

www.pwc.com

Commodity price monitor

April-23

Prepared for ACMA

*Strictly private
and confidential*

April 2023



pwc

Contents

Commodity trend dashboard		4
Iron & Steel		7
1	Iron Ore	8
2	Pig Iron	9
3	Wire Rod	10
4	Steel Billets	11
5	Hot-Rolled (HR) Coils	12
6	Cold-Rolled (CR) Coils	13
7	Steel Scrap (Heavy Melting)	14
Ferro-alloys		15
9	Ferro chrome	16
10	Ferro silicon	17
11	EN8 Alloy Steel (Forging)	18
12	Stainless Steel	19
13	20MnCr5 Alloy Steel (Forging)	20
Base Metals		21
14	Aluminium	22

***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

15	Copper	23
16	Zinc	24
17	Lead	25
18	Nickel	26
19	Tin	27
Precious Metals		28
20	Precious Metals	29
Polymers & Rubber		30
21	Low density polyethylene (LDPE)	31
22	Polypropylene (PP)	32
23	Acrylonitrile Butadiene Styrene (ABS)	33
24	High Impact Polystyrene (PS)	34
25	Rubber	35
Appendices		36
26	Forex Movement	37
27	Crude Oil	38
28	Commodity Specifications	39

Commodity trend dashboard

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

Calendar Year 2022: Q vs. Q update

Commodity	Region	Q-o-Q Up		Q-o-Q Down
Iron & Steel				
Iron Ore	International	28.51%	▲	
	Domestic low grade			
	Domestic high grade			
Pig Iron	International	12.87%	▲	
	Domestic	10.11%	▲	
Stainless steel	Domestic			-7.01% ▼
	Domestic			-6.59% ▼
Wire rod	International	31.96%	▲	
	Domestic	8.85%	▲	
Steel Billets	International	11.30%	▲	
	Domestic	3.88%	▲	
Hot-rolled coils	International	30.79%	▲	
	Domestic	22.76%	▲	
Cold-rolled coils	International	35.15%	▲	
	Domestic	23.57%	▲	
Steel Scrap	Domestic	15.45%	▲	
EN8	Domestic	8.08%	▲	
20MnCr5	Domestic	7.97%	▲	
Ferro-alloys				
Ferro titanium	International	N/A		
Ferro chrome	International			-2.52% ▼
	Domestic	1.08%	▲	
Ferro molybdenum	International	N/A		
Ferro vanadium	International	N/A		
Ferro silicon	International	10.55%	▲	
	Domestic	18.32%	▲	

ND: Not disclosed by the source

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

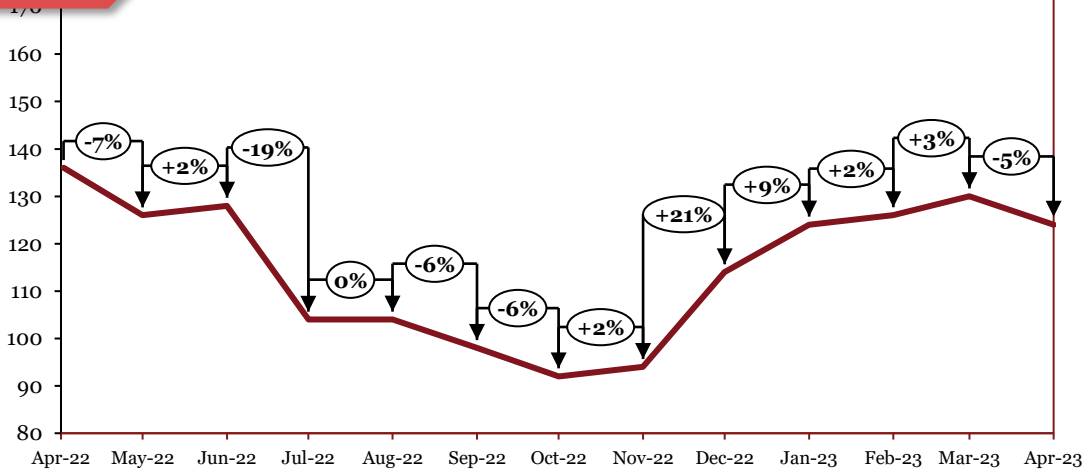
Calendar Year 2022: Q vs. Q update

Commodity	Region	Q-o-Q Up		Q-o-Q Down
Base Metals				
Aluminum	International	14.69%	▲	
	Domestic	13.58%	▲	
Copper	International	14.53%	▲	
	Domestic	13.67%	▲	
Zinc	International	6.71%	▲	
	Domestic	6.83%	▲	
Lead	International	5.28%	▲	
	Domestic	4.18%	▲	
Nickel	International			-1.60% ▼
	Domestic			-0.03% ▼
Tin	International	23.19%	▲	
	Domestic	N/A		
Magnesium	International	N/A		
Precious Metals				
Platinum	International	1.93%	▲	
Palladium	International	15.90%	▲	
Rhodium	International	11.49%	▲	
Polymers				
Low density polyethylene (LDPE)	International	0.84%	▲	
	Domestic	6.61%	▲	
Polypropylene (PP)	International			-2.92% ▼
	Domestic	5.57%	▲	
Acrylonitrile Butadiene Styrene (ABS)	International	12.53%	▲	
	Domestic	13.70%	▲	
Polystyrene (PS)	International	10.54%	▲	
	Domestic	14.59%	▲	
Rubber	Domestic	6.82%	▲	
Currency Exchange				
Dollar	International	1.25%	▲	
Pound	International	0.92%	▲	
Euro	International	2.37%	▲	
Yen	International			-2.12% ▼

Iron & Steel

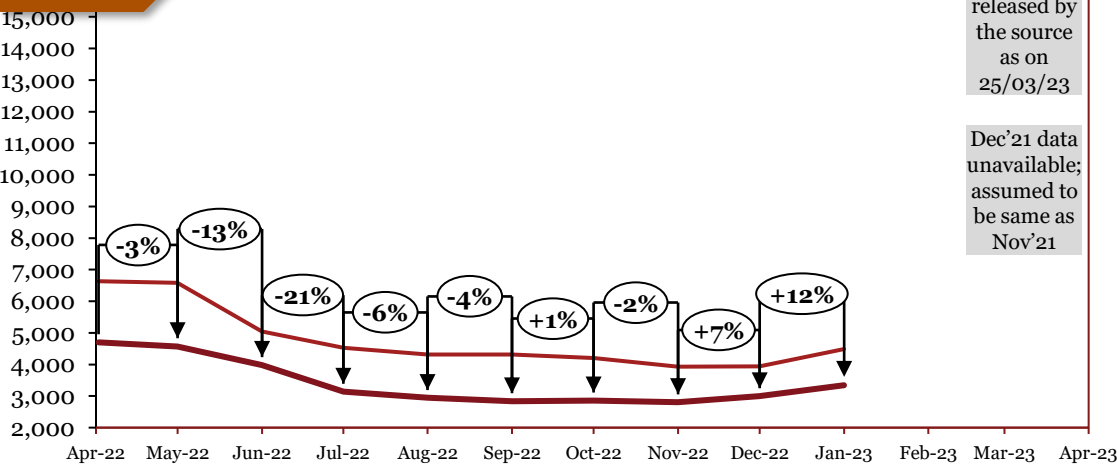
Iron Ore

International



Source: Crisil

Domestic



Prices not released by the source as on 25/03/23

Dec'21 data unavailable; assumed to be same as Nov'21

Source: Crisil

Monthly Average Prices			
Period	*Int'l	*Dom	
	\$/tonne	Rs/tonne	
		65% & below	65% & above
Apr-22	136	4696	6632
May-22	126	4571	6583
Jun-22	128	3981	5046
Jul-22	104	3139	4524
Aug-22	104	2943	4317
Sep-22	98	2835	4314
Oct-22	92	2860	4204
Nov-22	94	2803	3931
Dec-22	114	2996	3936
Jan-23	124	3346	4484
Feb-23	126		
Mar-23	130		
Apr-23	124		

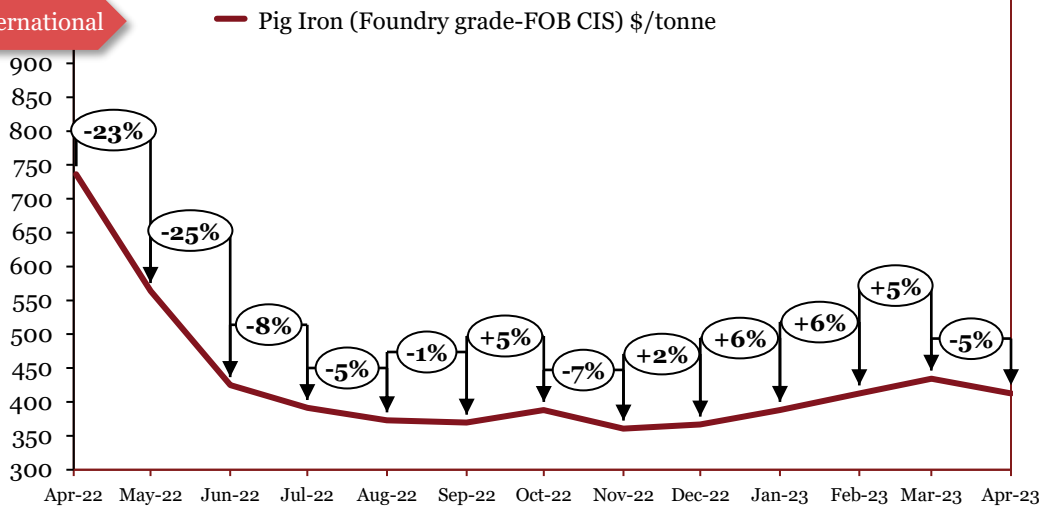
*The actual prices may vary depending on city, player, grade etc.

Outlook

In July, international prices fell sharply due to weaker demand for steel from the construction sector in China. In August, international prices remained stable. Domestic prices decreased due to a fall in demand in China, caused by COVID-19 restrictions and a slowdown in the property sector. In September, international prices fell due to fresh covid-19 restrictions, typhoons, and property sector troubles in China squeezing demand for ferrous metals. In October, international and domestic prices dropped as a result of lower consumption levels, particularly in China due to the nation's housing market woes along with Covid restrictions. In November, international prices remained relatively stable. In December, prices rose sharply as a result of a surge in demand from steel plants following the expectation of an easing in China's strict pandemic restrictions. In January and February, international and domestic prices increased amid expectations of strong demand as China re-opened its economy after abandoning its strict zero-COVID policy. In March, international prices increased due to supply constraints from weather-impacted Brazil and China's seasonal winter curb on production. In April, international prices fell amid weak demand from Chinese steelmakers and increased inventories at Chinese ports.

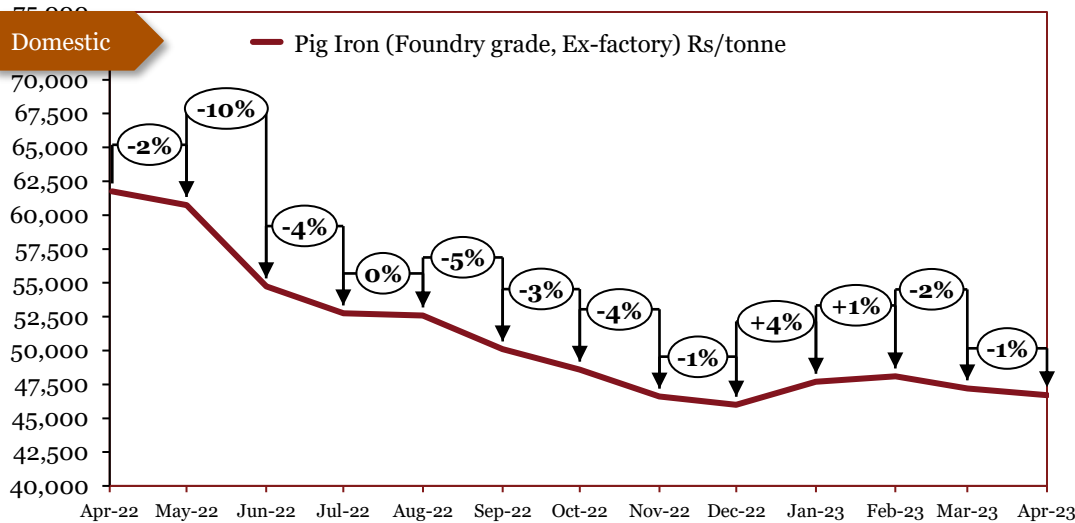
Pig Iron

International



Source: Crisil

Domestic



Source: Crisil

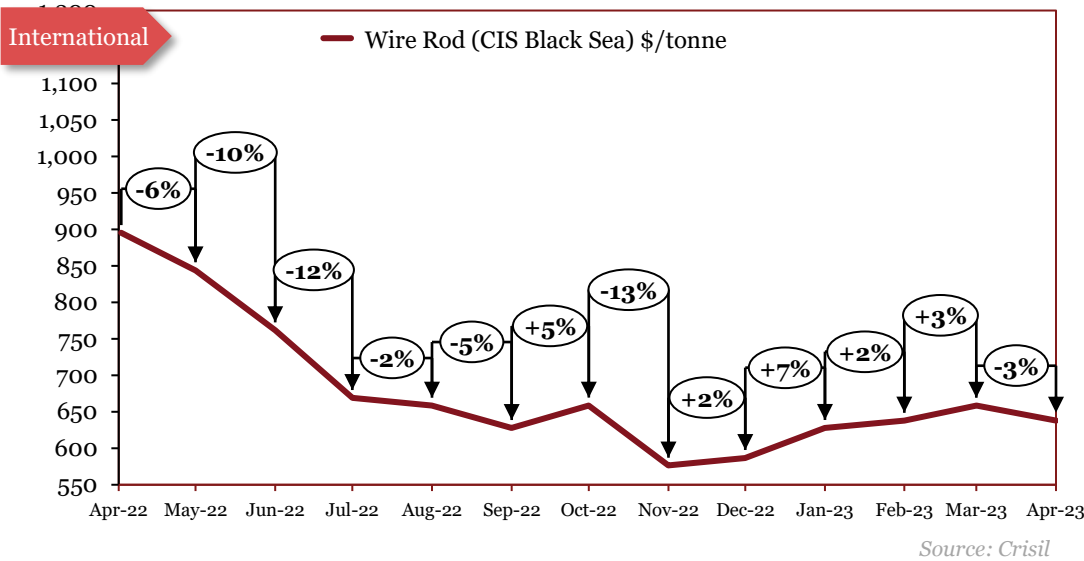
Monthly Average Prices		
Period	*Int'l	*Dom
	\$/tonne	Rs/tonne
Apr-22	736	61750
May-22	564	60750
Jun-22	425	54750
Jul-22	391	52750
Aug-22	373	52600
Sep-22	370	50100
Oct-22	388	48600
Nov-22	360	46600
Dec-22	367	46000
Jan-23	388	47700
Feb-23	413	48100
Mar-23	434	47200
Apr-23	413	46700

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

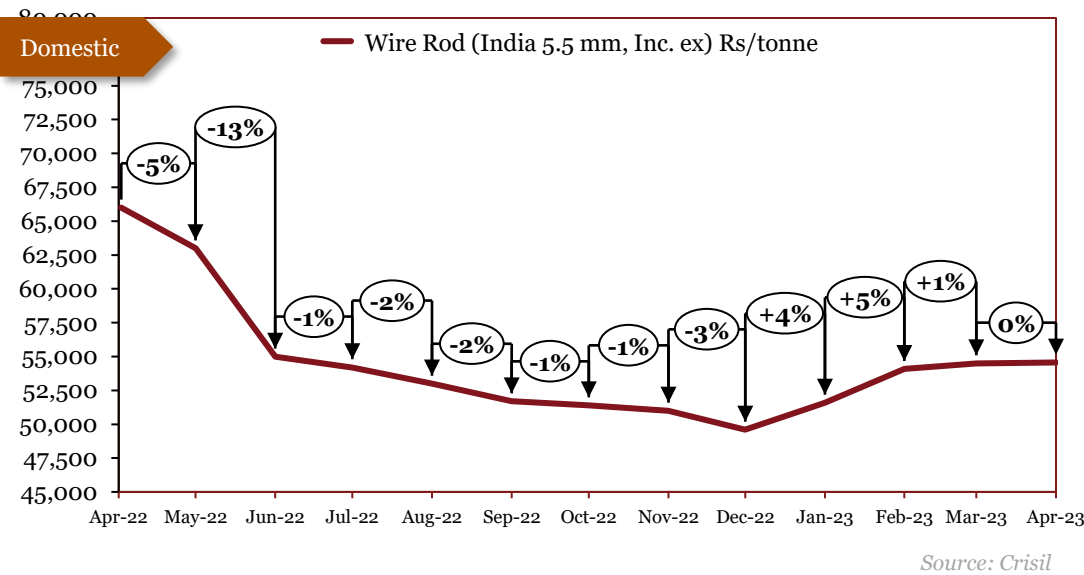
Outlook

In October, domestic prices fell due to lower auction volumes at steel plants as a result of subdued domestic demand - due to the festive season - coupled with an inventory pile-up at steel mills. International prices rose due to a rise in coking coal prices. In November, international and domestic prices declined sharply due to a fall in coking coal prices, along with a slowdown in end-user demand caused by recessionary fears and geo-political unrest. In December, international prices rose slightly in tandem with iron ore prices. Domestic prices remained marginally stable. In January, domestic prices increased as India's largest iron ore producer NMDC raised its iron ore prices, a key raw material. International prices increased due to a boost in China's property sector as a result of favorable policymaking. In February, prices increased in tandem with key raw material prices of coking coal and iron ore. In March, domestic prices fell due to moderate demand for finished steel in the secondary sector. International prices increased in tandem with iron ore prices. In April, prices decreased due to a negative correction in coal and coke prices.

Wire Rod



Monthly Average Prices		
Period	^*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-22	895	65994
May-22	844	62994
Jun-22	761	54994
Jul-22	669	54194
Aug-22	659	52994
Sep-22	628	51694
Oct-22	659	51394
Nov-22	576	50994
Dec-22	587	49594
Jan-23	628	51594
Feb-23	638	54094
Mar-23	659	54494
Apr-23	638	54554



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

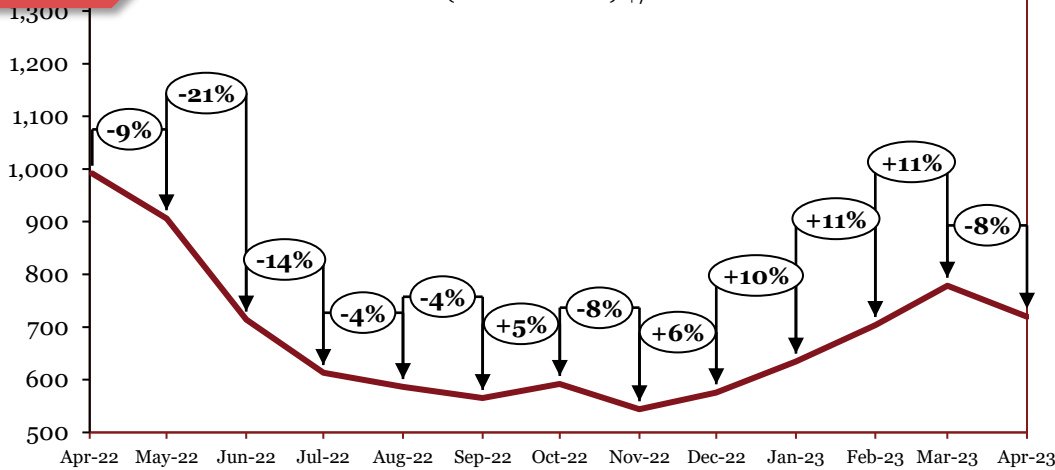
Outlook

In September, prices fell due to market uncertainty amid soaring energy prices, coupled with highly volatile prices of semi-finished steel in key markets. In October, domestic prices fell due to subdued domestic demand and inventory pile-up at steel mills due to scheduled maintenance breaks. International prices increased in tandem with stainless steel prices. In November, international prices fell sharply due to a fall in downstream demand, a slowdown in China’s economy (a major consumer of finished steel products), as well as high inventory levels at mills. Domestic prices remained relatively stable. In December, international prices rose due to a surge in demand from the construction sector of China. Domestic prices decreased due to a decline in coking coal prices. In January, prices increased due to a contraction in pig iron production rates at major integrated steel works in the EU, the UK, the Balkans, and Turkey. In February and March, prices increased due to an increase in the price of steel, iron ore, and coking coal. In April, domestic prices remained stable. International prices decreased in tandem with steel and coking coal prices.

Hot-Rolled (HR) Coils

International

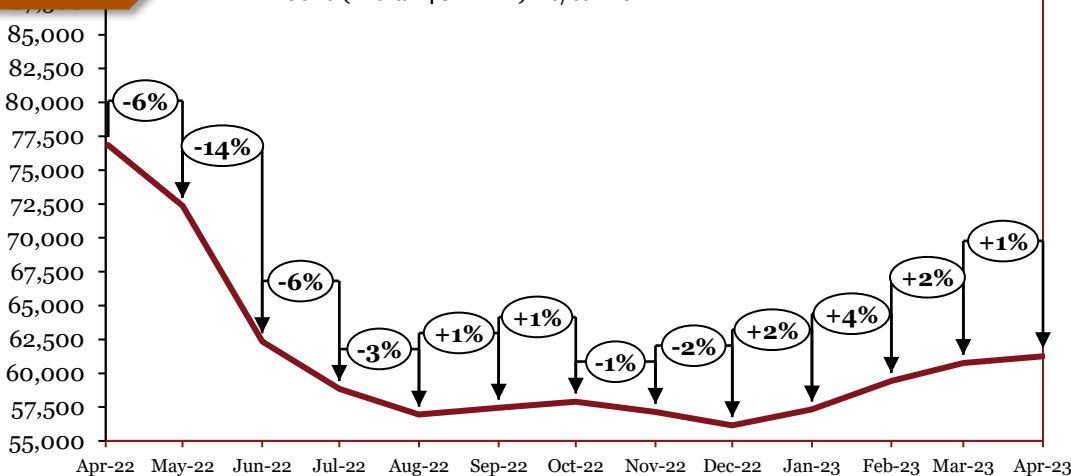
— HR Coils (FOB Black Sea) \$/tonne



Source: Crisil

Domestic

— HR Coils (India 14G-2mm) Rs/tonne



Source: Crisil

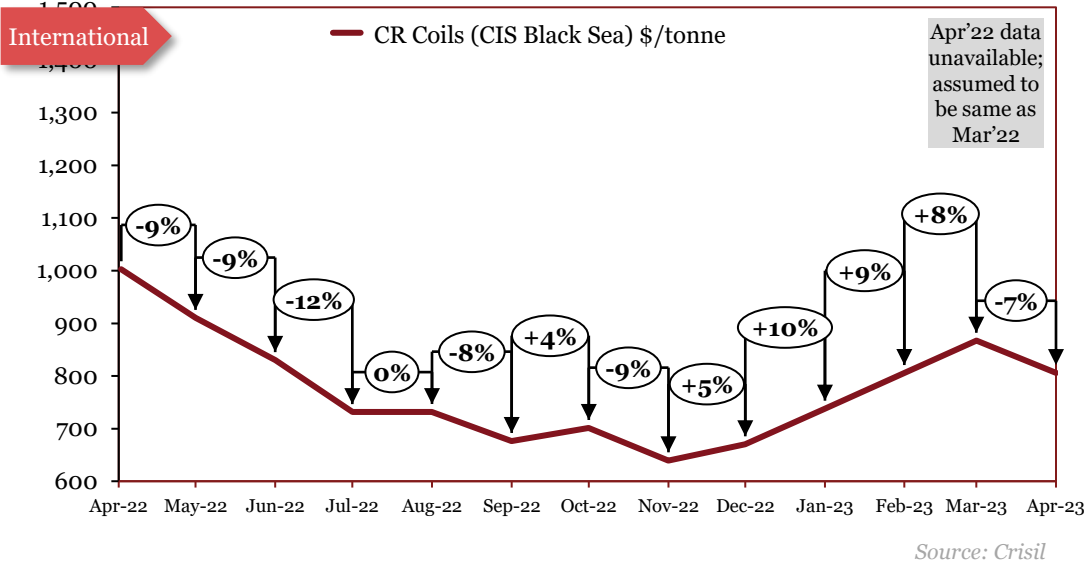
Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Apr-22	991	76850
May-22	906	72350
Jun-22	714	62350
Jul-22	613	58850
Aug-22	586	56950
Sep-22	565	57450
Oct-22	592	57900
Nov-22	544	57150
Dec-22	576	56150
Jan-23	634	57325
Feb-23	704	59425
Mar-23	778	60750
Apr-23	720	61250

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

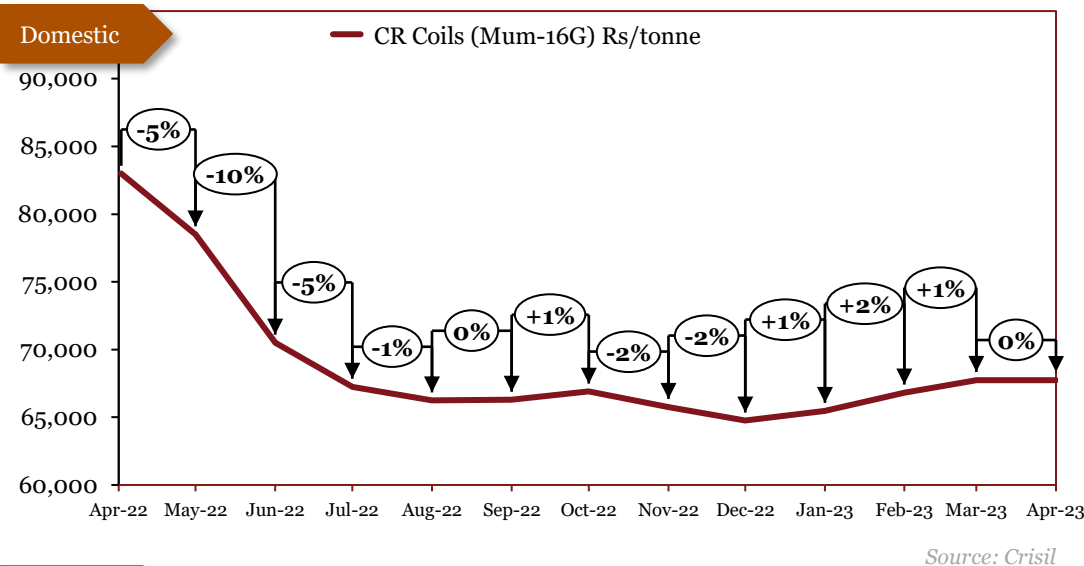
Outlook

In November, international prices declined due to lower raw material and input costs, along with a fall in downstream demand. Domestic prices remained relatively stable. In December, international prices increased sharply on the back of a rebound in the domestic Chinese market. Domestic prices decreased as Indian mills were forced to cut prices due to higher available stocks and a weakening commodity cycle. In January, domestic prices increased as a result of a rise in raw material prices. International prices increased in tandem with coking coal prices. In February, prices increased due to high raw material costs, expectations of steel prices to remain supported owing to the cost-push and recovery in Chinese demand, and declining inventory amid expectations of favorable policies in China. In March, domestic prices increased due to high coking coal prices and stable export prices. International prices increased due to supply chain disruptions in Turkey. In April, domestic prices increased as Indian mills hiked prices amid strong exports. International prices fell due to reduced demand caused by high-interest rates, fall in iron ore prices, surplus in market after initial surge in Chinese demand, and fears of a global economic slowdown.

Cold-Rolled (CR) Coils



Monthly Average Prices		
Period	*Int'l (\$/tonne)	^*Dom (Rs/tonne)
Apr-22	1002	83000
May-22	910	78500
Jun-22	830	70500
Jul-22	732	67250
Aug-22	732	66250
Sep-22	677	66300
Oct-22	701	66900
Nov-22	640	65750
Dec-22	670	64750
Jan-23	738	65475
Feb-23	806	66825
Mar-23	867	67750
Apr-23	806	67750

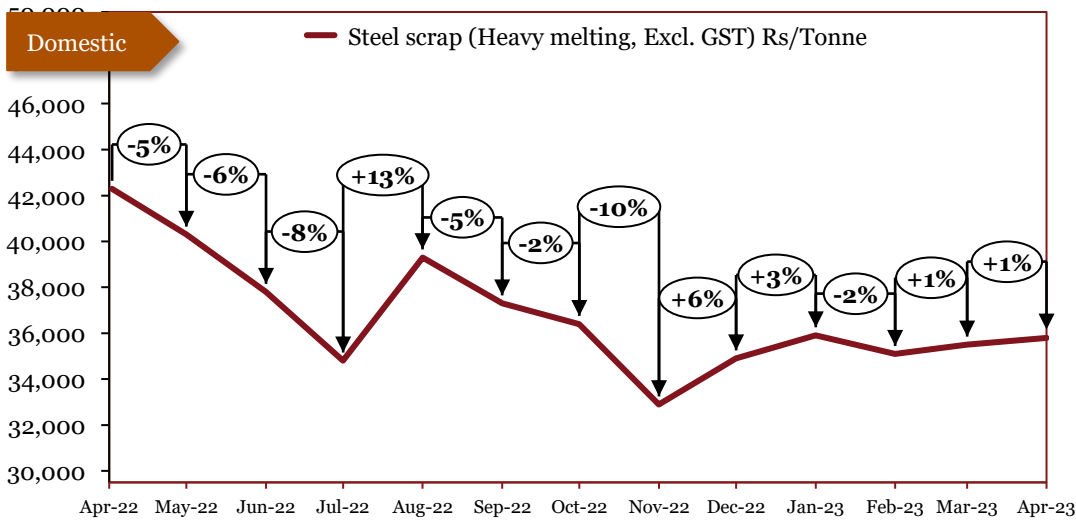


*The actual prices may vary depending on city, player, grade etc.

Outlook

In August, domestic prices fell slightly due to a fall in raw material (coking coal) prices. International prices remained stable. In September, domestic prices increased slightly due to a rise in raw material (coking coal) prices. International prices decreased due to lower buying activity as a result of economic uncertainty. In October, both international and domestic prices increased due to an increase in prices by steelmakers in accordance with higher coking coal prices. In November, prices declined in tandem with steel and HRC prices. In December, international prices increased as China ditched its “zero COVID” policy and adopted new economic stimulus measures, including new investments in infrastructure. Domestic prices decreased as steelmakers were forced to cut prices as a result of higher available stocks caused by weakening export markets. In January and February, prices increased due to a boost in demand as a result of the easing of restrictions in China and increased global inflation. In March, domestic prices increased as mills hiked prices due to elevated raw material prices like iron ore and coking coal, improved demand in the domestic market. International prices increased in tandem with iron ore prices. In April, international prices fell in tandem with HRC prices. Domestic prices remained stable.

Steel Scrap (Heavy Melting)



Source: CRISIL

Monthly Average Prices

Period	*Dom (Rs/Tonne)
Apr-22	42300
May-22	40300
Jun-22	37800
Jul-22	34800
Aug-22	39300
Sep-22	37300
Oct-22	36400
Nov-22	32900
Dec-22	34900
Jan-23	35900
Feb-23	35100
Mar-23	35500
Apr-23	35800

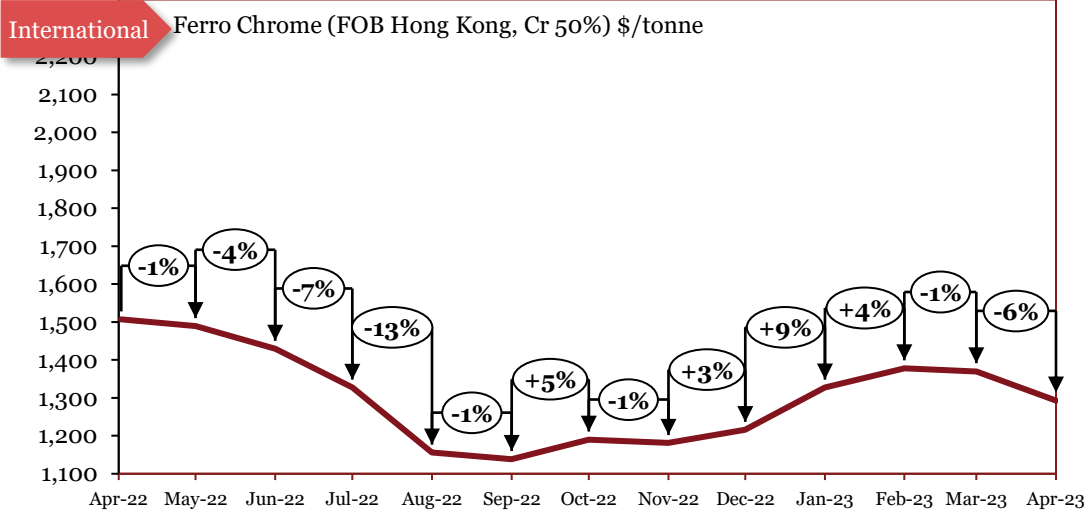
*The actual prices may vary depending on city, player, grade etc.

Outlook

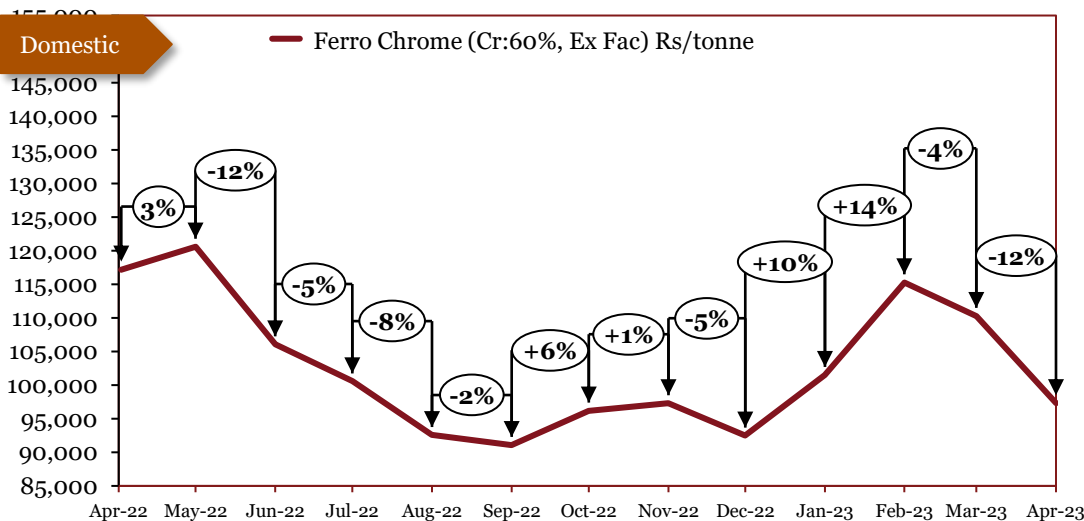
In May, domestic prices fell due to weaker demand for finished steel. In June, domestic prices fell due to low ingots sales. In July, prices fell amid an oversupply crisis, weakening of demand, and seasonal monsoon pressures. In August, prices increased on the back of a rise in demand from the automotive industry, owing to the onset of the festive season. In September, prices saw a downward trend due to considerable imports of cheaper bulk scrap from the US. In October, prices declined slightly due to reduced buying at steel scrap auctions, as a result of lower domestic consumption levels. In November, prices fell sharply due to the pile-up of finished inventory with steel mills post-export duty imposition, coupled with weak end-user demand and the resultant lower capacity utilization. In December and January, prices increased due to low availability during the winter period, as adverse weather conditions slowed down the collection and processing of scrap. In February, prices decreased due to the consequences of the Turkey-Syria earthquake. In March, prices increased due to inclement weather, low inventories, a reported shortage of prime steel scrap substitute DRI, and rising finished steel prices. In April, prices increased slightly due to tight supply caused due to supply chain issues in Turkey.

Ferro-alloys

Ferro chrome



Source: Crisil



Source: Crisil

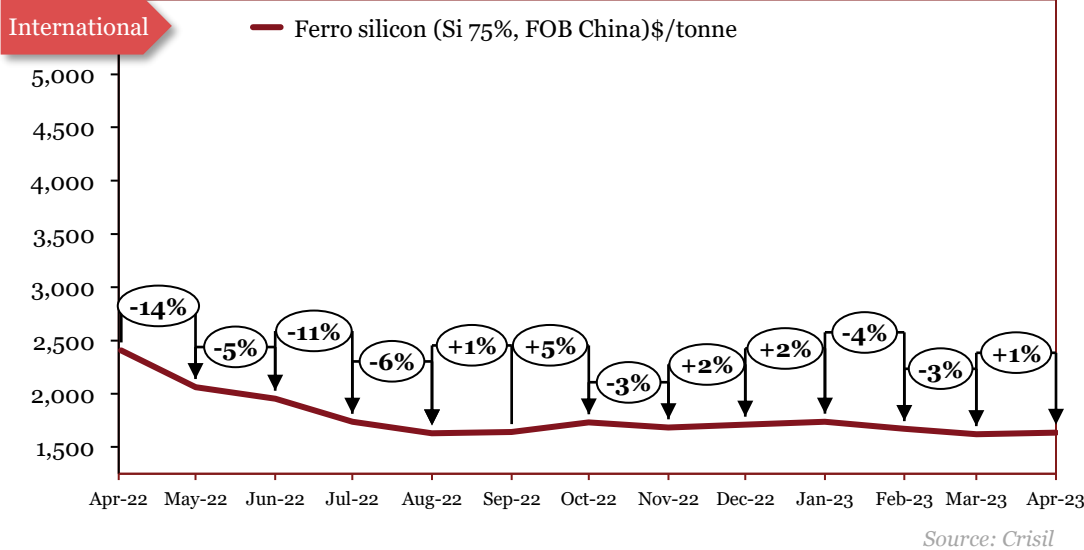
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-22	1507	117200
May-22	1489	120600
Jun-22	1430	106100
Jul-22	1327	100600
Aug-22	1156	92600
Sep-22	1138	91100
Oct-22	1190	96200
Nov-22	1181	97300
Dec-22	1216	92500
Jan-23	1327	101500
Feb-23	1378	115300
Mar-23	1370	110300
Apr-23	1293	97300

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

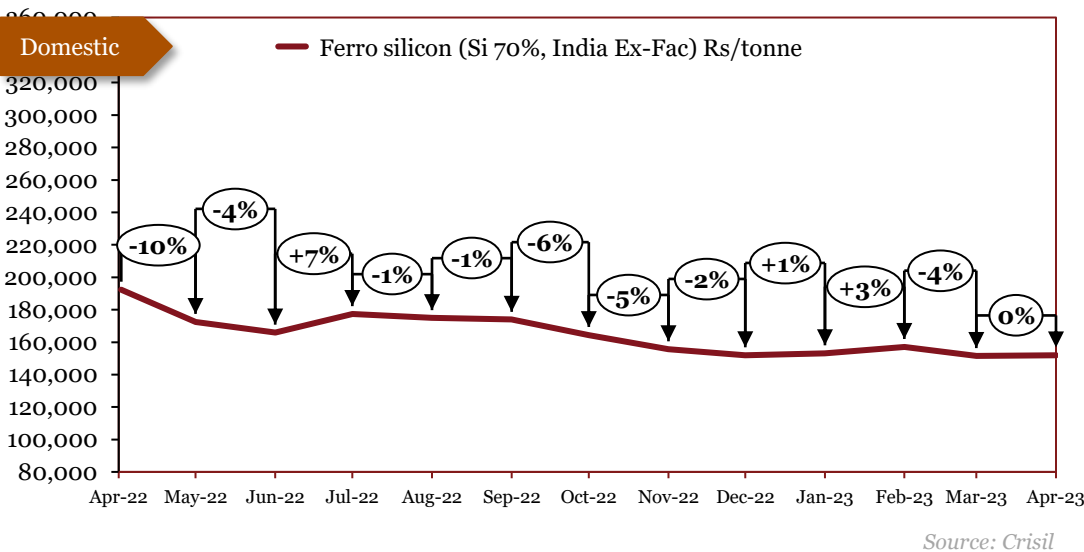
Outlook

In August, prices continued to trend downwards amid low liquidity levels and bearish market sentiments. In September, prices fell due to a fall in the price of raw materials (Iron). In October, domestic prices increased sharply owing to higher chrome ore prices, caused by a bullish response at OMC's chrome ore auction. International prices rose due to a shortage in supply, owing to reduced production at Chinese smelters as a result of Covid-19 restrictions. In November, international prices remained relatively stable. Domestic prices rose slightly as the NMDC hiked iron ore prices, which is a key raw material. In December, international prices increased in tandem with iron ore prices. Domestic prices decreased due to a decrease in the price of coking coal. In January and February, prices increased in tandem with chromium and iron ore prices. In February, prices increased due to the limited availability of chrome ores, a severe earthquake in Turkey-one of the biggest chrome ore producers, a Marked increase in load-shedding (planned power shutdowns) in South Africa, and reduced production of Asian ferrochrome producers. In March, prices fell amidst a bearish stainless-steel market. In April, prices decreased due to a fall in input costs (iron ore and coking coal), oversupply at Chinese mills and weak demand from both domestic and export markets.

Ferro silicon



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-22	2408	192450
May-22	2063	172450
Jun-22	1953	165950
Jul-22	1739	177450
Aug-22	1628	174950
Sep-22	1642	173950
Oct-22	1732	164350
Nov-22	1684	155650
Dec-22	1711	151850
Jan-23	1739	153050
Feb-23	1670	157050
Mar-23	1622	151550
Apr-23	1635	151850

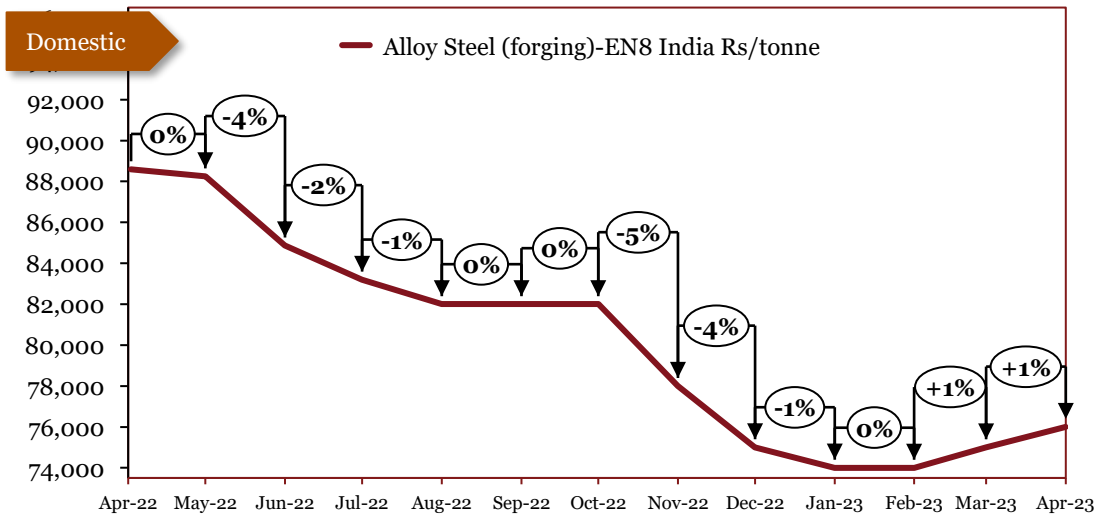


*The actual prices may vary depending on city, player, grade etc.

Outlook

In September, domestic prices declined due to tight liquidity which forced smelters to lower their prices, as well as low inquiries from importing countries. International prices increased because of an increase in the price of Silicon, a key raw material. In October, domestic prices fell as a result of a sharp decline in domestic demand. International prices increased on account of production cuts in China due to Covid-19 restrictions. In November, both international and domestic prices decreased due to limited end-user demand and lower trading volumes, as well as high inventory levels caused by various ferromanganese producers shifting to ferrosilicon. In December, international prices increased due to higher input costs. Domestic prices decreased in tandem with coking coal prices. In January, prices remained relatively stable in the face of moderate demand. In February, domestic prices inched up in anticipation of material shortage due to restrictions on imported material from sellers who did not have a BIS certificate. International prices decreased amidst fears of recession. In March, prices decreased due to sluggish demand and oversupply at the producers. In April, prices rose due to an increased supply crunch in the domestic (labor issue in Bhutan) and global markets (power curtailment in the Ningxia region of China)

EN8 Alloy Steel (Forging)



Source: SIAM

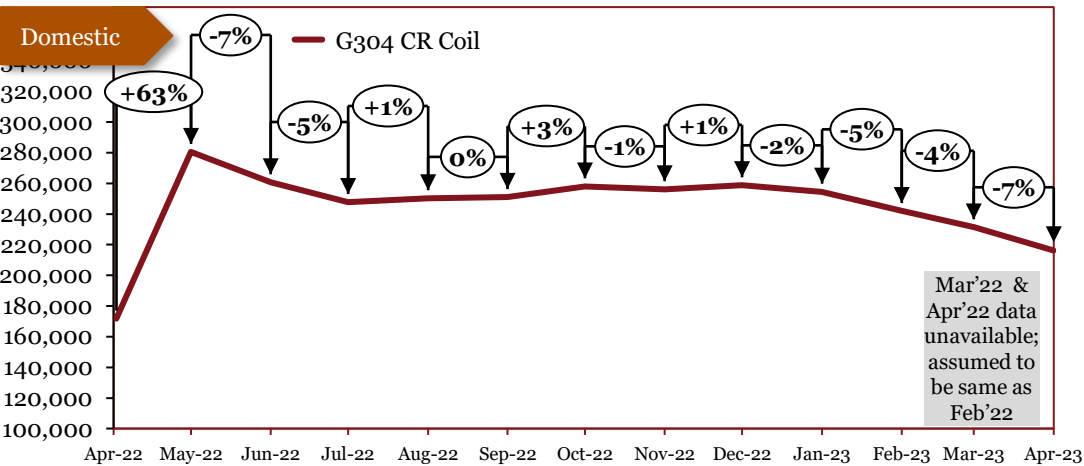
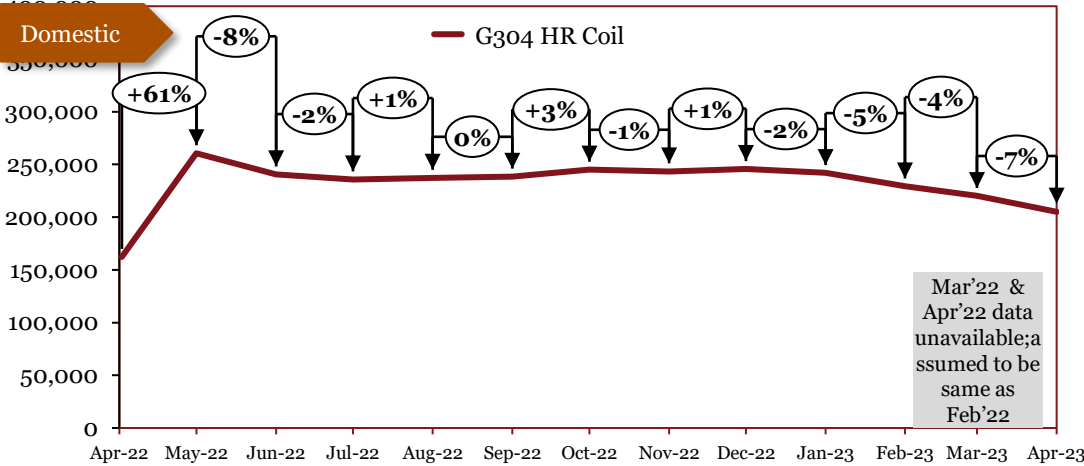
Monthly Average Prices	
Period	*Dom (Rs/tonne)
Apr-22	88600
May-22	88250
Jun-22	84875
Jul-22	83200
Aug-22	82000
Sep-22	82000
Oct-22	82000
Nov-22	78000
Dec-22	75000
Jan-23	74000
Feb-23	74000
Mar-23	75000
Apr-23	76000

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

Outlook

In December, prices fell in accordance with steel prices, amid rising inventories at steel mills and a softening of demand. In January, prices fell in conjugation with stainless steel prices. In February, prices remained stable. In March, prices increase in tandem with steel prices. In April, prices continued to rise amid supply disruptions caused by the situations in South Africa and Ukraine. In May, domestic prices remained stable. In June, Decline in prices is due to a plunge in exports and stagnant demand. In July, domestic prices fell slightly due to lower demand on account of a lack of export orders. In August, prices fell slightly owing to price cuts by steel mills, along with a fall in demand from the automotive industry. In September, prices remained stable. In October, prices remained stable. In November, prices fell due to concerns over an impending global recession and geo-political unrest, leading to a decline in demand and a downturn in the metal cycle. In December, prices fell due to the higher availability of stocks caused by a slowdown in export markets and global recessionary pressures. In January, prices decreased in tandem with stainless steel prices. In February, prices remained stable. In March, prices rose in tandem with elevated raw material and energy costs. In April, prices increased slightly due to a positive market outlook.

Stainless Steel



Monthly Domestic Average Prices		
Period	*G304 HR (Rs/tonne)	*G304 CR (Rs/tonne)
Apr-22	162200	171750
May-22	260500	280500
Jun-22	240500	260600
Jul-22	235750	247750
Aug-22	237375	250250
Sep-22	238500	251000
Oct-22	245000	258000
Nov-22	243400	256000
Dec-22	245750	258750
Jan-23	242000	254500
Feb-23	229375	242000
Mar-23	220200	231400
Apr-23	205188	216250

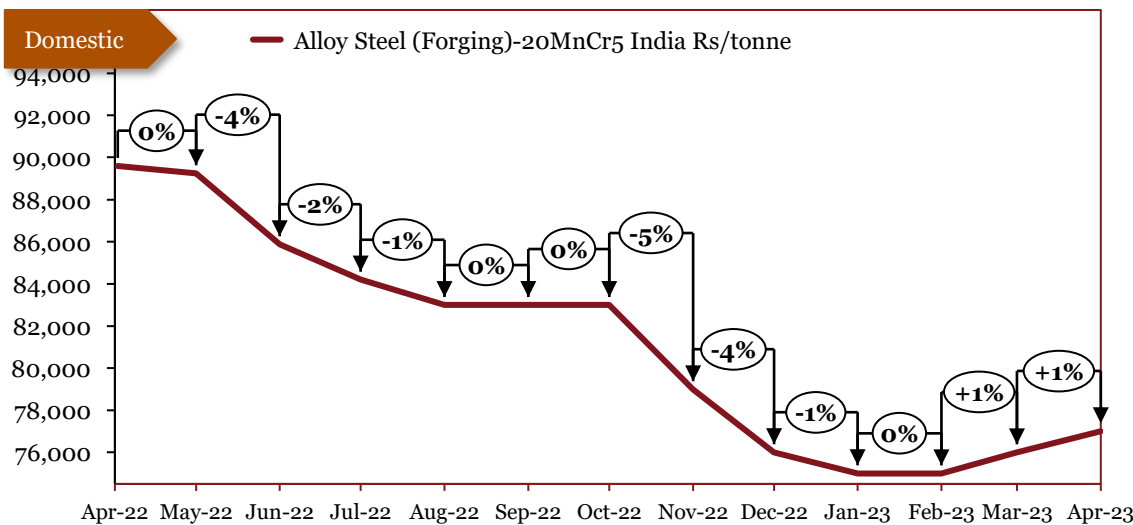
Source: SIAM

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

Outlook

In February, prices rose marginally due to missing volumes from Russia and Ukraine, coupled with rising production costs. In March and April, prices were assumed to be stable owing to the unavailability of data. In June, prices fell on the back of the imposition of export duty and crash in domestic steel prices. In July, weaker demand from construction and automobile industries led to a decrease in prices. In August, prices increased slightly as a result of an increase in end-consumer demand, due to the onset of the festive season. In September, prices remained relatively stable. In October, prices increased amid a sharp rise in domestic demand due to the onset of the festive season. In November, prices remained relatively stable. In December, prices rose in tandem with rising input costs - particularly nickel - caused by the Ukraine-Russian conflict and the resultant trade embargoes. In January, prices fell as vendor-managed inventory of stainless-steel factories increased sharply and the inventory under warrants also expanded to a high level. In February and March, prices dropped sharply due to weak demand amid fears of recession and a high level of inventory at the producers. In April, prices decreased due to a drop in raw material prices, rising stock levels, higher interest rates impeding downstream construction & automotive sector and fears of recession.

20MnCr5 Alloy Steel (Forging)



Source: SIAM

Period	*Dom (Rs/tonne)
Apr-22	89600
May-22	89250
Jun-22	85875
Jul-22	84200
Aug-22	83000
Sep-22	83000
Oct-22	83000
Nov-22	79000
Dec-22	76000
Jan-23	75000
Feb-23	75000
Mar-23	76000
Apr-23	77000

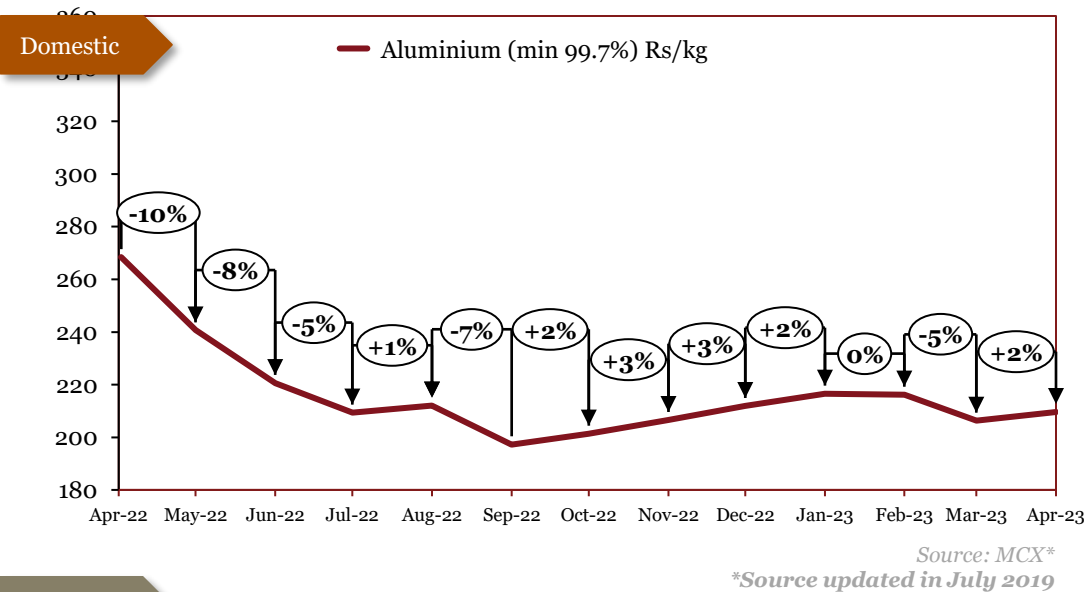
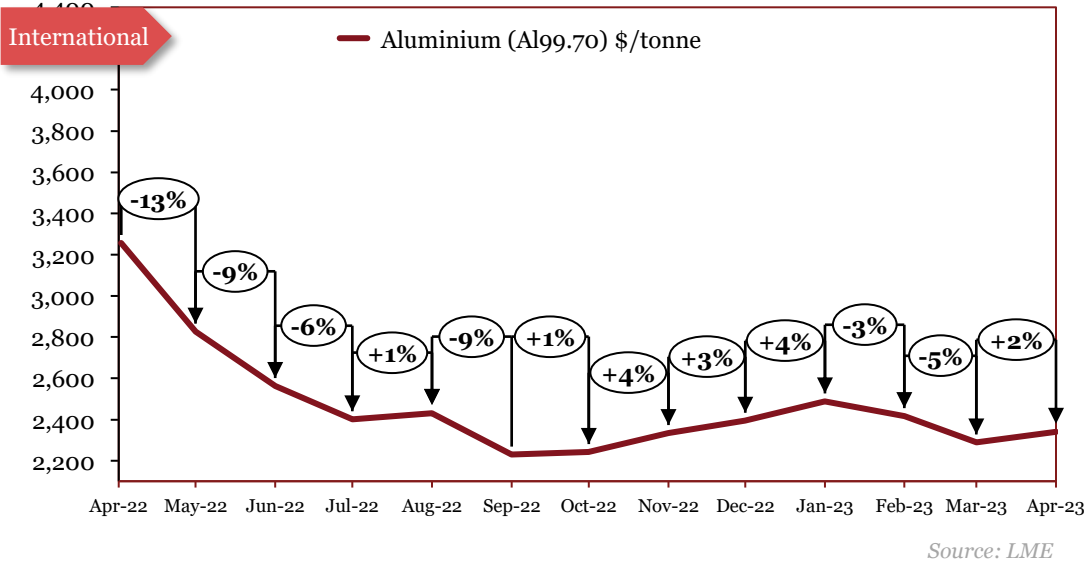
*The actual prices may vary depending on city, player, grade etc.

Outlook

In November, prices rose amid speculations of steel production cuts in China. In December, prices fell in accordance with steel prices and a weakening of demand. In January, prices dropped in accordance with stainless steel prices. In February, prices remained stable. In March, prices rose in tandem with steel prices. In April, prices rose on account of supply disruptions caused by severe flooding in South Africa and the war in Ukraine. In May, prices remained stable. In June, prices fell in tandem with other steel alloys. In July, prices fell on account of a lack of buying enquiries from buyers and decrease in exports. In August, prices fell owing slightly to a sustained fall in demand from the automotive industry. In September, prices remained relatively stable. In October, prices remained stable. In November, prices fell due to subdued overseas demand - particularly in China which is a major consumer of stainless steel - and concerns over a global recession. In December, prices declined due to a slowdown in export markets amid global recessionary pressures. In December and January, prices declined due to a slowdown in export markets amid global recessionary pressures. In February, prices remained stable. In March and April, prices rose in tandem with production costs- higher energy and steel scrap prices.

Base Metals

Aluminium



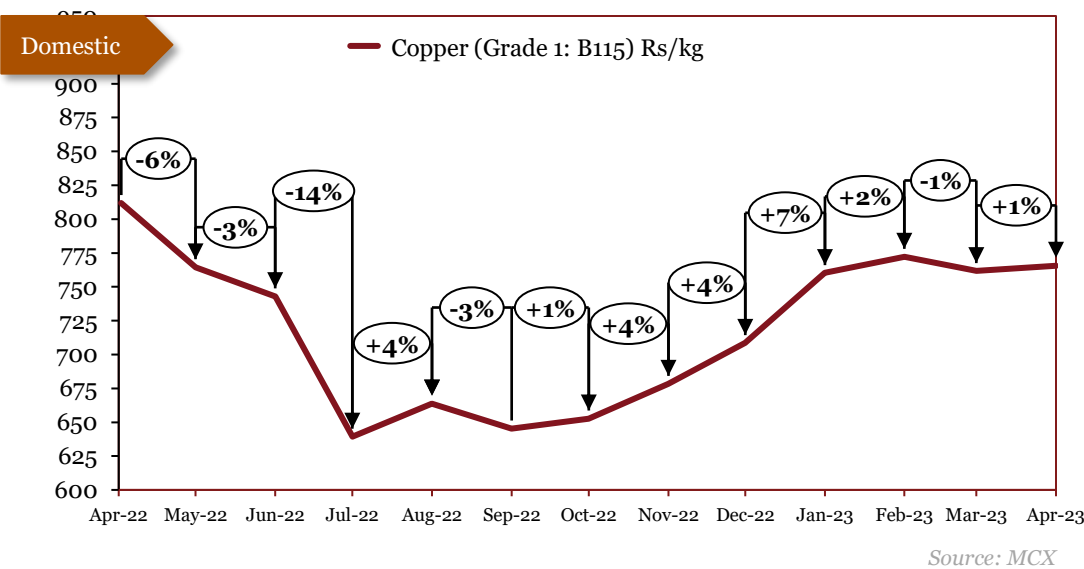
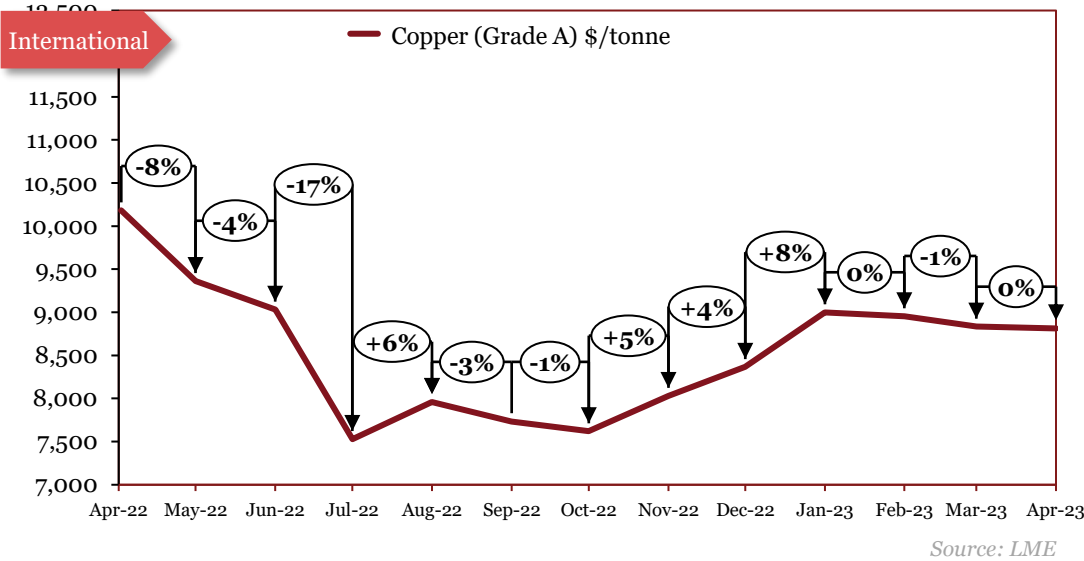
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-22	3256	268
May-22	2826	241
Jun-22	2563	221
Jul-22	2401	209
Aug-22	2431	212
Sep-22	2230	197
Oct-22	2243	201
Nov-22	2335	207
Dec-22	2394	212
Jan-23	2489	217
Feb-23	2417	216
Mar-23	2290	206
Apr-23	2341	210

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

Outlook

In September, both international and domestic prices fell due to weak demand amid slow global economic growth and the US dollar reaching a two-decade-high. In October, domestic prices rose on account of lower supply levels, caused by production cuts in Chinese aluminium smelters. International prices remained relatively stable. In November, prices increased due to lower producer margins caused by soaring energy costs. In December, prices grew because of a rise in demand for low-carbon Aluminium caused by the importance placed on climate-friendly supply, along with higher demand for the light metal from the automotive industry. In January, prices rose due to increased tariffs, supply woes caused by the Shanghai smelter cutting production, and Chinese ingot inventories being de-stocked. In February, domestic prices remained relatively stable. International prices decreased due to a drop in worldwide demand and increasing production and logistic costs. In March, prices continued to fall due to slack demand, increasing stock inventories, and recessionary trends. In April, prices increased because of spurred consumption due to a lower US Dollar and power cuts in China affecting Aluminium smelters.

Copper



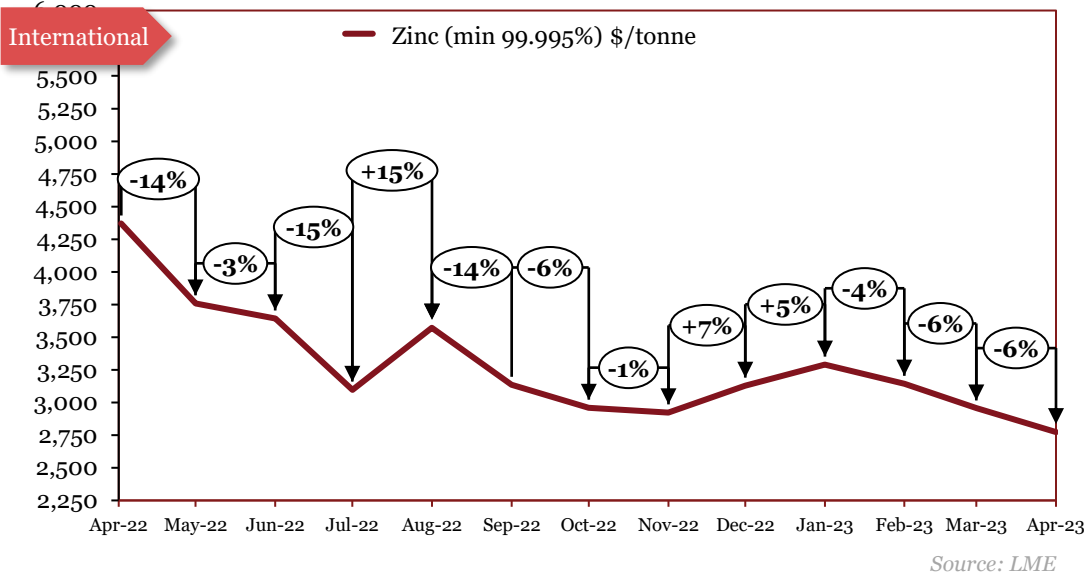
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-22	10182	812
May-22	9362	764
Jun-22	9032	743
Jul-22	7529	639
Aug-22	7960	664
Sep-22	7734	645
Oct-22	7620	653
Nov-22	8029	678
Dec-22	8367	709
Jan-23	8999	760
Feb-23	8954	772
Mar-23	8835	762
Apr-23	8813	766

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

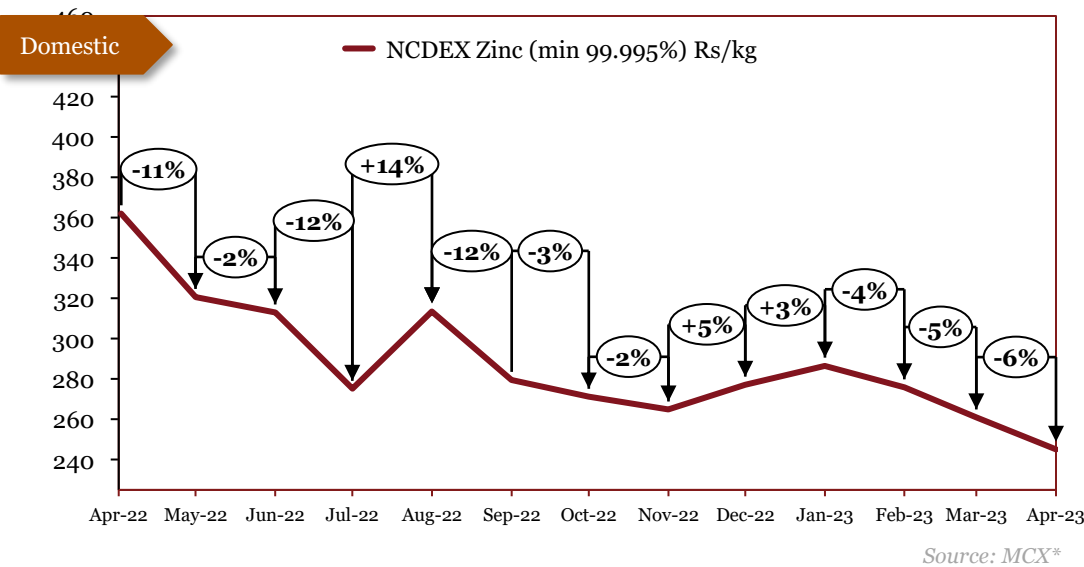
Outlook

In October, domestic prices rose slightly on account of a rise in demand due to the onset of the festive season. International prices remained relatively stable. In November, prices increased due to low inventory levels and a seasonal rise in demand. In December, both international and domestic prices rose due to support projects being planned in the world's largest consumer of copper, coupled with an increase in demand from China due to an easing of restrictions. In January, prices surged due to a boost in demand for 'green' metals as the green transition accelerates, coupled with supply woes in Peru and operational issues in Latin America. In February, International prices decreased due to a slower-than-expected demand recovery, high U.S. interest rates, and an increase in scrap availability in the Chinese market. Domestic prices continue to rise on account of healthy buying inquiries amid a rise in LME futures. In March, international prices decreased due to inflation in the US in a downward trend, with market players betting on the US Fed to slow down interest rate hikes and weak supply. In April, prices remained relatively stable.

Zinc



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-22	4370	362
May-22	3759	321
Jun-22	3643	313
Jul-22	3097	275
Aug-22	3572	314
Sep-22	3136	280
Oct-22	2959	271
Nov-22	2923	265
Dec-22	3128	277
Jan-23	3289	287
Feb-23	3143	276
Mar-23	2956	261
Apr-23	2772	245

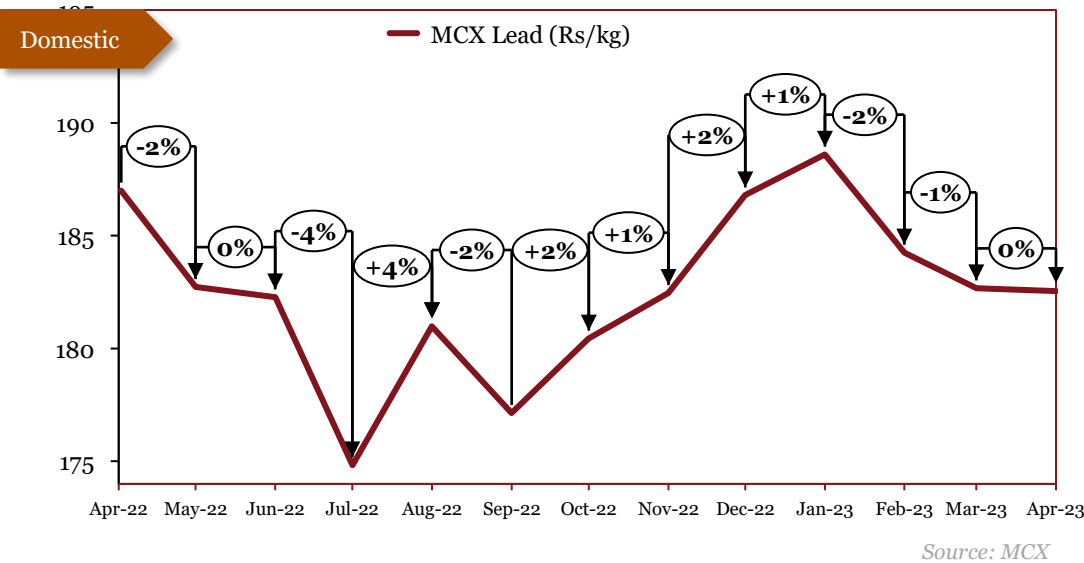
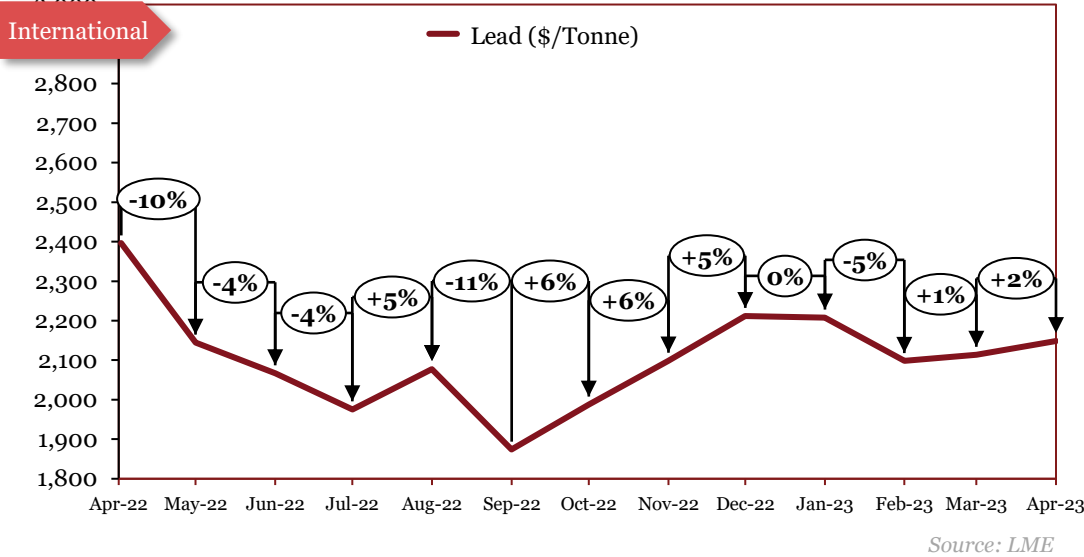


*The actual prices may vary depending on city, player, grade etc.

Outlook

In October, both international prices declined due to lower demand in China, caused by lower economic activity. Domestic prices fell due to a fall in exports to China. In November, prices marginally declined due to a slowdown in demand caused by a sustained slump in China's economic activity, along with a rebound in the dollar. In December, both international and domestic prices increased on the back of tight supply amid reduced production in Europe due to higher energy costs, and higher demand due to the easing of lockdown and quarantine measures in China. In January, prices increased due to higher costs of production as coal prices rose. In February prices tumbled due to the potential for a significant supply recovery and a return to zinc surplus after two years of shortfall. In March, prices fell as a result of continuing concerns about global economic growth, lack of momentum from China, weak manufacturing activity in the USA, and a stronger dollar. In April, prices plummeted due to the flagging global economy, vulnerable US banking sector, higher inventory levels and resumed operations in France's smelters.

Lead



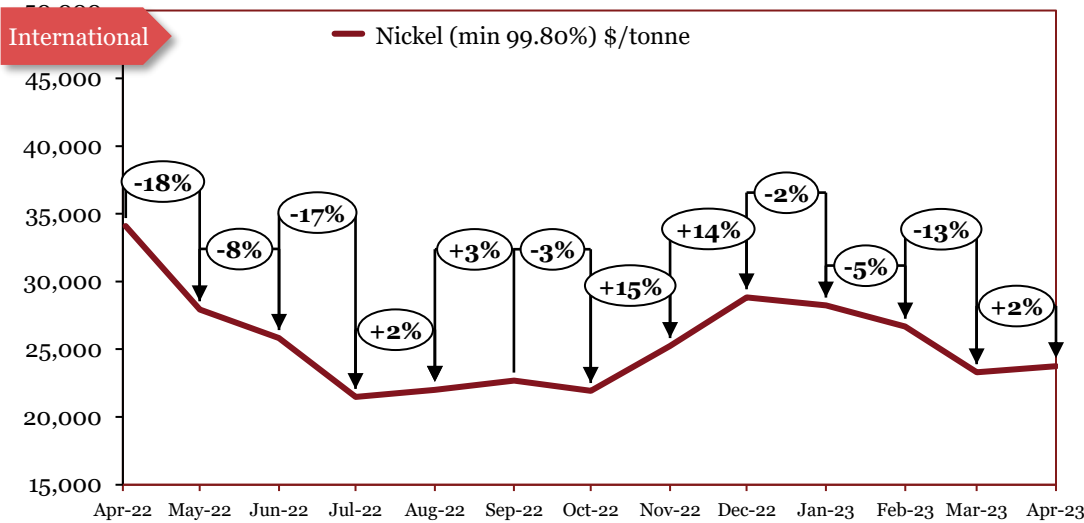
Monthly Average Prices		
Period	*Int'l	*Dom
	(\$/tonne)	(Rs/kg)
Apr-22	2396	187
May-22	2144	183
Jun-22	2067	182
Jul-22	1976	175
Aug-22	2077	181
Sep-22	1874	177
Oct-22	1987	180
Nov-22	2099	182
Dec-22	2212	187
Jan-23	2208	189
Feb-23	2098	184
Mar-23	2114	183
Apr-23	2148	183

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

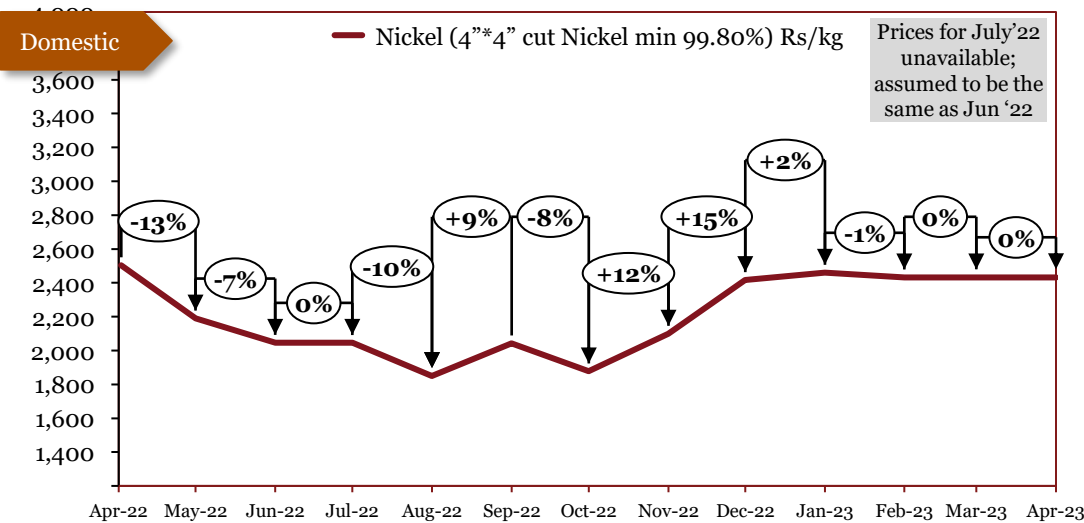
Outlook

In August, prices increased due to an increase in demand for lead-acid batteries. In September, both domestic and international prices plummeted because of lower demand caused by a slowdown in global economic growth. In October, prices increased due to a fall in inventory levels of lead ingots - widely used to produce various lead-based products. In November, international prices rose sharply in anticipation of fund buying after Lead got included in the Bloomberg Commodity Index (BCOM). Domestic prices remained relatively stable. In December, international prices rose due to tight supply caused by lower production in mines worldwide, and a higher rate of automotive battery replacements caused by harsh weather conditions. Domestic prices remained relatively stable. In January, prices remained relatively stable. In February, prices decreased as the peak lead acid car battery replacement season of winter ended. In March, international prices increased due to slight acceleration in global lead demand, mainly due to the reopening of China's economy. Domestic prices remained relatively stable. In April, international prices increased due to supply chain disruptions as Russia- world's seventh largest producer of lead launched a fresh offensive against Ukraine. Domestic prices remained relatively stable.

Nickel



Source: LME



Source: MCX*

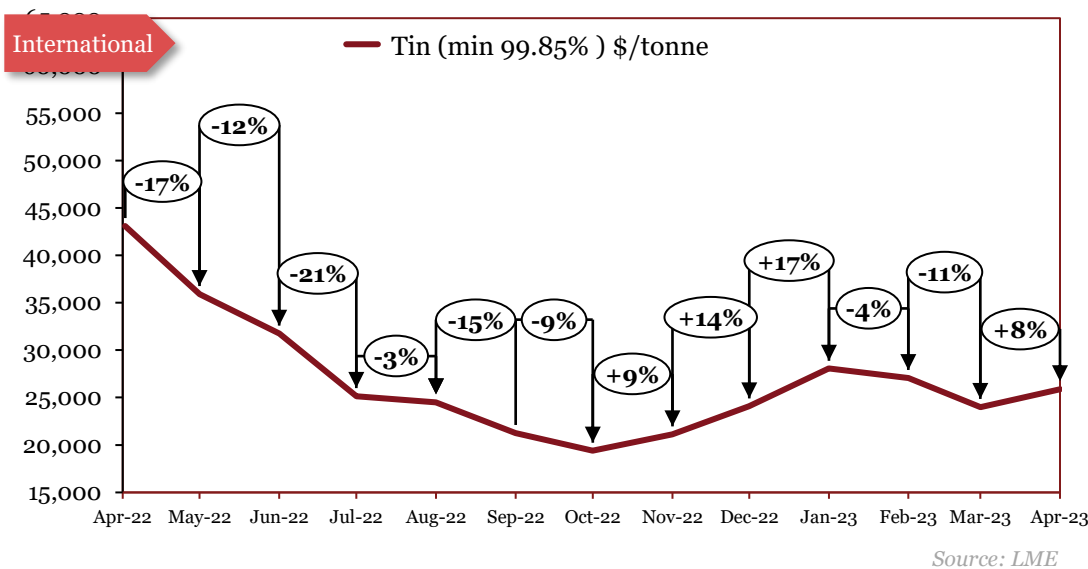
Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/kg)
Apr-22	34098	2504
May-22	27939	2189
Jun-22	25825	2046
Jul-22	21471	2046
Aug-22	21988	1850
Sep-22	22673	2043
Oct-22	21925	1877
Nov-22	25246	2100
Dec-22	28838	2418
Jan-23	28226	2460
Feb-23	26679	2433
Mar-23	23289	2433
Apr-23	23749	2433

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

Outlook

In September, both domestic and international prices rose sharply due to a surge in buying from Russia and Nornickel, which account for 15-20% production of battery-grade Nickel in the world. In October, prices decreased as a result of lower end-user demand in China due to stronger Covid-19 restrictions caused by an increase in the number of cases. In November, both domestic and international prices increased sharply due to a surge in demand in the global EV market, and speculation of possible supply disruptions from Russian Class 1 producer Norilsk Nickel (Nornickel). In December, prices rose due to tight supply coupled with higher downstream demand, especially for cathodes of electric vehicle batteries in China. In January, international prices decreased due to macroeconomic headwinds and a surplus of inventory. Domestic prices increased due to a surge in demand from the EV industry. In February, prices tumbled on expectations of easing supply tightness. In March, domestic prices remained stable. International prices fell due to concerns about the impact of Tsingshan's planned production switch. In April, international prices increased as the US dollar index weakened, and low inventory levels of refined nickel. Domestic prices were relatively stable.

Tin



Monthly Average Prices	
Period	*Int'l (\$/tonne)
Apr-22	43100
May-22	35913
Jun-22	31750
Jul-22	25147
Aug-22	24495
Sep-22	21244
Oct-22	19391
Nov-22	21114
Dec-22	24075
Jan-23	28058
Feb-23	27047
Mar-23	23997
Apr-23	25866

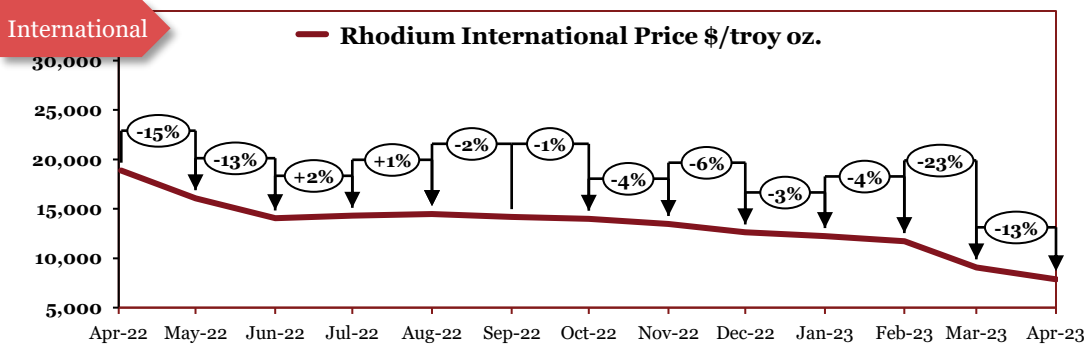
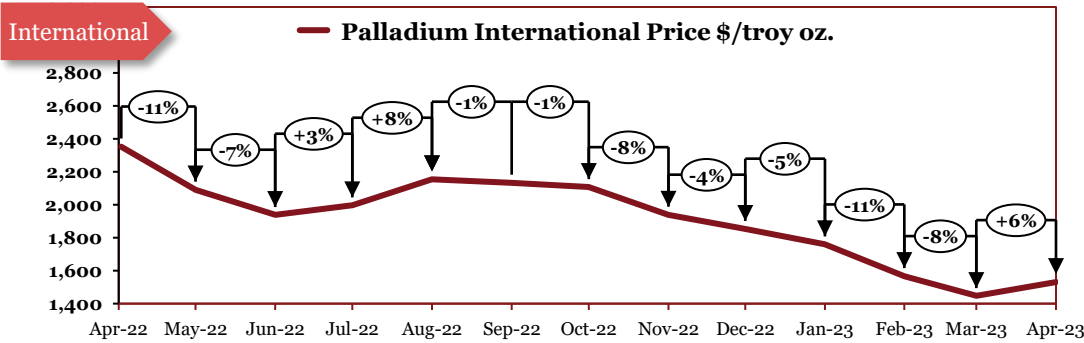
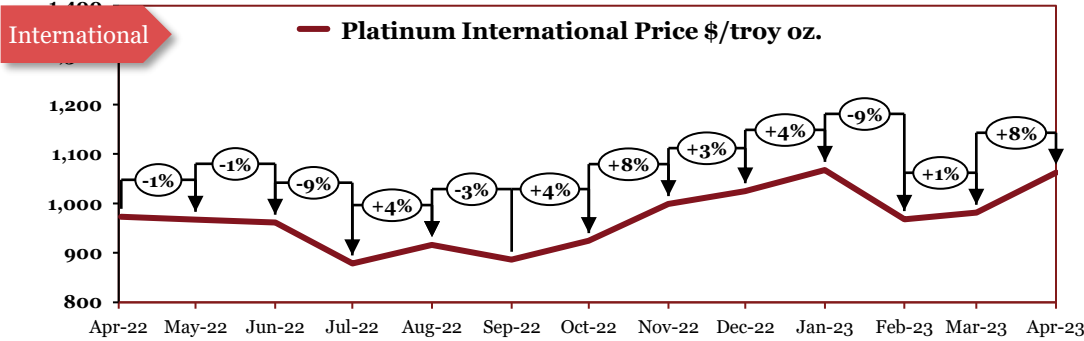
*The actual prices may vary depending on city, player, grade etc.

Outlook

In August, prices continued to decrease as a result of a sharp increase in supply levels, primarily due to increased production of Chinese smelters. In September, prices fell sharply due to lower consumption in China caused by the US policy which cut China off from semiconductor chips made anywhere in the world with US tools leading to lower demand for tin which is used in soldering applications of the chips. In October, prices continued to decline sharply as a result of lower demand in China amid rising coronavirus cases and expanding restrictions. In November, prices rose sharply on account of a looming surge in demand for solar panels and batteries, both lead-acid and lithium-ion due to the green energy transition. In December, prices increased due to a surge in demand for industrial metals caused largely by the easing of restrictions in China. In January, prices increased as Chinese buyers scooped up the surplus metal creating a deficit for the world. In February, prices decreased as the global economy continues to slow and major economies fall into recession. In March, prices fell as the global demand outlook fell substantially on weakening macroeconomic fundamentals, a strengthening US dollar, and still high levels of global inflation. In April, prices increased as tin mining was suspended in Myanmar- world's third largest tin producer.

Precious Metals

Precious Metals



Source: Johnson Matthey

Monthly Average Prices (\$/Oz)

Period	Pt	Pd	Rh
Apr-22	973	2352	18857
May-22	967	2091	16064
Jun-22	961	1939	14046
Jul-22	879	1996	14300
Aug-22	916	2154	14456
Sep-22	886	2134	14181
Oct-22	924	2108	13987
Nov-22	999	1940	13450
Dec-22	1025	1854	12626
Jan-23	1067	1761	12246
Feb-23	968	1567	11730
Mar-23	981	1447	9070
Apr-23	1062	1532	7881

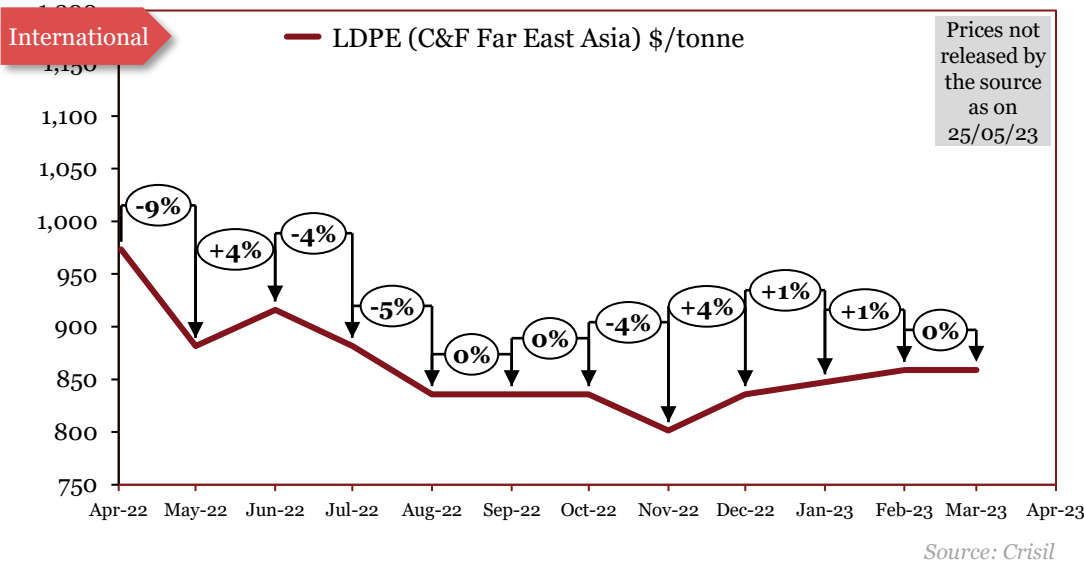
*The actual prices may vary depending on city, player, grade etc.

Outlook

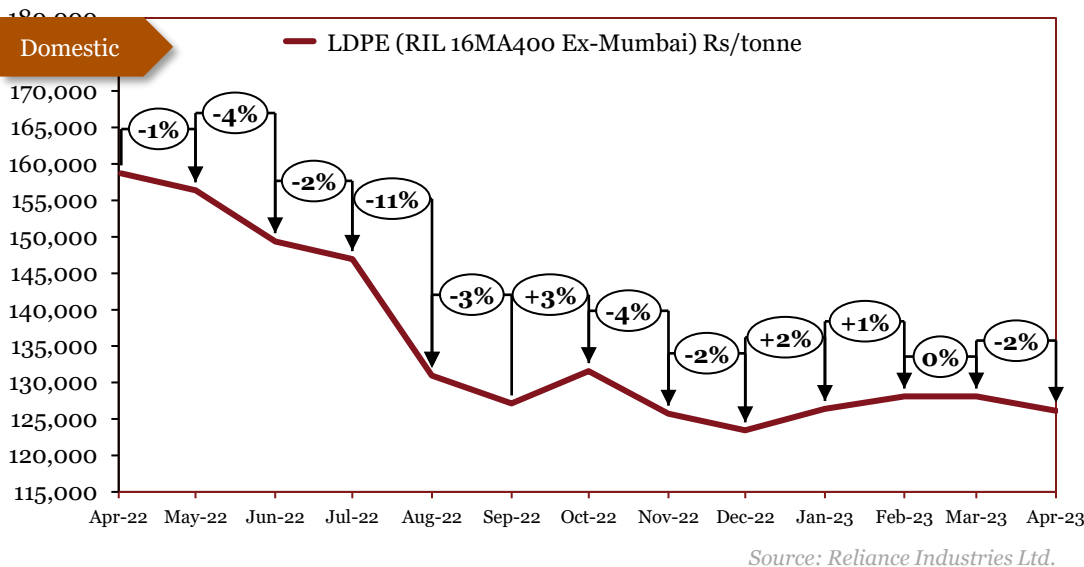
In January, platinum prices continued to rise due to strong demand from the auto industry - heavier loading of platinum on auto catalysts and a marked upturn in the adoption of hydrogen fuel cells (which uses platinum as a catalyst). Palladium prices fell as mines affected by weather-related incidents were back to their normal output levels. Rhodium prices decreased due to an ease in supply woes caused by the Russia-Ukraine war. In February, Palladium prices decreased as it is getting substituted by platinum because of an increase in the adoption of electric vehicles. Platinum and Rhodium prices fell as a result of the historically high USD index and high-interest rates. In March, Platinum prices increased due to sudden output cuts from the Opec+ producer cartel. Palladium prices fell as it has no role to play in the approaching hydrogen economy. Rhodium prices fell due to weak economic fundamentals, especially interest rate hikes by Central Banks worldwide. In April, Platinum prices increased due to power cuts in South Africa, the war in Ukraine, and the increased production of hybrid cars. Palladium prices increased as hostilities were renewed between Russia -the world's second-largest palladium producer and Ukraine. Rhodium price decreased due to weak demand from the automotive sector caused by fears of economic recession.

Polymers & Rubber

Low density polyethylene (LDPE)



Monthly Average Prices		
Period	*Int'l	*Dom
	(\$/tonne)	(Rs/tonne)
Apr-22	973	158692
May-22	882	156359
Jun-22	916	149359
Jul-22	882	146934
Aug-22	836	130941
Sep-22	836	127153
Oct-22	836	131591
Nov-22	802	125758
Dec-22	836	123439
Jan-23	847	126385
Feb-23	859	128095
Mar-23	859	128095
Apr-23		126116

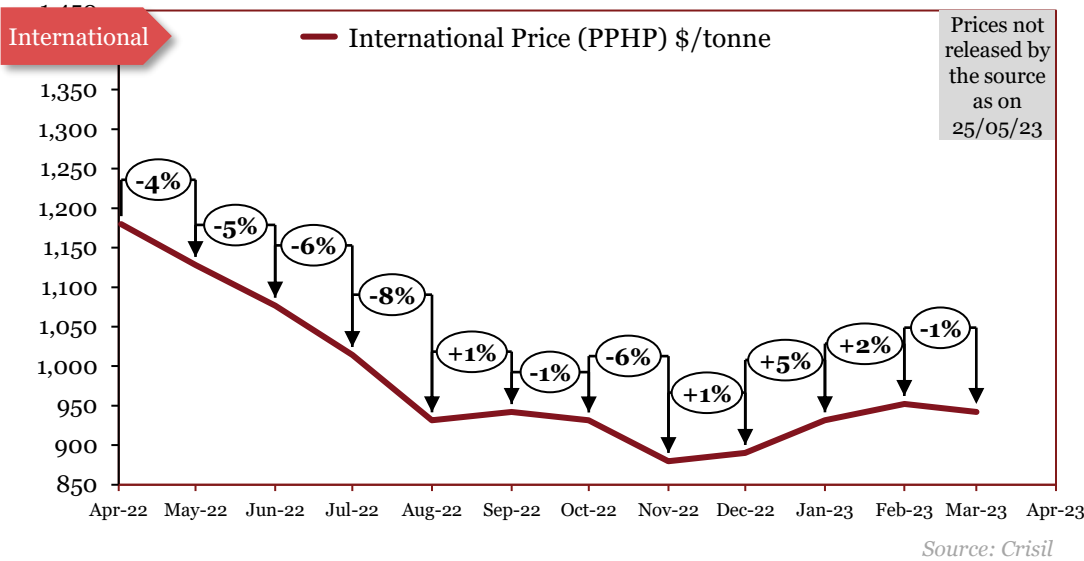


*The actual prices may vary depending on city, player, grade etc.

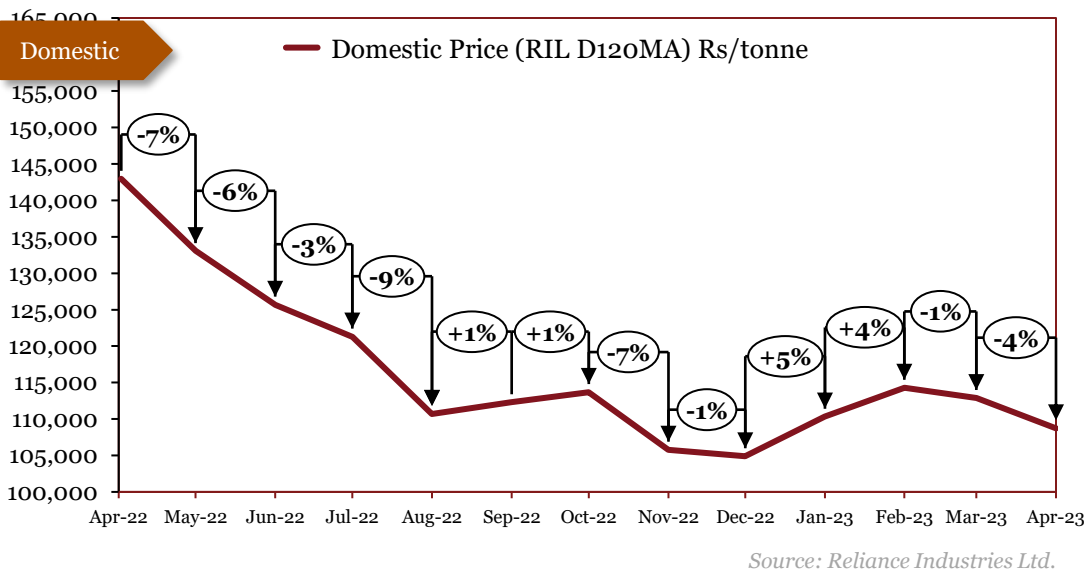
Outlook

In August, prices fell sharply in tandem with crude oil prices. In September, the domestic price fell due to low feedstock ethylene costs. International prices remained unaffected. In October, domestic prices increased despite a price dip in ethylene due to a spike in oil prices. International prices remained stable. In November, domestic and international prices fell due to persistent dull demand, surplus inventories and lower import offers from overseas suppliers. In December, domestic prices fell in tandem with crude oil prices. International prices increased due to stronger demand from China after relaxation of COVID norms. In January, prices increased slightly in tandem with crude oil prices. In February, prices increased on the back of an improvement in demand from the agricultural sector and expectations of a rebound in Chinese demand in the post-holiday period. In March, prices remained stable. In April, domestic prices fell as the purchase pulse has been continually tepid amid ample product avails.

Polypropylene (PP)



Monthly Average Prices		
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-22	1180	142968
May-22	1128	142968
Jun-22	1076	125668
Jul-22	1014	121279
Aug-22	932	110698
Sep-22	942	112298
Oct-22	932	113702
Nov-22	880	105802
Dec-22	890	104896
Jan-23	932	110342
Feb-23	952	114285
Mar-23	942	112908
Apr-23		108733

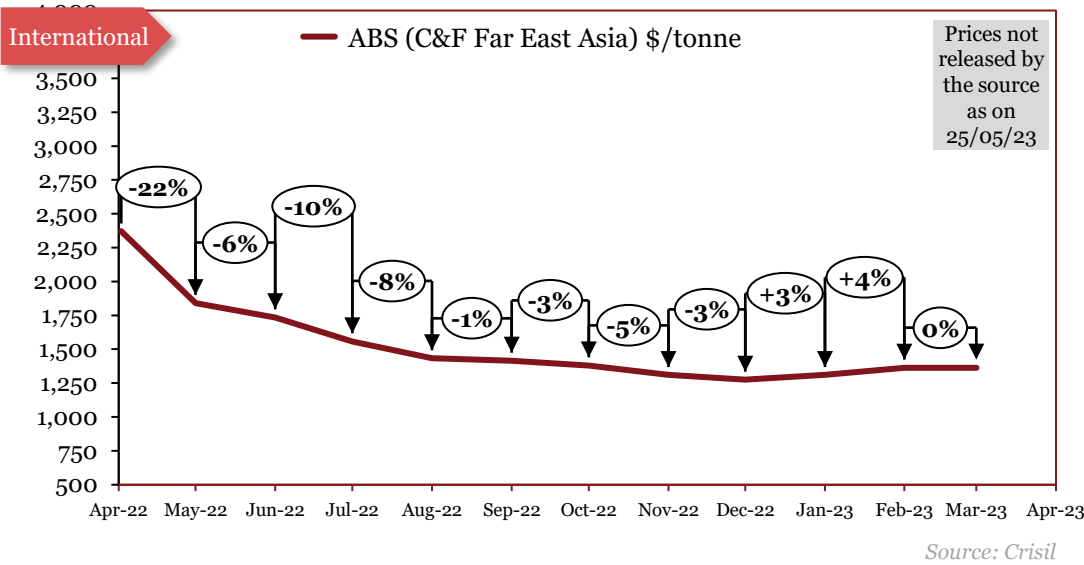


*The actual prices may vary depending on city, player, grade etc.

Outlook

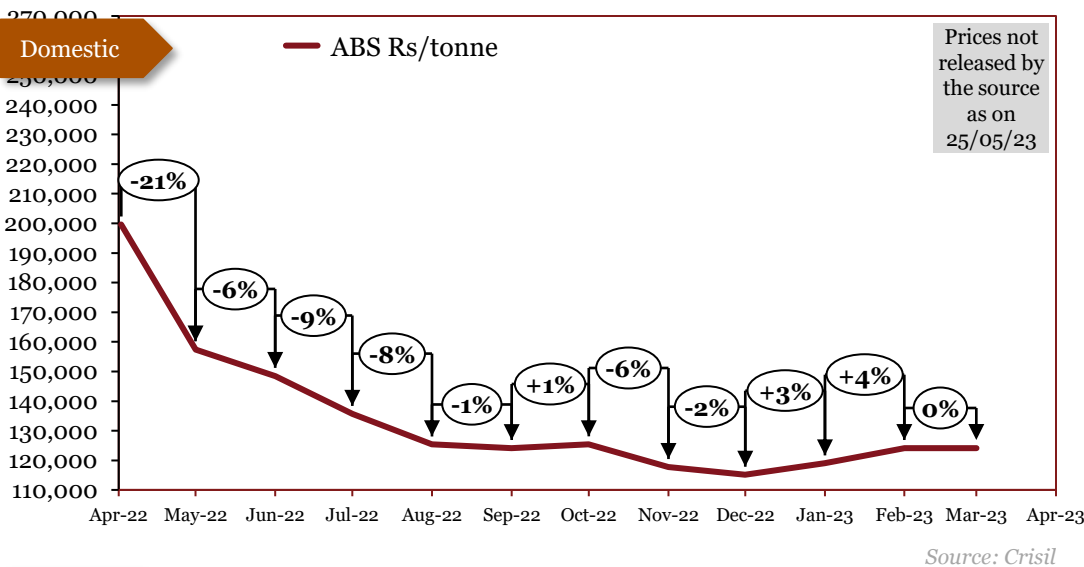
In September, prices slightly increased due to higher energy prices adding to the cost pressure in the market. In October, domestic prices rose in response to stronger upstream propylene and active buying interest across several key markets, coupled with a rise in oil prices. In October, international prices decreased on the back of a low rate of consumption from the construction sector, and a pile-up of inventories with suppliers. In November, domestic and international prices fell due to a decrease in crude oil prices. In December, prices decreased due to an increase in supply as a result of lower exports, coupled with a slump in demand caused by fears of a recession. International prices remained relatively stable. In January, prices increased due to a significant increase in Prices for feedstock Polymer-Grade Propylene (PGP) in North America. In February, prices increased as propylene and crude oil prices increased. In March, prices fell in tandem with crude oil prices. In April, domestic prices fell amid falling feedstock costs.

Acrylonitrile Butadiene Styrene (ABS)



Monthly Average Prices

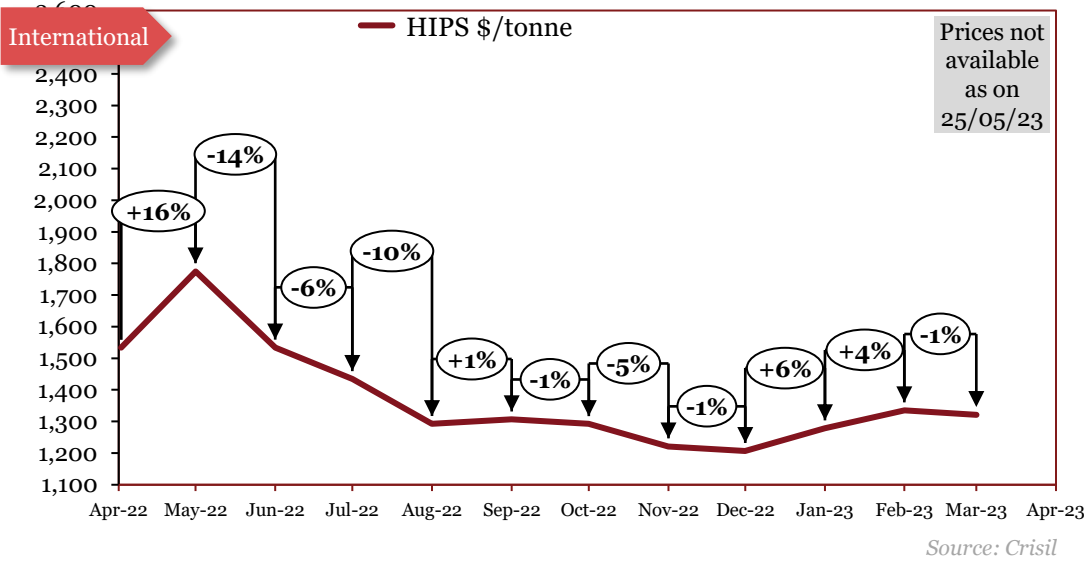
Period	*Int'l (\$/tonne)	*Dom (Rs/tonne)
Apr-22	2372	199680
May-22	1841	157440
Jun-22	1735	148480
Jul-22	1558	135680
Aug-22	1434	125440
Sep-22	1416	124160
Oct-22	1381	125440
Nov-22	1310	117760
Dec-22	1274	115200
Jan-23	1310	119040
Feb-23	1363	124160
Mar-23	1363	124160
Apr-23		



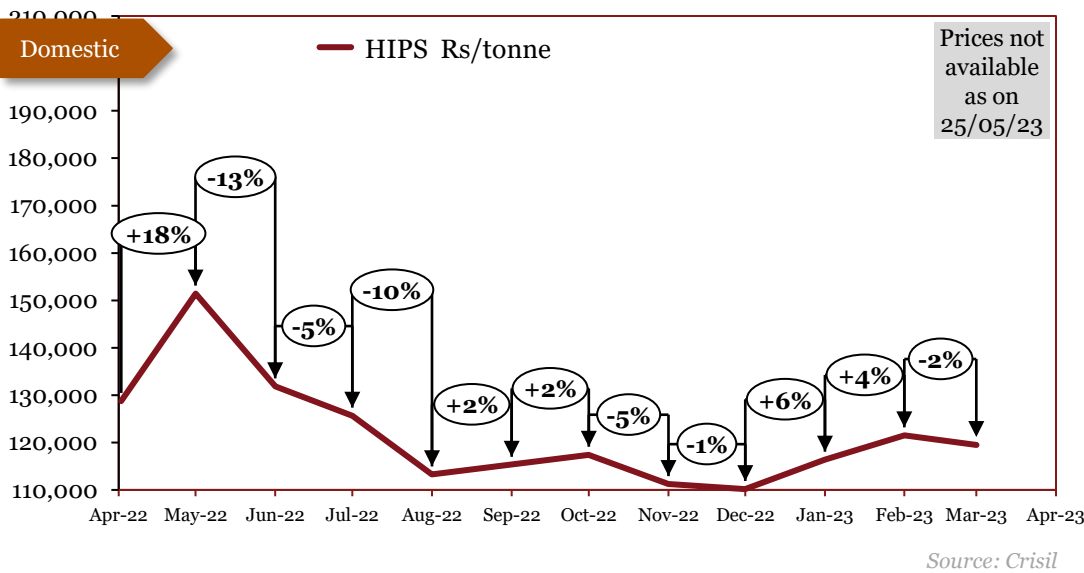
Outlook

In June. Both international and domestic prices fell to their lowest levels in 18 months due to lower crude oil prices, the ban on single-use plastics in many countries and excess supply. In July, prices fell due to the reduction in crude oil prices, as a result of geo-political tensions. In August, domestic prices fell because of cheap import options available from China and South Korea. International prices fell due to a fall in Styrene prices, which is a key feedstock ingredient in ABS production. In September, prices declined owing to a sustained fall in Styrene prices - a key raw material in the production of ABS. In October, domestic prices rose in tandem with crude oil and coal prices. In October and November, international prices fell due to price drops in the three feedstocks, i.e., Acrylonitrile, Butadiene, and Styrene. In December, prices fell sharply in tandem with crude oil prices. In January and February, prices increased due to stability in production activities, a rise in crude oil prices combined with an increase in feedstock costs (Acrylonitrile and Butadiene), and a recovery in downstream offers. In March, prices remained stable.

High Impact Polystyrene (HIPS)



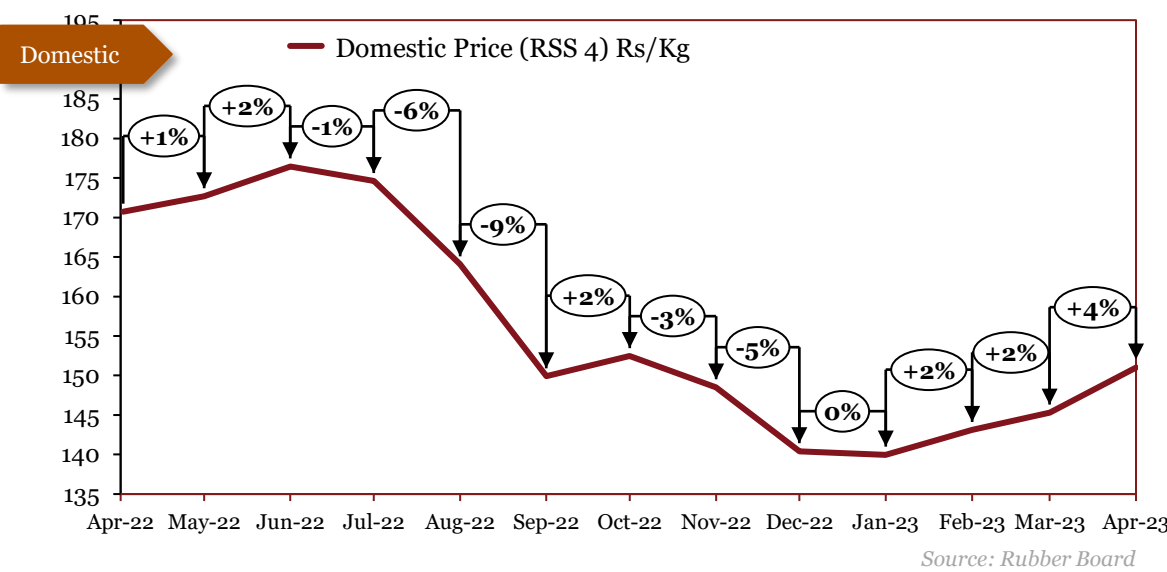
Monthly Average Prices		
Period	*Int'l	*Dom
	(\$/tonne)	(Rs/tonne)
Apr-22	1534	128750
May-22	1775	151410
Jun-22	1534	131840
Jul-22	1434	125660
Aug-22	1292	113300
Sep-22	1306	115360
Oct-22	1292	117420
Nov-22	1221	111240
Dec-22	1207	110210
Jan-23	1278	116390
Feb-23	1335	121540
Mar-23	1321	119480
Apr-23		



Outlook

In March, prices continued to rise steeply along with crude oil prices. In April, prices decrease along with decrease in crude oil prices. In June, both international and domestic prices fell sharply due to a decrease in crude oil prices, ban on single-use plastics in various countries, and excess supply. In July, prices decreased due to sluggish demand in end-user markets, such as the automotive and home appliance sectors. In August, domestic prices fell because of a decline in the demand of plastics for packaging and insulation applications. International prices fell due to diminishing prices of crude oil in the international market. In September, prices increased slightly due to higher energy costs. In October, international prices fell due to low end-consumer demand caused by rising concerns over an economic slowdown and a slowdown in the construction sector. Domestic prices rose on account of the high input cost of coal and crude oil. In November, International prices fell in tandem with crude oil prices. Domestic prices remained stable. In December, prices fell sharply in tandem with the price of crude oil. In January and February, prices increased as crude oil prices stabilized. In March, prices fell in tandem with crude oil prices.

Rubber



Monthly Average Prices	
Period	*Dom (Rs/kg)
Apr-22	171
May-22	173
Jun-22	176
Jul-22	175
Aug-22	164
Sep-22	150
Oct-22	152
Nov-22	149
Dec-22	140
Jan-23	140
Feb-23	143
Mar-23	145
Apr-23	151

Source: Rubber Board

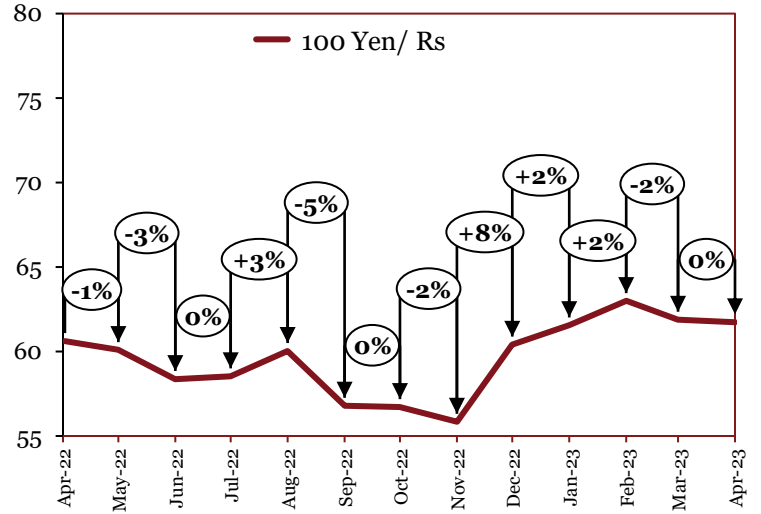
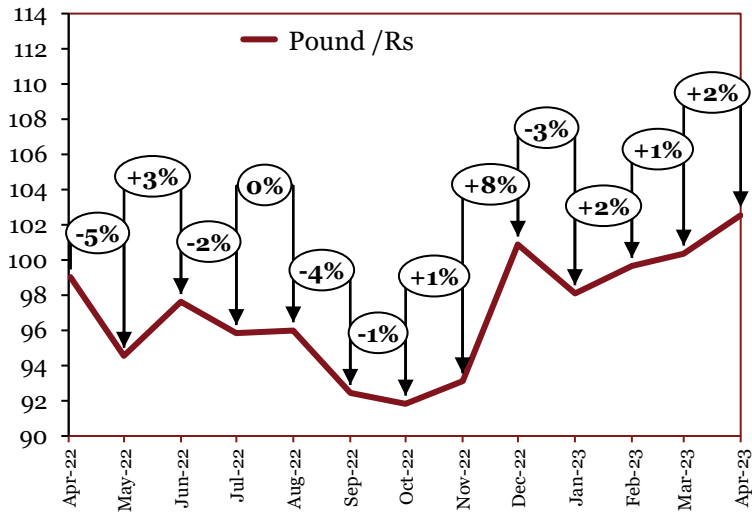
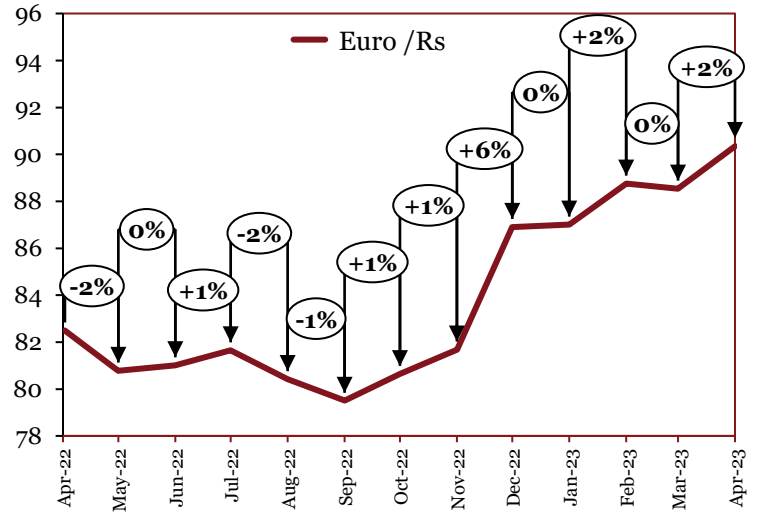
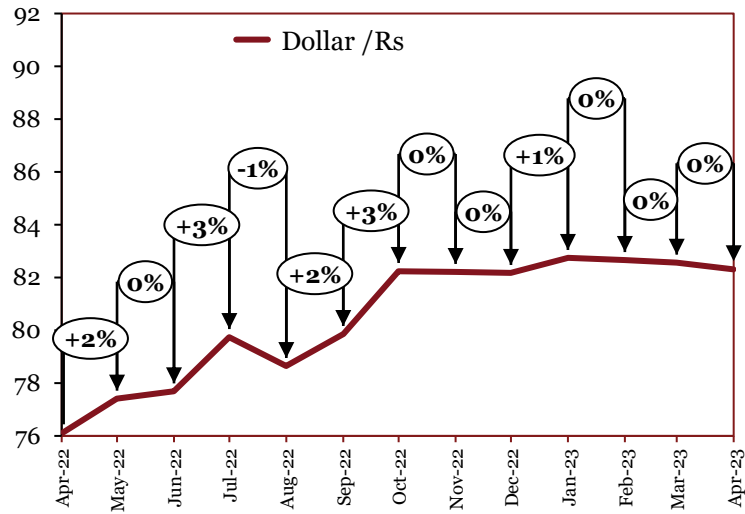
**The actual prices may vary depending on city, player, grade etc.*

Outlook

In April, prices remained stable. In May, prices increased slightly in tandem with crude oil prices. In June, prices rose slightly due to higher input costs. In July, prices decreased slightly due to lower demand on account of the monsoon season. In August, prices decreased sharply as a result of erratic rainfall, subdued industrial demand, and a bearish outlook in international markets. In September, prices continued to fall as a result of lower crude oil prices and increased production leading to excess supply. In October, prices increased due to a rise in domestic demand; in tandem with crude oil prices. In November, prices declined due to lower demand from tyre-makers and other domestic bulk buyers, particularly in Kerala's key markets. In December, prices declined on the back of poor demand from the tyre market, along with the onset of the peak tapping season. In January and February, prices remained relatively stable. In March and April, prices increased due to reduced production from the other major producers of rubber -Thailand, Malaysia, and Indonesia.

Appendices

Forex Movement



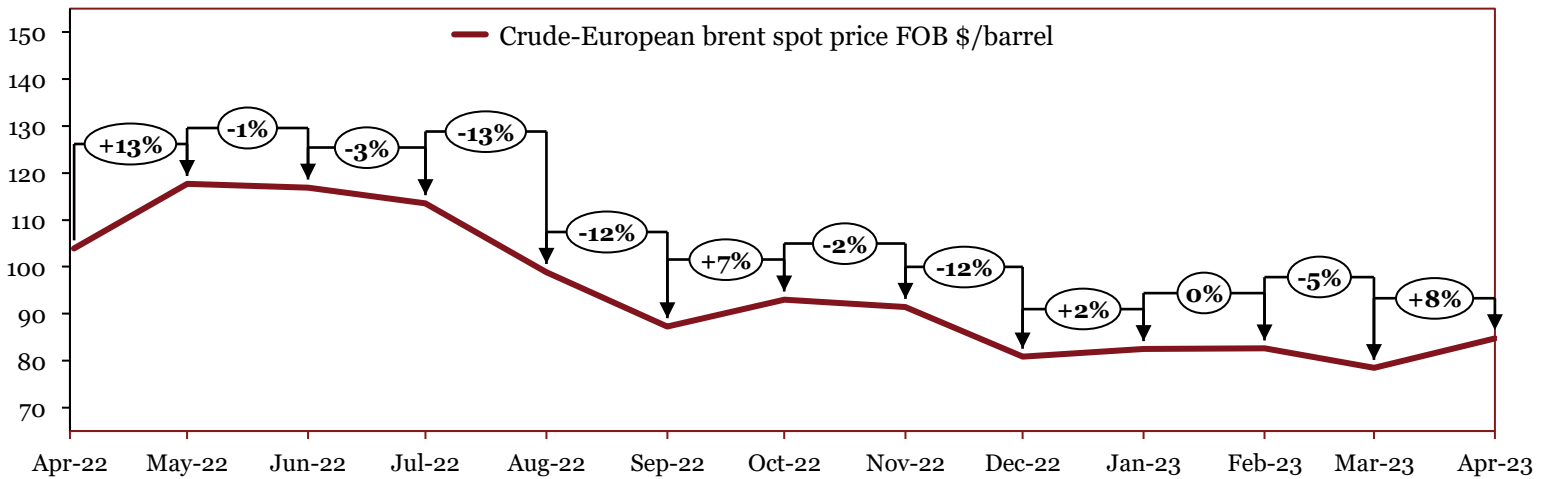
Source: SIAM

Monthly Average Prices (Rs)

	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23
\$	76	77	78	80	79	80	82	82	82	83	83	83	82
£	99	95	98	96	96	92	92	93	101	98	100	100	103
€	83	81	81	82	80	80	81	82	87	87	89	89	90
¥	61	60	58	59	60	57	57	56	60	62	63	62	62

Crude Oil

Source: SIAM



Monthly Average Prices (\$/barrel)

	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23
	104	118	117	114	99	87	93	91	81	82	83	78	85

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 chrome	Crisil : FOB Hong Kong Cr 50%	Crisil: Ex-factory Cr 60%
Ferro silicon	Crisil - FOB China Si 75%	Crisil - Ex-factory Si 70%

Commodity Specifications

Commodity	International	Domestic
Aluminium	<p>LME</p> <p>-Primary aluminium with impurities no greater than the chemical composition of one of the registered designations:</p> <ul style="list-style-type: none"> •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” 	<p>NCDEX, MCX (July’19 onwards)</p> <p>-Primary aluminium 99.7% purity (minimum) form: ingots, T-bars,</p>
Copper	<p>LME</p> <p>-Grade A copper must conform to the chemical composition of one of the following standards:</p> <ul style="list-style-type: none"> •BS EN 1978:1998 - Cu-CATH-1 •GB/T 467-2010 - Cu-CATH-1 •ASTM B115-10 - cathode Grade 1 	<p>MCX</p> <p>- Grade 1 electrolytic copper as per B115 specification</p>
Zinc	<p>LME</p> <p>-Special high-grade zinc of 99.995% purity (minimum) must conform to the chemical composition of one of the following standards:</p> <ul style="list-style-type: none"> •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 	<p>NCDEX, MCX (July’19 onwards)</p> <p>- Zinc of 99.995% minimum purity. Zinc must conform with the 99.995% graded chemical composition of BS EN 1179:1996 Standard</p> <p>entitled “Zinc and Zinc alloys primary Zinc”</p> <p>Form: ingots</p>
Lead	<p>LME</p> <ul style="list-style-type: none"> - Lead of 99.97% purity (minimum) conforming to BS EN 12659:1999 - GB/T 469/2005 	<p>MCX</p> <ul style="list-style-type: none"> - Lead ingots with minimum purity of 99.97%

Commodity Specifications

Commodity	International	Domestic
Nickel	LME - Nickel of 99.80% purity (minimum) conforming to B39-79 (2013) - GB/T 6516-2010	NCDEX, MCX (July'19 onwards) - 4"*4" approved pure cut Nickel of 99.80% purity (minimum)
Tin	LME - Tin of 99.85% purity (minimum) conforming to BS EN 610:1996	Bloomberg - Tin (min 99.85%) \$/tonne
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
Acrylonitrile Butadiene Styrene (ABS)	International price (C&F FEA) \$/tonne	Landed Cost Rs/tonne
High Impact Polystyrene (HIPS)	International price \$/tonne	Landed Cost Rs/tonne
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)	



Disclaimer

This document has been prepared solely for [ACMA] *Automotive Component Manufacturers Association of India*, being the express addressee to this document. PwC does not accept or assume any liability, responsibility or duty of care for any use of or reliance on this document by anyone, other than (i) ACMA, to the extent agreed in the relevant contract for the matter to which this document relates (if any), or (ii) as expressly agreed by PwC in writing in advance.

This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, PwC, its members, employees and agents accept no liability, and disclaim all responsibility, for the consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

This publication contains certain examples extracted from third party documentation and so being out of context from the original third party documents; readers should bear this in mind when reading the publication. The copyright in such third party material remains owned by the third parties concerned, and PwC expresses its appreciation to these companies for having allowed it to include their information in this publication. For a more comprehensive view on each company's communication, please read the entire document from which the extracts have been taken. Please note that the inclusion of a company in this publication does not imply any endorsement of that company by PwC nor any verification of the accuracy of the information contained in any of the examples.

This publication contains various forward looking statements, which by their nature involve numerous assumptions, inherent risks and uncertainties, both general and specific, and risks that predictions, forecasts, projections and other forward looking statements will not be achieved. We caution readers of this publication not to place undue reliance on these forward looking statements, as a number of important factors could cause actual future results to differ materially from the plans, objectives, expectations, estimates, and intentions expressed in such forward looking statements.

This publication (and any extract from it) may not be copied, paraphrased, reproduced, or distributed in any manner or form, whether by photocopying, electronically, by internet, within another document or otherwise, without the prior written permission of PwC. Further, any quotation, citation, or attribution of this publication, or any extract from it, is strictly prohibited without PwC's prior written permission.

PwC contacts for ACMA Knowledge Partnership

- Kavan Mukhtyar, Partner & Leader-Automotive, PwC India - kavan.mukhtyar@in.pwc.com / +912261198735
- Akhilesh Oberoi, ACMA Knowledge Partnership Manager – akhilesh.oberoi@in.pwc.com / +91124620724

© 2023 PricewaterhouseCoopers Private Limited. All rights reserved. In this document, "PwC" refers to PricewaterhouseCoopers Private Limited (a limited liability company in India), which is a member firm of PricewaterhouseCoopers International Limited, each member firm of which is a separate legal entity.