

Planner Sunday Journal

Apr 17th, 2022



Editorial

Spread of Covid-19 cases in China is becoming a headwind for policy makers in the country. Wide lock-downs are being imposed throughout the country that has made the people angry of social and economic consequences.

To minimize the negative effects on economy, the Chinese Central Government decided to lower the reserves ratio of financial institutions by 0.25 percentage points effective from Apr 25th. Futures and physical market reacted sharply to the news and most benchmarks rose to a great extent.

However, with US dollar index on the rise, it is a matter of time for commodity prices to start correcting. Federal reserve has decided to increase the interest rates a handful of times this year and next, so, as soon as inflationary pressure goes down, companies will realize how high the cost of borrowing will be for them. They need to either reduce their activities, or stop new projects to manage their liquidity.

Other negative factors such as Monsoon and lack of liquidity in firms may also put pressure on commodities prices in near future.



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Market at a Glance

Item Date	Last Month (Avr)	Last Week (Avr)	Apr 15 th	Change % (MoM)
Iron Ore CFR China	148.3	152.9	154.5	+4.2
Scrap CFR Turkey	601	648.2	641	+6.6
Billet FOB CIS	762	756	740	+0.02
Slab FOB CIS	762	860	860	+12.8
Rebar FOB Turkey	882.5	955	950	+11.6
HRC FOB CIS	912.8	940	940	+3.0
CRC FOB CIS	1064	1120	1120	+9.6

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Macro Economy

- USD Index

The US dollar index broke above 100.7 for the first time since April 2020, moving in tandem with bond yields, underpinned by the prospect of a more aggressive pace of Federal Reserve tightening to tame soaring inflation. The market movement came on the heels of Tuesday's CPI report, which showed that annual inflation hit 8.5% in March, a new 40-year high, and while core inflation eased, markets will wait for further data to gauge if inflation is peaking. Actually, in the aftermath of such data Fed Governor Brainard's said that despite the welcoming signs of cooling in US consumer price inflation, the central bank was still determined to substantially shrink its asset sheet and raise interest rates several times. The most pronounced buying activity was against the euro, which tumbled to a 23-month low against the greenback, a move triggered by an ECB that refrained from switching to a more hawkish stance.

- Crude Oil

Crude Oil prices futures finished higher on Thursday after a report said European Union officials were drafting a measure to ban Russian oil. Thursday's gain contributed to a nearly 9% climb in crude prices for the holiday-shortened week.

West Texas Intermediate crude for May delivery rose \$2.70, or 2.6%, to settle at \$106.95 a barrel on the New York Mercantile Exchange.

June Brent crude, the global benchmark, added \$2.92, or 2.7%, to \$111.70 on ICE Futures Europe. Both Brent and WTI ended at their highest since March 30, based on front-month contracts, according to Dow Jones Market Data.

- Cryptocurrencies

Link price analysis

The ChainLink price analysis for April 16, 2022, reveals the market following a partial bearish movement, obtaining some positive momentum, signifying a slight gain of positivity for the LINK market. The price of ChainLink has remained negative over the past few hours; however, it is not showing some potential for a positive movement. On April 15, 2022, the price crashed and went from \$13.7 to \$14.6. Furthermore, the

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market increased soon after and regained most of its lost value. Moreover, Chainlink has increased and risen to the price to \$14.



Steel

- Semi-Finished Products

Chinese domestic steel market faced optimism amid government promises to support the economy. Tangshan billet was quoted 4810 RMB/Mt on Friday, up 80 RMB/Mt on a weekly basis. The central government is determined to reduce the reserve ratio of financial institutions in order to supply enough liquidity in the market. Plus, Chinese central bank is also determined to reduce the interest rates to decrease the cost of borrowing for small and medium size enterprises. Billet inventories in Tangshan and surrounding area increased sharply this week to 285,000 Mt, as deliveries in major cities were halted due to lock down restrictions. On import front, Chinese buyers are reluctant to pay higher than 750 USD/Mt CFR, while workable level has been assessed at 740 USD/Mt CFR.



The outlook of Russia's invasion on Ukraine to end any time soon faded this week as Ukrainian army managed to destroy one of the biggest navy ships of Russia known

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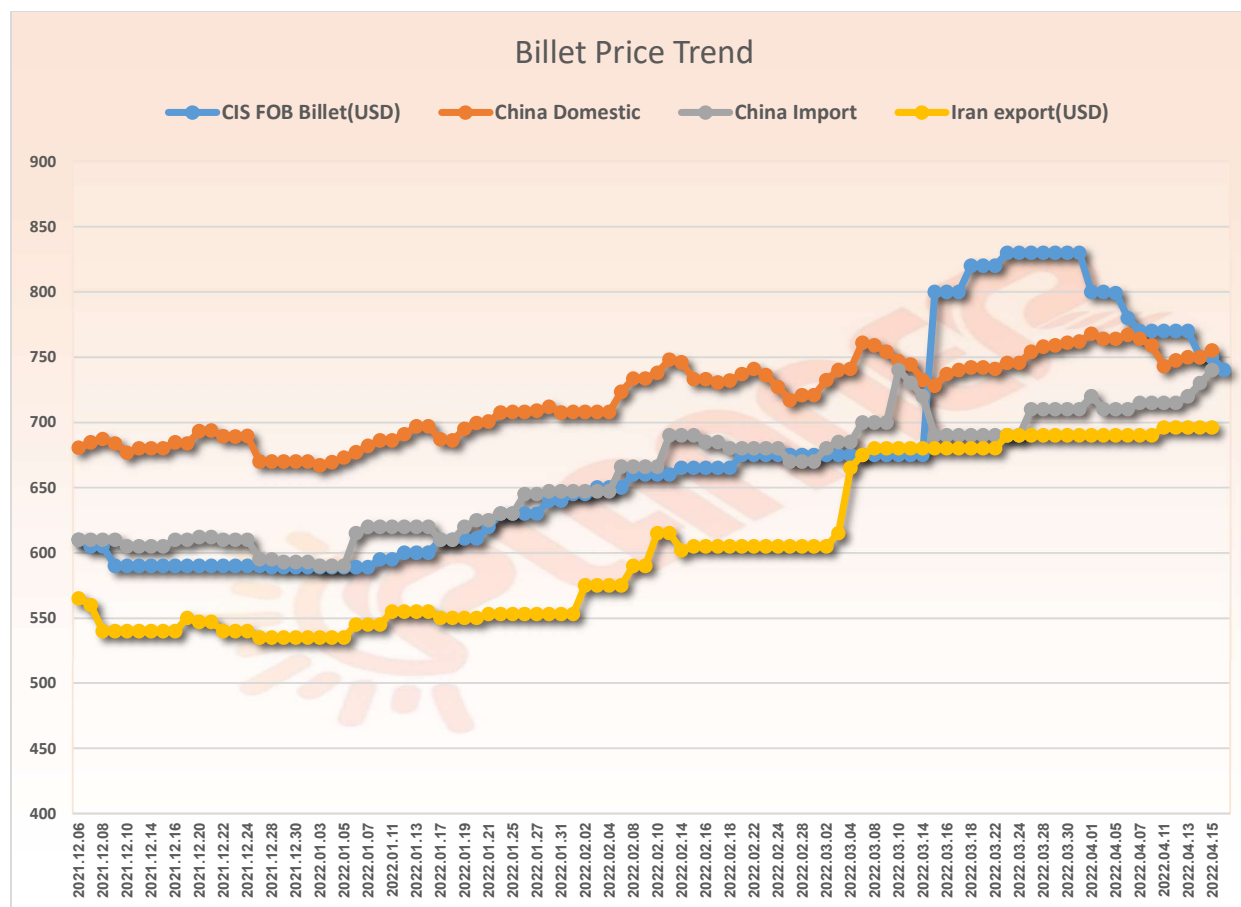
as Moscowfa. Russians operated huge attacks on Kiev with missiles and fighting jets, and emphasized that the war would not end till major targets are achieved. However, Russian-origin billet softened due to slumping scrap prices. Offers from Russian sellers are heard around 740 USD/Mt FOB, while buyers insist on lower levels. As the weather gets warmer, scrap supply will increase and scrap buyers will have the upper hand in negotiations.

Iranian exporters witnessed a huge shock right after the first working week of new Persian calendar. Iran authorities in Ministry of Mines, Industry and Trade have decided to impose proportional export duty on a wide range of steel products effective from April 9th. The policy makers have implemented a mechanism for these duties with the base price considered to be the last week of December 2021. For every increase from the base price, the export tax will also increase proportionally. It is heard that for the next two months, billet will be subject to 17% duty, slab is subject to 22% duty and rebar and HRC will each be subject to 8% export duty. The base price and the levels of duty will be revised, if necessary, from the first week of June. There has been harsh criticism from different parties involved in steel industry regarding such instruction, as the export of steel products from Iran will likely stop for the next couple of months. Major mills postponed their tenders to see how the turn of events will develop in the next week. Hence, no offers were heard from Iranian exporters.

In slab segment, offers from Russia remained flat at 860 USD/Mt FOB over the week, while Iranians were out of the market as their prices are no longer competitive for the buyer after the export duties were imposed.

Market Outlook: Planner still believes that semis prices have room to experience more correction next week, despite Chinese supporting packages for the economy.



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- Finished long products

The situation in Chinese longs market in nothing like the peak season in previous years. Although participants expected April to be a hot month for steel demand, the spread of epidemic has suppressed the real demand. However, with good news from Chinese Central Bank to cut the reserve ratios, market expectations about stable growth of economy were boosted. The main rebar contract in futures market rose as much as 68 RMB to 5038 RMB/Mt, while the average price of rebar in main cities of China lost 14 RMB/Mt week on week. with gradual easing of Covid restrictions in the country, it is expected that demand will increase in the weeks ahead.

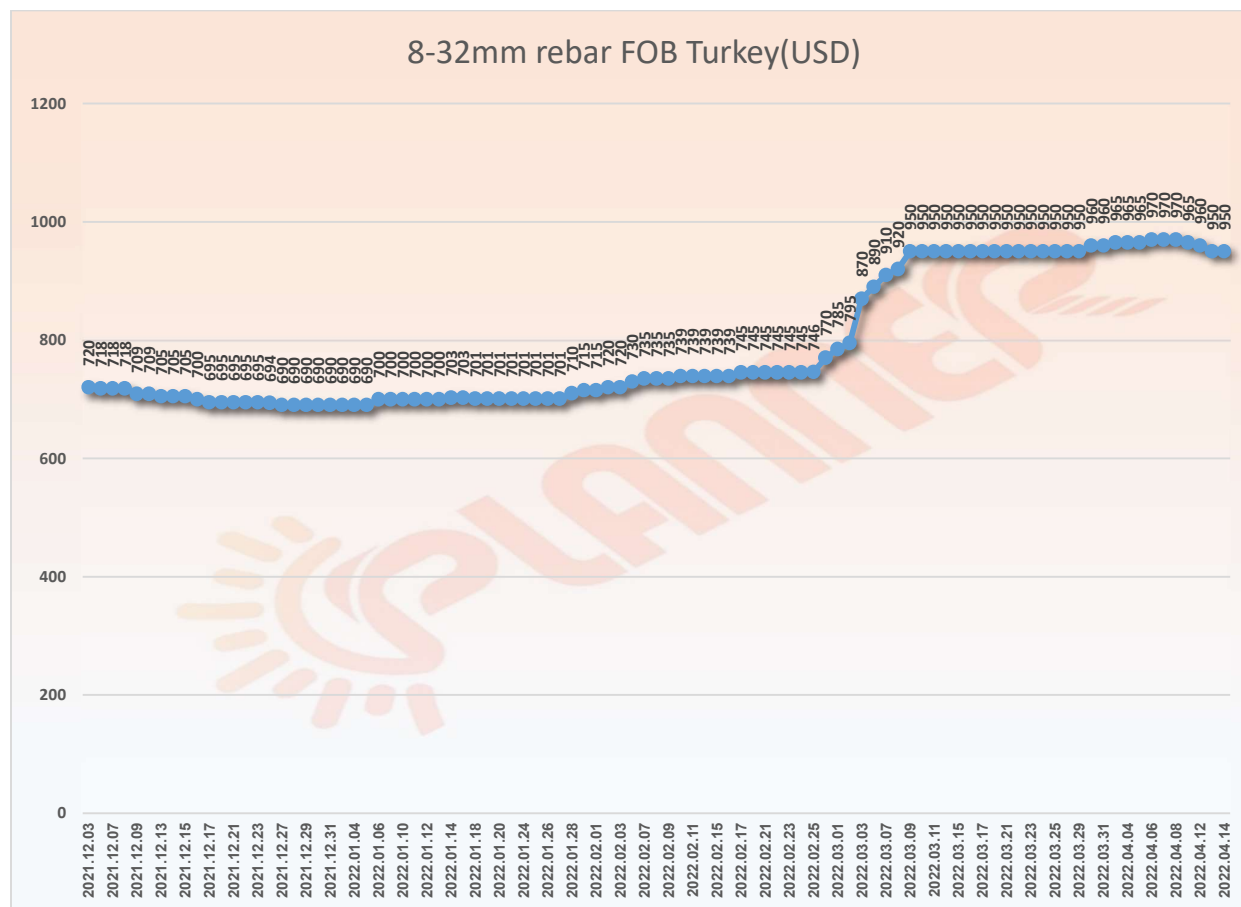


As scrap prices slumped, Turkish re-rollers preferred to give discount to their buyers in order to sell some tonnages. Plus, mills in Turkey are short of cash as they need to restart purchasing scrap before long holidays arrive. The latest offers from

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Turkish exporters come at 940 USD/Mt FOB and are expected to correct more in the coming week.



Iranian re-rollers also were caught by surprise after government-imposed tax on their export. They believe that imposing export duty on finished product will lead to huge loss for small enterprises and may even cause shut down for some. No new offers are quoted by the sellers last week.

In wire rod market, offers from Turkish producers hold their level steady at 1040-1060, unchanged from a week earlier. Iranians do not offer at the moment until the situation becomes clear.

Market Outlook: Planner expects longs prices to consolidate during next week.

- Finished flat products

Finished flat products followed the trend for longs, with increase in futures market and slight correction in



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physical market. The main HRC contract in futures market rose to 5181 RMB/Mt, while the average price in physical market weakened by 30 RMB to 5285 RMB/Mt. The current fundamentals of HRC are still under pressure and with blockades of the roads due to epidemics, the demand is suppressed.

As Turkish customers have booked enough stocks, they do not rush to buy new orders. Offers from Indians to Turkey are heard at 1050 USD/Mt CFR, while Chinese buyers tend to quote lower levels at around 1040 USD/Mt CFR. Planner believes the demand lacks enough factors and prices may soften next week.

In CRC section, buyers still prefer to wait and assess market more to see where it is heading. Planner believes prices may decrease rather than increase next week.

Market Outlook: Planner expects flat prices to slide next week.

Raw Materials

- Iron Ore:

Benchmark iron ore futures in China surged nearly 4% on Friday, erasing most of the week's losses, as mills ramped up production on better demand hopes and resumption in transportation after lockdowns eased.

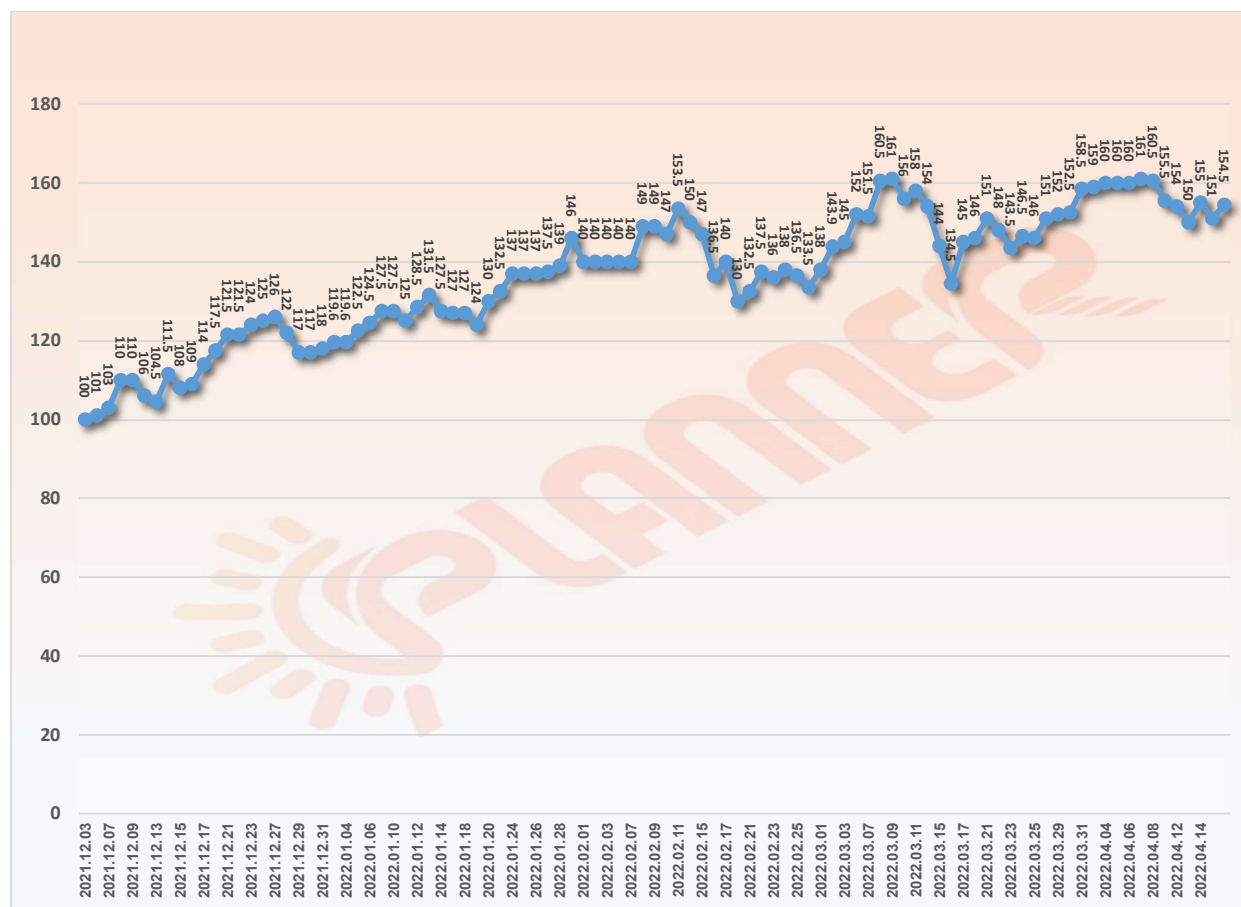


Capacity utilization rates of blast furnaces at 247 steel plants across the country were at 86.42% this week, up from 84.95% the week earlier and at the highest since late-July in 2021.

The most-active iron ore futures on the Dalian Commodity Exchange, for September delivery, jumped as much as 3.9% to 925 RMB/Mt.

Australian Iron ore fines corrected at the beginning of the week, while rose through the rest to close at 154.5 USD/Mt CFR, down 1 USD from a week earlier.

Steelmakers are resuming production on expectation of replenishing demand in the downstream sectors.

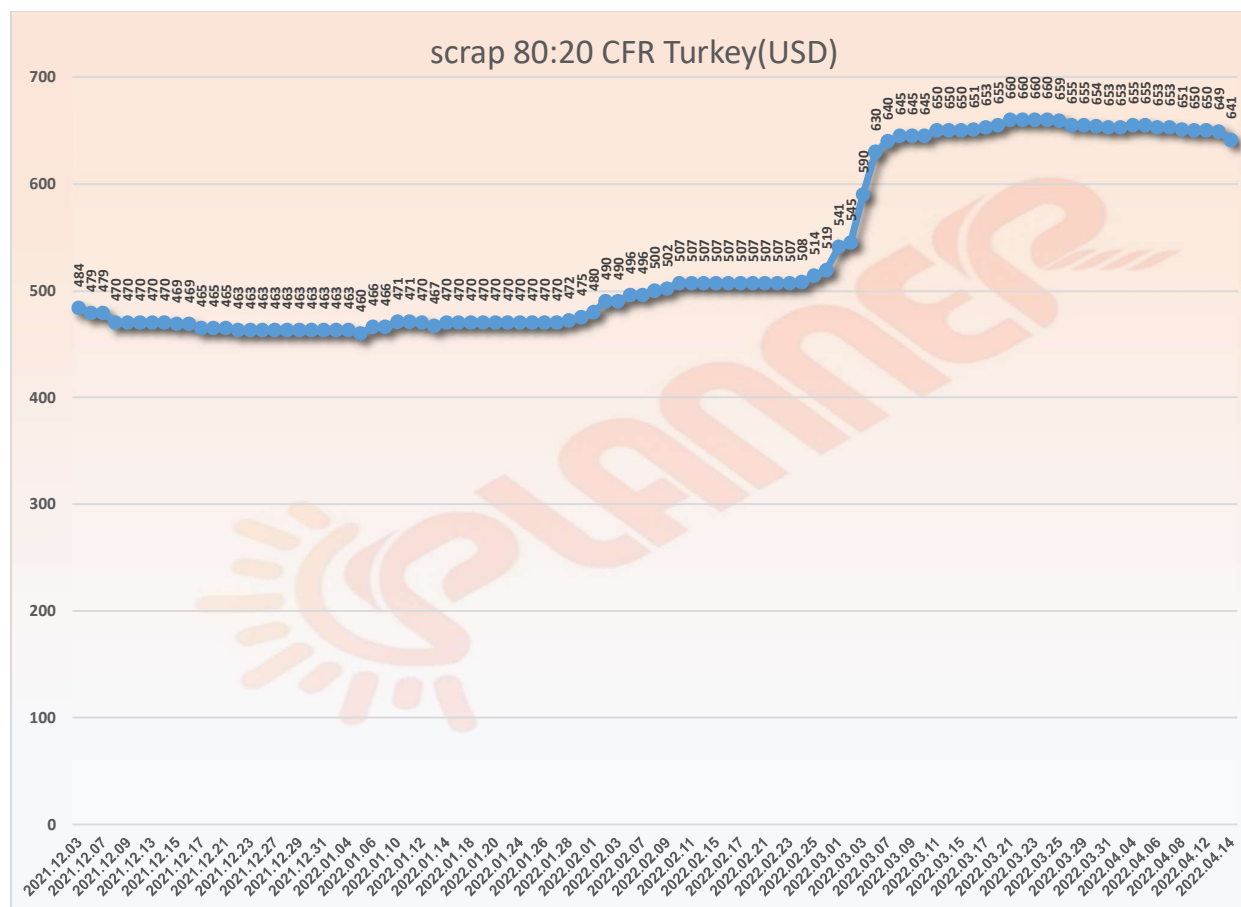
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- Scrap

The price of Turkish imported scrap has been falling after several consecutive weeks of growth. Turkish steelmakers have postponed their purchases and suppliers have reduced their offers. Demand for Longs has fallen, so prices are likely to fall, which will affect scrap reservations and purchases.

Based on available evidence, Turkish mills are not ready to buy scrap above \$ 630/t CFR. US and Baltic suppliers' current target levels for HMS 1&2 (80:20) are around \$ 645/t CFR.

Market Outlook: Turkish producers are expected to make purchases next week, before the holiday on May 2. Prices are unlikely to rise and imported scrap levels appear to be between \$ 642/t and \$ 649/t CFR.

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- Hard Coking Coal

With Russia invasion on Ukraine expected to continue, the fear of lack of coking coal supply has spread into the market. Hence, buyers tried to book a handful of cargoes last week that pushed prices sharply up. The latest offers from Australia range from 475-500 USD/Mt FOB, while the CFR China prices surpassed 510 USD/Mt. After weeks, the coal prices from other destinations have passed Australia prices. China is not a viable market for sellers as port congestions are quite heavy.



2022/04/15					
	Commodity	Origin	Currency, Delivery term	Price	Daily change
Planner-group.com	LME Aluminum closing (3-Month)		\$/t	3,237.5	+30.50
	LME Copper closing (3-Month)		\$/t	10,315	+16
	WTI crude oil (May Contract)		\$/Barrel	106.95	-
	BRENT crude oil (May Contract)		\$/Barrel	111.70	-
	Iran Heavy		\$/Barrel	106.01	+0.05
	Iron Ore, 62%	Australia	\$/t, CFR China	154.5	+3.5
	Ferrous scrap HMS I/II 80:20	USA	\$/t, CFR Turkey	641	-8
	Coking coal	Australia	\$/t, FOB	505	+5
	Coking coal	USA	\$/t, CFR China	550	0
	Billet Q235	China	CNY/t, EXW	4,810	+30
	Billet Q235	China	\$/t, EXW	755	+4.5
	Slab	China	CNY/t, EXW	5,000	+30
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	Imported Billet BOF/3SP 150mm	-	CFR China	715	0
	Billet	CIS	\$/t, FOB	740	-10
	Slab	CIS	\$/t, FOB	860	0
	HRC	CIS	\$/t, FOB	940	0
	Rebar	Turkey	\$/t, FOB	940-960	-5
	Billet	Iran	\$/t, FOB	696	0
	Slab	Iran	\$/t, FOB	760	0
	Rebar	Iran	\$/t, EXW	710	0
Transactions of construction steel (rebar, wire rod and bar-in-coil) in 237 Trading house of china					
Yesterday's trading volume (tons)				214072	
Today's trading volume (tons)				206739	

Steel industry admired producers

43) BlueScope Steel Limited

BlueScope Steel Limited is an Australian flat product steel producer that was spun-off from BHP Billiton in 2002. BlueScope was formed when BHP Billiton spun-off its steel assets on 15 July 2002 as BHP Steel. It was renamed BlueScope on 17 November 2003. The corporate headquarters are located at Melbourne. Mr. John Bevan is the chairman and Mr. Mark Vassella is CEO of this group. Its largest operating plant, an integrated steelwork, is



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located at Port Kembla, New South Wales. BlueScope has manufacturing operations in 18 countries, and sales offices in other locations around the world. Through this supply network, around 14,000 BlueScope people serve thousands of customers. It manufactures a range of products for building and construction and manufacturing applications. From steel slab, plate, hot and cold rolled coil, coated and painted strip products to house framing and engineered building solutions, BlueScope's products meet a multitude of end uses. The revenue and net income of the BlueScope was \$12.9 billion and \$1.7 billion respectively.

Based on the latest information, the crude steel production of BlueScope was 5.78 m /t in 2020 and it was in the 62th level of top steelmakers in 2020. At BlueScope, they have a responsibility to one another, to their families, customers, shareholders and the broader community, to build a sustainable business that contributes to protecting the future. As a global organization with thousands of employees who share passion and expertise in one of the world's most useful materials, steel, it is seen an opportunity for BlueScope to contribute and make a real difference.

Shipping Market

- Capesize

Overall, it was not a very active week, with limited fresh cargo support from either of the basins. The BCI and time charter average started the week at a level close to 1800 points and \$15,000, but remained in negative territory until a marginal improvement on Friday. The market settled at 1444 points and \$11,979, the lowest value since mid-February this year. There was not much backhaul, fronthaul or transatlantic cargo reported from the Atlantic this week. One of the main indicators, the C3 Brazil to Qingdao trade, declined over a dollar and is currently at \$24.775, reflecting a time charter average of \$11,964 on the China-Brazil round voyage. The C5 West Australia to Qingdao run climbed back to \$9.236 on Friday, marking the transpacific round voyage at \$10,208 to close the week.

- Panamax

A sluggish week activity wise for the Panamax market resulting in rates continuing to come under pressure. Noticeably the grain houses were absent from the market, which appeared to cause some anguish. Activity in the Atlantic - and especially the transatlantic trips - were disappointing overall. South America transatlantic trips back to this side were seen fixed on tonnage open Continent/Mediterranean along with some ballaster tonnage. An 81,000-dwt delivery Morocco was seen fixing a trip via North Coast South America redelivery Far East at \$36,000 with fronthaul rates holding

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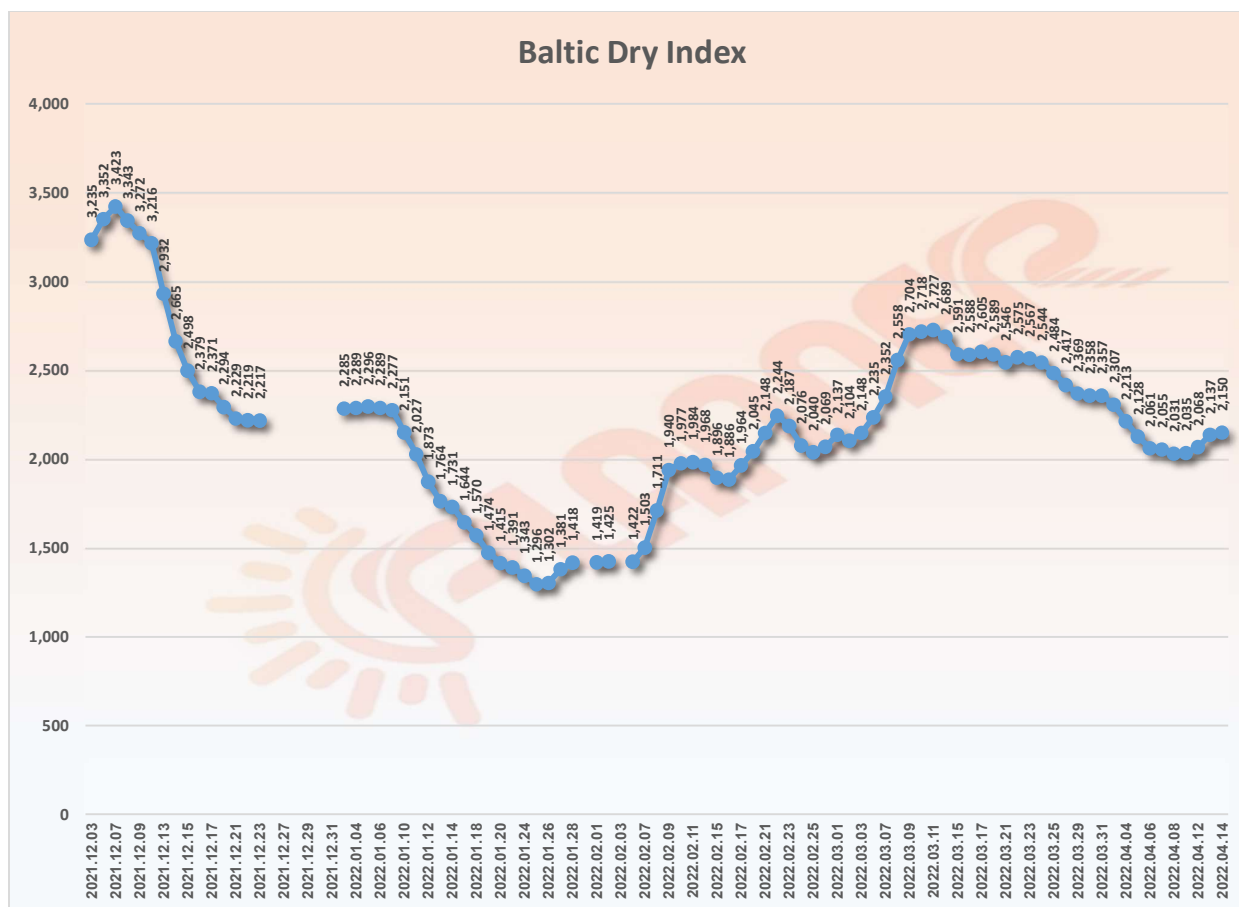
steady around this level on the week. Asia returned a slow start with holidays impacting and failed to find any real traction. The NoPac round trips hovered around the \$20/21,000 mark for the majority, but with limited demand activity was slow. Period appetite was soft, underpinned by negative FFA and physical markets. However, an 82,000-dwt delivery India did achieve \$30,000 for four to six months trading.

- **Ultramax/Supramax**

An uninspiring week in many areas as demand from China eased, leading to limited fresh enquiry and prompt tonnage availability growing in key areas such as South East Asia. The Atlantic remained positional and rates eased slowly. Period activity was limited, but a 63,000-dwt open North China was heard fixed for four to six months trading at around \$33,000. From the Atlantic, steady demand from South America saw a 55,000-dwt fixing delivery Recalada trip to Nouakchott at \$37,500. Elsewhere, there was limited action from the Continent. A 56,000-dwt open Amsterdam fixed a trip to the East Mediterranean at \$27,250. A fair amount of failing was seen from Asia, but a 56,000-dwt open Japan was fixed via South Korea redelivery Mediterranean at \$30,600. From the Indian Ocean a 63,000-dwt was fixed delivery South Africa trip to Pakistan at \$26,400 plus \$640,000 ballast bonus. The 10TC weighted average finished the week at \$27,518.

- **Handysize**

It has been a turbulent week with most regions seeing declining levels due to various factors. In Asia there was limited activity partly due to holidays in China. A 38,000-dwt open in South East Asia was rumored to have been fixed for an Australian Round voyage at \$25,000 and a 38,000-dwt open in Taicang was rumored to have fixed a trip via East Coast Australia to China with an intended cargo of concentrates at \$27,500. The Continent saw more activity with a 38,000-dwt being fixed for four to six months with worldwide redelivery at \$26,000. The vessel was then being relet for her first let to carry a cargo of fertilizer from Murmansk to Brazil at \$38,000 as there is currently a premium for Russian loading cargoes. In the US Gulf a 39,000-dwt was rumored to have been placed on subjects for a trip from Panama City to the UK with wood pellets at \$28,000.



Applications of Nanotechnology in the steel Industry

The concept of nanotechnology was theoretically set forth by the famous physicist Richard Feynman in 1959. However, Taniguchi was the first to introduce the term “Nanotechnology”, related to the field of precision manufacturing to give the meaning “the processing of materials, atom by atom or molecule by molecule”.

Nanotechnology reached its heights of research and development in recent years, fueled by extensive investments, mainly due to its ability at providing novel material with enhanced properties over the nanoscale. Nanotechnology has the potential to provide substantial benefits to all sects of science, including steel Industry.

The ultimate goal of incorporating nanotechnology is to produce high performing multi-purpose materials known as “nanomaterials”, which are now being used across different industries. These nanomaterials provide superior quality and efficiency over conventional materials and their use was found to provide savings in terms of energy and raw material consumption. Nanotechnology is already used in



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commercial applications ranging from sun-screens to self-cleaning windows and the possibility of use for applications including cancer treatment, desalination of water, improving energy efficiency and cleaning hazardous waste are currently being explored. Similar to other fields of practice, the impact of nanotechnology in construction is also beginning to become more profound. As expressed by, investing in the production of nanomaterials while having proper knowledge on respective minerals and production technologies offer the potential to enhance the efficiency of many industries, including construction.

With the significant contribution of the construction sector to the gross domestic product (GDP) of any economy, states that construction incorporating nanotechnology would occupy the eighth position out of ten among sectors that would have a significant impact on global development. Novel and unique physical-chemical properties offered by nanomaterials has opened-up a range of new applications for nanomaterials in the construction industry; for example, use in structural applications such as reinforcements, in energy harvesting and improving the resistance of construction materials to adverse impacts from elements such as fire and water. With the ever-growing demand for advanced construction projects, construction materials have been pushed to the limit in constructing mega-structures. Incorporating nanotechnology in developing extraordinary construction materials with advanced physical and chemical properties can be recognized as a key innovation that would enable the development of such mega-structures in the future.

General applications of nanotechnology in the steel industry include the production of magnetic steels, increased corrosion resistance, increased strength, increased creep resistance, reduced weight and increased ductility.

B. Nanomaterials used in the construction industry Nanomaterials with unique physical and chemical characteristics are progressively being used to empower novel applications in the construction industry. The amalgamation of nanomaterials in the construction industry is projected to improve vital material qualities, offer novel collateral functions and provide specific components for maintenance instruments. Among the many different types of nanomaterials, titanium dioxide, carbon nanotubes, silica, copper, clay and aluminum oxide are the most widely used nanomaterials in the construction industry. Based on the local availability of minerals for production, three of the key nanomaterials with wide ranging applications in the construction industry; nano titanium dioxide (Nano TiO₂), nano silicon dioxide (Nano SiO₂) and carbon nano tubes (CNT) are discussed in detail under the following sections.

Some specific applications of nanotechnology in the steel industry are as follows:

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Nanotechnology is one of the evolving modern technologies, increasingly being adopted in the steel industry. Nanomaterials provide numerous advantages over conventional materials such as improvements in quality and sustainability performance and reduction in cost and time for use.

1) Nano Titanium Dioxide (Nano TiO)

Nano titanium dioxide offers construction materials with novel functionalities such as self-cleaning properties and depollution capabilities. Several studies identified that super-hydrophilic characteristic of nano TiO₂ provides self-cleaning, UV blocking, anti-fouling, depolluting, anti-fogging, and photo sterilizing properties. The economic and environmental benefits of the specific characteristics of nano TiO have led to its increased use in the construction industry. Nano TiO₂ products were inaugurated as self-cleaning glasses for windows and tiles. Self-cleaning, self-disinfecting and photo-induced super-hydrophilic properties has increased the use of Nano TiO₂ in coatings, paints, and cement. In addition to improving the performance of cement and concrete by offering self-cleaning and self-disinfecting properties, the whitening property of nano TiO is used with cement and concrete to provide a white and a bright surface, thereby providing a better aesthetic appearance. Nano TiO₂ is also a very efficient depollutant of NO_x pollutants and therefore, has been suggested for use in nitrogen removing solar panels.

2) Nano Silicon Dioxide (Nano SiO₂)

Higher strength and durability of nano SiO were discussed in a number of researches. Studies by and identified that the amalgamation of nano SiO₂ increases the strength of fly ash mortar up to 15–20%. In addition, the fire protective property of nano SiO₂ was reviewed by a number of researches have highlighted the capability of nano SiO₂ in improving the performance of cement and concrete. According to High Performance Concrete (HPC) and Self Compacting Concrete (SCC) can be manufactured by mixing nano SiO With concrete while durability of concrete can also be increased by using nano SiO₂. Quantity of concrete waste generated will also be reduced with the increasing durability of concrete, thereby minimizing the negative environmental impacts associated with concrete. Nano SiO is also used in manufacturing protective window glasses, where a layer of nano SiO₂ is applied between two layers of glass. Moreover, the high light transmittance property of nano SiO₂ is a reason for its application in the production of glass.

3) Carbon Nanotubes (CNT)

CNT is an allotrope of carbon with a rope geometry at the nanoscale and is the strongest and stiffest material known to date. Reinforcing cement-based materials is the most prominent application of CNT due to its extraordinary strength. identified that CNT can be used to reduce the formation and sizes of cracks in concrete structures

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and according to high heat conductivity of CNT has been adopted in developing heat conduction systems for buildings. CNT is also used as binding ropes in suspension bridges due to its extraordinary high strength.

Improved strength and hardness properties in steel

Copper nanoparticles can be added to steel to reduce cracks caused by fatigue of steel sections. Metal nanofibers for reinforcing construction concretes: The main weakness of concretes is their fragility. Scientists can restrain fibers on concrete by creating unevenness on the surface, which is very fine and micro, which makes the concrete stronger, as well as new properties such as self-cleaning metal, which is glazed in steel baffles. They are used for the facade of a building and an example of this is the Kaidiva Comptens building in Germany.

Applications of nanotechnology in steel should not only be considered in steel products, but also related industries. For example, Isfahan Steel Complex consists of 48 independent workshops, of which steel production is a part; Water treatment plant, natural gas consumption, pure oxygen gas, compressed air, large treatment plant for effluents, filters for dust collection, electricity generation, dust measurement and so on. In all these cases, nanotechnology can be used and not only should the steel product be considered.

Weekly Review of Iran Domestic Market

Last week, the domestic steel market has continued its upward trend. The weekly average price for billet was 161,700 IRR, which was 2,358 IRR higher than earlier week. But the weekly average price of rebar decreased by 2,016 IRR and reached 180,752 IRR. It seems, due to the announcement of the Market Regulation Committee about the application of export tariffs, rollers, who concerns about declines of future prices, offered discounts on their current products, which caused the plunge of weekly average price of rebar compared to the previous week.

The export duties issued by the government have made the situation of the domestic steel market more ambiguous than before, and have caused disagreements and protests among market participants, and many, including the Iranian Steel Producers Association, have demanded the abolition of export duties on the steel chain. According to the current situation, the market is in a state of wait and see attitude.

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