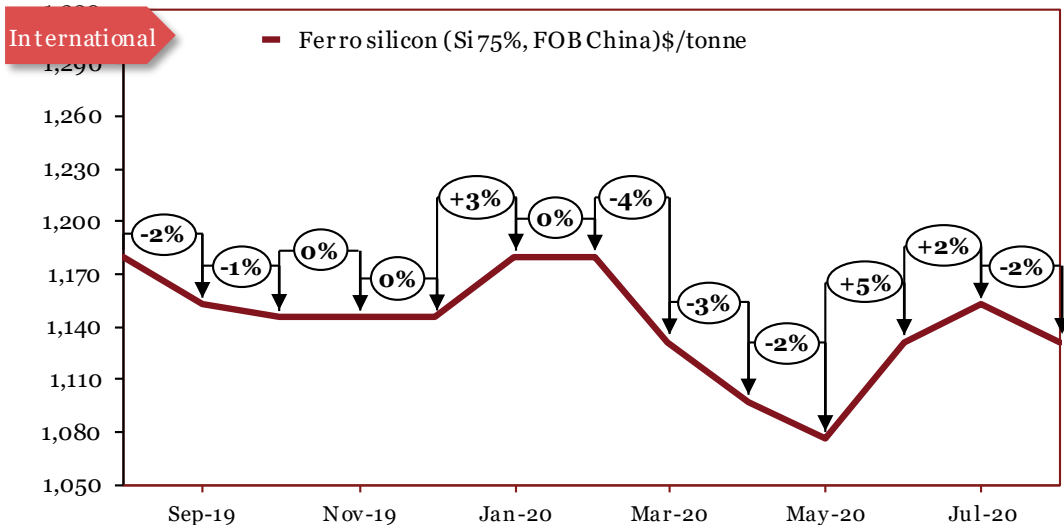


*The actual prices may vary depending on city, player, grade etc.

Outlook

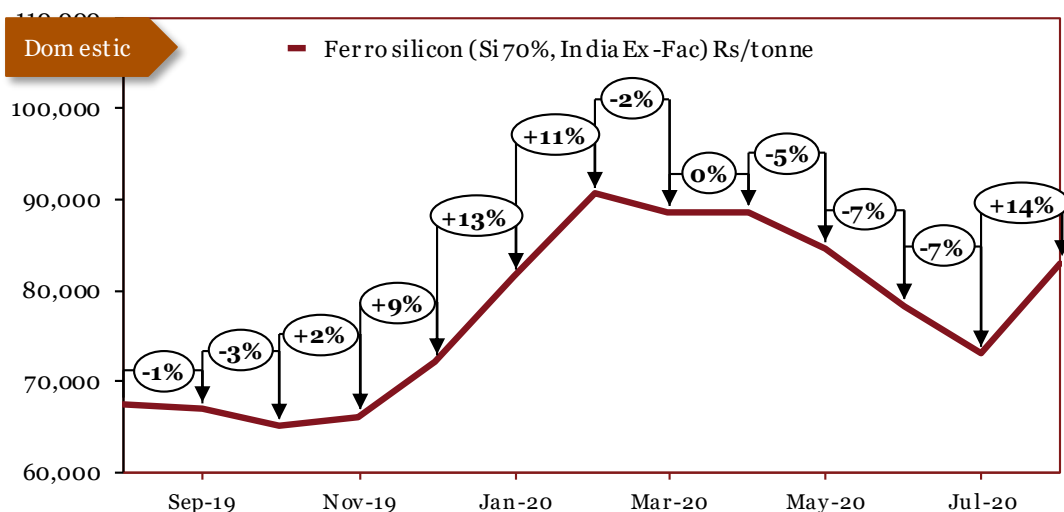
Prices remained unchanged in February 2019 due to stable market conditions. In March, prices remained unchanged due to stable market conditions. In April, prices increased due to strong demand from Chinese market, which in turn can be partly attributed to increase in demand arising from the implementation 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



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
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
Feb-20	1,180	90,600
Mar-20	1,132	88,600
Apr-20	1,097	88,600
May-20	1,076	84,600
Jun-20	1,132	78,300
Jul-20	1,152	73,050
Aug-20	1,132	83,050



Source: Crisil

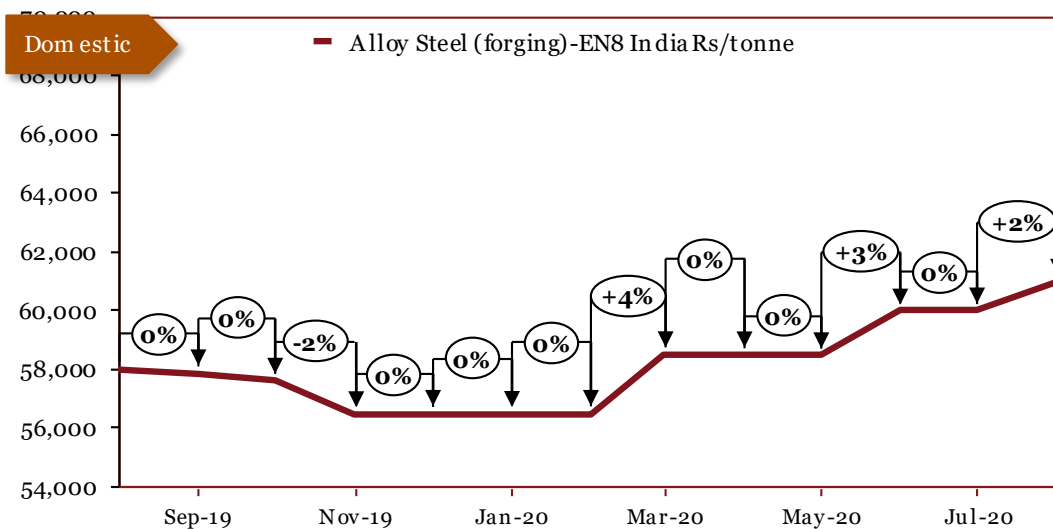
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In February, international prices remained stable while domestic prices continued to rise aggressively due to continued raw material shortage in Bhutan. In March, international prices fell as trading activity declined on the back of the COVID-19 crisis, Domestic demand was similarly hurt by lockdown measures. Domestic prices have been hurt by the lack of in-person trading caused by the COVID-19 lockdown. In April, international prices fell on account of the decline in industrial activity. Domestic prices remained stable. In May, prices declined as demand from steelmakers remained weak, while domestic producers began to cut capacity on poor economic environment. In June and July, international prices picked up as industries reopened across Europe and China, particularly in the solar energy space. In June and July, domestic prices declined on weak demand. In August, prices declined internationally, while domestic prices rose on higher demand.

EN8 Alloy Steel (Forging)

Monthly Average Prices	
Period	*Dom (Rs/tonne)
Aug-19	58,000
Sep-19	57,875
Oct-19	57,625
Nov-19	56500
Dec-19	56500
Jan-20	56500
Feb-20	56500
Mar-20	58500
Apr-20	58500
May-20	58500
Jun-20	60000
Jul-20	60000
Aug-20	61000



Source: PwC Research

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

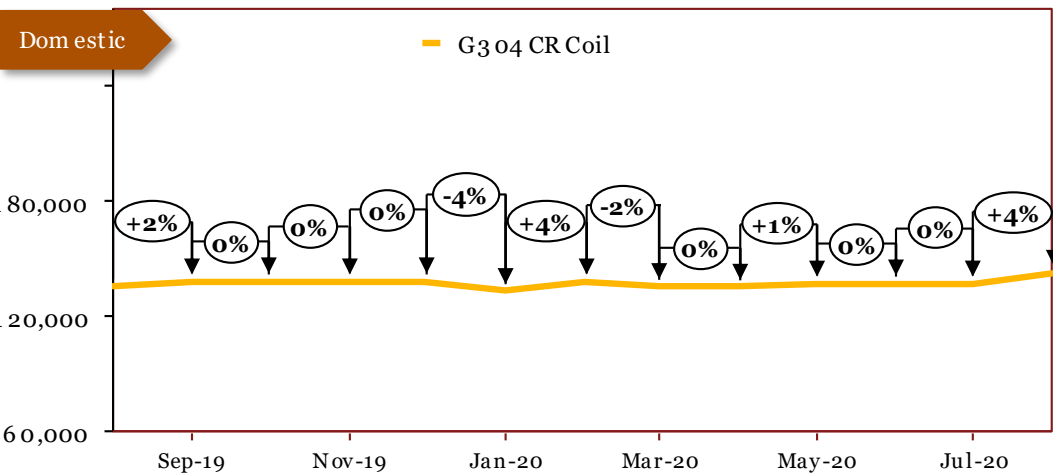
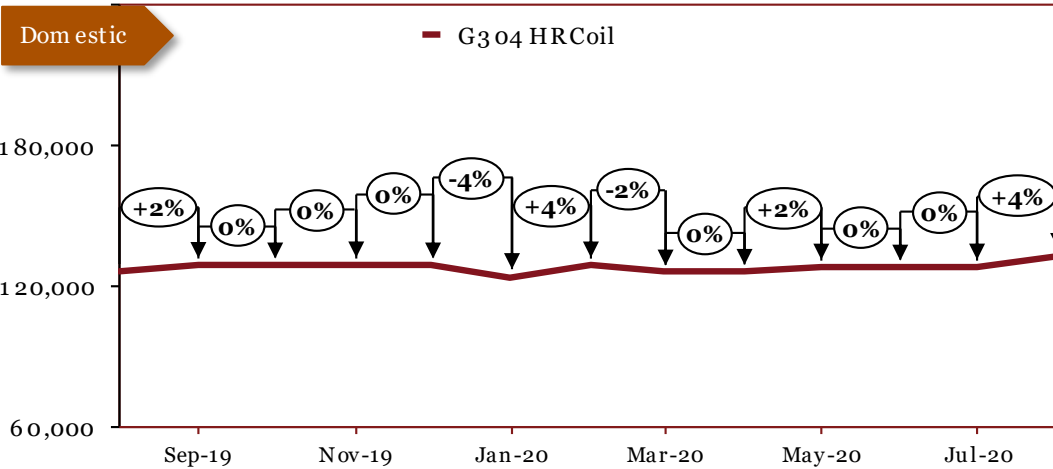
Outlook

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. In February prices remained stable. In March, domestic prices rose thanks to higher demand and improved industrial activity prior to the national lockdown. In April, prices remained stable. Prices remained stable in May. In June, prices rose as industries reopened across the country. In July, prices were unchanged. In August, prices rose domestically as part of the trend to higher steel prices.

Stainless Steel

Monthly Domestic Average Prices

Period	*G304 HR (Rs/tonne)	*G304 CR (Rs/tonne)
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
Feb-20	128,700	138,250
Mar-20	125,700	135,250
Apr-20	125,700	135,250
May-20	127,700	137,250
Jun-20	127,700	137,250
Jul-20	127,700	137,250
Aug-20	132,700	142,250



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

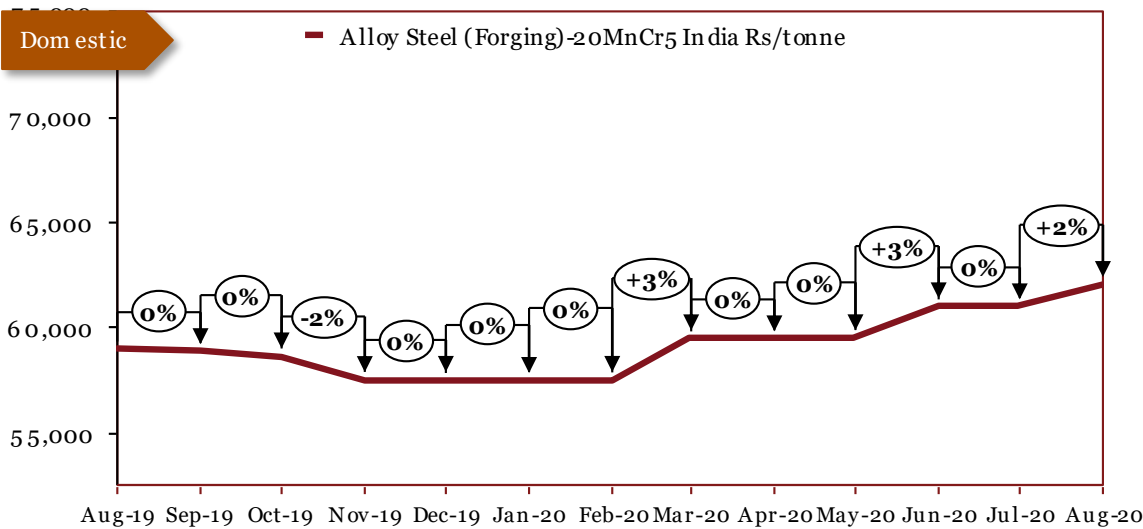
Source: PwC Research

Outlook

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. In February, international as well as domestic prices corrected to their long term December levels. In March, domestic prices fell as the COVID-19 pandemic rocked industrial activity all around the world. In April, international and domestic prices remained stable. In May, prices rose marginally despite a weak demand environment both in India and globally. In June and July, prices remained stable and unchanged. In August, international and domestic prices rose due to higher demand, partly in China, and lower scrap availability.

20MnCr5 Alloy Steel (Forging)

Monthly Average Prices	
Period	*Dom (Rs/tonne)
Aug-19	59,000
Sep-19	58,875
Oct-19	58,625
Nov-19	57,500
Dec-19	57,500
Jan-20	57,500
Feb-20	57,500
Mar-20	59,500
Apr-20	59,500
May-20	59,500
Jun-20	61,000
Jul-20	61,000
Aug-20	62,000



Source: PwC Research

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

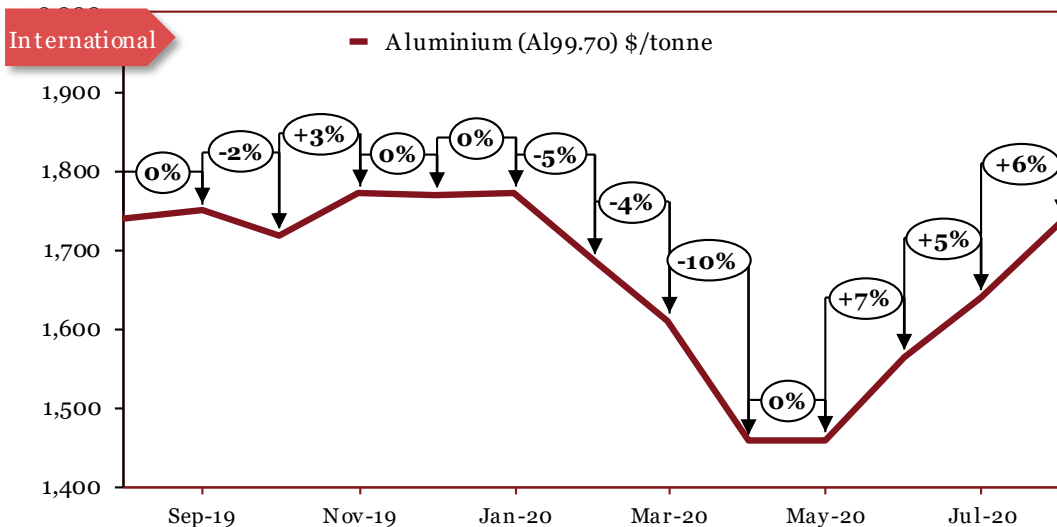
Outlook

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. In February prices remained stable. In March, prices rose on stronger industrial activity and demand prior to the COVID-19 lockdown. In April, prices remained stable. In May, prices remained stable. In June, prices rose on account of the gradual unlocking of the economy. In July, prices remained stable. In August, prices rose on stronger demand.

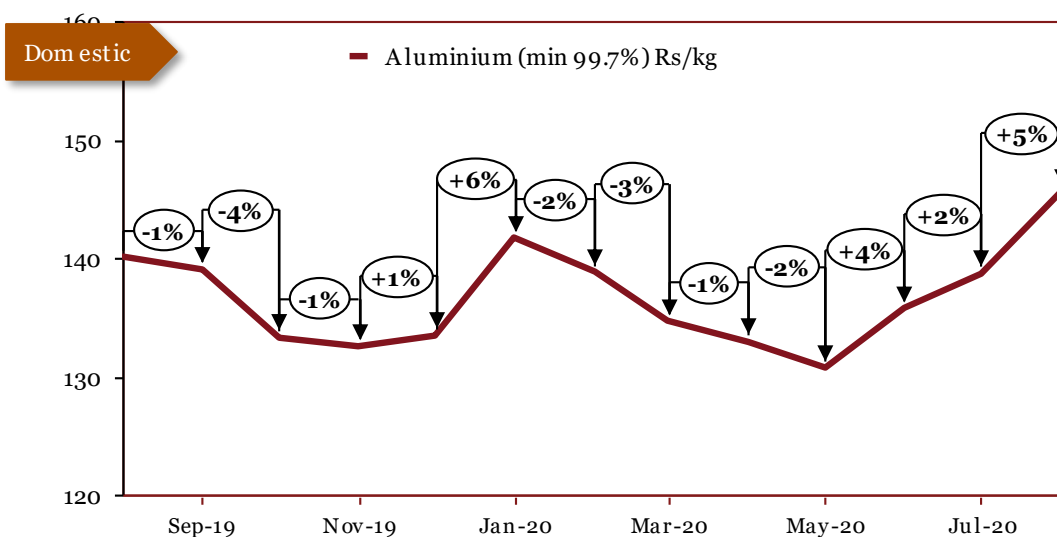
Base Metals

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

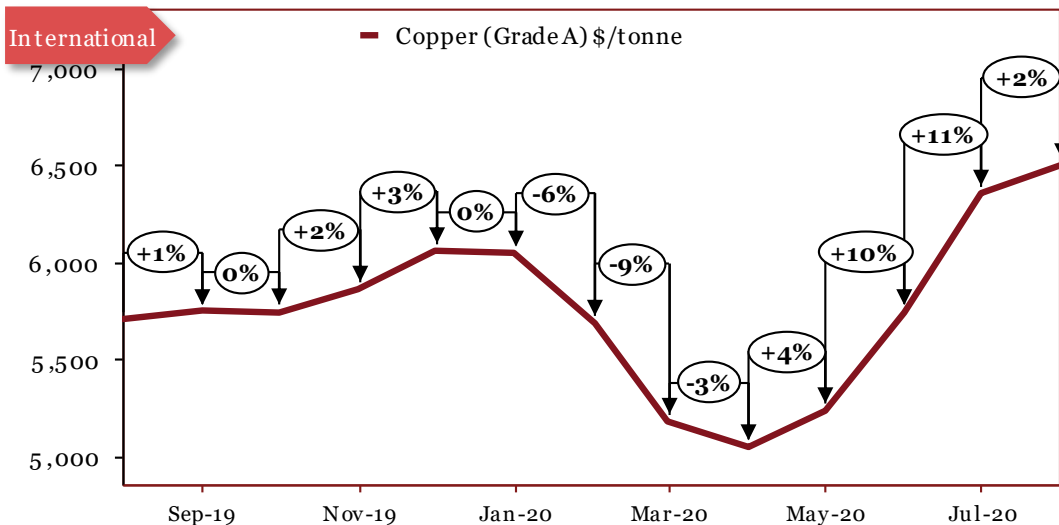
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Aug-19	1,741	140
Sep-19	1,749	139
Oct-19	1,718	133
Nov-19	1772	133
Dec-19	1770	134
Jan-20	1771	142
Feb-20	1685	139
Mar-20	1611	135
Apr-20	1457	133
May-20	1460	131
Jun-20	1564	136
Jul-20	1639	139
Aug-20	1734	146

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

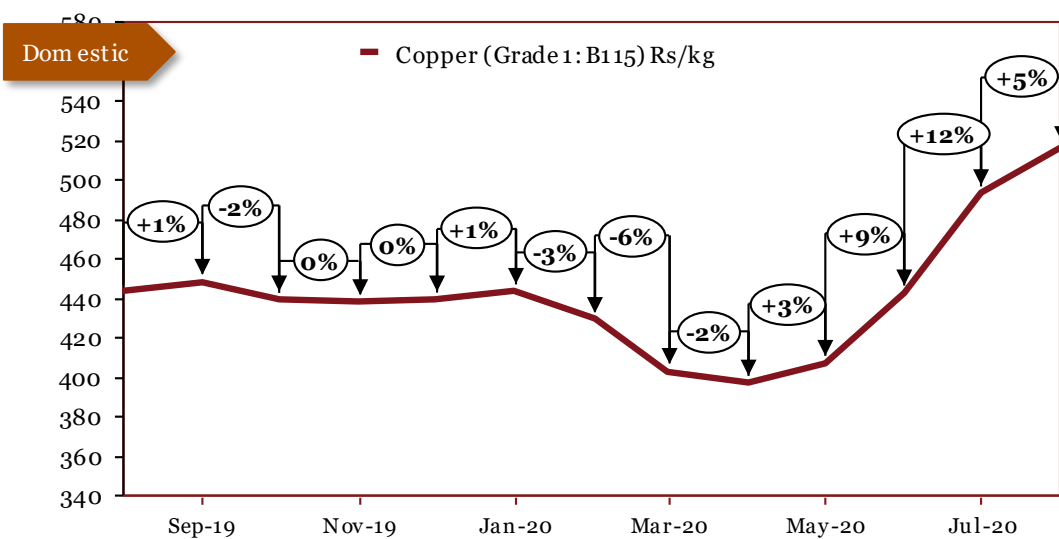
Outlook

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. In February, international prices fell sharply as the coronavirus had a major impact on Chinese demand, which was reflected on domestic imported prices as well. In March, international prices declined due to oversupply in the market by Chinese producers, while domestic prices fell thanks to weaker local demand. In April, international prices declined on account of declining demand and from producers. Domestic prices fell on account of the COVID-19 lockdown. In May, prices remained stable internationally, but continued to decline in the domestic market, as inventories built up and players worked towards lowering the production cost on it. In June and July, international as well as domestic prices began to climb upwards on pent-up demand, after bottoming out for months during lockdown. In August, prices rose on greater demand from construction industries, particularly in Europe. Domestic prices rose in tandem.

Copper



Source: LME



Source: MCX

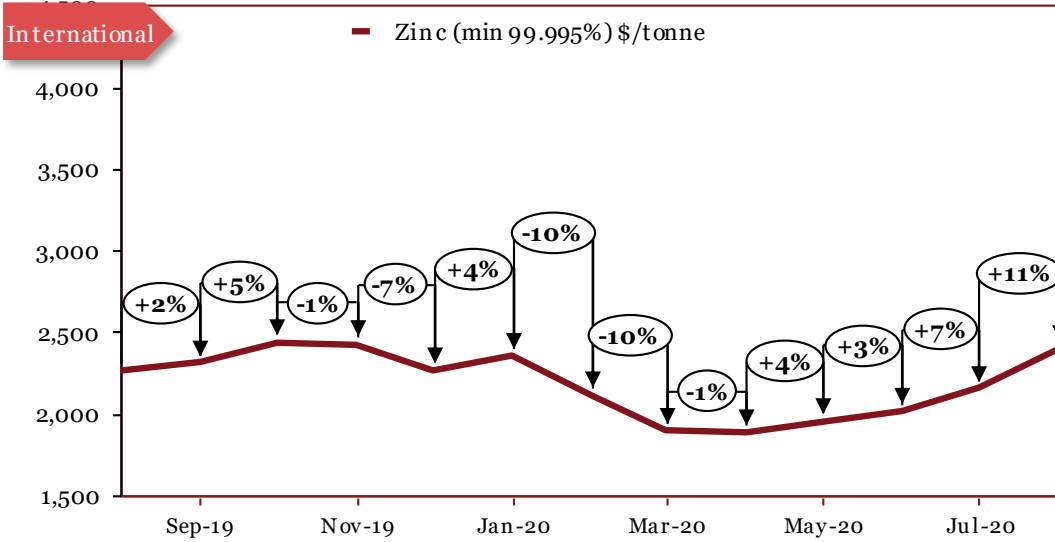
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Aug-19	5,708	444
Sep-19	5,745	449
Oct-19	5,742	440
Nov-19	5,859	438
Dec-19	6,062	440
Jan-20	6,049	444
Feb-20	5,686	430
Mar-20	5,179	403
Apr-20	5,048	397
May-20	5,234	407
Jun-20	5,742	443
Jul-20	6,354	494
Aug-20	6,497	516

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

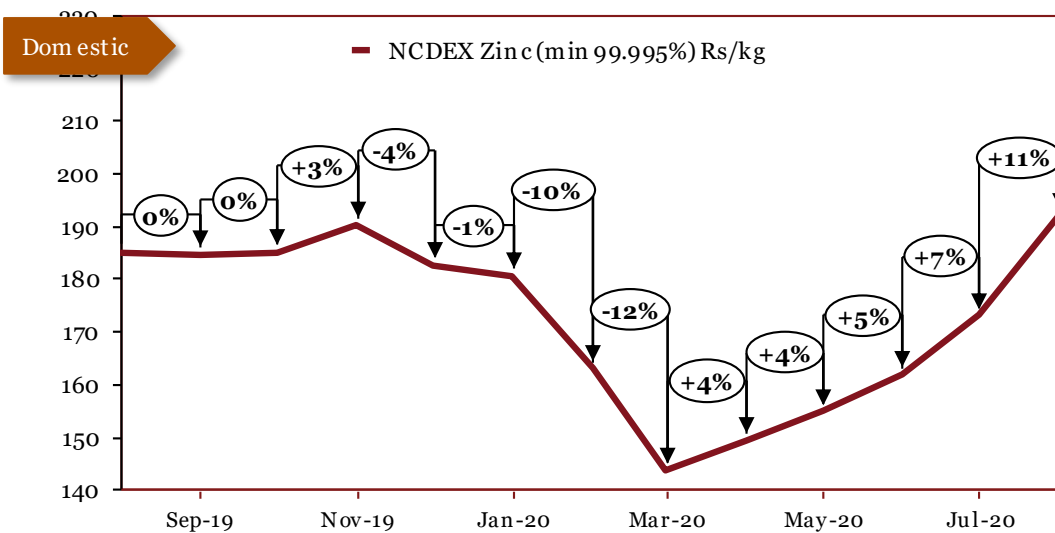
Outlook

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. In February, international prices fell as markets reacted to the coronavirus outbreak in China, and domestic prices followed suit. In March, international prices declined on account of the COVID-19 pandemic, and domestic prices similarly fell as a result of the national lockdown. In April, international and domestic prices continued their downward trajectory on account of the COVID-19 crisis. In May, prices rose after months of downturn on the hopes of an economic revival and the slow removal of lockdown measures in India and abroad. In June and July, international as well as domestic prices rose aggressively, due to supply disruptions in South America and greater optimism in the global economic recovery. In August, international and domestic prices rose as demand returned to normal around the world.

Zinc



Source: LME



Source: MCX*

*Source updated in July 2019

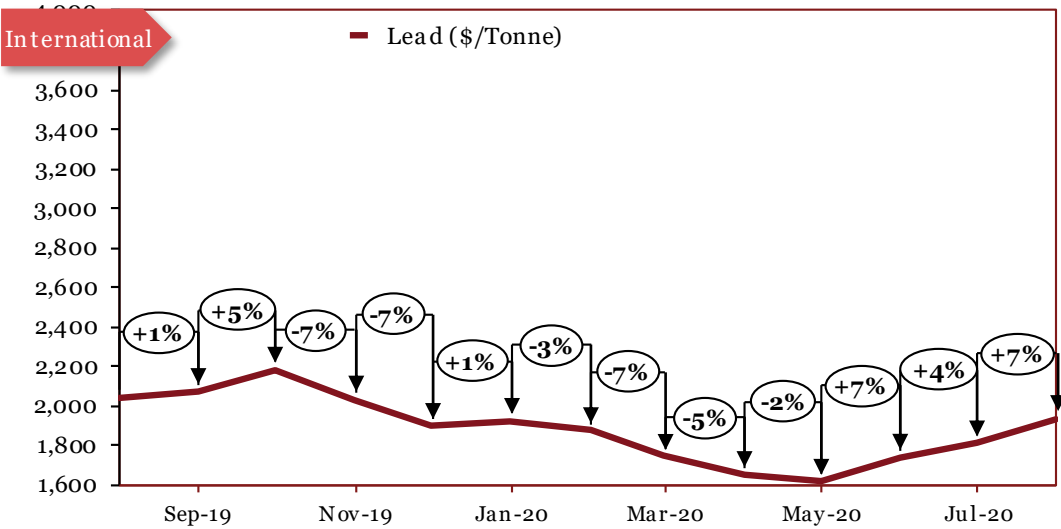
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Aug-19	2,275	185
Sep-19	2,319	185
Oct-19	2,445	185
Nov-19	2,432	190
Dec-19	2,273	183
Jan-20	2,357	181
Feb-20	2,120	163
Mar-20	1,905	144
Apr-20	1,894	149
May-20	1,963	155
Jun-20	2,021	162
Jul-20	2,162	173
Aug-20	2,407	192

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

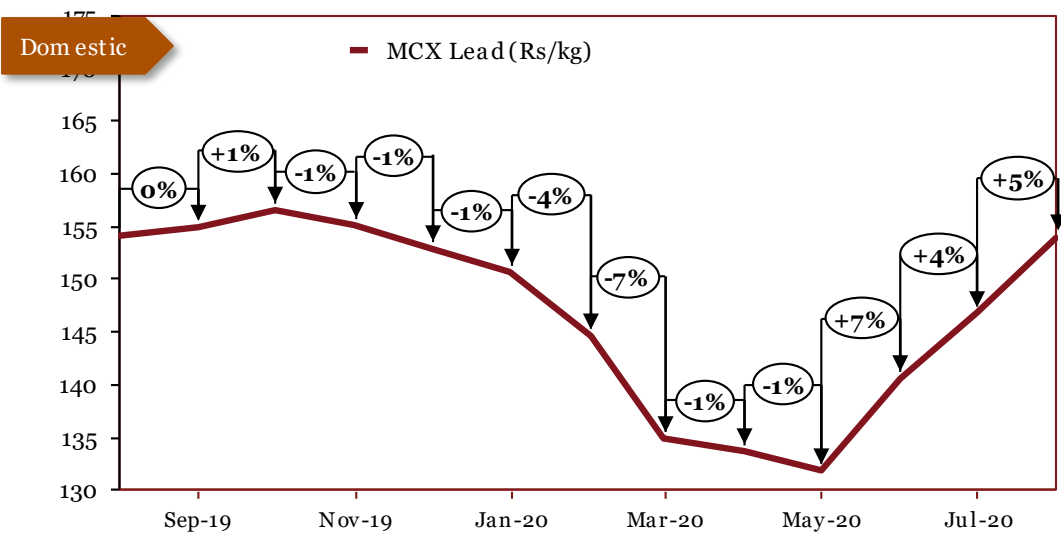
Outlook

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. In February, international prices fell as markets reacted to the outbreak of coronavirus in China and around the world, with domestic prices falling simultaneously. In March, global zinc prices saw a marked decline due to pressure from the COVID-19 crisis. Domestic prices were also hurt by the halting of industrial activity. In April, the international price decline stabilised as China reopened factories, while domestic prices rose slightly. In May, international prices rose on greater demand while domestic prices were supported by a decline in output. In June and July, international and domestic prices rose despite growing unsold inventory, as investors continued to be bullish about the global recovery. In August, prices rose internationally as well as domestically as restrictions on mining were eased globally, and supply concerns regarding South America persisted.

Lead



Source: LME



Source: MCX

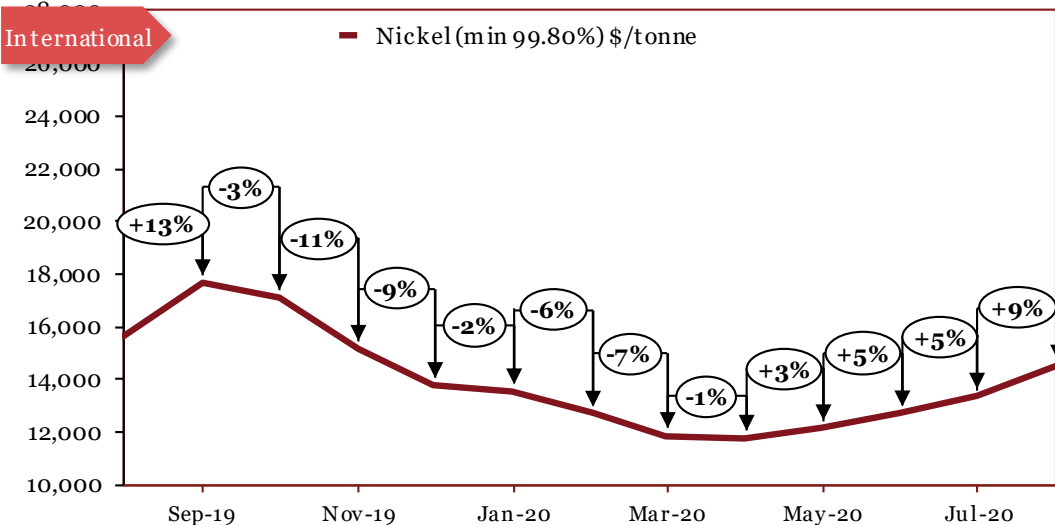
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Aug-19	2,043	154
Sep-19	2,070	155
Oct-19	2,184	157
Nov-19	2,031	155
Dec-19	2,273	153
Jan-20	2,357	151
Feb-20	2,120	145
Mar-20	1,905	135
Apr-20	1,894	134
May-20	1,963	132
Jun-20	2,021	141
Jul-20	2,162	147
Aug-20	2,407	154

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

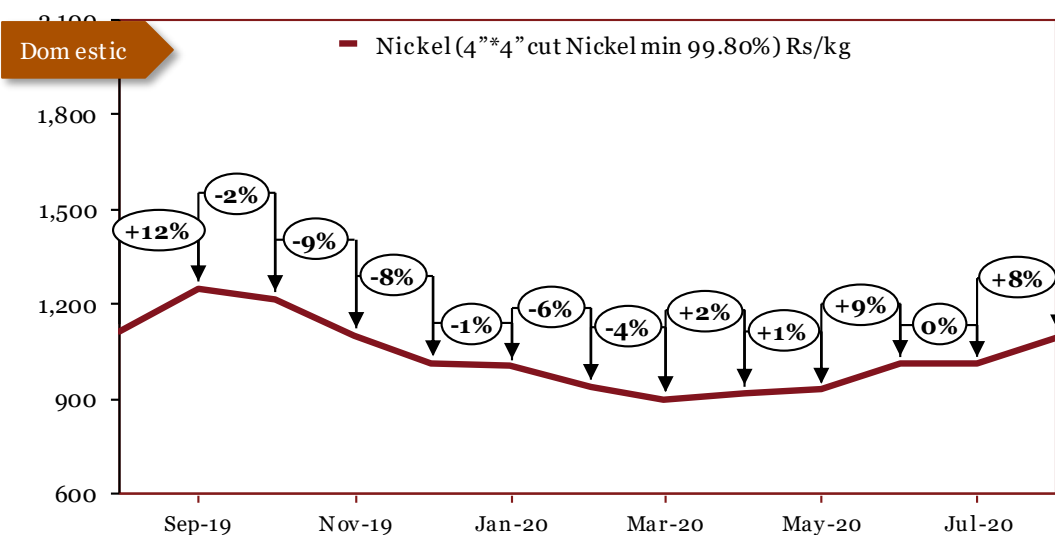
Outlook

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. In February, international as well as domestic prices fell as the coronavirus outbreak impacted industrial demand in China and around the world. In March, international prices fell on account of global uncertainty around the COVID-19 pandemic, and domestic prices fell on account of the halting of production following containment measures. In April, prices declined on account of decreased industrial activity internationally and in India. In May prices declined slightly, continuing their downward trajectory. In June and July, international as well as domestic prices rose on account of continued bullishness from investors and fears of supply disruptions. In August, international and domestic prices rose in tandem to higher demand as industries returned to pre-COVID normality.

Nickel



Source: LME



Source: MCX*

*Source updated in July 2019

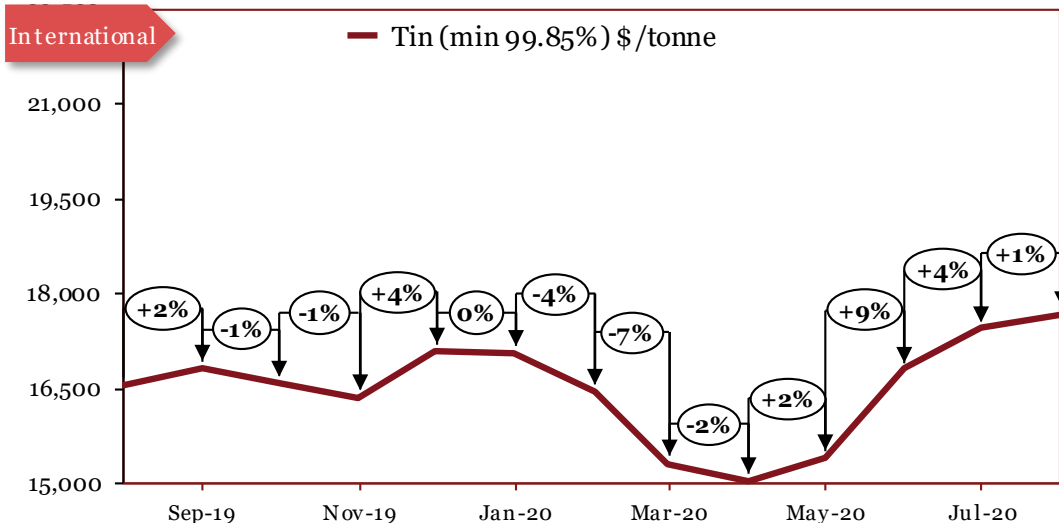
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Aug-19	15,678	1,114
Sep-19	17,668	1,248
Oct-19	17,108	1,218
Nov-19	15,195	1,104
Dec-19	13,797	1,016
Jan-20	13,549	1,003
Feb-20	12,740	941
Mar-20	11,870	901
Apr-20	11,753	921
May-20	12,135	930
Jun-20	12,703	969
Jul-20	13,341	1,013
Aug-20	14,487	1,097

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

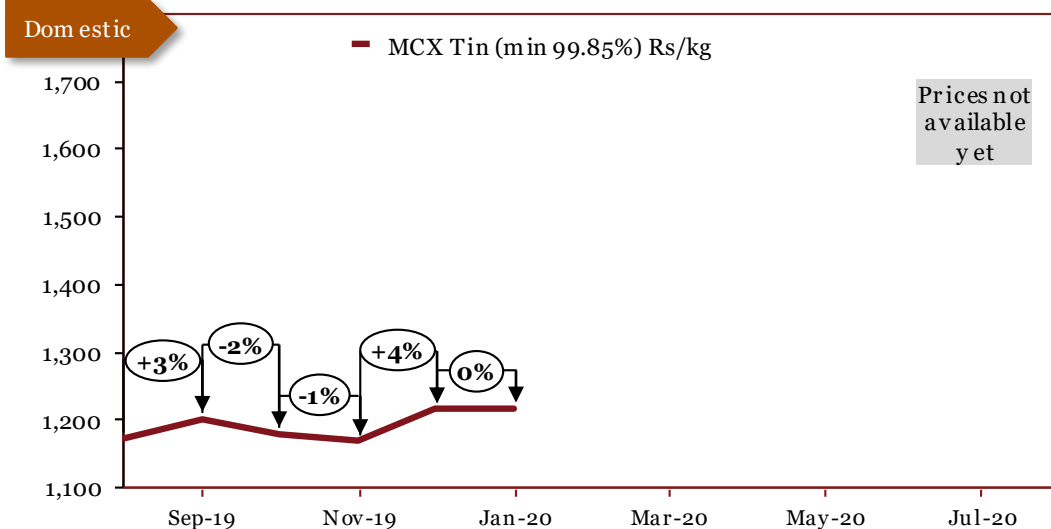
Outlook

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. In February, international prices fell sharply as inventories piled up over the Chinese lockdown. Domestic prices were hurt by weakening market sentiment thanks to the coronavirus outbreak in China affecting supply chains. In March, international as well as domestic prices were hurt by the reduction in stainless steel demand, as well as a slower production of electric vehicles. In April, international prices declined, though supply shocks prevented further fall. Domestically, prices rose thanks to a supply shock and higher spot demand. In May, international and domestic prices rose on account of greater demand from alloy makers. In June and July, international prices continued to recover, buoyed by strong Chinese demand. Domestic prices rose in June, but remained more or less stable in July. In August, Nickel prices rose as part of the trend of higher metals prices, buoyed by a strong Chinese economic recovery.

Tin



Source: LME



Source: Bloomberg

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
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
Feb-20	16,447	
Mar-20	15,315	
Apr-20	15,039	
May-20	15,409	
Jun-20	16,806	
Jul-20	17,453	
Aug-20	17,672	

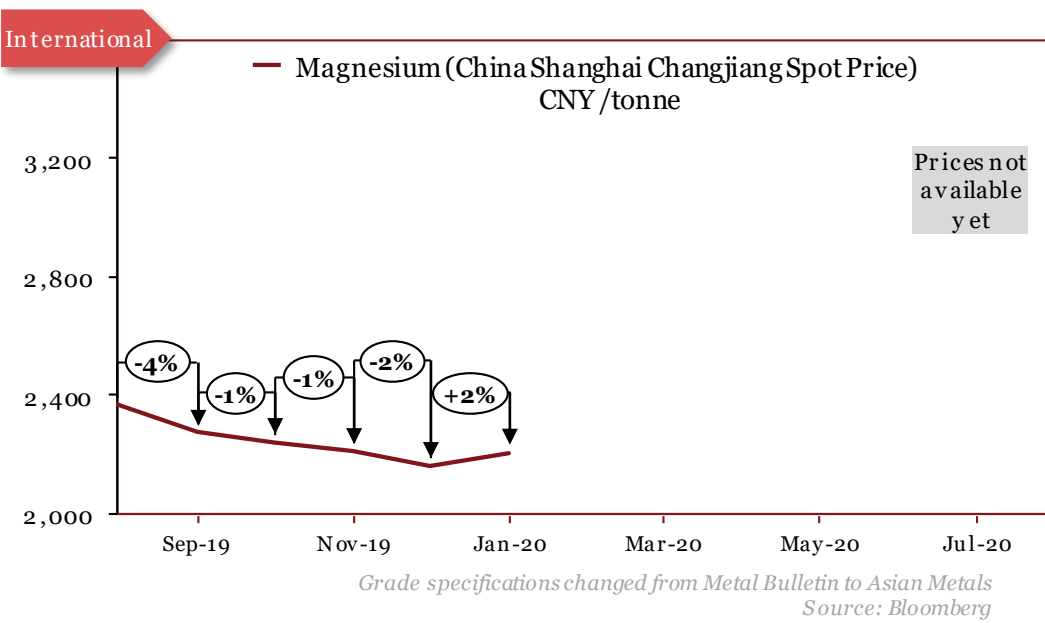
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In February, tin prices fell internationally due to slackened demand. In March, international prices declined as a major semiconductor markets Japan and South Korea rapidly curtailed industrial activity to contain COVID-19. In April, prices fell due to lower demand. In June, international prices edged upwards on account of industrial activity resuming globally. In June and July prices rose as supply constraints, particularly in South America, coincided with the reopening of economic activity. In August, international prices rose slightly.

Magnesium

Monthly Average Prices	
Period	*Int'l (\$/tonne)
Aug-19	2,367
Sep-19	2,275
Oct-19	2,243
Nov-19	2,212
Dec-19	2162
Jan-20	2207
Feb-20	
Mar-20	
Apr-20	
May-20	
Jun-20	
Jul-20	
Aug-20	



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

Outlook

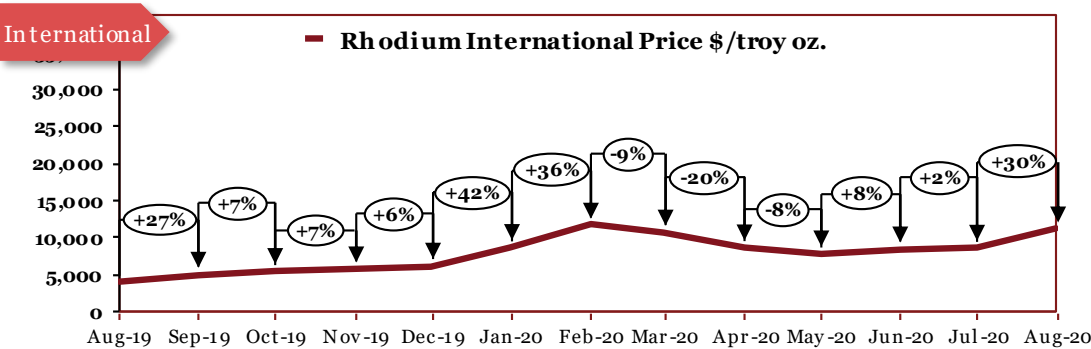
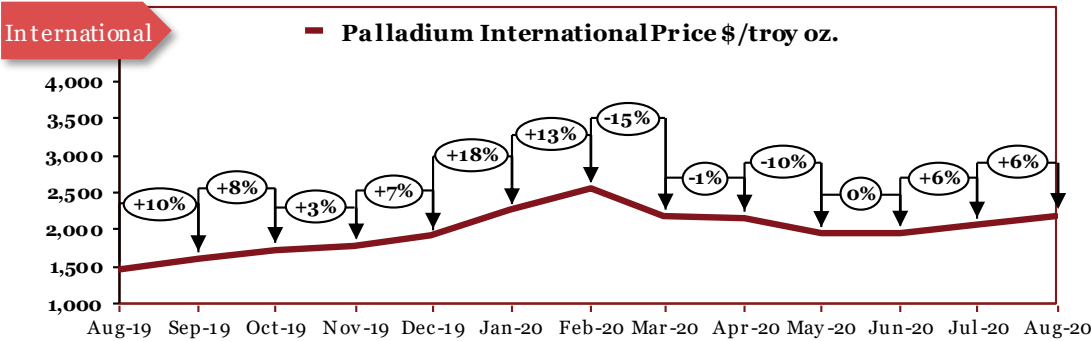
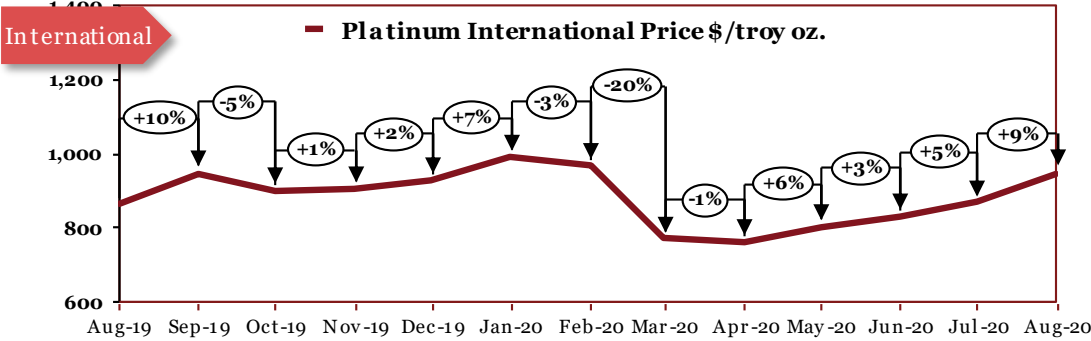
In May, June and July, magnesium prices have witnessed increasing trend owing to favourable market conditions. In August, prices continued to rise. In September, prices rose on account of tighter supply. In October, magnesium prices continued with increasing trend. In November and December 2018, magnesium 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 and 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
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
Feb-20	968	2544	11671
Mar-20	772	2170	10617
Apr-20	762	2156	8545
May-20	805	1949	7824
Jun-20	831	1952	8474
Jul-20	869	2062	8603
Aug-20	949	2191	11177

Source: Johnson Matthey

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

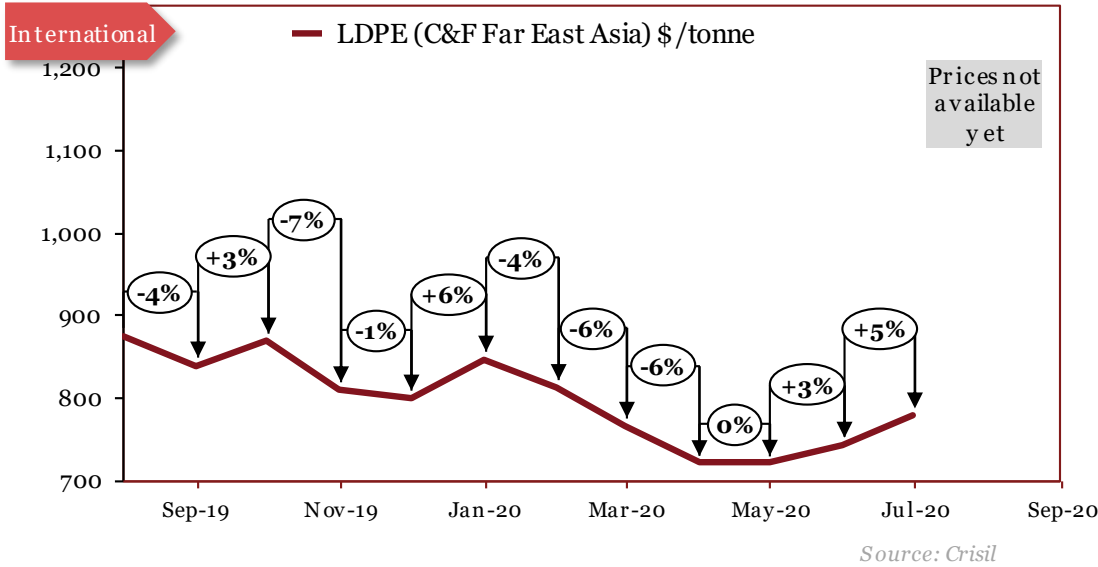
Outlook

In February, platinum's price growth was reversed as demand decreased in autocatalysts, electricals and glass-making, while palladium and rhodium prices continued to rise thanks to stricter environmental restrictions on cars in Europe, China and India. In March the record international price growth for palladium, platinum and rhodium was halted as the automotive industry, its primary customer, halted production around the world as part of lockdown measures. In April, lockdown measures continued to cause downward pressure on prices of all three metals, with auto production and other industries shut. In May, prices of Palladium and Rhodium continued to trend downwards from their earlier highs, while platinum prices rose as investors showed interest in it. In June and July, Rhodium and Palladium prices rose on the backs of growing automotive demand. Platinum prices rose due to interest from investors. In August, Rhodium prices rose rapidly as South African supply chains struggled to keep up with rising demand post-lockdown. Platinum prices continued to return to pre-COVID levels, while Palladium prices benefited from usage in electric vehicle production.

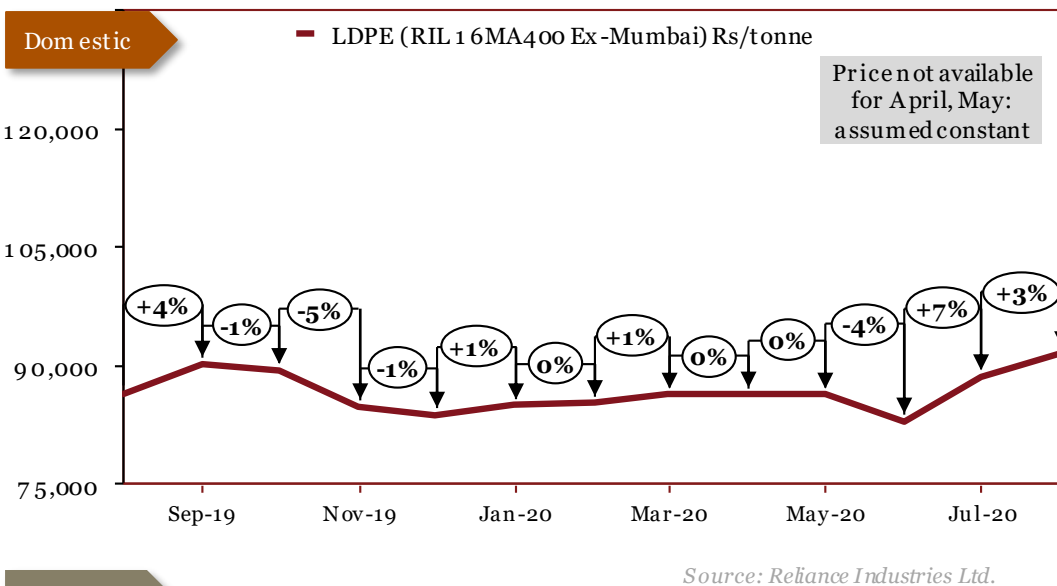
Polymers & Rubber

	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)
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
Feb-20	813	85,309
Mar-20	767	86,309
Apr-20	721	86,309
May-20	721	86,309
Jun-20	744	83,005
Jul-20	779	88,626
Aug-20		91,403

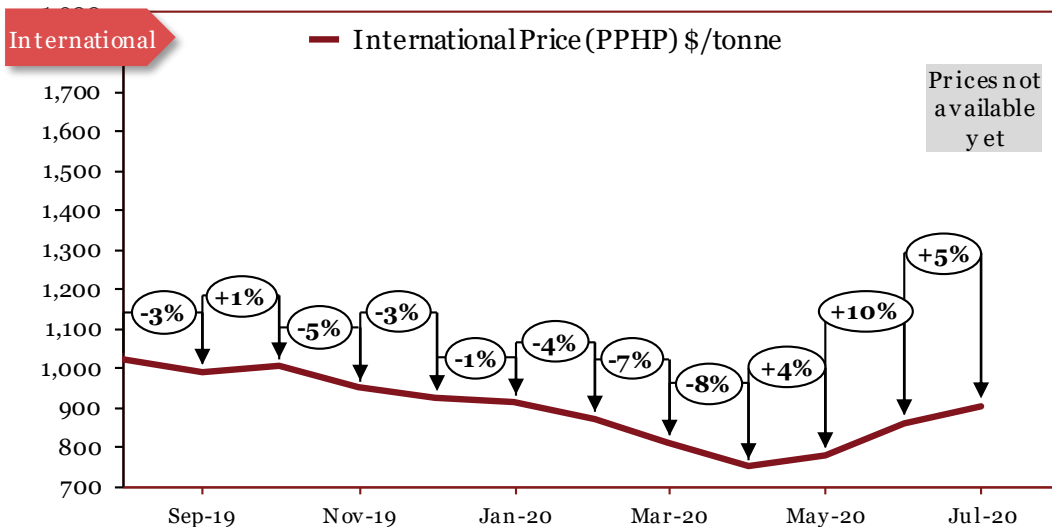


*The actual prices may vary depending on city, player, grade etc.

Outlook

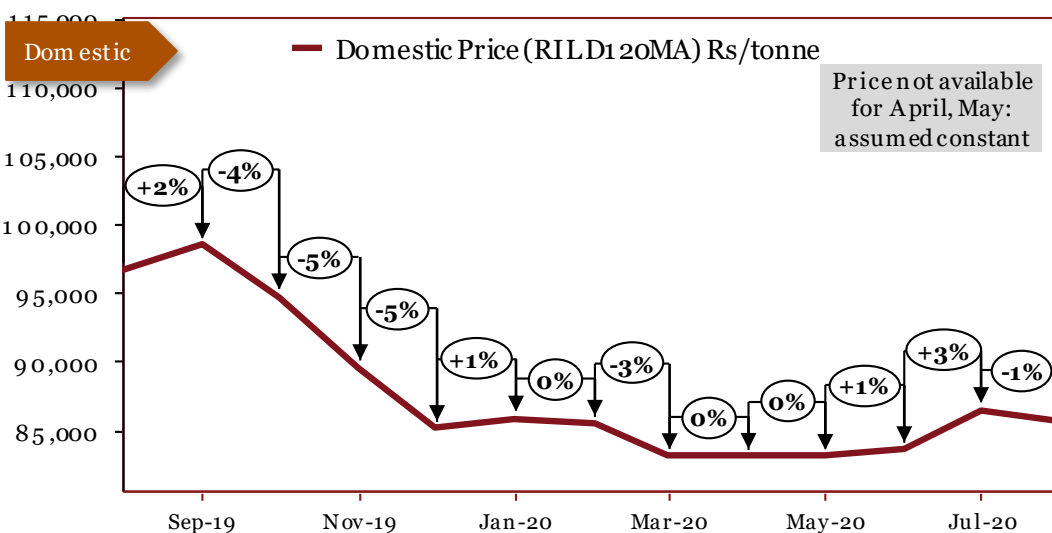
In August, prices fell due to an oversupply of product and a lack of compensating demand, whilst remaining fairly stable domestically. In September, while international prices continued to slide due to oversupply, domestic prices rose, partly due to supply shocks from Saudi Arabia oilfield attack. In 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. In February, domestic prices remained unchanged. In March, international prices declined as a result of the fall in crude oil prices and the COVID-19 lockdown. In April, low crude prices caused further decline in international prices. In June, international prices rose, corresponding with the rise in oil prices. In July, domestic prices continued their upturn. In August, prices rose on account of higher oil prices.

Polypropylene (PP)



Source: Crisil

Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
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
Feb-20	873	85,482
Mar-20	812	83,120
Apr-20	751	83,120
May-20	782	83,120
Jun-20	863	83,616
Jul-20	903	86,491
Aug-20		85,636



Source: Reliance Industries Ltd.

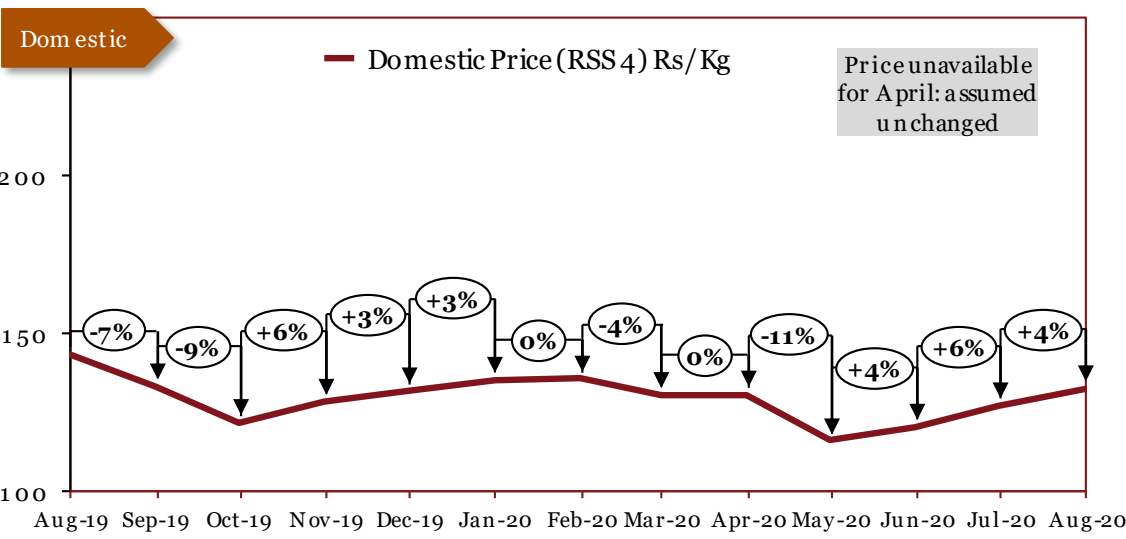
*The actual prices may vary depending on city, player, grade etc.

Outlook

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. In February, domestic prices remained unchanged. In March, the dramatic decrease in crude oil prices led to the fall in Polypropylene prices internationally as well as domestically. In April, prices declined on low crude costs. In June, international prices rose on higher oil prices. Domestic prices followed suit. In July, domestic prices rose on account of higher oil prices. In July, domestic prices continued their upturn. In August, prices rose on account of higher oil prices.

Rubber

Monthly Average Prices	
Period	*Dom (Rs/kg)
Aug-19	143
Sep-19	133
Oct-19	121
Nov-19	128
Dec-19	131
Jan-20	135
Feb-20	135
Mar-20	130
Apr-20	130
May-20	116
Jun-20	120
Jul-20	127
Aug-20	132



Source: Rubber board

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

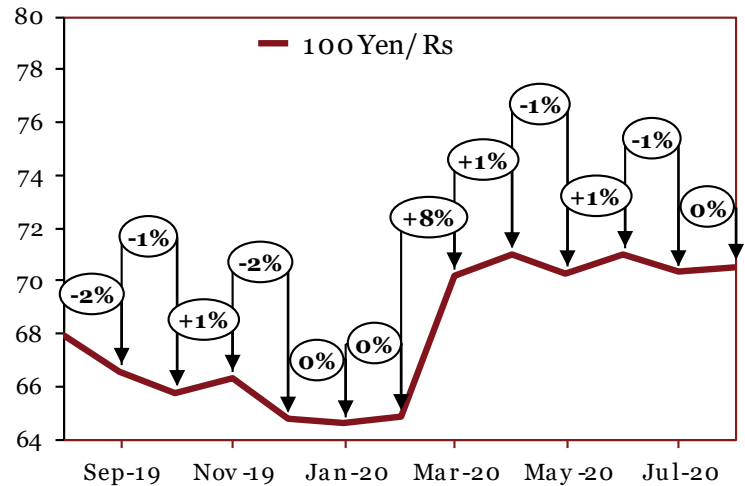
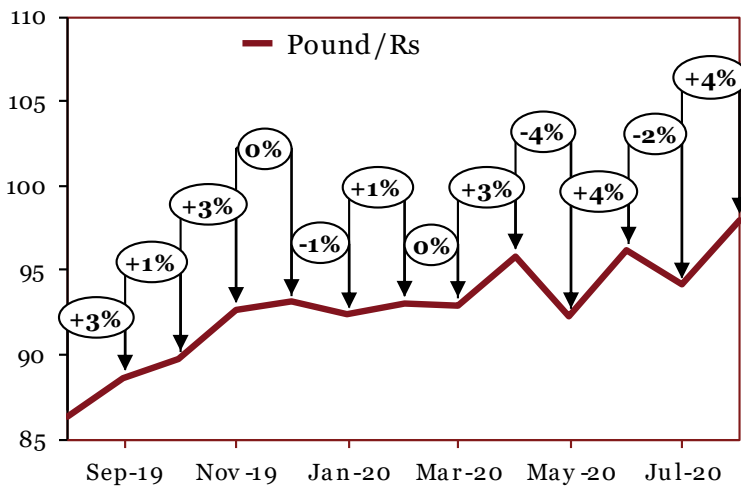
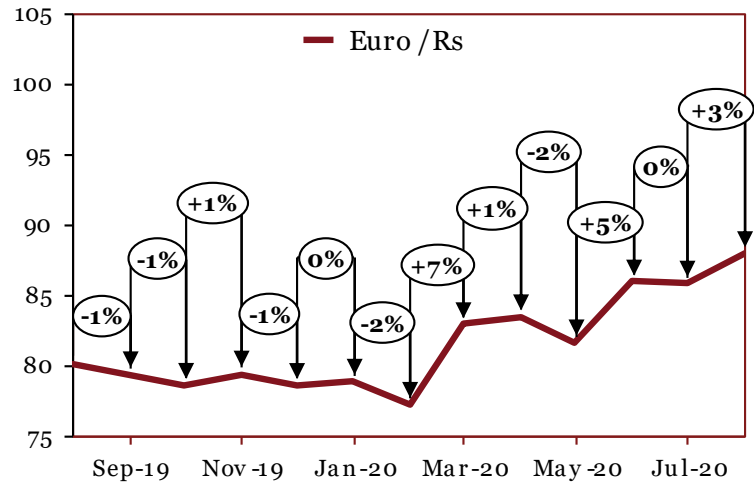
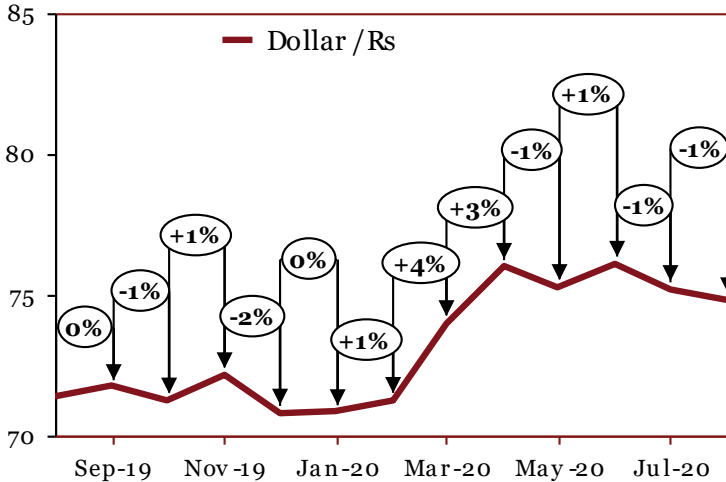
Outlook

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. In February, domestic prices remained mostly unchanged despite buyers fears regarding the impact of the coronavirus crisis. In March, domestic prices fell as the COVID-19 pandemic halted all industrial activity, including in the tyre industry. In June and July, prices of rubber rose on stronger demand and supply disruptions. In August, prices rose mirroring a continued upward trend in global markets.

Appendices

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Forex Movement

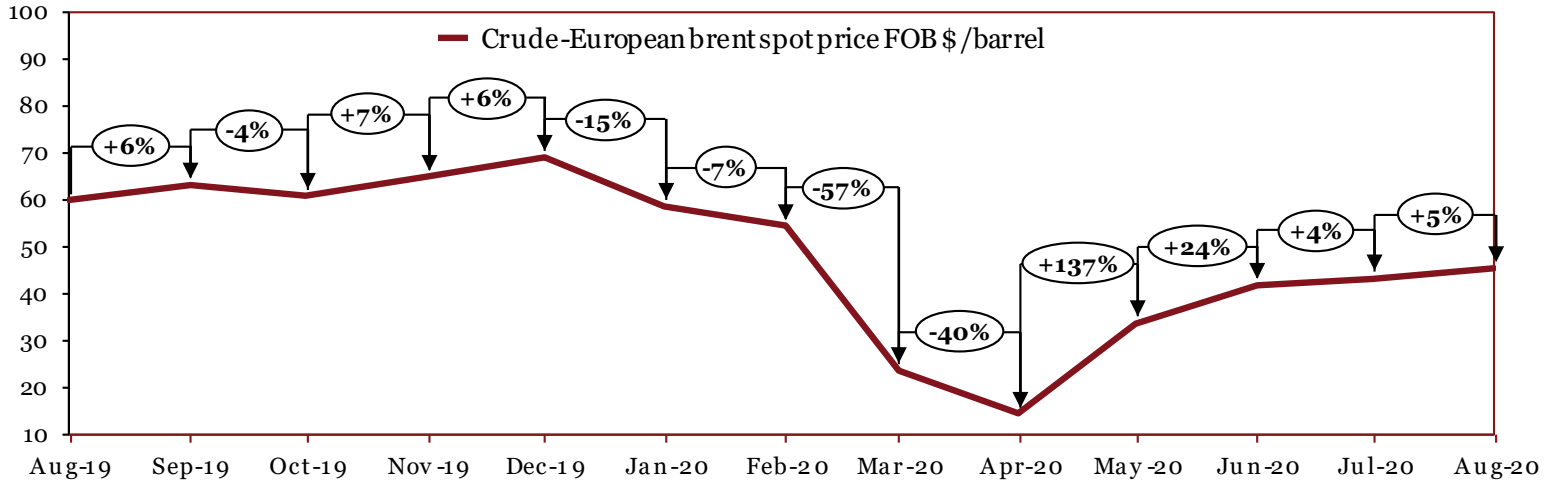


Source: Reserve Bank of India

Monthly Average Prices (Rs)

	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
\$	71	72	71	72	71	71	71	74	76	75	76	75	75
£	80	79	79	79	93	92	93	93	96	92	96	94	98
€	80	79	79	79	79	79	77	83	83	82	86	86	88
¥	68	67	66	66	65	65	65	70	71	70	71	70	71

Crude Oil



Source: EIA

Monthly Average Prices (\$/barrel)

	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
	60	63	61	65	69	59	54	24	14	34	42	43	45

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: Bloomberg Black Sea Steel Billet Spot FOB</i>	Crisil - 100^100 mm (Avg. prices collated from 2-3 locations)
Hot-rolled coils	Crisil - FOB Black Sea	Crisil - 14G 2mm (Avg. prices collated from 2-3 locations)
Cold-rolled coils	Crisil - (CIS) FOB Black Sea	Crisil - Mumbai 16G (Avg. prices collated from 2-3 locations)
Steel Scrap	NA	Crisil - Heavy melting (excl. GST)
EN 8	NA	PwC Research - EN8 Alloy forging
20MnCr5	NA	PwC Research - Alloy forging
Ferro titanium	Ferrotitanium (Europe-70% In Warehouse Rotterdam) <i>Previously: Ferrotitanium (min 70% in warehouse Rotterdam, Europe) \$/kg</i>	NA
Ferro chrome	Crisil : FOB Hong Kong Cr 50%	Crisil: Ex-factory Cr 60%
Ferro molybdenum	Ferro-molybdenum (China-60% EXW) <i>Previously: Ferro-molybdenum (65% min in warehouse Rotterdam, Europe) \$/kg</i>	NA

Commodity Specifications

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

Commodity Specifications

Commodity	International	Domestic
Lead	LME - Lead of 99.97% purity (minimum) conforming to BS EN 12659:1999 - GB/T 469/2005	MCX - Lead ingots with minimum purity of 99.97%
Nickel	LME - Nickel of 99.80% purity (minimum) conforming to B39-79 (2013) - GB/T 6516-2010	NCDEX, MCX (July '19 onwards) - 4" x 4" approved pure cut Nickel of 99.80% purity (minimum)
Tin	LME - Tin of 99.85% purity (minimum) conforming to BS EN 610:1996	Bloomberg - Tin (min 99.85%) \$/tonne
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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