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Steel Market developments: Q2 2024

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Executive summary

Despite a reduction in steelmaking capacity and steel production in the People's Republic of China (hereafter China) in 2023, Chinese steel product exports increased by a hooping 39.5%, in stark contrast with other economies. Chinese export increased the most for flat products, a potential consequence of both the "high quality development" goal of the Chinese government for its steel industry and of its significant support measures and subsidies, as well as of domestic demand for long products from government infrastructure projects. Chinese exports will continue to maintain downward pressure on global steel prices, despite the sharp rise of steel raw material prices and coking coal prices, which is pushing steel firms' margins close to historical lows. The significant and persistent lower prices for steel products in China and in ASEAN economies are expected to continue going forward: ASEAN is expected to remain the fastest growing region in terms of crude steel production capacity, with 75% of the region's planned capacity expansion related to investments by Chinese companies. The persistent price differences of steel products across regions may be due to structurally higher costs for producing steel in some jurisdictions (access to energy, regulatory and environmental compliance costs, labour costs, and raw materials costs), different levels of continued government support, as well as unfair trade practices.

The report provides an overview of recent steel market developments, focussing on steel demand, supply, and prices during the second semester of 2023, with reflections on the outlook for steel markets going forward. It also includes a section on the pivotal role of the central government in transitioning China's steel sector towards climbing up the value chain, and another section that explores the critical role of provincial governments in China in implementing national steel industry strategies.

Key findings are:

- **World crude steel production was 1.6% lower in January 2024 than one year ago**. This overall decrease was led by China (-6.9%), which dragged the Asia and Oceania region (-3.6%) and the rest of the world but was mitigated by sharp increases in crude steel production in Other Europe (+22.5%) – mainly in the Republic of Türkiye (hereafter, "Türkiye") and Norway – and the Middle-East (+23.1%).
- **World crude steelmaking capacity in 2023 is now estimated at 2 432 million metric tonnes (mmt) and steel excess capacity has become increasingly problematic over the years.** In 2023 global capacity decreased slightly due to a marginal global capacity decline in China and Japan. Nevertheless, 60% of decommissioned capacity in China was replaced with new capacity, and exporting of steel excess capacity may explain why in ASEAN, Indonesia increased capacity by a hooping 49.1%, (+7.8 mmt) and Viet Nam by 25.6% (+5.3 mmt) since 2018. At those rates of increase, those jurisdictions are poised to become significant exporters of steel over the next few years, especially in case of a downturn in their domestic steel demand. Going forward ASEAN is expected to be the fastest growing region in terms of crude steel production capacity, and 75% of its planned capacity expansion is related to investments by Chinese companies, either cross-border investments or joint venture (JV) investments.
- **In 2023, global steel exports increased significantly, rising from 272 mmt to 282 mmt (+3.3%) when compared to 2022.** Yet the surge in global steel exports is primarily driven by China, which increased its exports by 39.5% in 2023, while many

other major steelmaking economies have exhibited weaker steel export performance. Chinese exports are approaching the peak levels witnessed in 2016, a year marked by a severe excess capacity crisis in the steel industry. The composition of these exports is also revealing: the share and the total amount of the higher value steel products (which often fall under the broad "flat products"[1]) have increased significantly (+39.4%). This increase is consistent with China's goals to continue climbing up the value chain and follows years of sustained government subsidisation to the Chinese steel industry for this specific purpose. Long products exports, on the contrary, decelerated, probably due to China's own domestic demand for long products due to infrastructure construction.

- **The Chinese government has provided financial incentives such as tax benefits, grants, and research funding since 2006 to facilitate the transition of the steel industry into "high-quality development."** This initiative aims to encourage technological upgrades and the production of value-added steel products. **Chinese provincial governments play a pivotal role in implementing national steel industry strategies, each adapting to their unique regional characteristics.** This has led to a dynamic landscape of policy execution, impacting the industry's competitiveness and sustainability. The provinces exhibit varying degrees of development in addressing issues such as excess capacity, high energy usage, and slow decarbonisation progress. Their strategies are also tailored to local needs, focusing on specialised steel segments, and leveraging unique regional advantages.
- **Steel prices have remained relatively stable since June 2023, whereas raw material and energy prices have increased significantly**. The sharpest increase was for international coking coal prices, which increased 50% since June 2023. Scrap prices also increased significantly (+10%), pointing towards a potential scarcity of affordable scrap going forward. Iron ore prices also increased significantly (+8.5%). Consequently, steel firms' margins have been squeezed and are close to their historical lows. Furthermore, a large and close to all-time-high dispersion in steel products' prices across jurisdictions remains, with high prices in the US, Japan and Europe contrasting with lower prices in China and the South-East Asia region.
- **The global steel market is expected to recover to a 1.8% growth in 2023, reaching 1,814.5 mmt, following a 3.3% contraction in 2022**. This growth is projected to continue into 2024, with an additional increase of 1.9% to 1,849.1 mmt, yet the recovery is set to be slow in advanced economies due to high inflation and elevated interest rates. Emerging economies are anticipated to grow at a faster pace.

1. The OECD economic outlook

Growth is expected to be 3.1% in 2023 and to decrease slightly to 2.9% in 2024, mainly driven by Asian economies such as China, India and Indonesia. Despite some significant inflation rate decline and lower energy prices, prices for producers and consumers alike remain elevated and growing still at a much quicker pace than central banks' targets, which weighs on households' consumption of discretionary items as well as damages entrepreneurs' margins. Public debt levels are still at war-times levels for many OECD economies and not on a sustainable trajectory, with interest rates paid by governments expected to rise higher. High government debt interest burden could further weigh on growth in those economies.

The estimates provided in the rest of this section are taken from the OECD's November 2023 Economic Outlook. Further information on the general economic situation as well as specific topics can be accessed through the OECD webpage[2].

1.1. Global prospects

Global GDP growth will remain modest and come mainly from major Asian economies. According to the OECD's November 2023 Economic Outlook, GDP rose by an estimated 3.1% in 2023 and is projected to decrease slightly in 2024 to about 2.9%, before increasing slightly to 3% in 2025. More restrictive monetary policies in most jurisdictions helped to contain aggregate demand, especially for rate-sensitive consumption and real estate, which, coupled with an easing of supply bottlenecks and a decrease in energy prices in 2023, reduced both headline and core inflation. Nevertheless, as some of the factors assisting disinflation over the past year are now dissipating or reversing, while others are vulnerable to geopolitics or unpredictable events, it is too early to confirm whether the above-the-average inflationary episode that began in 2021 is over. Recent moderate growth is expected to continue despite higher interest rates. There is strong momentum in India, and growth in the near-term for most other major economies, but persistent weakness in Europe in the face of persistent inflation and still high energy prices. Public debt levels are generally higher than before the COVID pandemic, and in many countries at levels relative to GDP witnessed only in wartime. Governments have yet to adopt sustainable and credible fiscal plans that balance intergenerational needs and prepare economies for the future. Table 1 below presents the expected GDP growth, according to the OECD's November 2023 Economic Outlook[3].

Furthermore, public finances are on a worrisome path for most OECD economies. Only modest fiscal consolidation is expected to happen in 2024-25, while the projected increase in overall debt as well as in government borrowing rates will weigh on public finance by increasing debt payments. An increase in government debt burdens typically weigh on growth, as governments resort to further growth-damaging taxation to be able to make repayments.

Table 1. The OECD economic projections (November 2023)

	2020	2021	2022	2023	2024	2025
World [1]	-3.0	6.3	3.3	2.9	2.7	2.7
United States	-2.2	5.8	1.9	2.4	1.5	1.5
Euro area	-6.2	5.9	3.4	0.6	0.9	0.9
Germany	-4.2	3.1	1.9	-0.1	0.6	0.6
France	-7.7	6.4	2.5	0.9	0.8	0.8
Italy	-9.0	8.3	3.9	0.7	0.7	0.7
Spain	-11.2	6.4	5.8	2.4	1.4	1.4
Japan	-4.2	2.2	0.9	1.7	1.0	1.0
United Kingdom	-10.4	8.7	4.3	0.5	0.7	0.7
Mexico	-8.7	5.8	3.9	3.4	2.5	2.5
Korea	-0.7	4.3	2.6	1.4	2.3	2.3
Canada	-5.1	5.0	3.4	1.2	0.8	0.8
Türkiye	1.9	11.4	5.5	4.5	2.9	2.9
Australia	-1.9	5.2	3.7	1.9	1.4	1.4
China (People's Republic of)	2.2	8.4	3.0	5.2	4.7	4.7
India [2]	-5.8	9.1	7.2	6.3	6.1	6.1
Russia	-2.6	5.6	-2.0	1.3	1.1	1.1
Brazil	-3.6	5.3	3.0	3.0	1.8	1.8
Indonesia	-2.1	3.7	5.3	4.9	5.2	5.2
South Africa	0.3	-6.3	4.9	2.0	0.3	1.0
OECD [1]	-4.2	5.9	2.9	1.7	1.4	1.4
Non-OECD [1]	-2.0	6.6	3.6	4.0	3.8	3.8
World real GDP growth	-3.0	6.3	3.3	2.9	2.7	2.7

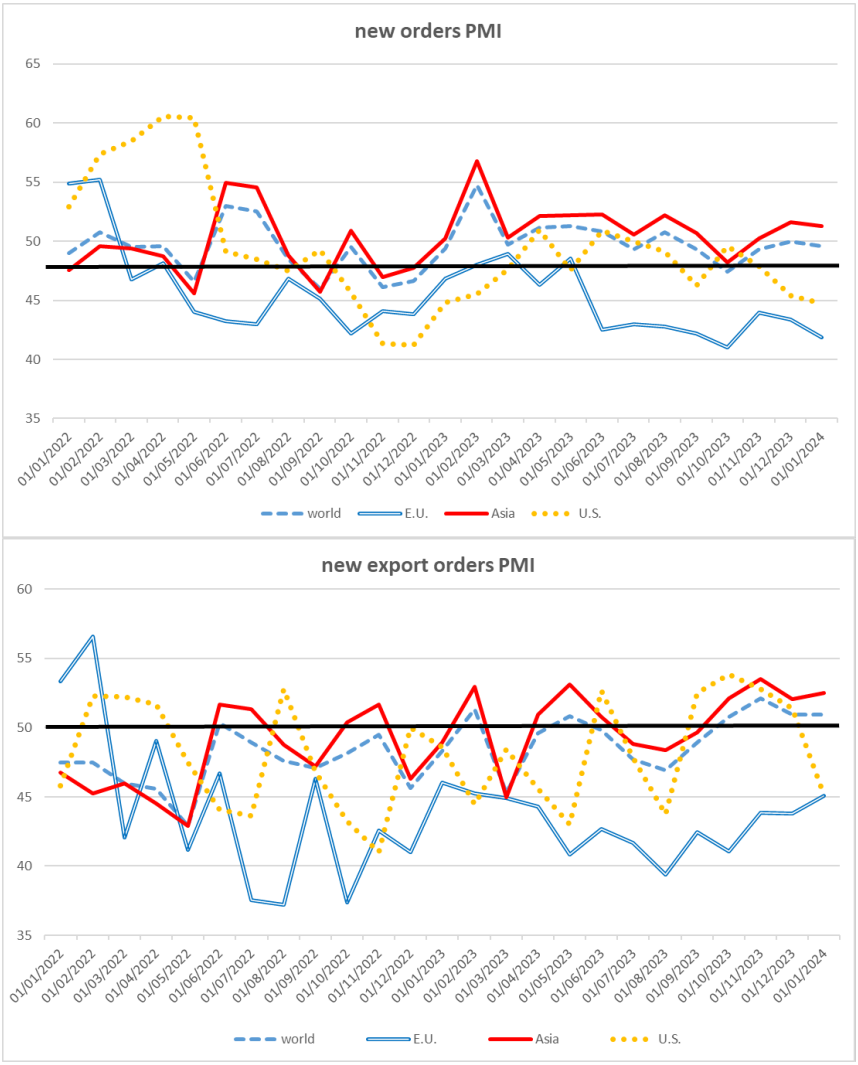
Note: 1. Moving nominal GDP weights using **purchasing power parities**. 2. Fiscal years starting in April
Source: OECD Economic Outlook, November 2023, available at: http://www.oecd.org/eco/outlook/economic-outlook

1.1.1. Manufacturing indices

Manufacturing activity expectations indices provide a picture of the aggregate expectations, from purchasing managers of companies worldwide, of future purchases of steel-intensive products. To the extent purchasing managers are correct in their expectations, those indices signal a large divergence in the future purchases of steel across regions. The IHS-Markit indices for new orders and new export orders of steel-intensive sectors, two forward-looking sub-indices of the broad Markit's Purchasing Managers' Index (PMI), are depicted in Figure 1. The indices offer a very contrasting view of the situation in Asia, on one side, and the situation in the US and the European Union, on the other. Indices indicate that purchasing managers of steel-intensive products expect a contraction in the European Union and in the US, whereas purchasing managers expect an expansion in Asia – both for new orders and new export orders (Figure 1). The differences between the two groups are at an all-time high despite the real estate downturn in China. The apparition of two largely diverging groups of jurisdictions pointed out in the previous edition of the market paper series, seems to be confirmed, this time at the level of the expectations of purchasing managers of steel-intensive products.

Figure 1. Markit Purchasing Managers' Indices: new orders and new export orders among Steel-Intensive Sectors

Latest data point: January 2024



Note: An index reading of less than 50 indicates that more purchasing managers expect a decrease over the upcoming month compared to the current month than an increase
Source: Markit economics, via LSEG.

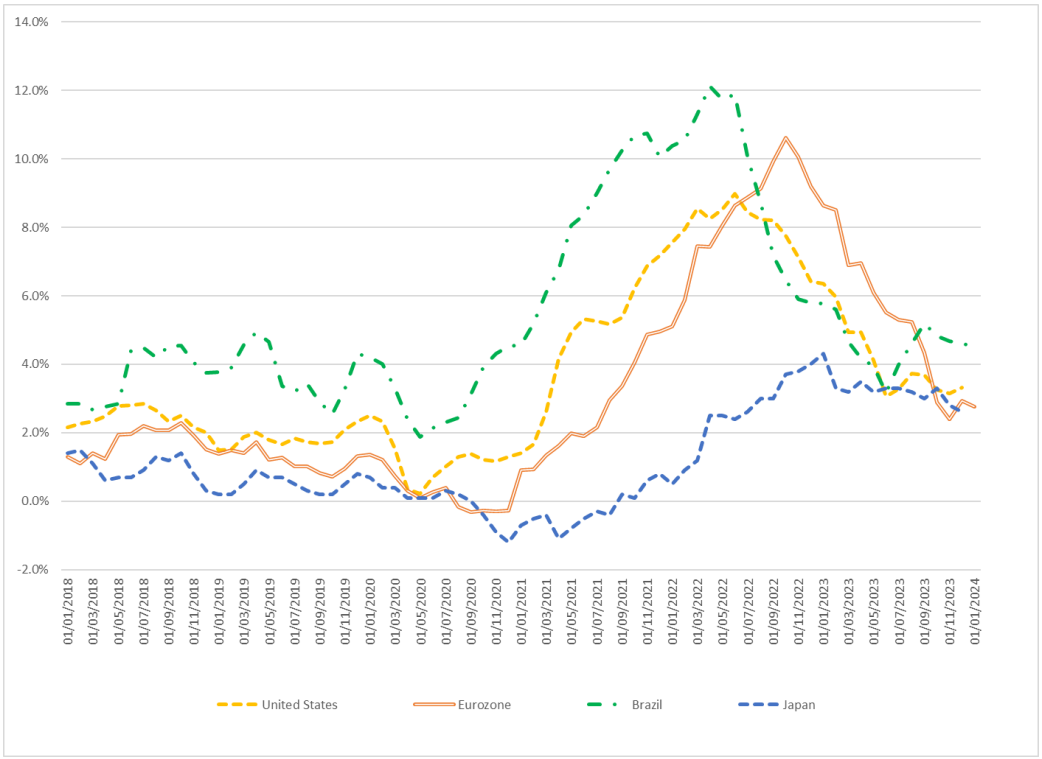
1.1.2. Higher prices will continue to weigh on demand, including steel demand for appliance, for the foreseeable future.

A downside risk to the manufacturing sector, but also to the general economy, has consistently been the higher and higher prices paid by households in most economies for their purchases, especially for food products and energy. Higher prices for those two essential items usually result in a reduction and/or postponement of household discretionary spending, particularly on discretionary products for which steel is often a major component: electronic appliances and household equipment, automobiles, etc. Lower sales, in turn, dampen corporate investments in the machinery required to make those goods, which further reduces steel demand.

Consumer price indices are represented for a few selected jurisdictions in Figure 2. It shows that although consumer prices have decelerated in most jurisdictions, consumption prices continue to grow at a much higher pace than central banks targets - sometimes at a pace multiple times that of the central banks' targets. Furthermore, there is no intention from any central bank to ever reduce the rate of price increase sufficiently as to mitigate, on average, price increases that have already occurred (no inflation averaging)[4]. Hence even in the best-case scenario where inflation would fall to the central banks' targets, prices paid by households on essential items will still be higher than prices paid before the above-target inflation increases.

Figure 2. Consumer price inflation has slowed down but remains at elevated levels

Consumer Price Indices (CPI) percentage increase, year-on-year, for selected economies

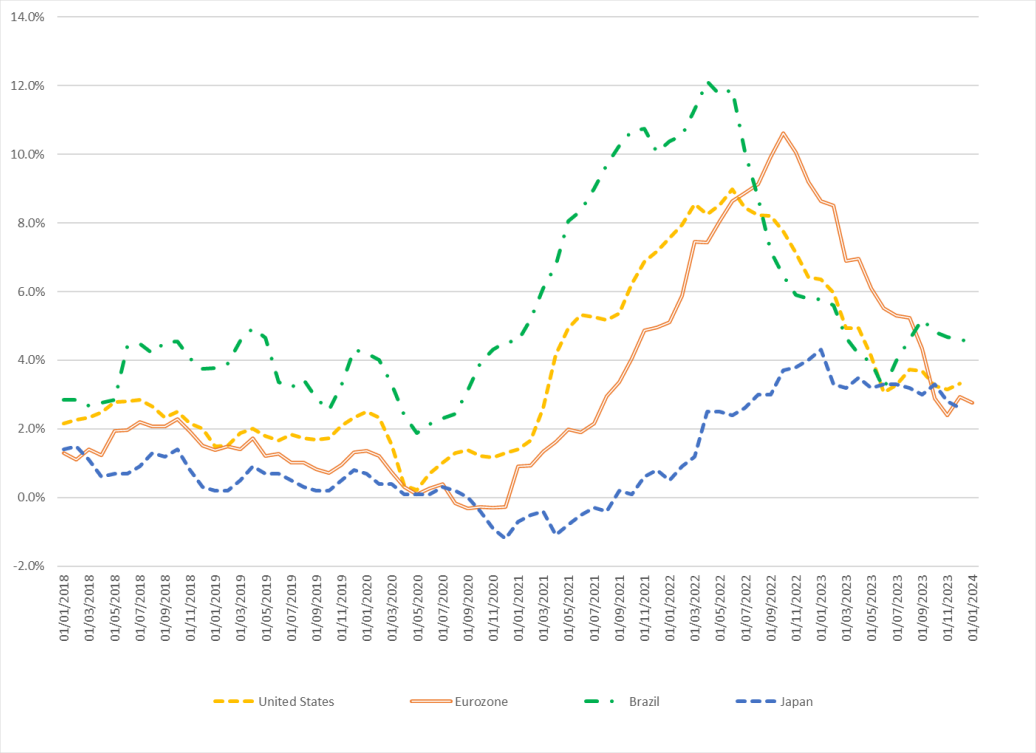


Source: LSEG

Producer prices indices have followed a similar trajectory and remain at higher levels than prior to the 2021 price increase (Figure 3). Higher producer prices would thus continue to feed into higher consumer prices.

Figure 3. Producer price inflation has decreased since its peak but remains at elevated levels

Producer Price Indices (PPI), indices, for a few selected economies



Source: LSEG.

1.2. Regional prospects

In the euro area, GDP grew a meagre 0.1% quarter on quarter during the third quarter of 2023, and is estimated to be about 0.6% for the year 2023. Growth is projected to increase gradually, to 0.9%, in 2024, and to 1.5% in 2024. High energy costs caused by the war of aggression against Ukraine led by the Russian Federation (hereafter "Russia") have impacted most energy-intensive industries and weighted on euro area growth, leading to calls for industrial energy subsidies in the euro area. Consumer price inflation was 5.5% in 2023 and will continue to weigh on incomes and private consumption. High uncertainty and tighter financing conditions may hold back private investment, yet the additional spending under the Next Generation European Union programme is expected to partly offset this.

In the United States, GDP is expected to grow by 2.4% in 2023, 1.5% in 2024, and 1.7% in 2025. Federal funds rates in the 5% to 5.5% range are expected to continue given the anticipated persistence of core inflation due to pressure on housing and service costs, which will continue to weigh on economic growth. Fiscal policy is expected to become restrictive in 2024 after an unexpected expansion in 2023. A downside risk to the US economy would be larger risks than anticipated materialising from financial vulnerabilities unveiled by the rise of borrowing costs to levels more in line with historical levels.

In Canada, GDP growth is expected to 0.8% in 2024, reflecting slowing domestic demand in the wake of higher borrowing costs and weakening exports, before recovering to 1.9% in 2025 as improved global conditions strengthen exports. Immigration will continue to boost private spending and labour supply. Price pressures will ebb in the face of slowing

demand and rising unemployment. Were unemployment to rise faster than expected, there could be a substantial fall off in households' consumption demand and a deeper downturn.

In Japan, GDP is projected at 1.0% in 2024 and 1.2% in 2025, sustained by a robust internal demand due to pent-up demand and stronger wage growth. Government subsidies for green and technological investment in a new economic package should help maintain business investment despite higher uncertainty. The package also contains medium-term investment measures in several other areas such as economic security, education, and cash hand-outs to low-income households as well as broader cuts to income and residential taxes. Public debt has risen to 246% of GDP in 2022 and would continue to rise. The yen's depreciation and the consequent rise in energy prices are a key factor of uncertainty. Key downside risks include a further monetary tightening abroad that would increase the downward pressure on the yen, a weaker than expected demand from China, and further supply-chain disruptions due to geopolitical tensions.

In China, GDP growth is expected to increase to 5.2% in 2023 before slowing down to 4.7% in 2024 and 2025. Consumption growth will likely remain subdued due to higher household precautionary savings in the face of heightened uncertainty and gloomier employment creation prospects. The ongoing adjustment in the real estate sector is continuing, exerting downward pressure on investment and continued financial stress. Lower mortgage costs as well as the government relaxation of some demand-side restrictions is nevertheless expected to help mitigate decreases in sales. Excessive indebtedness of local investment vehicles constrains the delivery of urban infrastructure projects. Nevertheless, there are some expectations that infrastructure investment will pick up, as the debt and financing issues of investment vehicles at the local level are tackled, and due to high needs arising from the green transition, urban village redevelopment, and other environmental and social targets of the government (Box 1). Export growth will remain weak amid sluggish global growth. A deeper correction in the real estate market sector is a key risk to the outlook of the Chinese economy. Nevertheless, by moving up the value chain, with respect to the scope of steel products as well as steel-consuming downstream sectors (Section 4), China is decreasing its reliance on imported parts and components and thus, even amid weak foreign demand, can maintain its high current account surplus.

Box 1. Chinese infrastructure investment is expected to rise because of needs arising from the green transition, urban village redevelopment, and other environmental and social government targets.

China's approach to infrastructure investment, particularly with a focus on green transition, urban village redevelopment, and achieving environmental and social targets, is aligned with its broader strategic objectives for sustainable development and urbanisation. These targets are part of a long-term vision to balance economic growth with environmental sustainability and social equity. While some of these goals may not be entirely new, their emphasis and integration into national planning have evolved over time, reflecting the government's shifting priorities towards greener and more inclusive development models.

- **Green Transition**: China's commitment to the green transition is laid down in its "14th Five-Year Plan" (2021-2025) and its long-term goals for 2035. The plan emphasises the importance of accelerating the green and low-carbon transition, including significant investments in renewable energy sources,

electric vehicle infrastructure, and energy efficiency improvements across industries. China's pledge to peak carbon emissions before 2030 and achieve carbon neutrality by 2060 (the "Dual Carbon" goals) further illustrates the country's ambition to support sustainable infrastructure projects that align with these targets (Gov.cn, 2021[1]).

- **Urban Village Redevelopment**: The redevelopment of urban villages is part of China's efforts to improve urban living conditions and integrate marginalised communities into the urban fabric. This initiative is not entirely new but has gained renewed focus in recent years as the government seeks to address urban sprawl, housing affordability, and social disparities. Investments in this area typically include upgrading housing, public services, and transportation infrastructure to foster more liveable and sustainable urban environments (Gov.cn, 2021[1]).
- **Environmental and Social Targets**: China has set various environmental and social targets aimed at addressing pollution, enhancing biodiversity, and improving public health and welfare. These targets are integrated into national and local government planning documents, guiding infrastructure investments in water management, waste treatment, public transportation, and green spaces (Gov.cn, 2021[1]).

In India, real GDP growth is expected to be 6.3% in the Fiscal Year (FY) 2022-23 and 6.1% in FY 2024-25 according to the OECD's November 2023 Economic Outlook. Some projections are even higher. The Indian National Statistical Office projects a GDP growth rate of 7.3% for India for the fiscal year 2023-24.[5] Services exports, public investment and private consumption are the main drivers of growth. Employment is increasing, including for women in rural areas. Robust growth in infrastructure and in the housing sector, along with the overall economic expansion, is expected to support demand for steel in the foreseeable future. To meet its domestic demand, India was a net importer of steel in FY 2023-24. Monetary policy is successfully containing inflationary pressures, and headline inflation has dropped below the upper threshold of the central's bank 2-6% target range in September. Fiscal consolidation remains a priority, even though the government fiscal balance has shown signs of improvement recently. Downside risks include a below-average monsoon, heightened global uncertainty, the potential delayed effects of tighter monetary policy that may reduce corporate investment more significantly than anticipated, and portfolio capital outflows that may impact the exchange rate and result in higher inflation. On the upside, the impact on energy consumption of India's Lifestyle for Environment (LiFE) initiative, which is a global call to action for individuals, communities, and organisations to adopt more sustainable lifestyles[6], could be substantial. To the extent that the LiFE initiative manages to push the Indian economy towards renewable energy sources, such as solar and wind power, it could have a sizeable indirect effect in increasing steel demand[7] as well as boosting GDP growth. Moderating inflation and monetary policy easing in the second half of 2024, as well as improved global conditions, should increase GDP growth to 7% in real in FY 2024-25. High inflation, in particular for energy and food, and the ensuing monetary tightening to anchor expectations, are weighing on purchasing power and household consumption, particularly in urban areas. Tighter financial market conditions are reflected in weakening credit-supported demand for capital goods and business investments. India was also impacted by higher energy costs: the merchandise trade deficit was 40% larger in FY 2022-23 than in FY 2021-22, with trade in petroleum accounting for over two-fifths of the deterioration.

In Brazil, real GDP is projected to grow by 3.0% in 2023, 1.8% in 2024 and 2.0% in 2025. Economic activity rebounded strongly in the first half of 2023 driven by an exceptional agriculture harvest and a household consumption that proved resilient in the face of tight financial conditions. Indeed, household consumption is benefitting from buoyant employment growth, declining inflation, and higher social transfers. Though commodity prices are declining, agricultural products are driving an expansion of exports. Fiscal policy remains expansionary, but a gradual consolidation is expected in 2024 to achieve the 1% of GDP primary surplus target required by the new fiscal framework, which will help to restore confidence. Furthermore, strong infrastructure investment and the planned adoption of a unified value-added tax should boost growth.

2. Steel production

World crude steel production was 1.6% lower in January 2024 than one year before. This overall decrease was led by China (-6.9%), which dragged the Asia and Oceania region (-3.6%) and the rest of the world, but was mitigated by sharp increases in crude steel production in Other Europe (+22.5%), mainly Türkiye and Norway, and the Middle-East (+23.1%).

Table 2. World crude steel production developments

	Jan-24		Jul-Dec 2023	
	% change, y-o-y	level, million tones	% change, y-o-y	level, thousands tones
Asia and Oceania	-3.6%	107.6	1.4%	657 437
of which China:	-6.9%	77.2	-0.5%	481 950
Russia	1.2%	6.2	9.9%	38 088
European Union	-1.8%	10.2	-3.3%	59 791
Other Europe	22.5%	3.9	6.7%	21 503
Middle East	23.1%	4.7	18.0%	26 437
North America	-2.1%	9.2	0.1%	54 580
South America	-6.3%	3.4	-2.8%	20 864
World	-1.6%	148.1	2.4%	896 676

Note: Data are based on monthly production data and can differ from annual data published after December of each year. Furthermore, monthly production data can be revised at any time.
Source: worldsteel data, as released on 23 February 2024, https://worldsteel.org/steel-topics/statistics/steel-data-viewer/

2.1. Asia and Oceania

Steel production in Asia decreased by 4% year-on-year in January 2024, dragged by the decrease in steel production in China (-7%). China's continued steel production in the face of weak end-user demand during the first months of the year 2023 led to a general rise in steel inventories in China since the start of July 2023 for all steel products (Zhang, 2023[2]), which is probably currently pushing towards more production cuts now. In the second semester of 2023, crude steel production in Asia increased by 1.4% year-on-year, despite Chinese steel production falling by 0.5%, due to strong numbers from India and Viet Nam.

India increased its steel production by a robust 7% year-on-year in January 2024 and 15.6% in the second semester of 2023, year-on-year, due to strong domestic demand, linked to an uptick in infrastructure spending and a pick-up in the real estate and construction activities amid an overall economic revival (Anand, 2023[3]). Steel production in Korea increased more moderately (+2%).

Viet Nam experienced an astounding +39% increase year-on-year in January 2024, and 17% in the second semester of 2023, year-on-year. Chinese Taipei (+13%) and Japan (+1%) also experienced increases in January (+13% and 1% respectively), but saw their steel production decline or stay stable in the second semester of 2023, year-on-year (-3% and -0.2% respectively)

2.2. Americas

In North America, total crude steel production decreased by about 2% year-on-year in January 2024 mainly driven by the fall in production in Mexico (-12%) whereas production was roughly unchanged in the United States. Canada’s steel production registered a small

increase in January 2024 (+1%). In the second semester of 2023, crude steel production in North America was stable year-on-year (+0.1%), increasing in the US (+2.4%), and Canada (+0.8%), but decreasing in Mexico (-10%).

In South America, steel production also decreased, falling by 6% year-on-year in January 2024. Production decreases were led by Brazil (-7%), which accounts for the majority of the steel produced in South America, and Argentina (-8%). In the second semester of 2023, crude steel production in South America decreased by 2.5% year-on-year, with Brazil decreasing by 3.3%, Venezuela by 6%, and Argentina falling the most (-11.7%)

2.3. Europe and CIS Economies

In the European Union, steel production fell by 2% year-on-year in January 2024 and 3.3% year-on-year in the second semester of 2023. The decrease was led by Germany (-1% in January and -2% in the second semester of 2023, year-on-year) due to its size in terms of steel production, but also in France (+1% in January but -3.1% in the second semester of 2023, year-on-year), and mitigated by Spain (+18% in January and 7.8% in the second semester of 2023, year-on-year), and Italy (+6% in January and 2.7% in the second semester of 2023, year-on-year).

2.4. Africa and the Middle East

African steel production increased by 16% year-on-year in January 2024, driven by a rebound in steel production in South Africa (+25%) after months of decreases, and in Egypt (+21%) where steel production started to pick up again. In the second semester of 2023, crude steel production in South Africa increased by 7.5% year-on-year, while Egypt increased by 11.2%.

According to World Steel Dynamic, African crude steel production is expected to increase by 7.7% to 5.6 mmt in 2023 and remain stagnant in 2024 (World Steel Dynamics, 2024[43]).

In 2023, South Africa's crude steel production rose by 10.7% to 4.87 mmt from 4.4 mmt in 2022, highlighting a growth in production amidst declining demand, which has fallen by a third over the last twenty years. The construction sector, particularly, is experiencing significant setbacks, with a 13.8% decline overall. This downturn is more pronounced in the residential sector, which saw a 19.1% decrease, while non-residential construction fell by 3.6%, indicating broad challenges across the building industry (South African Iron and Steel Institute, 2024[61]).

Zimbabwe is on the verge of becoming Africa's largest steel producer with the construction of a multi-billion steel plant in Manhize by Dinson Iron and Steel Company, a Tsingshan Holdings subsidiary. The new steel plant in will have an initial focus on producing 600,000 tons of carbon steel per year (The Herald, 2024[62]) (SABC News, 2022[63]).

In the Middle East, steel production increased by 23% year-on-year in January 2024 and 20% in the second semester of 2023, year-on-year. The increase in January was significant for Iran (+39% in January), although in the second semester of 2023, Iranian steel production was stable, at historically high levels. The Iranian steel sector, although plagued by low domestic demand, a depreciating local currency, and subdued demand in its largest export market, China, has government-set production targets and benefits from significant government support to achieve those targets. Steel production also increased in all the other jurisdictions in the region with Saudi Arabia, the United Arab Emirates, and Qatar increasing their crude steel production by 13%, 22.3% and 7.7% respectively in the second semester of 2023, year-on-year.

Iran maintained its position as the world's 10th largest steel producer. In the first 10 months of 2023, it produced 25.1 mmt of crude steel, marking a slight decrease of 0.1% from the previous year. Amid challenges like U.S. sanctions and the pandemic, Iran aims to become the 7th largest steel producer by March 2025 (Tehran Times, 2023[66]).

3. Steelmaking capacity

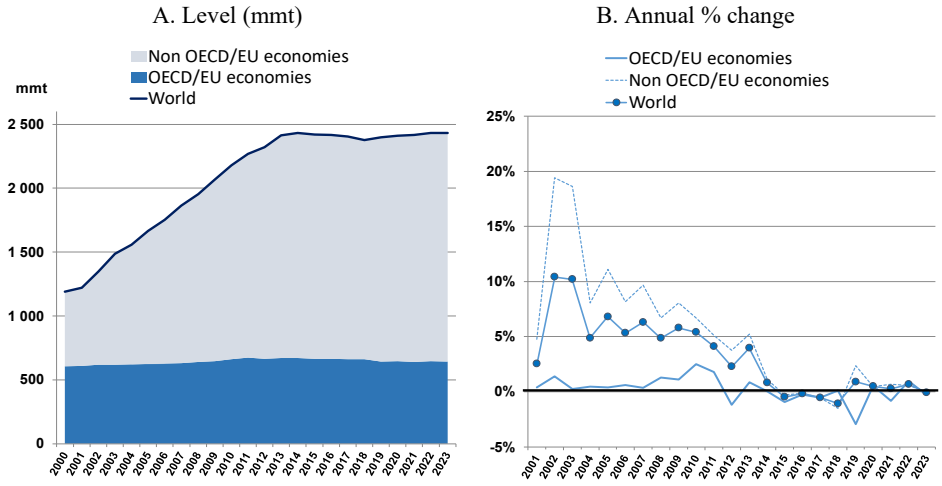
World crude steelmaking capacity in 2023 is now estimated at 2 432 mmt and steel excess capacity has become increasingly problematic over the years. In 2023 global capacity decreased slightly due to a marginal global capacity decline in China and Japan. Nevertheless, 60% of decommissioned capacity in China was replaced with new plants, and exporting of steel excess capacity may explain why in ASEAN, Indonesia increased capacity by a hooping 49.1%, (+7.8 mmt) and Viet Nam by 25.6% (+5.3 mmt). At those rates of increase, those jurisdictions are poised to become significant exporters of steel over the next few years, especially in case of a downturn in their domestic steel demand. Going forward ASEAN is expected to be the fastest growing region in terms of crude steel production capacity, and 74.6% of its planned capacity expansion is related to investments by Chinese companies, either cross-border investments or joint venture (JV) investments.

3.1. Global summary

Global steel market conditions remain challenging, especially given the expected sustained sluggish demand growth (Section 7). According to the Secretariat's latest available information on capacity (as of end-December 2023), global steelmaking capacity remained high at 2,432.0 million metric tonnes in 2023, a level that exceeded global demand by almost 500 mmt. At this level, global excess capacity exceeded the level of global steel exports (282 mmt) by almost 80% in 2023.

To summarise recent developments, after several years of gradual decline following the previous capacity peak of 2014, global crude steelmaking capacity started to increase in 2019, with growth continuing until 2022, and then stabilising at 2,432.07 mmt in 2023 (Figure 4). These data represent net increases, as noted above, rather than gross increases, and thus take into account the latest information on new capacity additions and closures.

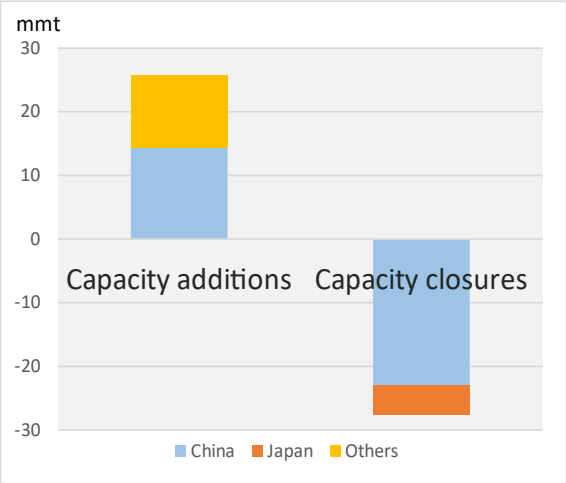
Figure 4. Evolution of crude steelmaking capacity in OECD and non-OECD economies



Note: Capacity data are in net terms (taking into account capacity additions and closures) and reflect information available up to December 2023.
Source: OECD

Figure 5 shows the capacity additions and closures in 2023. As shown in the figure, there was a marginal global capacity decline in net terms that year, as China and Japan implemented a significant number of closures that exceeded gross additions in China and elsewhere. However, the global net reduction is only marginal, as China added new capacity that amounted to around 60% of its reductions.

Figure 5. Steelmaking capacity additions and closures in 2023



Source: OECD

3.2. Regional capacity developments

Regional developments since 2018, when steelmaking capacity temporarily bottomed as the work of the Global Forum on Steel Excess Capacity accelerated, show some important trends.

Table 3 shows that between 2018 and 2023, world steelmaking capacity increased by 54.0 mmt (+2.3%) to 2 432.0 mmt. The OECD region recorded a slight decrease of 16.8 mmt (-2.5%) to 644.4 mmt, while the non-OECD region recorded an increase of 70.9 mmt (+4.1%) to 1 787.5 mmt. As a result, the non-OECD region currently accounts for 73.5% of world capacity, a trend that has been increasing over the last two decades.

Looking at the growth rates by region, ASEAN (+18.8%, +13.1 mmt) and the Middle East (+25.6%, +19.1 mmt) contributed the most to the increase in capacity. China's capacity growth rate may be low, yet in terms of volume, it is comparable to that of the entire Middle East region.

In ASEAN, Indonesia (+49.1%, +7.8 mmt) and Viet Nam (+25.6%, +5.3 mmt) are the only economies in the region to increase capacity since 2018. Capacity growth in Indonesia in 2023 and beyond is expected to be driven by cross-border investment. Looking at trade data for steel export volumes, neither economy is ranked among the top 20 exporters in 2018. However, Indonesia and Viet Nam were ranked 15th and 18th respectively in 2022 and could become significant exporters if steel demand growth underperforms capacity growth over the next few years.

In the Middle East, Iran (+37.1%, +15.7 mmt) has added almost as much capacity over the last six years as Egypt, which has the largest capacity in Africa. Capacity expansion in Iran is expected to continue with 83 new projects planned for 2023 and beyond, the largest number in the world. Iraq (+83.4%, +2.2 mmt) is still small in terms of volume growth.

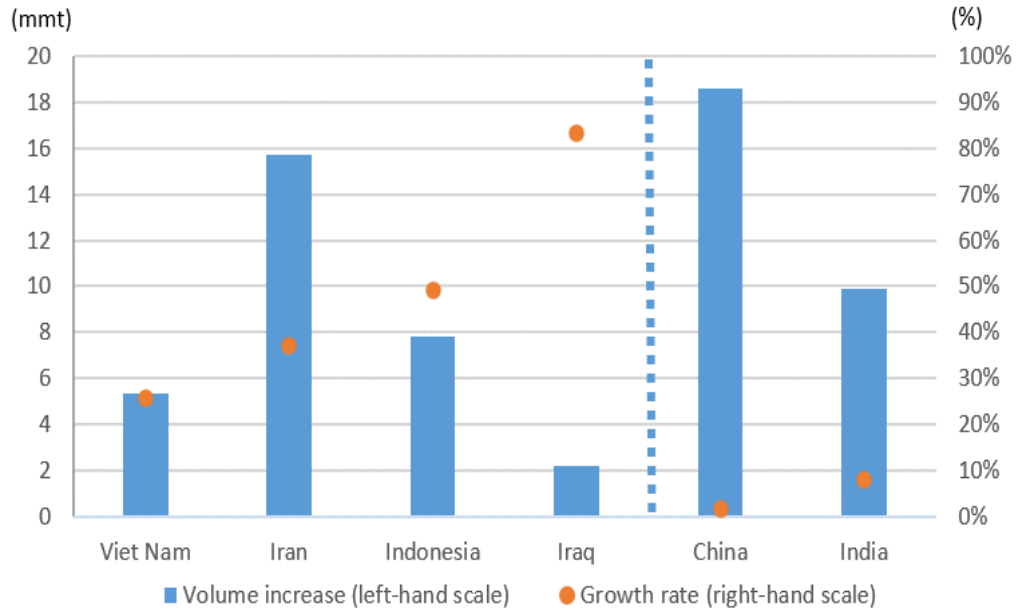
However, due to its higher growth rate than other economies in the region, Iraq now has the same capacity as the United Arab Emirates, the third largest economy in the region.

Table 3. Steelmaking capacity development by region (mmt)

	2018	2019	2020	2021	2022	2023	2018vs 2023(%)	2018vs 2023(volume)
Africa	43.3	44.6	44.7	43.5	45.8	46.9	8.3%	3.6
Asia	1,584.6	1,616.5	1,622.5	1622.6	1626.1	1618.7	2.1%	34.0
China	1,122.9	1,148.3	1,147.9	1146.5	1149.9	1141.5	1.7%	18.6
India	127.0	128.7	128.7	133.9	133.9	136.9	7.8%	9.9
ASEAN	69.8	74.6	78.7	80.4	80.4	82.9	18.8%	13.1
CIS	141.9	143.4	142.6	143.9	145.0	145.0	2.2%	3.1
Europe	295.3	279.6	279.7	280.3	281.5	283.7	-3.9%	-11.5
EU	218.7	208.2	205.6	205.6	205.6	205.7	-6.0%	-13.0
Other Europe	76.6	71.4	74.1	74.7	75.9	78.1	1.9%	1.5
Latin America	78.2	73.9	73.4	73.9	73.9	74.2	-5.1%	-4.0
Middle East	74.8	80.7	84.1	89.0	92.3	93.9	25.6%	19.1
North America	157.9	154.2	157.5	157.7	162.8	163.3	3.4%	5.4
Oceania	6.4	6.4	6.4	6.4	6.4	6.4	0.0%	0.0
OECD/EU economies Total	661.3	641.9	645.3	640.0	646.3	644.4	-2.5%	-16.8
non-OECD/EU economies Total	1,716.7	1,757.3	1,765.5	1777.3	1787.4	1787.5	4.1%	70.9
World Total	2,377.9	2,399.2	2,410.8	2417.4	2433.7	2432.0	2.3%	54.0

Note: The capacity data reflect information up to December 2023. The table "Europe" includes both OECD/EU economies and non OECD/EU economies in Europe, as well as Türkiye. Please see Annex C for detailed capacity data by individual economies. Figures for the European Union (EU) include all EU Member States.
Source: OECD

Figure 6. Economies with highest steel capacity growth between 2018 and 2023

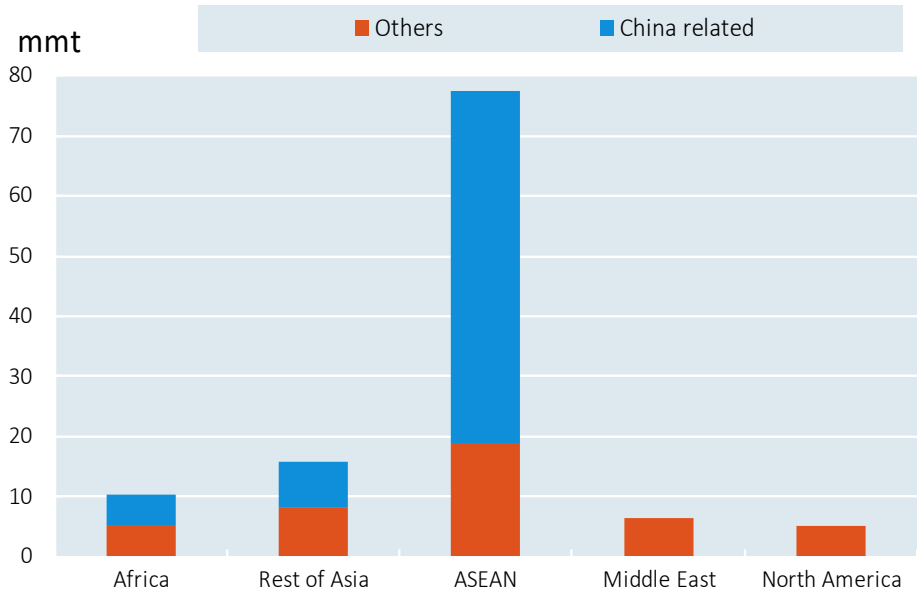


Source: OECD

3.3. Latest updates on cross-border investment

Of the cross-border investments or JV investments, 61.8% of the new investments in 2023 or later will be made by Chinese steel companies in other economies (Figure 7). Chinese companies have investment plans concentrated in Asia and Africa. In particular, ASEAN receives the largest share of Chinese investment, accounting for 82.1% of total Chinese investment in steel in third economies.

Figure 7. Cross-border investment in new steelmaking capacity by Chinese and other companies starting since 2023 (mmt)



Source: OECD

4. China’s move towards “high-quality steel production”

The global steel market is witnessing China's shift from prioritising volume to focusing on producing higher-quality steel, a move supported by the central government. This shift aligns with China's broader strategy of sustainable and quality-focused economic development, a concept central to national policies since 2006 and emphasised in the steel industry's ongoing evolution. The transition is facilitated by financial incentives such as tax breaks, grants, and research funding from various government levels, which enable Chinese steel firms to climb up the value chain much quicker than they would have without government interventions. Going forward, the push towards high-quality steel faces diminishing returns due to major technological advancements being already utilised, and becoming widespread worldwide, leading to challenges in maintaining a competitive edge. This dynamic is further complicated by the role of provincial governments in China, which adapt national strategies to their unique regional characteristics, leading to a diverse and complex landscape of policy execution that impacts the industry's competitiveness and sustainability both domestically and globally.

A key feature of global steel market developments is the transition of China’s steel sector from high volume to high quality supported by the central government. This section examines in some depth how subsidies and policies were implemented by the Chinese government to facilitate this transition. This study is an integral part of the continuous monitoring of subsidies undertaken by the Steel Committee.

The Chinese government provided numerous financial incentives, including tax benefits, grants, interest subsidies, and research funding to Chinese steel firms by different levels of government in China to induce Chinese steel firms to upgrade their technology and produce added-value steel products.

Nevertheless, the government faced complex challenges when supporting this technological shift. It also became increasingly difficult to achieve the “high quality” transitions, as investments in technological advancements yield diminishing returns over time. With more companies adopting the latest technology, a market equilibrium is reached, diminishing the competitive edge these government interventions once offered. In other words, in current steel markets, characterised by high production costs, low prices, and reduced profitability, Chinese steel companies are being incentivised or supported to invest in technological improvements but those offer limited returns.

The “High-quality development” (高质量发展) is central to China's national strategy and reflects a shift from rapid growth to a more balanced, sustainable, and quality-driven economic model. Despite 'High-quality development' emerging as a key objective of Xi Jinping's policies around 2017, the concept itself is not novel. Indeed, this strategic shift has been a governmental priority since 2006, marked by the release of the "Steel Industry Development Policy" (钢铁产业发展政策). Over time, the concept has been continually adapted, aligning with the evolving priorities and challenges within the steel industry. Section 4.1 follows the Chinese government’s drive of China’s steel industry towards “High-quality development”, the incentives it used and the target it faced, in the face of numerous challenges. Section 4.2 takes a closer look at the crucial role played by local and provincial governments in implementing the central government targets and support.

4.1. Climbing-up the value chain: the Chinese government's goal to improve China's steel sector technologies.

4.1.1. The "Going Out" strategy and China's steel industry expansion.

Over the past two decades, China's steel industry has undergone substantial transformation in both size and product diversity. The post-Asian financial crisis era, along with WTO entry and robust government support, catalysed its rapid growth. Central to this expansion was the 2000 "Going Out" policy, encouraging steel enterprises to invest abroad, acquire foreign technologies, and form global partnerships. This not only boosted production capacity and global market presence but also secured essential resources like iron ore and coal. Exposure to global standards significantly increased the competitiveness of Chinese steel firms, marking a pivotal advancement in the industry.

Between 2000 and 2005, China significantly expanded its steelmaking capacity, steel exports and markedly enhanced product variety and quality. In 2005, China became a net steel exporter for the first time, ending the history of a net importer of steel products for 57 consecutive years since 1949 (Figure 8). Since 2005, China's steel export grew significantly reaching its peak in 2015 with 11 710 thousand tons of steel exported.

Figure 8. China's steel exports and imports (2000-2023)

Source: ISSB

4.1.2. The Chinese government very early singled out the issue of foreign technology reliance

During the 10th Five-Year Plan period (from 2001 to 2005), China's economy was growing at an average annual rate of nearly 9.8%, and the urbanisation rate was increasing by 1.36% per year (Li, 2020[4]). The crude steel output increased by 2.75 times during the same period, with an average annual growth rate of 22%. After joining the WTO, Chinese exports were afforded the Most Favoured Nation treatment, which resulted in very favourable terms from large steel importing countries. Chinese steel exports grew significantly supported by the rapid expansion of the domestic steel industry.

Between 2000 and 2005, China's main steel-related exports were primary, semi-finished Steel products and ferroalloys Figure 9. . These products represent the fundamental materials in the steel production process. They include basic materials like semi-finished slabs, bars and pig iron, which are not ready for end-consumer use. During this time, China's steel industry was at an early stage of industrial development, and was heavily dependent on global markets that demanded these basic materials for further processing and manufacturing.

The government in this period started to support advanced enterprises to increase their efforts in technological updates, increase the added value of their products, and enhance their competitiveness (Gov.cn, 2005[5]). With the introduction of foreign technology, Chinese enterprises managed to lower the cost of production by introducing new production methods and equipment such as the continuous casting technology that allowed for more efficient, cost-effective, and high-quality production of steel.

Around this time, for any large-scale steel enterprise's continuous casting project in China, domestic companies could undertake design and manufacture, but more than half of the engineering cost had to be paid to foreign companies responsible for process technology (Gov.cn, 2006[6]). Recognising this dependency, the government shifted its focus to fostering self-reliance through policies that supported the localisation of steel industry equipment and the development of domestic technological capabilities (NDRC, 2005[7]).

Although the "high quality development" concept was not explicitly mentioned during this period, this understanding of "dependency on foreign imports" laid the groundwork for what would become a key objective of the modern high-quality development strategy under Xi Jinping. It marks the first time the government openly acknowledged technological reliance as a critical issue, setting a new direction that contrasts with past strategies.

4.1.3. Addressing low value steel production: the 11th Five-Year Plan period (2006 - 2010).

In the first half of 2006, there was a notable increase in steel exports from China. The country exported a total of 17.1 mmt of steel, which marked a significant rise of 47.7% year-on-year. However, despite this increase in steel exports, the value of these exports was lower than the value of steel imports, indicating a trade deficit in terms of value (Gov.cn, 2006[6]). The government recognised the issue of low value-added in China's steel exports. This situation posed a significant challenge, as it indicated a need to enhance the technological sophistication needed to produce high-end steel products and the overall value of steel exports.

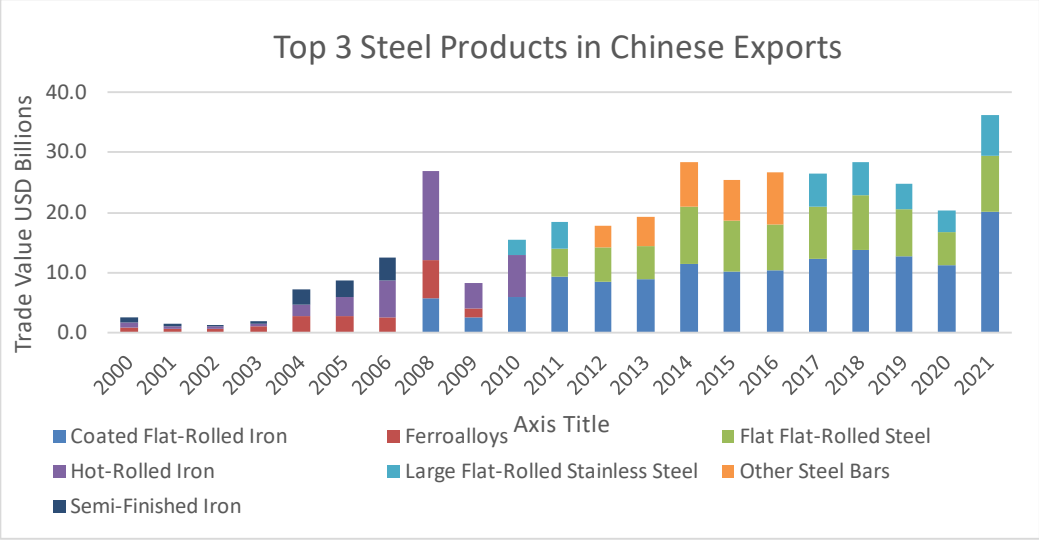
The first turning point from industrial scale steel production towards higher-quality products happened during the "11th Five-Year Plan" period (2006–2010). With the release of the "*Steel industry development policy*" (*钢铁产业发展政策*), the government recognised the importance of technological advancement, innovation, and sustainable development in the steel industry (Gov.cn, 2006[8]). This policy marked a decisive move away from mass production towards a more quality-centric approach, reflecting a deepening commitment of the government to upgrading the industry's technological base and product standards.

This first strategy aimed to improve the quality of steel products by 2010, catering to a wide array of industries, from construction to high-tech sectors. To support this transition, the government provided financial incentives, including tax benefits, interest subsidies, and research funding, particularly for projects that used advanced, domestically developed

technologies. Policymakers encouraged the production of specialised steel types, such as military, bearing, gear, and corrosion-resistant steels, to enhance both the quality and technical standards of products and to foster innovation and research within the industry, supporting enterprises to establish their R&D institutions.

The government's strategic focus on promoting specialised and higher-quality steel products is reflected in the evolving composition of China's top steel exports. Figure 9 below shows that at the onset of the 11th Five-Year Plan in 2006, the leading exports were predominantly raw and semi-processed materials, namely ferroalloys, hot-rolled iron, and semi-finished iron products. These exports primarily served as base materials for further processing and value addition outside of China, indicating a lower rung in the global value ladder. However, as the government increasingly emphasised domestic manufacturing, a shift occurred in steel exports. This policy redirection steered the industry towards more sophisticated, finished products, marking a move up the value chain. Consequently, by the end of the plan period, higher value products like large flat rolled stainless steel and coated flat rolled steel emerged as the new front-runners in China's steel export portfolio. This transition not only implied a leap in manufacturing sophistication but also reflected a strategic manoeuvre to retain more of the value-added processes within China.

Figure 9. Annual trade value of top three steel products exported: a yearly comparison



Source: The Observatory of Economic Complexity (OEC).

Note: Data for the year 2007 is missing

4.1.4. Lack of products differentiation and the 12th Five-Year Plan period (2011 – 2015).

Despite advancements made in the previous period, the Chinese steel firms were struggling to improve the quality and variety of their steel products. In **2011 about only 30% of the steel products reach international advanced levels** and imports still played a key role in the supply of high-performance, high strength, light, corrosion resistance and long-lasting steel products for the domestic downstream sectors (Gov.cn, 2011[9]).

To incentivise steel companies to produce high-quality steel varieties, crucial for key industries and national infrastructure projects, **the government set up financial funds to support technological upgrades, modernising production equipment, and adopting advanced manufacturing processes.** Additionally, the government implemented stricter regulations and quality control measures to ensure that steel products met both domestic and international standards.

On the innovation front, the government urged companies to increase their research and development investments to at least 1.5% of their main business revenue, a significant increase from the previous 1.1%. This increase was in pursuit of reaching the levels of developed countries, which typically invest around 3% (Gov.cn, 2011[9]).

Despite the government's efforts to enhance quality, efficiency, sustainability, and global integration, China's iron and steel industry continued to grapple with several significant challenges, such as excess capacity leading to inefficiencies and reduced profitability, low R&D investments hindering technological innovation and advancement, and a lack of market consolidation, which perpetuated disparities in production capabilities and standards across the industry. Moreover, the transition from a scale-oriented to a quality-oriented approach revealed underlying issues in standardisation and technological advancement (Box 2).

Box 2. Challenges in Standardisation

The Chinese steel industry faces critical challenges related to standards. These issues result in significant quality inconsistencies and hinder the sector's ability to diversify its product offerings and meet international standards. Key among these challenges is:

- **Uneven technological equipment:** The industry's large scale and the uneven level of technological equipment, particularly among small and medium-sized enterprises (SMEs), created disparities in production quality and efficiency. While larger enterprises might have had access to more advanced technology, many SMEs continued to rely on standardised, less sophisticated equipment. This variability affected the overall quality and consistency of steel production across the industry (Li, 2020[4]).
- **Predominance of Recommended Standards**: The reliance on recommended rather than mandatory standards led to a lack of uniformity in production practices. This lack of strict adherence to high-quality standards resulted in inconsistencies in the quality of steel produced by different companies, hindering the industry's overall efforts to move towards a quality-focused production (Li, 2020[4]).
- **Challenges in formulating Uniform Standards**: The difficulty in establishing uniform standards, particularly for specialised products, was exacerbated by the changing conditions of raw materials. This variability made it challenging to maintain consistent quality across different batches of steel production, especially when considering the diverse range of products and their unique requirements. For instance, the quality of imported iron ores in China in the past decade has been varying and there were even shoddy iron ores in disguise of good ones (Jiemian, 2017[10]). The lack of homogeneity in the quality of raw material used in steel has slowed down firm's efforts to diversify their products.

- **Limitations of Manufacturing Standards for Packaged Equipment**: In the steel industry, 'packaged equipment' refers to systems that combine several manufacturing processes into one. The manufacturing standards for single machines in packaged equipment were often insufficient for wide applicability, high precision, high speed, and customised production required in producing high-quality steel. This limitation highlighted a gap in the industry's capability to meet the growing demand for specialised and high-quality steel products, both domestically and internationally (Li, 2020[4]).

To address these challenges, the government encouraged innovation and technological transformation through a series of initiatives**, including the Made in China 2025 (中国制造 2025), a 300 billion RMB program aimed to move China's manufacturing sector up the value chain and support key industries to carry out technological transformation** (Gov.cn, 2015[11]), (Gov.cn, 2016[12]). Under the Made in China 2025, the government formulated policies and measures to reduce the costs of intellectual property application, protection and enforcement for small and medium-sized enterprises and supported the creation of medium-sized enterprise clusters specialised in certain market segments. It increased the number of mandatory standards and strengthened the supervision and inspection of the implementation of national mandatory standards. The plan also first introduced the need to formulate technical standards for intelligent manufacturing which the government released only in 2023.

4.1.5. Persistent challenges and diminishing government support marginal returns.

Since 2016, the government's focus has centred around addressing excess capacity, but it continued its support for innovation in product development, encouraging firms to explore new market segments and investing in advanced technologies to create steel products with higher value addition. The transition aimed not only to mitigate the impact of fluctuating demand but also to position the companies that received support competitively in both domestic and international markets (Gov.cn, 2016[13]).

The government’s focused policies on technological innovation and development within the industry created an environment conducive to research and development. Between 2017 and 2021, there was a marked improvement in both the number and quality of patents filed by Chinese steel firms – the proportion of new patents rose from 46.56% in 2017 to 56.53% in 2021, and the average value of patents also increased (Ministry of Commerce of the PRC, 2023[14])

The results of these policies are also reflected in the development in exports of Chinese stainless steel, considered to be one the most complex steel products to produce and one of the high-quality steel products promoted by the government (Gov.cn, 2022[15]). The value-added exports of stainless steel have seen remarkable growth from the year 2000 onwards Figure 10. Starting at a modest 108.81 billion USD in 2000, there was a significant increase over the years, with notable surges, particularly in the following periods. For example, by 2005, exports more than quintupled to 617.21 billion USD, and by 2010, they soared to an impressive 2.1 trillion USD. This upward trajectory continued, albeit with some fluctuations, reaching a peak of 8.74 trillion USD in 2021.

Figure 10. Trade value of China's stainless-steel products (2000-2021)

Source: The Observatory of Economic Complexity (OEC).

Note: Data for the year 2007 is missing

Key to the 14th five-year plan (2021-2025), is the government's support for the steel industry's transition to high-quality development, embodying principles of innovation, sustainability, and green growth. The government's financial incentives and support mechanisms released during this period focus mostly on areas such as energy efficiency, emission reduction technologies, and the development of advanced materials, aligning with the nation's commitment to peak carbon emissions before 2030 and achieving carbon neutrality by 2060 (Gov.cn, 2022[15]).

In recent efforts to support the industry, the government addressed the issues related to standards by releasing specialised guidelines and standards for intelligent manufacturing encompassing various aspects of steel production, from equipment to industrial chains. (Gov.cn, 2023[16]). The government also increased fiscal, taxation and financial support aimed at driving industrial value growth in the steel industry. These programs focus on achieving a target growth of over 4% industrial value growth in 2024 by supporting high-end, intelligent, and green manufacturing (MIIT, 2023[17]).

Recent national plans have underscored the commitment to modernising and improving the quality of the steel industry's output. In 2023, numerous provinces unveiled their respective plans, which draw upon guidelines and recommendations issued by the central government, echoing its emphasis on modernisation. These subsidy programs implemented at the provincial level align with national objectives while simultaneously addressing region-specific challenges in the steel industry and are detailed in depth in the next section.

Besides all the improvements made during these years, the Chinese steel industry is currently experiencing a challenging situation in an environment with high production levels and high costs, coupled with low prices, and reduced profitability. (Csteel news, 2023[18]). Moreover, the industry faces overarching challenges such as steel excess capacity, low market concentration, dependence on imported raw materials, and the ongoing struggle to comply with green and technological standards. Furthermore, the efficacy of high-quality technological transformation policies is waning.

Chinese firms are struggling to accomplish "High quality" transformation as incremental investments in technology and cost efficiency yield progressively smaller returns. As shown above, firms have mostly pursued competitive advantage through technological enhancements supported by government policies. However, as more companies transform, this leads to a market equilibrium where such strategies no longer confer a distinct competitive advantage (Csteel news, 2023[18]). Yet, this scenario makes it even more pressing to address the technological deficiencies, as the industry's future competitiveness hinges on overcoming its current limitations.

In short, China's steel industry continues to face a significant technological lag, particularly in specialised steel products. The industry's dependency on foreign technology and expertise limits its capacity for independent innovation, crucial in the evolving global market (Xinhua, 2023[19]). This gap is not just in technology but also in the quality of products. The industry struggles to consistently meet the high standards required for advanced applications like aerospace, defence, and high-tech manufacturing.

4.2. Advancing modernisation in the steel industry: a comprehensive overview of China's subsidy Programs at the provincial level in 2023

This section explores the critical role of provincial governments in China in implementing national steel industry strategies. Provincial governments adapt these strategies to their unique regional characteristics, leading to diverse approaches and effectiveness in policy implementation and subsidisation. This decentralised approach results in a dynamic but complex landscape of policy execution, which may impact the competitiveness and sustainability of the steel industry both domestically and globally.

Provinces in China exhibit varying degrees of progress in addressing issues like excess capacity, high energy usage, low R&D investment, industry consolidation and carbon emissions. While national objectives are set by the central government, the extent to which these goals are realised at the provincial level varies considerably. Furthermore, different provinces are concentrating on specialised steel segments, leveraging their unique advantages such as natural resources, technology, and know-how.

4.2.1. The importance of provincial strategies

Provincial governments in China that design programs for their local steel sector must adhere to national guidelines and central government targets while addressing the distinct challenges and opportunities of their local steel industries. Each province has its unique set of priorities, challenges, and strengths: While all the provinces share the common objectives of boosting innovation, green manufacturing, and high-quality steel products, each province's strategy changes based on the local needs. For instance, the government in Yunnan is focusing on tackling the issues of steel excess capacity and high energy consumption (Yunnan Provincial Ecological and Environmental Protection Inspectorate, 2023[20]). In Jiangxi, among other priorities, officials are focusing on boosting the province's R&D investments in the steel sector as it is comparatively lower than other provinces (Qingshan Lake District People's Government, 2023[21]), (Department of Economy and Information Technology of Hubei Province, 2023[22]) and in Shanxi the government is trying to address its low steel industry concentration (Low Carbon China, 2023[23]). Jiangsu, on the other hand, is confronting challenges related to slow progress in decarbonising the industry and is implementing policies to meet the growing demand for skilled professionals (Jiangsu Government, 2023[24]). All these diverse challenges are set against a complex backdrop of steel market volatility, intense competition, and weak demand, coupled with a pressing need for decarbonisation and digitalisation in the industry.

Provincial governments in China are strategically supporting specific segments of the steel industry. For instance, Zhejiang province, known for structural steel[8], is focusing on increasing the production capacity and quality in this market segment (Zhejiang Provincial Department of Housing and Urban-Rural Development, 2023[25]). Meanwhile, other provinces including Hubei and Hunan are advancing the production of steel used in automotive appliances, transportation energy, offshore engineering, and shipbuilding (Hubei Government, 2023[26]), (Hunan Provincial Department of Industry and Information Technology, 2023[27]). In contrast, officials in Jiangxi mandated a reduction in structural steel production by less than 50% by 2026, shifting provincial firms' focus to the production of high-quality silicon steel and thick plates instead (Qingshan Lake District People's Government, 2023[21]). Finally, the government in Anhui financed multiple projects focused on the development and production of high-end stainless-steel products (General Office of the People's Government of Anhui Province, 2023[28]). This approach reflects a strategic provincial shift, aiming to specialise and strengthen segments of the steel industry to enhance efficiency and competitiveness. Such specialisation strategies, while boosting regional efficiencies and competitiveness, could lead to disparities in production capabilities and costs. This might inadvertently affect the global steel market, potentially leading to unfair competitive advantages and trade imbalances that favour subsidised firms in these provinces.

4.2.2. Digitalisation and Green Transition

In their commitment to technological advancement and green production, Chinese provinces are setting significant objectives for 2025. Shanxi aims to achieve over 90% advanced process equipment in their steel production (Shanxi Provincial Department of Industry and Information Technology, 2023[29]). Hunan, Hebei, and Jiangxi will upgrade smaller blast furnaces, converters, and electric arc furnaces to obtain 80% automation in key processes and 55% digitalisation in production equipment (Hunan Provincial Department of Industry and Information Technology, 2023[27]) (Hebei Government, 2023[30]). Bridging these ambitious goals and their practical implementation, provincial programs offer substantial support to drive this transformation. For instance, Shaanxi province provided grants of up to 5 million RMB for steel firms that buy advanced equipment and rewards smart factories, smart workshops, and smart production lines for their breakthrough in steel production (Baoji Hi-Tech Industrial Development Zone, 2023[31]). Steel firms undergoing technological upgrades in Fujian received government support provided in the form of differential electricity prices up to 20 million RMB (Fujian Provincial Department of Industry and Information Technology, 2023[32]).

From the green transition perspective, Chinese provinces are targeting substantial reductions in energy and resource consumption in their respective steel sector. The government in Henan plans to cut total energy consumption by over 5%, decrease energy intensity by over 15%, lower water consumption intensity by 10%, and utilise 10 mmt of scrap steel annually (Henan Government, 2023[33]). Officials in Hunan aim for a 14.5% reduction in value-added energy consumption compared to 2020, a 57% utilisation rate of industrial solid waste, a 12% decrease in water consumption per unit of industrial added value and aims to recycle 30 mmt of renewable resources (Hunan Provincial Department of Industry and Information Technology, 2023[27]). Jiangxi's and Shandong's major steel enterprises will ensure that over 30% of their steel production capacity meets energy efficiency benchmarks and adheres to ultra-low emission standards by 2025 (Qingshan Lake District People's Government, 2023[21]), (Shandong Provincial Department of Industry and Information Technology, 2023[34]).

4.2.3. Capacity Replacement and Capacity Relocation

Provincial programs are also driving a transformative shift in steelmaking capacities to enhance efficiency and environmental sustainability. The government in Henan is targeting the phase-out of blast furnaces below 1,200 cubic meters and converters and electric arc furnaces below 100 tons by the end of 2024 transferring the capacity toward the coast (Henan Government, 2023[33]). Officials in Jiangxi aim to increase electric furnace steel output to over 15% of its crude steel production, optimising product structure (Qingshan Lake District People's Government, 2023[21]). Similarly, in Shaanxi and Sichuan the governments are strictly implementing capacity replacement for smaller blast furnaces, converters, and electric furnaces, in line with long-term goals set by the government (Baoji Hi-Tech Industrial Development Zone, 2023[31]) (Sichuan Provincial and Economic and Information Department, 2023[35]).

4.2.4. Innovation

Chinese provinces are implementing robust measures to foster innovation in the steel industry. Officials in Henan are increasing the industry's R&D investment intensity to over 1.5%, aiming for breakthroughs in more than 15 core technologies, and enhancing the production of advanced materials (Henan Government, 2023[33]). State-owned Enterprise (SOEs) in Hebei enjoy preferential policies and large deduction of R&D expenses to achieve an annual R&D investment growth of over 10.5% by 2025 (Hebei Government, 2023[30]). Officials in Shaanxi required manufacturing enterprises, including steel firms, to increase their annual R&D investment by 5%, offering up to 5 million RMB in subsidies for the acquisition of domestic equipment (Baoji Hi-Tech Industrial Development Zone, 2023[31]).

4.2.5. Higher-grade products

Provincial programs are intensifying their focus on the development of high-value steel products, aligning with the nation's broader industrial advancement goals. Officials in Hebei are supporting the production of high-value-added products such as special alloy steel, high-purity iron, and rare earth corrosion-resistant steel, high-quality plates for automobiles and appliances, while also encouraging research and development in high-end wire rods and section steel. To incentivise excellence in these areas, Hebei offers substantial support, with national-level manufacturing champions receiving a one-time grant of 2 million RMB (Hebei Government, 2023[30]). Similarly, officials in Hubei are dedicated to optimising the province's steel products structure, setting ambitious targets for special steel to comprise about 70% of the province's total capacity. This includes specific production goals for silicon and bearing steels, reflecting a strategic move towards specialised and higher-grade steel products (Hubei Government, 2023[26]). In Henan, the government targets 50% of its steel production to be high-quality special steel, with over 15% coming from electric furnaces by the end of 2025 (Henan Government, 2023[33]).

4.2.6. Conclusion from the monitoring exercise

Monitoring developments at the provincial level is essential to fully grasp the steel sector's subsidisation in China. The decentralised approach of China's governance enables provinces to adapt national strategies to their unique contexts. This results in varied policy

effectiveness across provinces, reflecting their distinct economic and geographical characteristics. Provinces are tailoring their strategies to address specific local challenges within the steel industry, such as excess capacity, energy consumption, R&D investment, industry concentration, and decarbonisation efforts. Furthermore, different provinces are focusing on specialised steel segments, aligning with national objectives for modernisation, technological advancement, and green manufacturing. Specialised provincial support can lead to significant variations in production capabilities and cost structures across regions. This disparity may result in uneven competition in the global market, where some provinces might gain unfair advantages due to localised subsidies or support mechanisms. Such practices could potentially distort global steel trade dynamics, leading to trade tensions and challenges in maintaining fair competition on an international scale.

Table 4. Programmes released in 2023 that contain measurable objectives.

Province	Name of the Program	Digitalisation and Green Transition	Capacity Replacement and Capacity Relocation	Innovation	Steel products
Jiangxi	江西省钢铁产业链现代化建设行动方案（2023-2026年）Action Plan for modernisation of the steel industry chain in Jiangxi Province (2023-2026)	Yes	Yes	No	Yes
Zhejiang	浙江省钢结构行业发展“十四五”规划 The 14th Five-Year Plan for the Development of the Steel Structure Industry in Zhejiang Province	Yes	No	Yes	Yes
Shanxi	山西省钢铁行业转型升级2023年行动计划 (Shanxi Province's 2023 action plan for transformation and upgrading of the steel industry	Yes	No	No	Yes
Henan	河南省加快钢铁产业高质量发展实施方案（2023—2025年）Henan Province's Implementation Plan for Accelerating the High-Quality Development of the Steel Industry	Yes	Yes	Yes	Yes
Hebei	河北省人民政府办公厅关于印发河北省支持钢铁行业创新发展若干措施的通知 (Hebei Notice from the General Office of the People's Government of Hebei Province on issuing several measures to support the innovative development of the steel industry in Hebei Province)	Yes	No	Yes	Yes

Anhui	安徽印发 2023 年重点项目清单 多个项目涉及钢铁行业 Anhui issues a list of key projects in 2023. Many projects involve the steel industry	No	No	No	No
Fujian	福建省工业和信息化厅关于公布 2023 年度福建省钢铁行业差别电价资金项目奖励企业名单的通知 Notice from the Fujian Provincial Department of Industry and Information Technology on announcing the list of enterprises rewarded for the differential electricity price fund project in the steel industry in Fujian Province in 2023	No	No	No	No
Hubei	省人民政府办公厅关于印发湖北省冶金产业转型升级实施方案（2023-2025 年）的通知 Notice of the General Office of the Provincial People’s Government on Issuing the Implementation Plan for the Transformation and Upgrading of the Metallurgical Industry in Hubei Province (2023-2025	Yes	No	No	Yes
Shaanxi	陕西省委省政府印发《进一步提振信心恢复活力推动经济社会平稳健康发展的若干措施》的通知制定了 50 项具体措施 The Shaanxi Provincial Party Committee and Provincial Government issued a notice on "Several Measures to Further Boost Confidence and Revitalize Vitality to Promote Stable and Healthy Economic and Social Development" and formulated 50 specific measures	Yes	Yes	Yes	No
Henan	河南省加快钢铁产业高质量发展实施方案（2023—2025 年）Henan Province’s Implementation Plan for Accelerating the High-Quality Development of the Steel Industry	Yes	Yes	Yes	Yes
Sichuan	四川省钢铁行业产能置换实施细则 Sichuan Province Steel Industry Capacity Replacement Implementation Rules	No	No	No	No

Note: See annex A for more detailed description of the programmes.
Source: Secretariat desk research

5. World steel trade

In 2023, global steel exports increased significantly, rising from 272 mmt to 282 mmt (+3.3%) when compared to 2022. Yet the surge in global steel exports is primarily driven by China, which increased its exports by 39.5% in 2023, while many other major steelmaking economies have exhibited weaker steel export performance. The Chinese increase in steel exports results in Chinese exports approaching the peak levels witnessed in 2016, a year marked by the excess capacity crisis in the steel industry. The composition of these exports is also revealing the share and the total amount of the higher value steel products, which often fall under the broad "flat products", have increased significantly, from 43.1 to 60.1 mmt, annualised figures, a 39.4% increase, consistent with Chinese goals to continue climbing up the value chain into "high-quality development" in its steel sector and following years of government support measures and subsidies to its industry for those purposes. Long product exports, on the contrary, decelerated, a probable reason being the domestic Chinese needs long products for infrastructure construction.

In 2023, global steel exports witnessed a notable increase, climbing from 272 mmt to 282 mmt (+3.3%) when compared to the figures of 2022 (Figure 11). The surge in global steel exports is primarily driven by a significant increase from China, while many other major steelmaking economies have exhibited weaker steel export performance. Different from previous years, this increase in exports has been supported by a concomitant increase in steel demand globally (+2.0%), mostly driven by a surge in the infrastructure sectors globally (Section 7). Demand surges in 2023 have been particularly intense in emerging economies, with ASEAN countries having registered the largest growth. This trend is mirrored in the considerable increase in steel imports of major steel-producing countries such as Brazil, India, Japan, Korea, and Türkiye.

Figure 11. Global steel exports and demand

Note: Blue line (right axis) represents global exports of steel products (including finished and semi-finished products). Gray bars show the evolution of global ASU (left axis). Data in volumes (mmt). World export data for 2023 are annualised figures based on data from January to November 2023.
Source: OECD calculations based on ISSB and worldsteel data.

Table 5. Steel exports, yearly data

2017-23, major steelmaking economies

	2017	2018	2019	2020	2021	2022	2023 (ann)	Change 2022-23 (%)
CHN	74,808	68,767	63,745	53,087	66,208	68,126	95,021	39.5%
EU27	34,788	33,467	33,480	25,672	26,051	23,070	22,801	-1.2%
IND	16,335	11,101	13,356	17,297	20,374	12,106	10,143	-16.2%
JPN	37,471	35,839	33,127	31,072	33,764	31,739	32,347	1.9%
USA	10,211	8,623	7,271	6,593	8,246	8,322	9,112	9.5%
RUS	31,159	33,343	29,464	28,662	32,556	17,848	13,081	-26.7%
KOR	31,355	30,056	29,986	28,582	26,781	25,462	26,929	5.8%
TUR	16,346	19,859	19,741	18,681	22,057	17,566	12,379	-29.5%
BRA	15,317	13,914	12,733	10,714	11,493	12,108	12,075	-0.3%
TWN	12,117	12,285	11,262	10,579	10,823	9,901	6,676	-32.6%
MEX	5,180	5,825	5,142	5,259	5,950	6,568	3,178	-51.6%
IDN	2,425	3,792	4,251	5,819	9,856	9,206	9,481	3.0%
CAN	6,482	6,435	5,686	5,141	7,539	6,587	6,268	-4.8%
MYS	1,725	1,693	5,159	8,485	8,310	7,128	7,356	3.2%
EGY	1,477	1,453	1,162	2,009	1,995	1,288	2,401	86.4%
SAU	1,138	3,117	2,497	1,304	1,522	1,083	1,227	13.3%
UKR	15,224	15,083	15,559	15,210	15,705	4,789	2,721	-43.2%
GBR	4,717	4,619	4,112	4,423	3,454	3,399	3,312	-2.6%
WLD	**452,452**	**446,814**	**420,965**	**387,510**	**437,642**	**379,859**	**388,594**	**2.3%**
WLD (Ex. Intra trade)	**340,830**	**333,599**	**311,464**	**289,887**	**323,243**	**273,318**	**282,307**	**3.3%**

Note: All values are expressed in thousands of metric tonnes. The column labelled "2023 (Ann)" features annualised trade data for the year 2023, enabling comparisons with data from previous years. Notably, "EU27 data" specifically pertains to external trade. The annualisation applied to the 2023 data is an approximation achieved by multiplying the January to November figures by 12/11. This method aims to facilitate year-to-year comparisons. However, it is important to acknowledge that import and export numbers often exhibit monthly variations and seasonal patterns. Consequently, annualised Jan.-Nov. 2023 data may not accurately represent the entirety of 2023.
Source: OECD calculations based on ISSB data.

Table 6. Steel imports, yearly data

2017-23, major steelmaking economies

	2017	2018	2019	2020	2021	2022	2023 (ann)	Change 2022-23 (%)
CHN	13,908	14,366	15,512	38,710	27,825	17,063	10,721	-37.2%
EU27	42,774	47,083	41,914	34,947	46,179	42,646	39,343	-7.7%
IND	8,882	9,026	8,921	5,315	5,916	6,889	8,835	28.2%
JPN	6,233	6,040	6,455	5,208	5,460	5,322	5,849	9.9%
USA	35,366	31,726	27,117	20,140	29,692	28,913	26,633	-7.9%
RUS	6,505	6,375	6,816	5,030	4,963	1,240	1,230	-0.8%
KOR	19,323	14,928	16,353	11,978	14,067	13,667	15,184	11.1%
TUR	15,814	14,043	12,356	12,955	16,151	15,821	18,382	16.2%
BRA	2,313	2,373	2,330	2,018	4,920	3,305	5,078	53.7%
TWN	7,425	7,694	7,318	7,419	9,566	7,115	5,167	-27.4%
MEX	11,625	10,995	11,542	10,081	14,752	10,867	17,920	64.9%
IDN	11,414	11,700	13,454	9,720	10,248	11,221	12,372	10.3%
CAN	8,809	9,110	7,286	6,963	9,897	9,436	10,801	14.5%
MYS	7,738	7,952	7,372	5,862	6,361	5,714	7,080	23.9%
EGY	1,639	421	592	192	1,240	2,846	2,417	-15.1%
SAU	4,610	5,334	7,945	7,039	3,880	4,929	5,421	10.0%
UKR	1,401	1,582	1,536	1,316	1,264	666	1,016	52.5%
PAK	3,369	3,583	2,690	2,628	3,398	2,193	2,019	-7.9%
GBR	7,659	7,889	7,122	5,010	6,492	5,625	5,447	-3.2%

Note: All values are expressed in thousands of metric tonnes. The column labelled "2023 (Ann)" features annualised trade data for the year 2023, enabling comparisons with data from previous years. Notably, "EU27 data" specifically pertains to external trade. The annualisation applied to the 2023 data is an approximation achieved by multiplying the January to November figures by 12/11. This method aims to facilitate year-to-year comparisons. However, it is important to acknowledge that import and export numbers often exhibit monthly variations and seasonal patterns. Consequently, annualised Jan.-Nov. 2023 data may not accurately represent the entirety of 2023.
Source: OECD calculations based on ISSB data.

5.1. Asia and Oceania

The increase in export figures is largely attributed to a significant surge in outbound shipments from China, which saw a significant rise from 68 mmt to 95 mmt in 2023 (Table 7). This dramatic increase could be the consequence of a downturn in the property market, resulting in a deceleration of steel demand growth within China and leading to the export of surplus steel products to foreign markets. This is somehow confirmed by the significant decrease in imports of steel products, which went down to 10 mmt in 2023, corresponding to a 37% reduction year-on-year.

In the context of the recent surge in China's exports of steel products, the data for the year 2023 reveal a significant variation in the growth of exports across different global markets (Table 5). Notably, ASEAN countries stand out with a substantial volume of imports of about 26 mmt, witnessing a remarkable yearly growth of 39.8%. This indicates a strong demand for Chinese steel within the ASEAN region, underscoring the strategic importance of this market in China's export portfolio. Similarly, exports to Korea, Türkiye, the United Arab Emirates, Saudi Arabia, Brazil, and India have experienced notable increases, with yearly growth rates ranging from 33.7% to 84.6%. These figures underscore the growing footprint of Chinese steel across diverse global markets, reflecting a robust appetite for these products in countries undergoing rapid infrastructure development and industrial

expansion. In contrast, despite a perceived downturn in demand within the EU for steel products in 2023, the region still manifests a significant market for Chinese exports, evidenced by an 8.9% increase in export volume to 4.9 mmt.

Table 7. Major Chinese steel export destinations (2023)

Partner	Export in volumes (2023)	% yearly growth
ASEAN	26400.4	39.8%
KOR	8626.3	33.7%
EU	4695.3	8.9%
TUR	4107.4	64.0%
ARE	3714.1	84.6%
SAU	3287.5	46.6%
BRA	3024.5	88.3%
IND	2963.2	83.5%

Note: Exports are expressed in thousand tonnes. Data for 2023 have been annualised. ASEAN countries include
Source: OECD calculations based on ISSB data.

Figure 12. Chinese steel exports by product

Source: OECD calculations based on UN COMTRADE and ISSB.

A notable observation is that the total volume of Chinese steel exports in 2023 is approaching the peak levels seen in 2016, a year marked by the excess capacity crisis in the steel industry. Analysing the composition of these exports, there is a clear structural transformation in the types of steel products shipped abroad. In 2023, flat products constitute a larger proportion of the exports compared to previous years, indicating a strategic shift in Chinese exports towards these higher-value items. Flat products are typically used in automotive, appliances, and construction, suggesting an alignment with global industrial trends and demands. Conversely, during the 2015-16 period, the majority of Chinese steel exports were in the form of long products, which are often used in infrastructure projects such as bridges and buildings. The shift away from long products towards flat products could reflect the lower need for such types of products for the domestic infrastructure industry rather than a deliberate move by China's steel industry to diversify its export portfolio.

Japan, the second largest steel exporting economy, saw modest increases in its steel exports, by 1.9% up to 32 mmt, suggesting a recovery or growth in its steel sector. Korea and

Indonesia showed resilience with export increases of 5.8% and 3.0% respectively, whereas Chinese Taipei encountered steep declines in its export figures by about one-third.

India saw a sharp rise in imports (+28.2%) along with a fall in exports (-16.2%) in 2023. Imports amounted to 8.8 mmt, recovering to pre-pandemic levels for the first time, driven by flat products from ASEAN, China, Japan and Korea. Exports, on the other hand, reached 10.1 mmt (down from 12.1 mmt). While shipments to the EU increased by 1.2 mmt (+68.9%), this was offset by reductions in shipments to ASEAN and the United Arab Emirates.

5.2. Americas

The US combined a marked rise in exports (+9.5%) with a significant contraction in imports (-7.9%). Exports reached more than 9 mmt in 2023, picking up pace after 2022 when they had remained stable. Sales of flat products are already at levels close to the high volumes exported in 2016. The destinations Mexico and Canada mainly accounted for the increase.

Domestic demand fell by slightly over 1%, resulting in lower imports, that reached 26.6 mmt, the lowest level after the pandemic. The fall in imports was mainly explained by flat products (-18.3%), particularly metallic coated sheets and strips and hot rolled plates coming from Mexico.

In Canada, steel exports fell by 4.8% to 6.3 mmt, dragged down by the lower demand in the US, which was especially the case for flat products (-4.5%). Imports, on the other hand, grew strongly at a rate of 14.5%, reaching 10.8 mmt and positioning close to the record values recorded in 2011. The increase can be explained by higher purchases of flat products and steel tubes from Korea.

In Brazil, exports remained stable in 2023 at 12.1 mmt (-0.3%). Shipments to the US, the main trading partner, increased to slightly more than 7.1 mmt from 6 mmt in 2022 and were mainly concentrated in semi-finished material. This was offset by a reduction in sales of flat products to the EU. Imports increased by almost 1.8 mmt (+53.7%) to 5.1 mmt, mainly explained by shipments of flat and long products from China and Korea.

5.3. Europe and CIS

The EU, the second largest exporting economy, experienced a slight decrease of 1.2% in its steel exports. There was a significant reduction (more than 10%) in shipments of flat products to the US, Türkiye and Switzerland, which was partially offset by higher exports of long products and steel tubes to Mexico. The region is also experiencing a significant contraction in domestic demand, with an expected 5.1% drop in apparent steel consumption in 2023 (Section 7). As a result, imports registered a strong contraction of 7.7%, both in long (-20.9%) and flat products (-8.3%), primarily coming from Türkiye (-40.2%) and Russia (-37.8%).

In Russia, both steel exports and imports showed a collapse in 2022. By 2023, the data showed a further strong decrease in exports of 26.7% and slightly declining imports (-0.8%). Exports to Türkiye and Europe continued to contract, while shipments to Egypt increased, and now represent around 10% of Russia's total exports.

In Türkiye, exports contracted significantly to 12.4 mmt (-29.5%), the lowest level since 2005. The decline was widespread across all products and trade destinations, most notably lower shipments to the EU, Israel and Morocco. Imports, on the other hand, reached a

record 18.3 mmt (+16.2%), mainly due to higher orders from China and Korea (flat and long products) and ASEAN (semi-finished material).

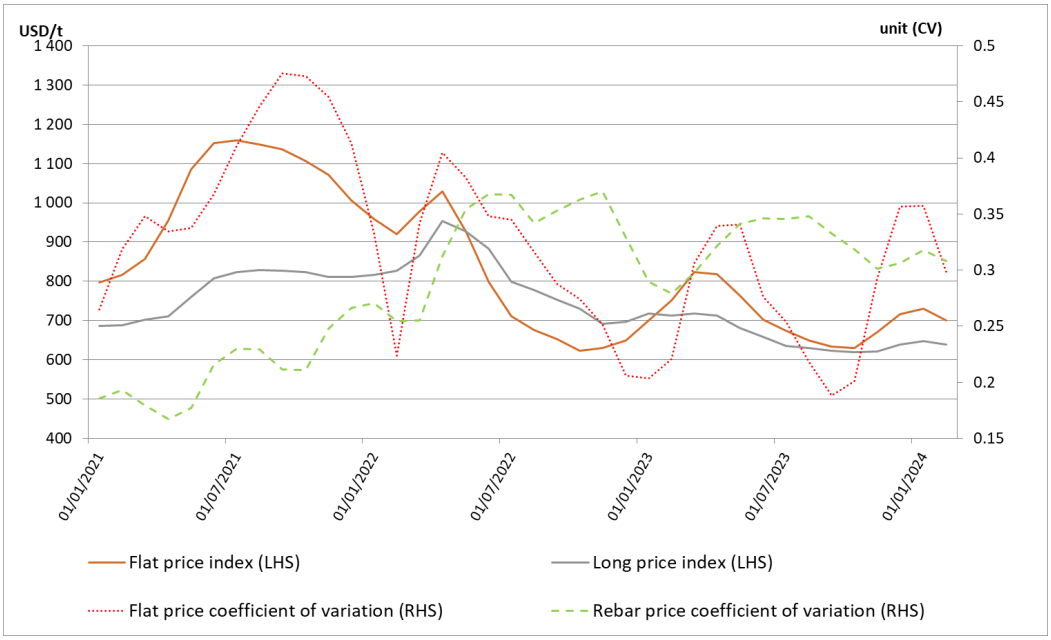
6. Steel and raw material prices

Steel prices have remained relatively stable since June 2023, whereas raw material and energy prices have increased significantly. The sharpest increase was for international coking coal prices, which increased 50% since June 2023. Scrap prices also increased significantly (+10%), pointing towards a potential scarcity of affordable scrap going forward. Iron ore prices also increased significantly (+8.5%). Consequently, steel firms' (synthetic) price margins[9] have been squeezed to historically low levels, being close to their historical lows and 30% lower than in June 2023. This will undoubtedly erode steel firms' financial performance for 2023. Furthermore, a large and close to all-time-hights dispersion in steel products' prices across jurisdictions remains, with high prices in the US, Japan and Europe contrasting with lower prices in China and South-East Asia.

6.1. Global steel prices

Broad indices of both flat steel prices and rebar prices have been rather stable over the last months, and in February 2024 they stood respectively at the same level and 3% lower than in June 2023 (Figure 13). Rebar and flat prices are only respectively 7% and 8% higher than their averages from January 2008 to February 2024 in nominal terms, which would imply a real price below the historical average for the period, due to the significant inflation rate over the period.

Figure 13. Aggregate flat and long steel price averages



Note: The flat price and long steel price indices are defined as the arithmetic average of the individual regional Platts price series for the United States, North Europe, China, Japan and India, when available. This indicator had the closest fit to the two global Platts price indices used in Steel Market Developments reports prior to being discontinued (in September 2017). The coefficients of variation (CV) are the ratio of the standard deviation of the regional Platts price series making up the indices to their mean, thus capturing price dispersion across regions.
Source: S&P Global Commodity Insights.

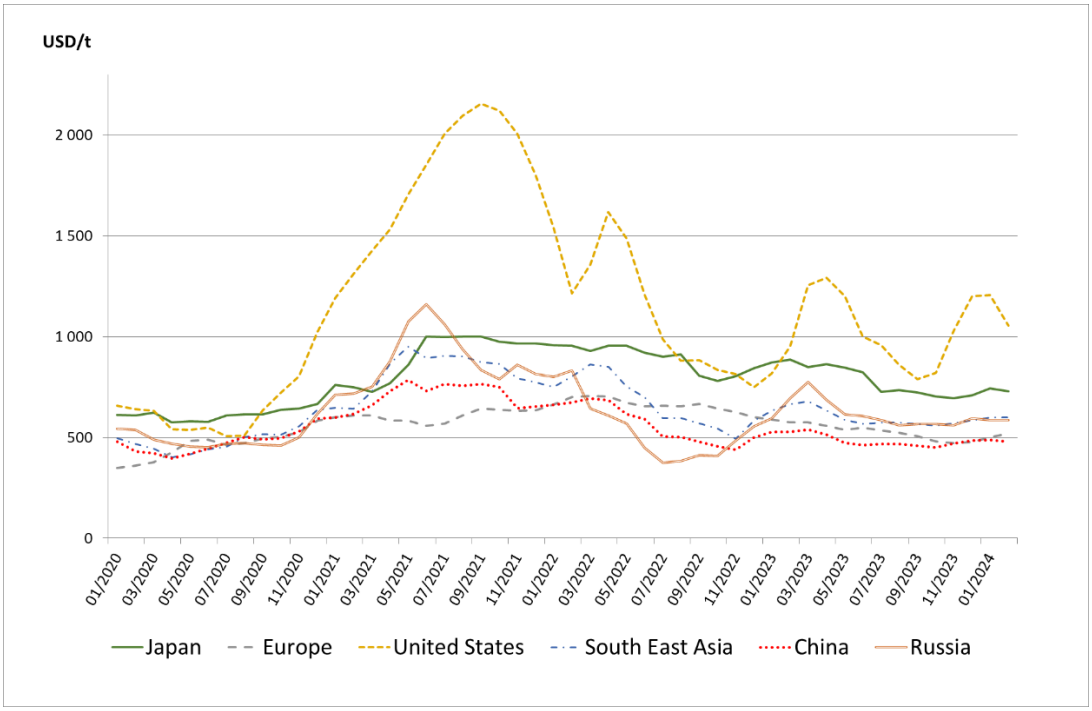
6.2. Steel prices per region

Flat steel product prices have been rather stable since June 2023, with the US price being somewhat more volatile and higher (Figure 14). Overall, compared to the pre-2021 period of increase, a notable trend is the broad divergence in flat steel product prices across regions. The United States, Europe, and Japan have historically high prices, whereas prices in China and Southeast Asia remain significantly lower. Rebar steel prices show an even more pronounced dispersion across regions, with Japanese and US prices remaining stable at levels close to their 2022 historical highs (Figure 15).

As mentioned in the previous Steel Market Development paper (OECD, 2023[36]), it is not clear if the price dispersion will decline over time. In particular, the declining real estate market in China is expected to continue putting downward pressure on Chinese steel prices (Zhang, 2023[2]). Cost factors related to diverse access to energy and raw materials, as well as environmental and regulatory compliance costs, and divergent levels of government support and subsidies, are the two most likely factors contributing to this steel prices divergence across jurisdictions.

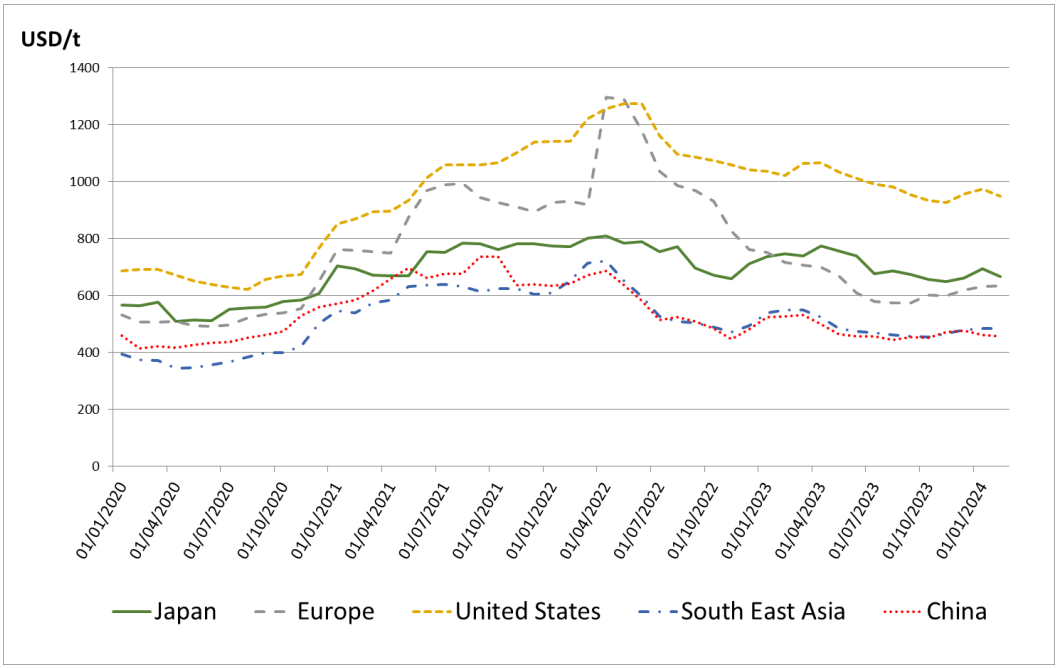
If price differentials across regions continue, they could alter global trade patterns significantly. This is because lower-priced steel affects the price competitiveness of both steel products and steel-intensive downstream sectors, such as automobile and machinery.

Figure 14. Flat steel products' price dispersion across regions remains high



Note: Latest price: February 2024.
Source: S&P Global Commodity Insights.

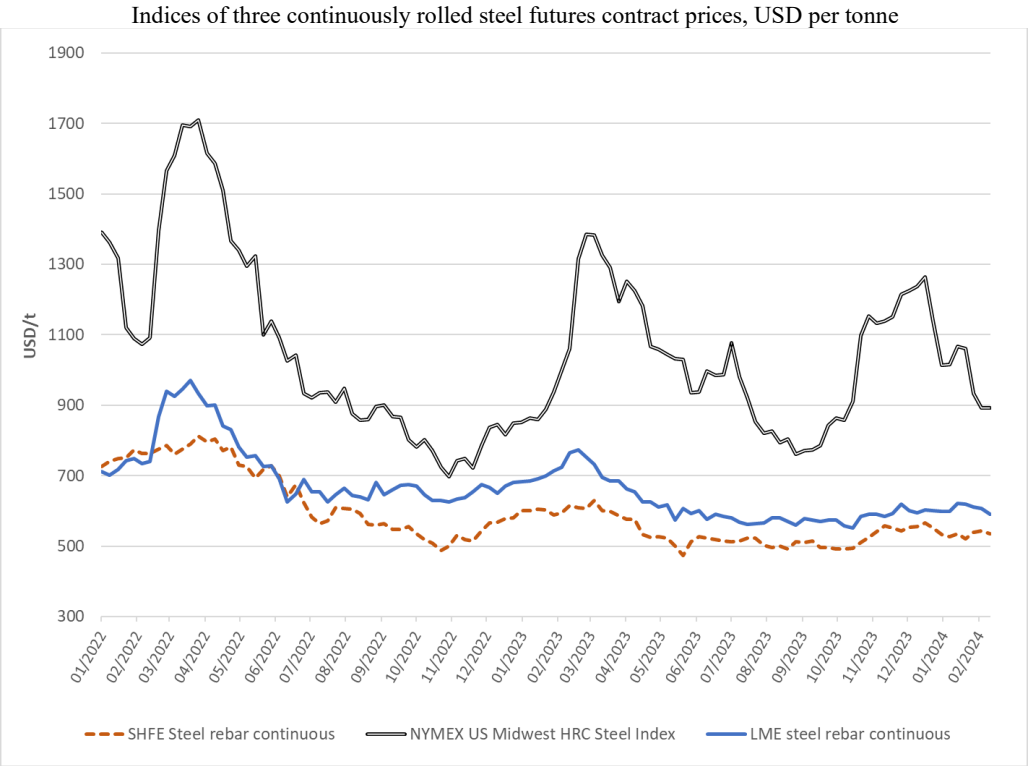
Figure 15. Steel price for rebar also show a large dispersion across regions



Note: The latest price is February 2024.
Source: S&P Global Commodity Insights.

Steel futures prices tend to move slightly in advance of spot prices, suggesting that they may be able to predict steel spot price dynamics at short frequencies by being quicker to incorporate new market information. In practice and for horizons longer than a day, they move simultaneously with spot prices. Figure 16 below shows three steel futures prices obtained by rolling short-term futures traded on different stock exchanges. The futures price series confirms a significant divergence in prices across regions, underscoring the need for further studies on jurisdiction-specific factors to gain a better understanding of price competitiveness.

Figure 16. Steel futures prices (as of 22 February 2024)

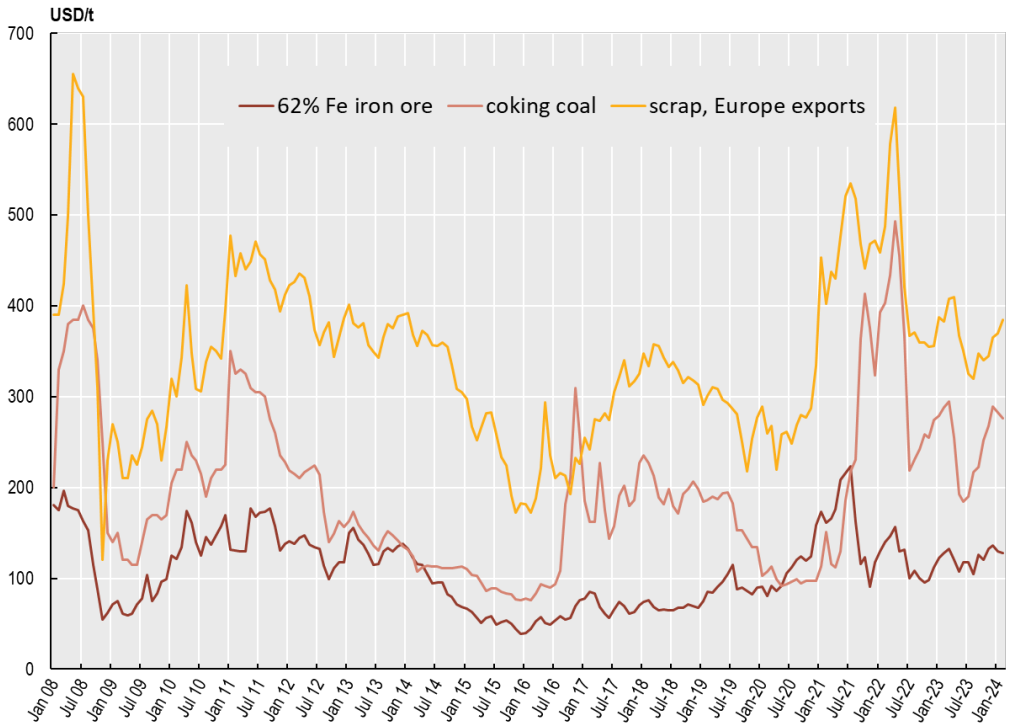


Note: NYMEX US Midwest futures prices were converted to correspond to metric tonnes rather than short tons. SHFE Steel rebar futures prices were converted from RMB to USD using daily exchange rates at closing. For more information on contract specifications, please refer to https://www.lme.com/en-GB/Metals/Ferrous/Steel-Rebar#tabIndex=0 for LME steel rebar contracts; to http://www.shfe.com.cn/en/products/SteelRebar/contract/9220216.html for SHFE steel rebar continuous contracts, and to https://www.cmegroup.com/education/files/hot-rolled-coil-steel-index-futures-options.pdf for NYMEX US Midwest HRC contracts. For a more detailed description of steel futures market, see (OECD, 2018[37]).
Source: LSEG.

6.3. Steel raw material prices

The price of a typical basket of raw material[10] used for steelmaking has increased by 21% since June 2023. This is due essentially to a large increase of 50% in the price of coking coal (Box 3), 10% in the price of scrap and 8.5% in the price of iron ore (Figure 17).

Figure 17. Prices for key steelmaking raw materials (as of February 2024)



Note: The iron ore price series is Platt's "Forwards / SGX 62% Fe Iron Ore cash-settled swaps (dry metric tonne) / China import CFR Tianjin port USD /t"; the coking coal price series is LSEG's "Premium Coking Coal Australia"; the scrap price series is Platts "Scrap / Shredded / N.Europe domestic delivered UDS /t"
Source: S&P Global Commodity Insights, LSEG.

Consequently, the steel raw material price margin, measured by the difference between the price of steel and a generic basket of steel inputs, has been pressured down to historically low levels[11] (Figure 18).

Box 3. Coking coal price dynamics and China

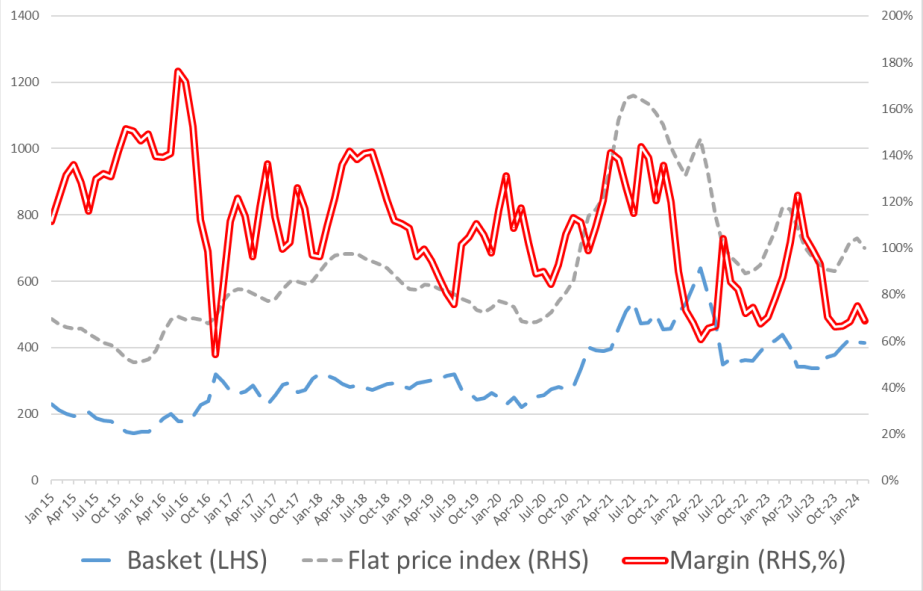
Metallurgical coal prices are expected to soften in the second quarter of 2021 as supply disruptions in Australia are set to ease on warmer weather (Platts, 2023[38]). Warmer-than-median temperatures are expected in Australia over most of the country in April-June, and the latter part of the forecast period is also expected to see El Nino conditions, typically associated with hot and dry weather that are ideal for mining operations. Furthermore, production from mines in New South Wales, a major supplier of semisoft coal, has been recovering steadily (Platts, 2023[38]). This would mean a much-needed relief for steel firms whose margins for producing crude steel saw increased pressure.

Nevertheless, global coking coal prices will be influenced by steelmaking demand in China, the major world producer and importer of coking coal. Domestically, a major fire incident at the Yongju coal mine in Shanxi's Lvliang city in mid-November led to safety inspections at various mines in the city, causing production halts (Platts, 2024[39]). This development shut down an estimated 21.9 mmt of coal output capacity in the city,

a major coal hub in China. Not only this has reduced domestic production temporarily, but rising safety inspections at key coal mines in China is expected to further dampen domestic production.

In terms of imports, Mongolia has become an important metallurgical coal exporter to China. The number of trucks carrying coal through Ganqimaodu during the January to November 2023 period doubled year-on-year to reach 228,600 (Platts, 2024[39]). Russia and Indonesia are also large coking coal suppliers for China. After a two-year unofficial ban on Australian coal for stated environmental concerns, Australian imports have resumed in 2023 yet are still below their pre-ban levels. Chinese steelmakers have indicated that they would be open to buying more Australian coking coal in Q2 2024, but that the extent of their purchases will depend on a workable arbitrage between Australian and Mongolian coking coal, since their margins are under pressure from low steel prices domestically (Platts, 2023[38]). Any substantial increase in the demand for Australian coking coal from Chinese steel firms would likely put a sizeable upward pressure on global coking coal prices.

Figure 18. The margin between steel and raw material prices has started to increase again



Note: Last data point is February 2024. The raw materials basket for steel production is made up of 70% of the usual quantities of iron ore (1.6 tonne) and coking coal (0.77 tonne) needed to produce steel in the integrated process and 30% of the quantity of ferrous scrap (1.07 tonne) needed to produce steel in the electric arc furnace process. Prices used are as follows: Iron ore Fines, 62% Fe, SPOT, CFR China; Hard coking coal spot, FOB Australia; Scrap, shredded North Europe domestic price. The basket is compared against HRC world prices. The margin is defined as the percentage difference between the steel flat price and the raw materials basket price.
Source: OECD based on data from LSEG and S&P Global Commodity Insights.

7. Steel demand and outlook

In its October 2023 Short Range Outlook (SRO), worldsteel expects steel demand to resume growth in 2023 by 1.8% to 1 814.5 mmt, and to expand further in 2024 at 1.9% to reach 1 849.1 mmt.

The global economic outlook has worsened due to monetary tightening affecting consumption and investment. Inflation began to moderate in 2023, potentially ending monetary tightening cycles in 2024. Yet, challenges like persistent core inflation, a tight job market, and rising oil prices continue. The construction sector, especially residential, suffers from high interest rates and costs, while infrastructure investment offers some relief. The manufacturing sector slows due to weakened demand, with consumer durables hit hard. Auto production's recovery in 2023 is expected to decelerate in 2024.

The report highlights regional disparities in demand, noting challenges in the EU and the US, while pointing to a more robust recovery in emerging economies by 2024. Concerns over China's real estate market and the varied growth across different regions due to factors like regional conflicts and infrastructure investments are also critical factors affecting the sector's outlook.

7.1. Global steel market outlook

The global steel market is expected to witness a recovery with a projected growth of 1.8% in 2023, reaching 1,814.5 mmt, following a 3.3% contraction in 2022. This growth is expected to continue into 2024, with an additional increase of 1.9% to 1,849.1 mmt. The recovery, however, is set to be gradual in advanced economies due to the lingering effects of high inflation and interest rates that have dampened investment and consumption since the latter half of 2022. Emerging economies, on the other hand, are anticipated to grow faster, though with varying performances, particularly in emerging Asia which is expected to maintain resilience (World Steel Association, 2023[40]).

Region-specific forecasts indicate diverse trends. Developed economies are likely to see a contraction in steel demand by 1.8% in 2023 due to factors such as monetary tightening and high energy costs, particularly affecting Europe. However, a rebound is expected in 2024 with steel demand growing by 2.8%. In contrast, emerging and developing economies excluding China are projected to experience stronger growth, with a 4.1% increase in 2023 and a further 4.8% increase in 2024. This growth is underpinned by domestic demand and infrastructure investment, despite the external pressures of inflation and slowing global trade (World Steel Association, 2023[40]).

Box 4. The future of the steel industry: A new long-term demand forecasting model

The Steel Committee is initiating the work on the long-term steel model which aims to estimate steel demand towards 2060, with a breakdown by country and main industries. The objectives being pursued are multiple:

- to quantify the impact of long-term trends and shocks affecting demand.

- to identify industries and countries that will drive steel demand growth going forward.
- to raise awareness for potential risks that would require public policy intervention.
- to reflect uncertainty in the face of potential shocks, by building different scenarios.

The model leverages the extended OECD Inter-Country Input Output (ICIO) database (OECD, 2023[41]) that takes the perspective of the whole steel global value chain, covering production and international trade flows from 76 countries and 45 industries, considering the iron and steel industry as a separate sector. This results in an annual series of steel demand by country and sector of use, a novel estimate derived from this database.

The Secretariat is also compiling a comprehensive dataset to feed into the predictive model. The main data input comes from the OECD Long-term baseline projections (OECD, 2023[42]). The current version (No. 114, 2023) provides annual estimates covering historical data and forecasts until 2060, covering OECD member countries and key partners. This source is complemented by demographic and urbanisation trends, energy and emissions forecasts, as well as the usual steel statistics on international trade, prices and demand used in many of the Steel Committee's reports.

The Secretariat prepared an Interim report, the Long-term Steel Demand Model (DSTI/SC(2024)2), that presents the model's methodological approach, describes interesting patterns in relation to the global steel value chain and shows some preliminary forecasts related to the distribution of steel demand towards 2060.

Some insights from the analysis of the steel industry from the perspective of global value chains are as follows:

- The construction sector demands slightly more than 50% of the world's total steel. However, this masks significant differences across countries. Manufacturing industries (machinery and equipment, motor vehicles, fabricated metal products and other industrial sectors) in the EU27, US, Canada, and Latin America account for the largest share of total steel demand (>60%). In other countries, such as China, India, the South-east Asian region and, to a lesser extent, Japan and Korea, the steel demand from construction is significantly more relevant accounting for at least 40%.
- The recent steel demand booms in China, India, and South-east Asia were driven by large investments in housing and infrastructure. The construction sector contributed to 70% of total steel demand in China and 40% in South-east Asia and India during the booming period that started in the early 2000's. This contrasted with stable and slightly declining demand from construction in other regions.
- Within the world's major steel-consuming economies there are notable differences in relation to the sourcing of steel and the level of interaction with the steel global value chain. Countries such as China, Japan and India rely almost entirely on their domestic steel productions and show relatively few imports in relation to the total steel consumed. Conversely, the share of imported steel over the total demand of steel in South-east Asia, Europe and Africa exceeds 50%.

Finally, some preliminary forecasts are obtained:

- By 2060 China will gradually reduce its per capita steel consumption, giving room to other emerging economies, majorly located in Asia and, to a lower extent, in Africa and Latin America. India will increase its steel demand at an accelerated pace, becoming the second largest source of steel consumption in the world in 2060, with 20% of the total.
- Growth in China's construction sector will be much weaker in the coming years, adding to the slowdown trend seen recently. This would imply that the country would demand around 30 Mt less of finished steel per-year, accumulating 170 Mt in 5 years and 415 Mt in 10 years, with respect to the growth trend it maintained in the 2017-2022 period.

Source: Long-term steel demand model (DSTI/SC(2024)2)

7.2. Regional steel market outlook

7.2.1. Asia and Oceania

Steel demand in Asia and Oceania region increased by 3.8% in 2023 compared to 0.2% in 2022. Further, demand is forecast to grow by 5.2% in 2024 (World Steel Association, 2023[40]).

The Short-Range Outlook report projects China's steel consumption to grow by 2% in 2023 driven by infrastructure investments and stabilisation within the property sector. The World Steel Association further indicates that China's steel demand for 2024 is on track for a modest reduction of approximately 15-20 mmt year-over-year, given current trends and in the absence of further stimulus actions (World Steel Association, 2023[40]).

This forecast predicts a decrease of 15 to 20 mmt in the property sector, offset by a 20 mmt increase in infrastructure, a 3-5 mmt (or about 8% year-over-year) rise in automotive demand, and a 10-15 mmt decrease in manufacturing (World Steel Association, 2023[40]).

Consequently, any new policy measures boosting the property sector could stabilise or slightly elevate China's steel demand in 2024, potentially increasing by 5-15 mmt compared to 2023. Such a shift might lead to a significant reduction in Chinese steel exports, possibly by up to 10 mmt, reducing long exports from China (World Steel Dynamics, 2024[43]).

In India, steel demand has grown by 10.3% in 2023 and is expected to increase by 8% in 2024 (World Steel Dynamics, 2024[43]). The Indian government's increased capital investment outlay for infrastructure in FY24, alongside its emphasis on sustainable solutions, is anticipated to drive higher steel usage across various sectors, including traditional applications, process industries, and emerging strategic sectors like defence and aerospace (Live Mint, 2023[44]).

India's steel demand is expected to grow, with a consumption growth rate of around 15% year-on-year in the first 10 months of 2024. This surge is attributed to extensive government spending on infrastructure in anticipation of the elections, with steel demand outpacing GDP growth significantly. Observers anticipate a decline in demand during Q4 due to the influence of election-related spending constraints (Live Mint, 2023[44]).

Japan's steel demand is expected to decrease by 2% in 2023 and increase by 0.6% in 2024 (World Steel Association, 2023[40]). Despite labour shortages and rising costs impacting construction activities, the steel demand is anticipated to show moderate growth in both 2023 and 2024, driven primarily by the recovery of automotive production. Manufacturing

steel demand is expected to offset the sluggishness in construction, aided by moderate growth in 2024 after a slight decrease in 2023. The weak yen and external market conditions are expected to exert limited influence on steel-using sectors due to Japan's supply-side constrained economy, contributing to the overall recovery trajectory (Acuity Knowledge Partners, 2023[45]).

South Korea's steel demand is poised for a recovery following flood damages in 2022 and slight growth in construction activities. However, this recovery will be moderate due to weakness in manufacturing sectors aside from automotive. Despite a contraction in 2022, Korea is projected to witness growth in steel demand of 3.3% in 2023 and 1.1% in 2024. The automotive sector is expected to drive demand, and construction activities to show signs of improvement. Overall, Korea's steel outlook reflects a gradual recovery trajectory amidst varying sectoral performances (World Steel Association, 2023[40]).

The ASEAN-5 region (Indonesia, Malaysia, Philippines, Thailand, and Vietnam), despite facing challenges such as inflation and weakening external conditions, will see its steel demand sustained by domestic consumption and ongoing infrastructure investments. The region's export activity has notably decelerated, impacting manufacturing performance. Vietnam, in particular, is feeling the effects of the deteriorating global trade landscape. Moreover, political factors are causing delays in infrastructure projects across certain ASEAN economies. Following a marginal decline of 0.2% in 2022, ASEAN's steel demand is projected by 3.8% in 2023 and 5.2% in 2024 (World Steel Association, 2023[40]).

In Indonesia, steel consumption is forecasted to rise by 5.2% to 18.3 mmt in 2024, driven by increased demand from the property sector, government infrastructure projects, and automotive industries. This growth trend aligns with the upward trajectory observed from 2020 to 2023, with consumption reaching 17.4 mmt in the previous year. While China remains a significant market for steel exports, domestic demand is bolstered by infrastructure spending, which saw a 7.9% increase in 2024, and incentives in the property sector. The automotive industry also contributes to steel consumption, with anticipated car sales of 1.1 million units in 2024 (Indonesia Business Post, 2024[46]).

Malaysia's steel industry outlook for 2024 is challenged by sluggish demand due to structural overcapacities within the ASEAN region. Alliance Steel expects to add 6.5 mmt to its current capacity of 14.1 mmt and Eastern Steel is in the process of establishing Malaysia’s first integrated hot-rolled coiled plant with 2.7 mmt of capacity (The Star, 2023[47]). Furthermore, ASEAN faces a potential influx of integrated mega mills, with crude steel capacity projected to more than double by 2026. Despite efforts to expand capacity, many steel products in Malaysia fall below global utilization thresholds. The Malaysian Iron and Steel Industry Federation believes that Malaysia's apparent steel consumption is lagging due to increasing overcapacity and low utilisation rates (The Edge Malaysia, 2023[48]).

Thailand's steel consumption is expected to plateau in 2023, remaining at 16 mmt, with concerns over the potential dumping of cheap steel in the market. Slow resumption of government infrastructure projects, weak consumer purchasing power, and high household debt contribute to this stagnant demand. Potential increases in steel exports from China and Vietnam pose further challenges, raising worries among local producers about meeting global standards and carbon emission regulations (Bangkok Post, 2023[49]). Thailand's steel consumption is expected to grow gradually from 2024 onwards (Yahoo Finance, 2024[50]).

In 2024, Vietnam's steel consumption is expected to surge by 6.4% to nearly 21.6 mmt, driven by robust exports of finished and semi-finished steel products, projected to grow by 12% to almost 13 mmt. This growth is due to optimistic signals of recovery in both domestic and global steel demand, supported by anticipated GDP growth of 6 to 6.5%.

Economic policies aimed at boosting infrastructure spending and public investment disbursement are positive indicators for the Vietnamese steel market. Expectations of recovery in steel company profits and an increase in steel prices signal a promising outlook for the industry in 2024 (IOT Communications, 2024[51]).

7.2.2. Americas

In Central and South America, amid weak growth prospects, steel demand is expected to increase at a moderate rate of 1.4% in 2023 and of 2.3% in 2024 (World Steel Association, 2023[40]).

Argentina's steel production witnessed a decline in November 2023, with output falling 9.9% month-on-month and 10% year-on-year. This downturn reflects broader challenges within the Argentinian steel industry, including demand fluctuations and market pressures (Kallanish, 2023[52]).

The Brazilian steel industry anticipates a challenging 2024, with expectations of continued import surges, further impacting domestic production. The sector is expected to see an 8% decrease in raw steel production in 2023, dropping to 31.35 mmt due to increased imports. For 2024, it forecasts a 3% decline in production, with imports projected to rise by 20% to 5.9 mmt. The domestic industry is seeking government intervention for higher antidumping duties to protect it from the surge of imports. Broader economic measures and sector-specific strategies are being considered to enhance competitiveness and address import pressures. The outlook highlights significant concerns for domestic steel producers and related industries, such as the automotive sector, which faces competitive challenges in regional markets (Argus Media group, 2023[53]).

Chile's steel industry demonstrated a solid recovery in 2023 with a 3.9% growth in consumption, reaching 2.37 mmt. Despite this positive trend, the forecast for 2024 anticipates a slight decline of 0.6% in steel consumption. This projection reflects a cautious market outlook, balancing the momentum gained in 2023 against evolving economic and industry-specific challenges expected in the coming year (Kallanish, 2023[54]).

The Colombian steel outlook for 2024 is shaped by broader economic trends, with the country facing slower growth, moderate consumption reduction, and investment contraction. The Central Bank's potential rate cuts may not ease private sector financial costs significantly due to high country risk premiums. Fiscal pressures and a 4.5% GDP deficit could affect market confidence. A projected 3.3% decline in GDP, alongside decreases in construction and civil works, suggests a challenging year for steel and iron production. The economic slowdown, particularly in the secondary sector, indicates a tough environment for the steel industry, aligning with broader industrial and fiscal challenges (Corficolombiana, 2024[55]).

In North America, steel consumption is expected to increase by 1.5% year-on-year to reach 136.1 mmt in 2024 after a 3.1% drop in 2022 (SteelRadar, 2024[56]). This growth can be mainly attributed to industry consolidation and strategic investments improving margins and operational efficiency. Despite a positive outlook due to robust financial positions, earnings and margins are anticipated to decline from 2022 highs, aligning with lower steel prices. Downside risks include interest rates, inflation, supply chain issues, and a stronger U.S. dollar. Hot-rolled coil prices are predicted to stay lower in 2024 yet above historical averages, supporting a relatively healthy environment for domestic producers (FitchRatings, 2023[57]).

In 2023, Canada's construction sector saw high steel prices, impacting costs and investments (Daily Commercial News, 2023[58]).

The Mexican steel industry is anticipated to see growth in 2023, with the national steel association, Canacero, forecasting a 2-3% increase in apparent steel consumption from 25 mmt in 2022. This optimistic outlook is supported by recent investments in the sector, such as new hot rolling mills by Ternium and ArcelorMittal, aimed at self-sufficiency and import substitution. Canacero also highlights potential benefits from nearshoring and enhanced exports to North America, emphasizing Mexico's strategic partnership with the US and the opportunity to strengthen regional value chains. However, the outlook is cautious due to global economic and political uncertainties that could impact prices and demand (Kallanish, 2023[59]).

Despite the resilience of the US economy to steep interest hikes, steel using sectors are feeling the impact. Particularly affected is residential construction, which is expected to contract in 2023 and 2024. However, the commercial building sector is showing robust recovery thanks to reshoring activities. Although manufacturing has also been slowing, the automotive sector is expected to continue its post-pandemic recovery. World Steel Dynamics anticipates healthy steel demand in the first half of 2024, particularly from the automotive sector, despite cautious buyer sentiment (World Steel Dynamics, 2024[43]).

7.2.3. Europe and CIS economies

In the EU, the persistent negative trend in the steel market through the first half of 2023 was exacerbated by the war of aggression of Russia against Ukraine and deteriorating economic conditions. The European Steel Association (EUROFER) forecasts apparent steel consumption to contract by another 6.3% in 2023, marking the fourth annual recession in the last five years. Despite this bleak outlook, there's an anticipation of a modest recovery in 2024, with apparent steel consumption projected to increase by 5.6%, albeit this is a downward revision from 7.6% forecasted earlier (European Steel Association, 2024[60]).

The third quarter of 2023 witnessed a 3.9% drop in apparent steel consumption, continuing a six-quarter decline trend, with total volume decreasing to 30.4 mmt. This downturn is due to factors such as war-related disruptions, unprecedented rises in energy prices, and escalating production costs, which have led to worsening demand conditions. Despite these challenges, imports into the EU remained stable in Q3 2023, maintaining a historically high share of imports out of apparent consumption at 27% (European Steel Association, 2024[60]).

The construction sector has been particularly hard hit, entering a recession in the third quarter of 2022 and continuing to decline through Q3 2023. The sector has a challenging period ahead with a notable recession expected to extend into H1 2024, mainly due to the impact of monetary policy tightening and higher mortgage rates on housing demand (European Steel Association, 2024[60]).

In contrast to the construction sector, the automotive sector has shown resilience, with output increasing for the sixth consecutive time in Q3 2023 by 5.4%. This growth is partly due to a recovery from very low output volumes seen in previous years. The market share for battery-electric cars rose significantly in 2023, highlighting a shift in consumer preferences within the automotive market (European Steel Association, 2024[60]).

The steel consumption forecast is highly uncertain, with ongoing concerns about energy prices, weak demand, inflation, and geopolitical tensions. The Steel Weighted Industrial Production Index (SWIP), reflecting output in steel-using sectors, dipped into negative territory (0.3%) for the first time in Q3 2023, signalling broader industrial and economic challenges (European Steel Association, 2024[60]). Looking forward, a modest improvement is anticipated in 2025, with growth rates expected to rise to 1.5% (European Steel Association, 2024[60]).

In 2023, Türkiye's steel demand is projected to expand by 19%, with further growth anticipated in 2024. This surge is attributed to the reconstruction efforts following the earthquake and a shift away from the unconventional monetary policies that previously deterred foreign investment. Similarly, in Other Europe, after a 2.5% decline in steel demand in 2022, a robust recovery is expected, with a 14.9% increase in 2023 and a 5.1% growth projected for 2024, reflecting an optimistic outlook for the region's steel consumption (World Steel Association, 2023[40]).

The CIS economies, especially Russia, are forecasted to experience modest growth in 2023, supported by oil revenues and a significant re-orientation of their trade flows following the introduction of sanctions. Nevertheless, the country is expected to face serious challenges due to Western sanctions. Other consequences of the prolonged war include workforce leakage due to emigration and military mobilisation. Hence, 2024 predicts a challenging economic landscape with currency depreciation, supply chain issues and war, impacting industrial production (World Steel Association, 2023[40]).

Meanwhile, Ukraine's steel demand is less than 40% of its pre-war demand level with no stabilisation and improvement visible before the war comes to an end. Overall, the CIS region is further expected to witness a slowdown of 2% to 3% in steel demand for the next two years (Acuity Knowledge Partners, 2023[45])

7.2.4. Africa and the Middle East

Egypt faces challenges due to the war in Ukraine, with high interest rates, currency depreciation, and increased production costs affecting steel demand and halting major projects, which impacts steel consumption. However, a slight improvement is expected in 2024 as inflation peaks in 2023. After a 9.4% increase in 2022, the region's steel demand is expected to fall by 3.5% in 2023 but recover by the same margin in 2024 (World Steel Association, 2023[40]).

The Middle East and North Africa (MENA) region's steel demand is projected to contract in 2024, impacted by declines in both the Gulf Cooperation Council (GCC) and North Africa. Following a strong 2022, GCC demand dipped in 2023, particularly due to slower construction in Saudi Arabia and Qatar. However, it is anticipated to rebound in 2024 driven by mega projects and housing demand, with the UAE showing resilience through its real estate and non-oil investments (World Steel Association, 2023[40]).

The Gulf region's growth rate has decelerated from 7.1% to 3.4% in 2023. Saudi Arabia, a key contributor, experienced a 4.8% reduction in steel use, attributed to project postponements and rising interest rates, while other Gulf countries saw stable consumption levels (SteelRadar, 2023[64]). The Gulf region outlook for 2024 is positive, expected to be driven by efforts towards economic diversification, the revival of the real estate sector, and key strategic projects (SteelRadar, 2023[64]).

The Saudi Arabian structural steel market is expected to grow at a CAGR of 4.90% between 2024 and 2032 (Expert Market Research, 2024[65]). The market is being driven by the building and construction sector across Saudi Arabia which is generating the demand for structural steel.

The North African region maintains a steady 4% growth rate, yet a significant 20% reduction in steel usage is projected for 2023, due to the completion of projects, delays in planned activities, and financial tactics concerning foreign exchange. The situation is likely to improve in 2024 as halted projects resume (SteelRadar, 2023[64]).

Annex A. Chinese provincial government programs for the steel industry released in 2023.

Province	Title	Instrument	Description
Shanxi	山西省钢铁行业转型升级 2023 年行动计划 (Shanxi Province’s 2023 action plan for transformation and upgrading of the steel industry)	Not specified	The program focuses on technological upgrades, special steel industry chain development, and green transitions. It emphasises mergers, resource security, and targeted policy support to modernise and enhance the industry's competitiveness.
Henan	河南省加快钢铁产业高质量发展实施方案（2023—2025 年）Henan Province’s Implementation Plan for Accelerating the High-Quality Development of the Steel Industry	Subsidies and other financial support	This program implements a comprehensive approach, focusing on technological modernisation, special steel industry chain development, and promoting green manufacturing practices. It incorporates strategies like mergers and resource security enhancement, coupled with targeted policy and financial support, to improve industry efficiency and global competitiveness.
Hebei	河北省人民政府办公厅关于印发河北省支持钢铁行业创新发展若干措施的通知 (Hebei Notice from the General Office of the People's Government of Hebei Province on issuing several measures to support the innovative development of the steel industry in Hebei Province)	R&D support not specified	This program focuses on enhancing research and development investment, nurturing innovative model enterprises, and optimizing technology innovation pathways. It includes building high-level steel laboratories, improving public service platforms, and encouraging breakthroughs in key areas, all aimed at promoting high-end, intelligent, and green development in the steel industry
Anhui	安徽印发 2023 年重点项目清单 多个项目涉及钢铁行业 Anhui issues a list of key projects in 2023. Many projects involve the steel industry	Financial support not specified	This program includes multiple projects involving the steel industry, emphasizing high-quality, collaborative development across various industries, with a focus on manufacturing, infrastructure, and social livelihoods. It aims to accelerate effective investment actions, drawing major investments to Anhui, and ensuring high-quality projects to support sustainable economic growth and development.
Fujian	福建省工业和信息化厅关于公布 2023 年度福建省钢铁行业差别电价资金项目奖励企业名单的通知 Notice from the Fujian Provincial Department of Industry and Information Technology on announcing the list of enterprises rewarded for the differential electricity price fund project in the steel industry in Fujian Province in 2023	Grants	The Fujian program awards firms for advancing technological upgrades and energy efficiency in the steel industry, focusing on capacity replacement projects and the adoption of innovative, sustainable practices. It aims to modernise the sector, enhance environmental sustainability, and promote the development of high-performance materials and smart manufacturing processes.
Hubei	省人民政府办公厅关于印发湖北省冶金产业转型升级实施方案（2023-2025 年）的通知 Notice of the General Office of the Provincial People’s Government on Issuing the Implementation Plan for the Transformation and Upgrading of the	Financial support including preferential taxes and grants	The program aims to modernise the province's metallurgical industry through innovation, efficiency, and green development. It focuses on revenue growth, product optimisation, and enhanced industry concentration, supported by governmental financial and policy incentives.

	Metallurgical Industry in Hubei Province (2023-2025)		
Jiangxi	江西省钢铁产业链现代化建设行动方案（2023-2026 年）Action Plan for modernisation of the steel industry chain in Jiangxi Province (2023-2026)	Financial support not specified	This program is designed to enhance the resilience, competitiveness, and security of the industry's supply chain. It aims to promote high-quality development of the steel industry in Jiangxi Province by advancing technological equipment, improving quality and brand recognition, increasing intelligent manufacturing, and ensuring sustainable green and low-carbon growth.
Zhejiang	浙江省住房和城乡建设厅关于印发《浙江省钢结构行业发展“十四五”规划》的通知 （Zhejiang） Notice from the Department of Housing and Urban-Rural Development of Zhejiang Province on the issuance of the “14th Five-Year Plan for the Development of the Steel Structure Industry in Zhejiang Province” (Zhejiang)	Financial support not specified	This program aims to promote the high-quality development of the steel structure industry, focusing on the transformation of product and production quality, government support, and the future development goals of the industry
Shaanxi	陕西省委省政府印发《进一步提振信心恢复活力推动经济社会平稳健康发展的若干措施》的通知制定了 50 项具体措施 (Shaanxi) The Shaanxi Provincial Party Committee and Provincial Government issued a notice on "Several Measures to Further Boost Confidence and Revitalize Vitality to Promote Stable and Healthy Economic and Social Development" and formulated 50 specific measures (Shaanxi)	Financial support including preferential taxes and grants	This program aimed at bolstering market confidence and revitalising key economic areas. The program supports the modernisation of traditional sectors like steel, non-ferrous metals, building materials, and textiles through technological upgrades.
Sichuan	四川省钢铁行业产能置换实施细则 Sichuan Province Steel Industry Capacity Replacement Implementation Rules	Regulations, financial support not specified	The program objective is to optimize the layout, adjust structures, and upgrade the steel industry in Sichuan Province while establishing a long-term management mechanism. The rules mandate that any construction projects involving iron-making and steelmaking equipment must have a capacity replacement plan that is publicly announced prior to approval.

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Endnotes

[1] Flat products are typically used in automotive, appliances, and construction.

[2] Please refer to https://www.oecd.org/economic-outlook.

[3] https://www.oecd.org/economic-outlook.

[4] There are actually central banks officials declarations that, should the inflation rate falls even minimally below their official target, they would promptly make monetary policy more expansionary.

[5] As per the first advance estimates of National Income released by India's National Statistical Office. Those estimates are subject to revisions based on actual data on tax collections, expenditure on subsidies, and other economic indicators as they become available. The underlying drivers mentioned in the reports suggest a generally positive outlook for the years ahead, contingent on sustained domestic consumption and investment.

[6] For more details, see https://www.mygov.in/life.

[7] This is because the infrastructure for renewable energy, including solar panels frames, wind turbines, and supporting structures, significantly uses steel. For example, wind turbines alone are already a large competitor to maritime construction for steel plates demand. Additionally, the development of electric vehicle (EV) ecosystems, encouraged by a shift towards sustainable lifestyles, could further drive steel demand, given that steel is a critical material for the manufacturing of EVs and related infrastructure.

[8] Structural steel is a category of steel used for making construction materials in a variety of shapes. Structural steel products are designed to have good strength/weight ratio and to be cost-effective.

[9] Price margins computed in this section only consider raw material, coking coal and steel prices. Steel firms financial price margins will additionally factor in fixed costs, labour costs, environmental and regulatory compliance costs, etc. Furthermore, the price margins computed are for the overall steel sector – whereas steel and raw material prices vary by jurisdiction.

[10] The raw materials basket for steel production is made up of 70% of the usual quantities of iron ore (1.6 tonne) and coking coal (0.77 tonne) needed to produce steel in the integrated process and 30% of the quantity of ferrous scrap (1.07 tonne) needed to produce steel in the electric arc furnace process.

[11] A word of caution is nevertheless warranted when interpreting the broad averages indicated in Figure 18. Indeed, price divergences observed and commented upon in this report for both steel and raw materials alike means that generic price margins should rather be estimated on a region-specific basis than as a world average.