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ISSUE NUMBER: 5-22
PUBLISHED ON: 10 May 2022

CHINA STEEL INTELLIGENCE REPORT

China's uncertain place in the steel world

IN THIS MONTH'S ISSUE

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CHINA'S UNCERTAIN PLACE IN THE STEEL WORLD

BY TOMAS GUTIERREZ

Kallanish held its Asia Steel Markets 2022 (ASM22) online conference at the end of April with speakers covering the whole region. This issue of CSI will look at what the wide range of commentary and forecasting means for China's steel industry and its role in the world.

We will look both at differing forecasts for the Chinese industry itself, as well as developments in its neighbours and the implications for China. From China's domestic economy, its trade balance, its carbon emissions and global standing, the steel industry is facing a series of challenges in the coming years.

Views on China

ASM22 on 27-28 April invited speakers from across the region, each from a different viewpoint. Among the most significant for China and its role in the steel world was over the outlook for its steel exports. On balance, participants expected higher exports this year but the view was not universally held. Li Xinchuang, president of the China Metallurgical Planning and research Institute (MPI), argued that exports could be weaker than many conference participants expected. The Covid-19 outbreaks in Shanghai and Shenzhen have affected the economy across a much wider area, but the central government still wants to achieve

TABLE 1. SUPPLY AND DEMAND

	2021	Jan-Feb 2022	Y-o-y	2022 Outlook	Y-o-y
Official Crude Steel Output	1,033	158	-10.00%	1,016	-1.60%
Apparent consumption	943	146	-9.29%	913	-3.10%
End user demand	946	108	-2.24%	913	-3.50%

Source: Kallanish. Million Tonnes

FIGURE 1. STEEL PRODUCTION AND DEMAND 2019-2021

Source: Kallanish. Million Tonnes

5.5% year-on-year growth in GDP this year. This means China will try to maintain the domestic market scale and steel consumption will be boosted, resulting in a decrease in exports in 2022, Li predicted. In 2021, strong output controls were key to bringing exports lower, but an annual cap on output is again being imposed this year, limiting the additional volume available for export, even if prices are favourable. Meanwhile, the ratio of exports to production is declining as steel supply is expected to meet domestic demand. The ratio was 5.4% in the first quarter this year, falling from 6.5% registered in full-year 2021. This indicates a new policy direction for export control. Li also predicted that China's steel production and consumption will decrease 1.5% and 4.9% year-on-year respectively in 2022.

FIGURE 2: EXPORT SHARE OF STEEL OUTPUT BELOW HISTORIC LEVELS

Source: Kallanish, Customs, exports/hot rolled output

Ian Roper of Kallanish Consulting Services however believes Chinese steel exports will be driven higher by weak domestic demand and tight overseas markets. The loss of Black Sea exports since the start of the latest Russia-Ukraine war has left some markets, notably Europe but also the Gulf and elsewhere, scrambling to source replacement volumes. China's steel net exports rose to over 40 million tonnes last year, from just 15mt in 2020. Exports would have been higher last year if not for uncompetitive prices, but this year Chinese steel prices are more competitive and have thus attracted strong overseas demand.

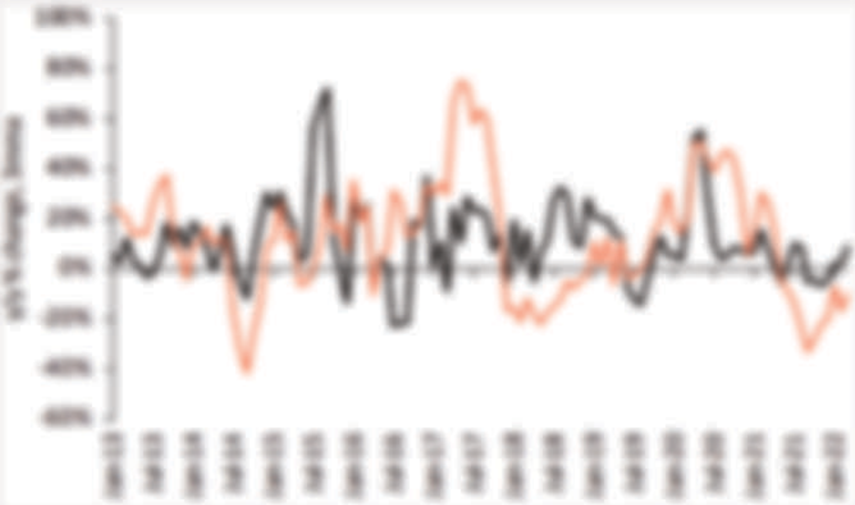
FIGURE 3: CHINESE COMPETITIVENESS SPIKES

Source: Kallanish

So far this year export volumes have been down y-o-y, despite recovering each month since the start of the war in Ukraine. In 2021 however export volumes peaked in April and then dropped fairly sharply. The base for comparison is therefore about to change significantly and y-o-y comparisons should look stronger from May data onwards.

Underlying the differing expectations for exports are assumptions about the recovery of the Chinese economy. Chinese crude steel output has again been capped this year, meaning overall output cannot exceed 2021 levels, which were similarly capped at 2020 levels. Demand will therefore be key in deciding the volume of exports. Li predicts that domestic steel demand will fall this year by 4.9%. Roper meanwhile believes that his previous expectation of a 5% drop in demand may now be too optimistic as Covid lockdowns continue to stall the economy. The problem, according to Roper, is that even though credit supply is increasing, it is not flowing into real investment. One short term factor is that companies are borrowing to pay salaries amid Covid lockdowns. Deeper than this is a lack of demand for credit as companies are struggling to find new investments with strong returns.

FIGURE 4. NET NEW LENDING NOT REACHING REAL ECONOMY



Source: Kallanish Consulting, PBoC, China Bull

India emerges as a competitor

One limit on China's steel exports is India's emergence as an exporter to China's key export markets. Alok Sahay, secretary general of the Indian Steel Association notes that the country's target of 300m t/y of crude steel capacity by financial 2030-2031 may be delayed only slightly by perhaps a year because of the impact of Covid. The Association expects this to allow crude steel output of around 255mt that year, while finished steel production would be around 230mt. Sahay also notes that domestic demand is also expected to reach around 230mt in the same year.

That would suggest a fairly balanced picture for net exports. However, other participants noted that India's growth trajectory looked more like China's in the early 2000s. India may or may not increase the proportion of its production that goes to exports, but as capacity increases rapidly, absolute export volumes should also grow. India is already a major supplier into Vietnam, where China has struggled to defend its market share over the last year.

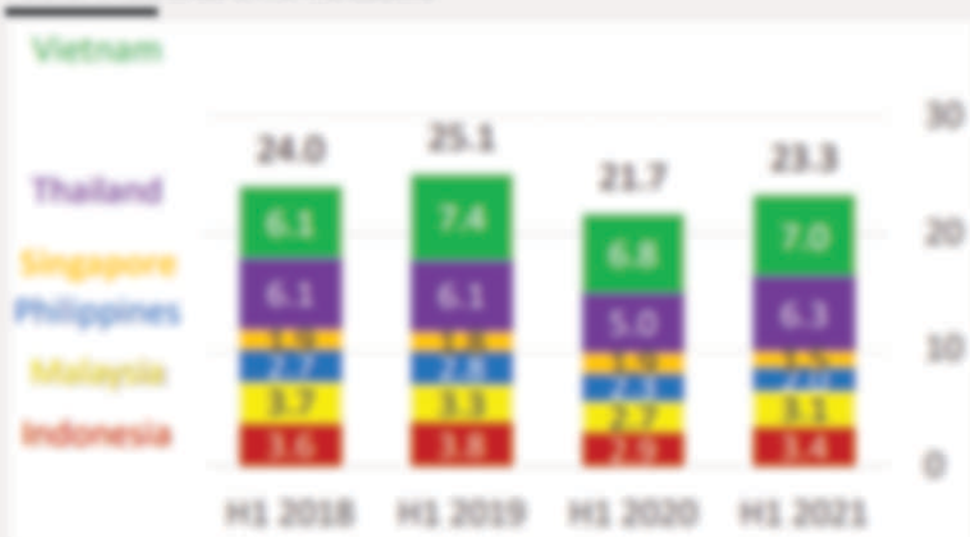
FIGURE 5: VIETNAM IS NOW MAJOR DESTINATION FOR INDIAN STEEL

Source: Indian Steel Association

Asean capacity growth could upend markets, boost pollution

China's biggest destination market, Southeast Asia, is also the worlds largest importing region. This may not last however, with local capacities due to surge in the coming years. ASEAN-6 countries-Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam-are boosting steel capacity and have potential to raise steel exports in the future, according to Yeoh Wee Jin's presentation at the Kallanish Asia Steel Markets 2022 conference. Yeoh, secretary general of the South East Asia Iron and Steel Institute (SEAISI), said that Chinese investments had been pouring into the region, and dominate steel plant investments in Indonesia and Malaysia. Total crude steel capacity in the region is expected to reach 140 million tonnes/year by 2026, surging from 75m t/y in 2021.

FIGURE 6: ASEAN IMPORTS ARE SLIDING

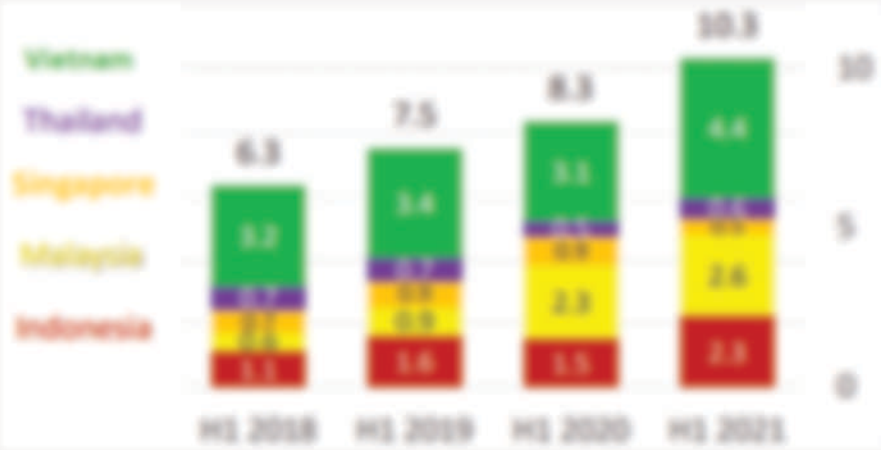


Source: Seaisi

The balance of trade is already changing sharply, with imports declining, and export growing steadily. This has been the case despite local apparent steel consumption beginning to recover in 2021. SEAISI says Asean steel demand expanded to 74.8mt in 2021, from 71.9mt in 2020. This remains the second lowest since 2015, as the Delta variant of Covid wreaked havoc on regional economies last year. 2022 is expected to see a further recovery in demand however.

There is also another important impact of heavy investment in the region. Upcoming capacity will move ASEAN's steel indutry away from being dominated by electric arc furnaces (EAFs). Of total steel capacity including part contributed by rotary kiln electric furnaces (RKEFs) in 2026, the percentage of steel produced by BF-BoF and EAF technologies could reach 57% and 36% respectively, compared to 34% and 64% in 2021.

FIGURE 7: ASEAN EXPORTS ARE GROWING

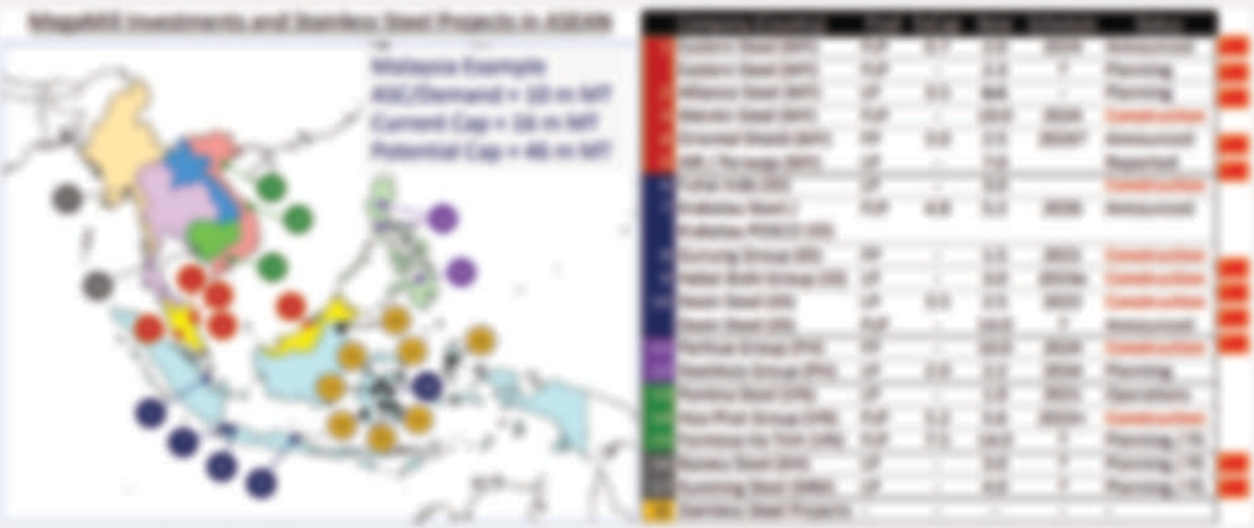


Source: Seaisi

"As more and more investment's going in, ASEAN is on the way towards, I would say, less green," Yeoh commented. Based on EU benchmarks, SEAISI forecast carbon dioxide emissions from the steel sector in ASEAN will surge from 47mt in 2021 to 122mt in 2026. Of total emissions in 2026, 2%, 11% and 87% will be from RKEF, EAF and BF-BoF technology respectively, rising from 1%, 27% and 72% in 2021. These carbon emissions estimates are conservative, as they only include direct BF-BoF emissions and do not include coking and sintering. This means that emissions growth could even quadruple, Yeo observed.

The shift in China may be towards EAFs, but nevertheless current investments there are also locking in carbon emissions from the industry. Across Asean, China and India hundreds of millions of tonnes/year of blast furnace capacity is being commissioned. This capacity will have to run for many years, likely decades, in order to maximise the return on these investments. That means that any more aggressive reduction in carbon emissions by 2050 is becoming increasingly burdensome as new technologies must not only be competitive in their own right, but must justify the loss in value of existing investments. Asian countries appear to be trapping themselves into a higher-carbon future, despite being one of the regions which will be the hardest hit by climate change.

FIGURE 8: STEEL INVESTMENTS IN ASEAN



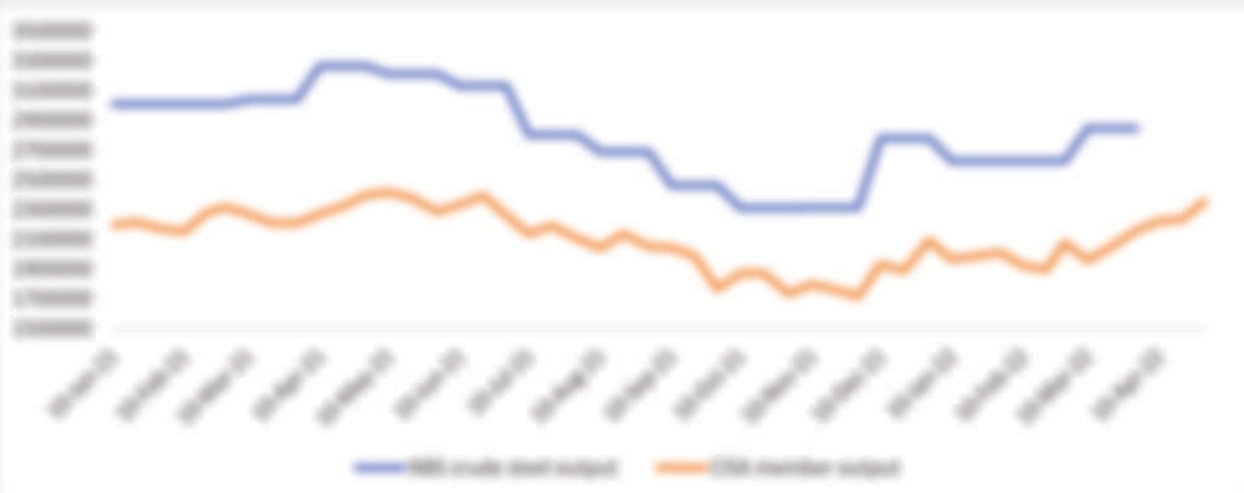
Source: Seaisi Research & Analysis

SUPPLY & DEMAND OVERVIEW

Official data for the first quarter continued to show that demand was struggling to recover after the New Year break. Production was in any case going to be down on-year after the strong start to 2021, but the drop in demand is more concerning and has given urgency to China's attempts to stimulate a recovery. According to the National Bureau of Statistics (NBS) crude steel output in March was down 6.4% y-o-y at 88.295 million tonnes. That left crude steel output over the quarter down 10.5% y-o-y at 243.376mt. Net steel exports in March were recovering from the start of the year, but were still down from 2021. AS a result, apparent domestic steel consumption in March was down 4% y-o-y at 80.84mt, while over the quarter it was down 9.3% at 223.855mt.

This is not unusual for this time of year, but typically a sharp drop in production would keep inventory levels much tighter. Total inventory levels were down a little, but weak demand remained broadly in line with 2021. By the end of March, the inventory rate was 104.2%, down from 225.2% in February and 109.2% a year earlier. Accounting for inventory change, end user demand was down 10.5% y-o-y in March at 83.17mt, while Q1 end user demand was down 5.8% at 188.637mt.

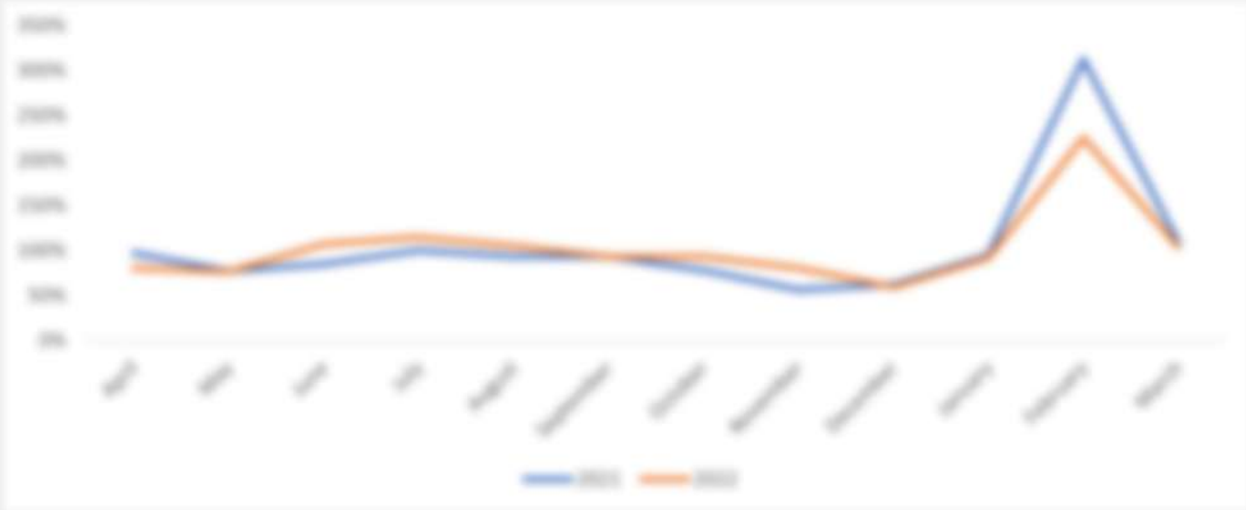
FIGURE 6: CRUDE STEEL OUTPUT RECOVERING



Source: NBS, CISA, Kallanish

These results are in line with what had previously been expected. April however has seen China's economy shocked by Covid outbreaks into a further decline in demand. Overall inventory levels have barely moved from the end of March, when typically they run down during the peak season for steel demand. Output has inched higher, suggesting some recovery in demand as some cities begin to emerge from lockdowns. The recovery remains very slow however, and inventories could begin to look high very soon.

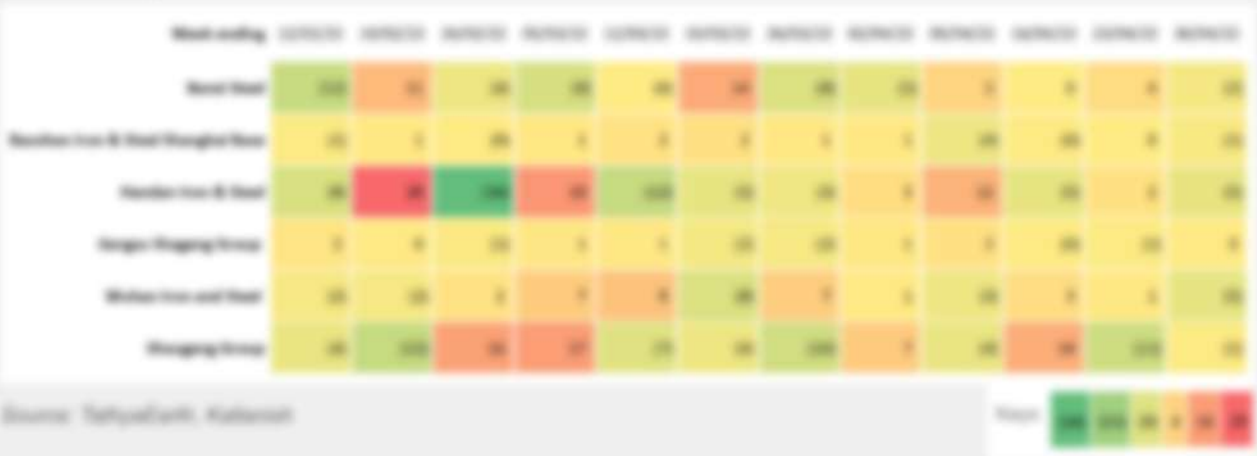
FIGURE 10. INVENTORY RATE IN LINE FOR NOW



Source: SMM, Kallanish, inventory/demand

Satellite data from TathyaEarth, monitoring blast furnaces at certain key Chinese mills, suggests fairly stable output through April. Blast furnaces have been operating steadily in most regions, although there were earlier cutbacks in production as lockdowns impacted raw materials supply. There has been some pick up in output from EAFs however, as well as from smaller blast furnace producers that are gradually restoring their supply chains. Steady output leaves Chinese steel markets increasingly reliant on the success of stimulus plans to sustain prices.

FIGURE 11. MAJOR MILL OUTPUT STEADY



Source: TathyaEarth, Kallanish

END USERS

REAL ESTATE

The Chinese real estate sector saw another downturn in March data, which is expected to have intensified in April. Despite the loosening of credit policy towards the sector, most indicators were worsening. Lockdowns blocking construction and the difficulties of logistics and fears over investment worsened over recent weeks and will ensure weak data in the immediate future. Completed real estate investment over the first quarter was up 0.7% y-o-y at CNY 2.777 trillion, but growth slowed from 3.7% over January-February. March investment on its own was down 2.4% y-o-y at CNY 1.327 trillion.

Real estate sales fared much worse. Over three months they were down 13.8% y-o-y at 310.46m square metres, while in March they were down 17.7% y-o-y at 153.43m sqm. Other construction indicators also fell. Q1 new starts were down 17.5% at 298.38 sqm, while in March they were down 22.2% at 148.71m sqm. Completions meanwhile were down 11.5% at 169.29m sqm over three months and down 15.5% at 47.29m sqm in March. Alongside this weak activity data, sales prices were also falling sharply. The NBS data implies average realised prices in March were down 10.3% y-o-y at CNY 8252/sqm, the lowest since March 2020.

The sector remains under pressure, with developers skirting the edge of debt defaults despite easier lending rules. Central authorities have been asking banks to roll over debt for struggling firms and support growth in mortgage issuance. Covid however means that projects are on hold in many cities and so the effectiveness of these measures is unlikely to be visible until June of July data at the earliest. Even then, it is uncertain how much of this support will end up in actual construction and steel consumption, and how much will be diverted to sustaining existing debt and employment to avoid wider economic disruption. Despite easier credit flows, the sector remains under heavy pressure this year.

FIGURE 12: REAL ESTATE INVESTMENT GROWTH

Source: NBS, Kallanish (% y-o-y)

AUTOMOTIVE

Restrictions due to outbreaks of Covid across the country in March have lashed Chinese automotive production, although the monthly figure rebounded from February's low. March output rose 23.4% month-on-month to 2.24m units, but was still down 9.1% year-on-year, according to data from the China Association of Automotive Manufacturers (CAAM). This took year-to-date output to 6.48m units, up only 2% y-o-y, slower growth than registered in any month last year. Meanwhile, production of new energy vehicles (NEVs) continued to surge and reached a penetration rate of 19.3% in the given month. Three-month production through March soared 142% from a year ago to 1.29m units.

Monthly implied finished steel demand calculated by Kallanish from the CAAM data was up 31.3% m-o-m but was down 19.13% y-o-y respectively at 3.63 million tonnes, leaving January-March demand at 10.38mt with a drop of 6.37% y-o-y. In addition to Covid-induced production restrictions, the chip shortage has seen very little improvement in the reporting month, suppressing China's auto sector. There have also been rising costs because of higher prices of battery raw materials. Considering weakening demand, difficult supply and worsening expectations, CAAM suggests to Chinese authorities that they implement stimulus policies to promote auto consumption, including cutting purchasing taxes in half.

FIGURE 13: AUTOMOTIVE STEEL DEMAND

Source: CAAM, Kallanish (tonnes/month)

WHITE GOODS

China's white goods sector managed a small seasonal pick up in March from February, but y-o-y production was declining as Covid and wider economic concerns began to put pressure on manufacturers. April is expected to see a sharper downturn as Covid lockdowns intensified.

Output of key products was up m-o-m for all products, but y-o-y output was down for refrigerators, freezers and washing machines, and only up marginally for air conditioners. On a year-to-date basis, air conditioners were also the only major product to see an expansion.

Kallanish estimates finished steel demand generated by the sector increased in March to the highest level since last March, but this was due to the seasonal nature of the sector. This was still down 5.8% y-o-y to1.69mt however. January-March demand is now down 2.% y-o-y at 3.82mt.

FIGURE 14: WHITE GOODS DEMAND

Source: NBS, Kallanish (tonnes/day)

SHIPBUILDING

China's shipbuilding completions declined slightly year-on-year in the first quarter of 2022, with new orders down significantly but orders in hand surging. According to the China Association of the National Shipbuilding Industry (CANSI), China's shipbuilding completions declined by 1.9% on-year to 9.61 million deadweight tonnes in Q1. This suggests around 3.08m dmt of completions in March only, slightly lower than the average 3.27m dwt completions in Jan-Feb. New orders picked up in March by 4.28m dwt, but this still slumped 42.3% on-year. Orders in hand however increased by 28.3% on-year to 99.1m dwt by the end of March 2022.

Based on Kallanish estimates, steel consumption in March is around 1.06 million tonnes, and total steel consumption in Q1 is 3.32 million tonnes. In the reporting period, China's shipbuilding completions, new orders and orders-in-hand accounted for 46.2%, 48.6% and 47.3% respectively of the world's total in deadweight tonnes.

FIGURE 15: SHIPBUILDING COMPLETIONS

Source: CANSI (tonnes/month)

TRADE

China's steel exports have underwhelmed at the start of the year, but March started to see volumes pick up. So far this has been driven largely by some of the short-selling seen in late 2021 of early 2022 shipments. Russia's invasion of Ukraine however has upended markets and opened up opportunities for China's exporters. This comes just as import demand plummets due to Covid. China's customs data shows that net steel exports in March were 3.073mt, a m-o-m increase of 52%, but y-o-y decrease of 44%. Through the first three months of this year, year-to-date net exports were down 38% y-o-y at 7.442mt. Exports in March grew 37% on-month, but fell 34% from last year to 4.946mt. Over January-March, exports were down 25% y-o-y at 13.181mt.

FIGURE 16. CHINESE EXPORTS BY REGION

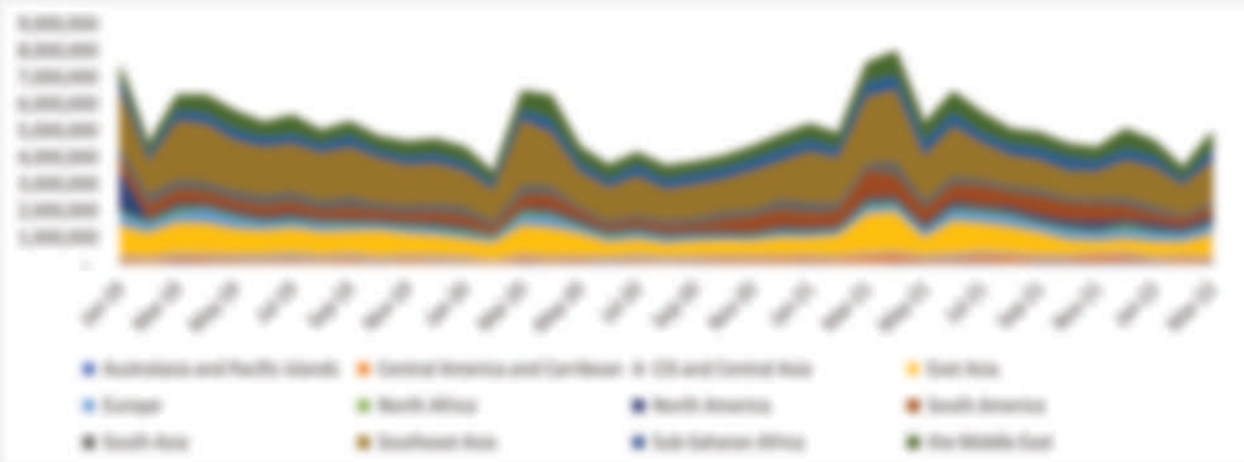
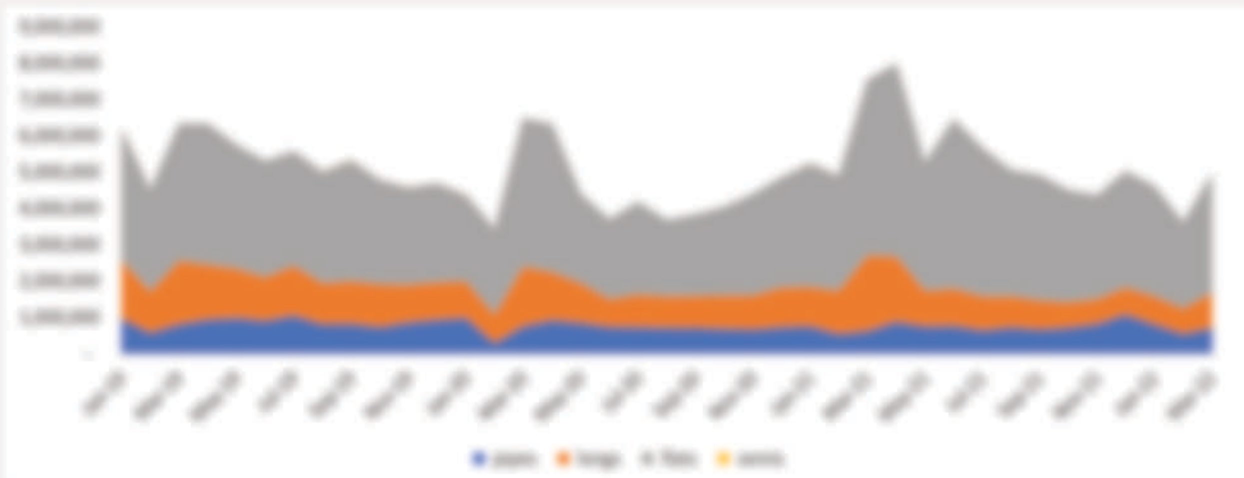


FIGURE 17. CHINESE EXPORTS BY PRODUCT



Source: GTT, Kallanish

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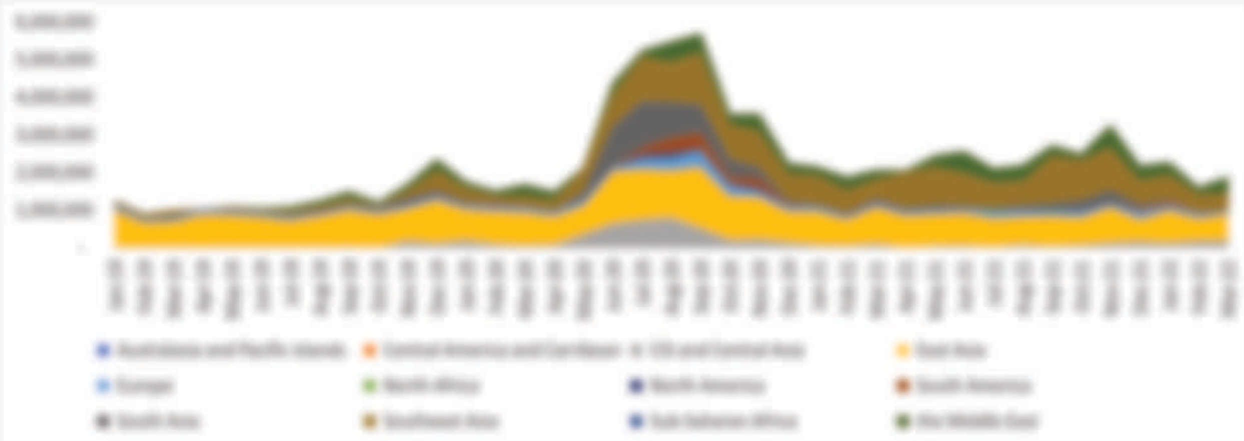
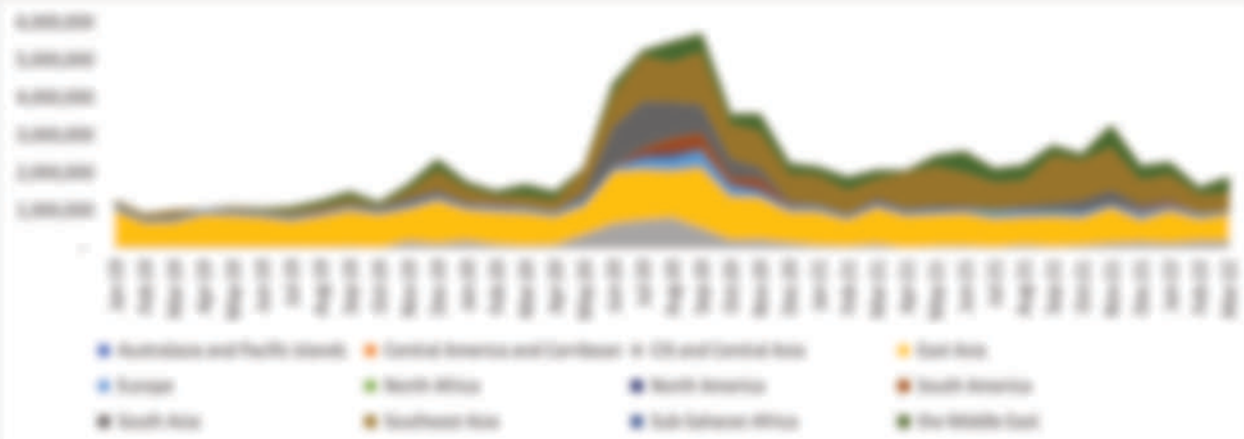




MARKETS

April has seen Chinese steel prices sheltered from the global storm, but also trapped between hopes for stimulus and fears over Covid. Domestic spot prices moved little or fell slightly over the month despite, or in part because of, disruptions to trading due to lockdowns. Raw materials prices meanwhile have remained elevated, with the support of very tight global markets following the disruption caused by war in Ukraine. China has however benefitted from higher international steel prices, with exports becoming competitive in several markets.

LONGS

After an increase in early April, Chinese rebar prices again retreated to finish the month little changed from end-March. 20mm HRB400 rebar was trading at CNY 4,780-4,800/t ($716-719/t) for Shanghai by the end of the month, up CNY 20/t from the end of March but down CNY 50/t from the middle of the month. Rebar markets remain severely disrupted, especially around Shanghai. A number of cities have followed Shanghai into various stages of lockdown, most of which involve the closure of construction sites. Logistics also remain problematic, with drivers avoiding routes that have stringent testing rules to avoid losing business. Beijing too is now facing mounting restrictions, but one of the biggest problems for traders is that new outbreaks can disrupt trade in new areas overnight with no effective way to predict when and where they may happen.

Chinese wire rod export prices meanwhile fell during April as exporters became internationally more competitive. Lockdowns also pushed some producers to engage more actively in export markets as export logistics were sometimes easier to arrange than domestic. By the end of April, 6.5mm diameter mesh grade wire rod was trading at $825/t fob, compared to $840/t fob at the end of March. Export offers were also eased lower by the falling value of the CNY relative to the rising US dollar.

TABLE 2: LONGS PRICES

	2021	y-o-y	Mar-22	Apr-22	M-o-m	Y-o-y
Rebar (CNY/t)	4,878	29.5%	4,750	4,820	1.5%	-2.3%
Wire rod fob ($/t)	783	58.7%	835	834	-0.1%	10.6%

Source: Kallanish

FLATS

Chinese hot rolled coil prices held up less well than rebar, in part because of a hit to manufacturing demand first in the northeast and then in the region around Shanghai due to lockdowns. At the end of April, 5.5mm Q235 HRC was trading at CNY 5,000-5,030/t fot Shanghai, down from CNY 5,230-5,250/t at the end of March. Many industrial cities remain under lockdown in early May, although there has been a renewed focus on getting factories running again. This may help a recovery in demand in May, but the seasonal peak demand in Q2 has now been thoroughly disrupted. Traders are hoping that stimulus will bring prices higher again in the coming months.

Export offers meanwhile have also fallen on lower domestic prices and a favourable move in the CNY/USD exchange rate. This has kept Chinese HRC competitive despite international pries starting to come off recent peaks in late April. 2mm+ SAE1006 HRC was trading at $820-830/t fob at the end of April, down from $895-905/t at the end of March. Material has been booked over the last month to most major markets, including Europe and the GCC, suggesting export volumes should be growing further.

TABLE 3. FLATS PRICES

	2021	y-o-y	Mar-22	Apr-22	M-o-m	Y-o-y
HRC (CNY/t)	5,339	40.9%	5,166	5,201	0.7%	-7.1%
HRC fob ($/t)	834	70.4%	878	882	0.4%	3.6%

FIGURE 21. FLATS PRICES

Source: Kallanish

RAW MATERIALS

Seaborne iron ore prices were on a rollercoaster in April. Yes, another one. They peaked early in the month before sliding, and then seeing a massive $12.81/t correction in a single day, the biggest one-day movement since October. After global supply tightness and the war in Ukraine drove prices higher in March, April was driven more by the emerging chaos of China's Covid outbreaks. The single day drop came as markets lost confidence across the board and share and other commodity prices also plummeted. The Kallanish KORE 62% Fe index ended April at $142.35/dry metric tonne cfr Qingdao, $14.56/t lower than at the end of March. The Kallanish KORE 65% Fe index dropped $15.72/t over the month to $167.11/dmt cfr, and the KORE 58% Fe index fell $8.55/t to $126.26/dmt cfr.

Iron ore port stocks fell over the month. By the start of May, stocks across 35 ports were 140.09m deadweight tonnes, down 9.26m dwt from the end of March. This was in part because blast furnaces have mostly continued to operate, restocking by mills took place ahead of the Labour Day holiday, and the opening of cities such as Tangshan after lockdowns led to higher buying. However, low port stocks are also in part because of disruptions to unloading at ports and backlogs of ships waiting to dock. Some inventory is therefore 'hidden' offshore. Expectations for stimulus remain key for both stocks and prices in the coming month, as mills are producing largely for expected future demand.

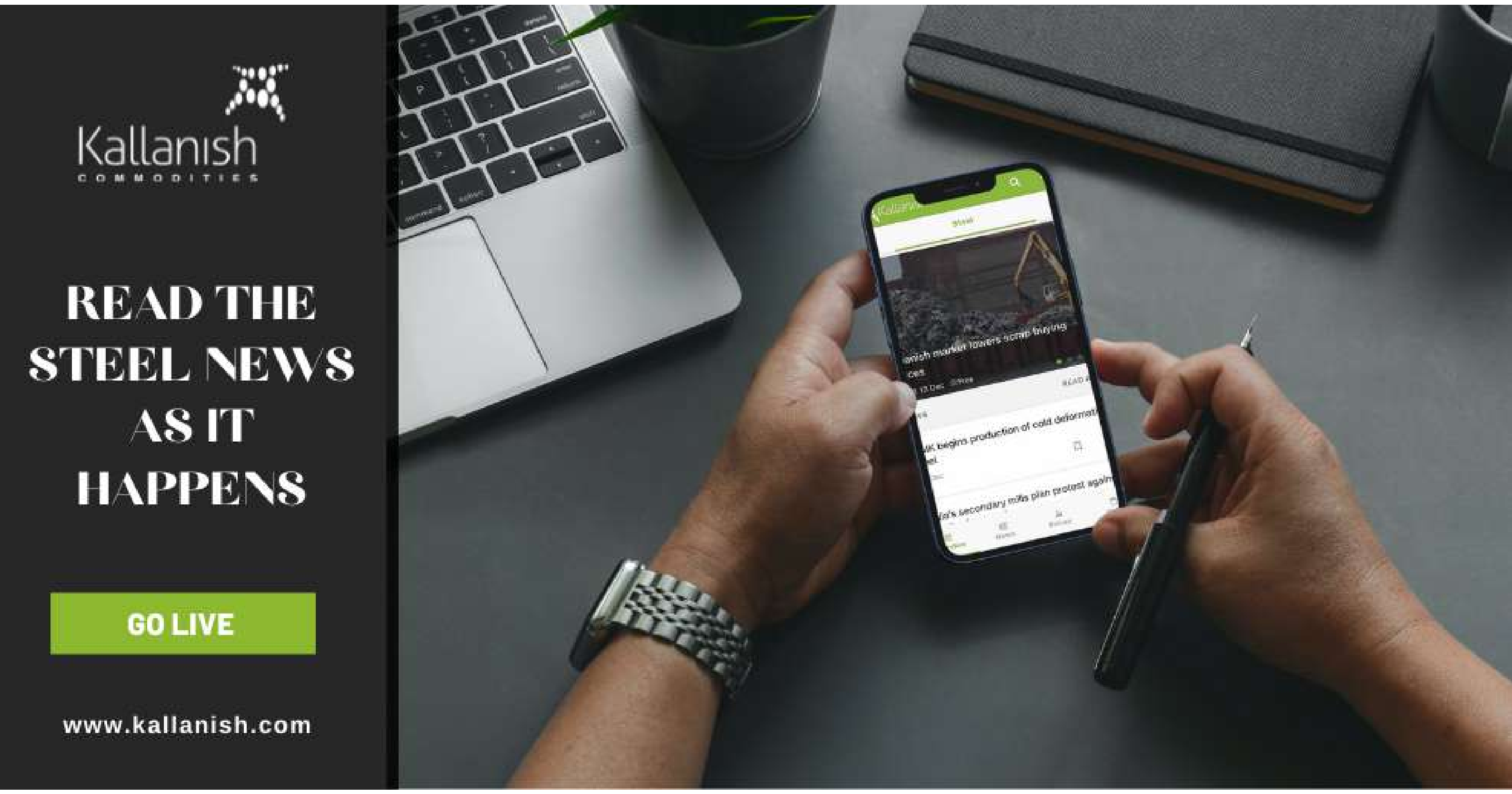
China's domestic scrap prices have not been as volatile as iron ore. Although prices increased over March to mid-April, the increase was limited by low utilisation at EAFs. The subsequent decline in prices was also more modest, as lockdowns have also severely impacted collection. EAFs are able to react to lockdowns and fluctuating demand with much greater flexibility than blast furnace producers. With China so keen to stimulate production however, there may still be an incentive to overproduce, which may continue to support scrap prices. 6mm+ heavy scrap delivered to mills in the Yangtze River Delta closed April at CNY 3,894/t, up CNY 66/t from the end of March, but down CNY 55/t lower than a peak on 19 April.

International scrap prices meanwhile have come off recent highs. Chinese import prices have moved less dramatically than prices to Turkey, but nevertheless followed the trend. At the end of April, HRS101 scrap prices were $590-600/t cfr China, down from $640/t cfr at the end of March.

TABLE 4. RAW MATERIALS PRICES

	2021	y-o-y	Mar-22	Apr-22	M-o-m	Y-o-y
KORE 62% Fe iron ore ($/dmt)	159	71.4%	150	153	2.4%	-12.5%
KORE 65% Fe iron ore	185	76.9%	179	177	-0.9%	-14.4%
KORE 58% Fe iron ore	136	62.3%	130	136	4.5%	-12.9%
Yangtze delta heavy scrap	3,526	34.2%	3,721	3,916	5.3%	13.3%

Source: Kallanish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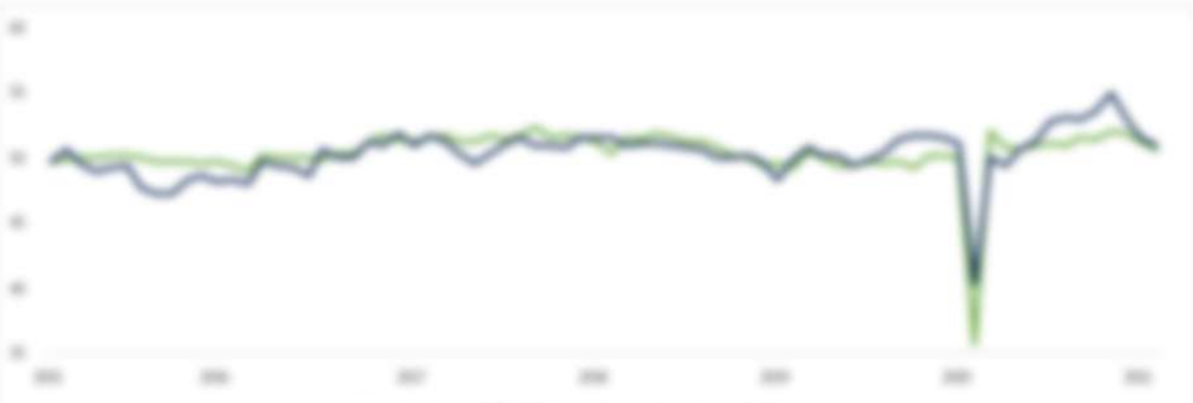
Steel Data:	Dec	Jan	Feb	Mar
Crude steel production	86.19	82.99	74.98	88.30
Steel exports	5.06	4.61	3.62	4.95
Steel imports	2.17	2.27	1.60	1.87
Apparent steel consumption	79.02	76.53	69.22	80.84
Calculated real demand	86.45	67.34	40.81	83.17

INFLATION

Source: NBS

Macro data:	Dec	Jan	Feb	Mar
Manufacturing PMI (NBS)	50.30	50.10	50.20	49.50
Manufacturing PMI (Caixin)	50.90	49.10	50.40	48.10
CPI	1.50%	0.90%	0.90%	1.50%
PPI	10.30%	9.10%	8.80%	8.30%
FAI (CNY trillion)	54.45		5.08	10.49
Industrial Value-added	4.30%		7.50%	5.00%

MANUFACTURING PMIS



Source: NBS, Caixin

Downstream data:	Dec	Jan	Feb	Mar
Real estate investment *	14,760	14,760	1,450	2,777
New Construction starts ytd**	1,989	1,989	150	298
Completed construction ytd**	1,014	1,014	122	169
Real estate sales ytd**	1,794	1,794	157	310

*CNY billion) **million square metres

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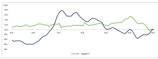

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