STEEL MARKET DEVELOPMENTS

Q4 2019

OECD
BETTER POLICIES FOR BETTER LIVES

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DSTI/SC(2019)10/FINAL

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Recent market developments in the global steel industry

This document is part of a regular monitoring exercise to provide the Steel Committee with timely information on steel market developments. It provides an update on recent developments in steel markets, based on information available until June 2019.

1. Summary

Steel market fundamentals have continued to weaken during the first half of 2019. While steel production growth is still positive in many regions, steel prices have been under downward pressure recently. Important headwinds include weakening global economic activity, trade uncertainties, the pickup in new capacity investments, and the persistence of excess capacity.

This document provides an overview of recent steel market developments, the latest developments in global steelmaking capacity and in steel trade, and a brief overview and outlook for regional markets, based on information available until June 2019. It also discusses the iron ore Vale disaster and its possible implications for steelmakers' costs. To summarise, the following key developments are discussed in this report.

- **The economic situation**: The May 2019 OECD forecast points to a world GDP growth rate of 3.2% in 2019 and 3.4% in 2020, highlighting the current weakness of the manufacturing sector. Downside risks to GDP growth include the potential increase in trade frictions and financial vulnerabilities.
- **Steel demand**: Global steel consumption growth picked up to 4.9% in 2018. The largest increases were in People's Republic of China (which recorded a 7.9% growth rate), Africa (5.6%) and the E.U. (4.3%).
- **Steel exports**: Global steel exports continued to decline for most regions during the first three months of 2019. The largest export decreases (in y-o-y terms) were observed in the United States (-25.7%), Japan (-20.0%), and Iran (-70.3%). Steel export activity in the People's Republic of China (+12.7%) and Turkey (+16.7%) remained strong during these three months.
- **Steel and raw material prices**: Steel prices worldwide have generally remained flat during the first half of 2019, and price dispersion across regions has declined. During the first half of 2019, scrap prices decreased slightly, coking coal prices remained stable, and iron ore prices have increased, partly due to the iron ore Vale disaster (see Section 6.3).
- **Financial performance of steel companies**: After improvements registered in 2016 and 2017, the average profitability and indebtedness situation of steel companies deteriorated again in 2018. Many companies are unprofitable and highly indebted. Recent data also show that steel companies are increasingly relying on short-term debt. Companies taking on more debt to maintain or extend operations, in a context of weak global demand and excess capacity, could undermine the viability and sustainability of the sector as a whole.
- **Capacity**: The gap between capacity and production widened during the first half of 2019, after having narrowed slightly in 2018. In annualised terms, the gap between capacity and production currently stands at 440.0 mmt, up from 413.0 mmt in 2018.
- **Steel demand outlook**: Forecasts by the World Steel Association (worldsteel) released in April 2019 point to continued growth in global steel demand in 2019 and 2020, albeit at a slower pace (1.3% and 1.0%, respectively). Downside risks to the outlook include increased trade frictions and a weakening global economy.

2. OECD economic outlook

According to the May 2019 Economic Outlook, the OECD forecasts world GDP to grow by 3.2% in 2019 and 3.4% in 2020. Table 1 below indicates the latest available OECD GDP growth forecasts. In many countries, growth has been supported by easing financing conditions, which were reflected in declining government bond yields and increasing stock valuations throughout the first half of 2019. An accommodative fiscal stance also provided support in several economies. Nevertheless, manufacturing activity worldwide has continued to decelerate significantly, with data on global industrial production growth showing a marked slowdown in and the Markit global Manufacturing new export orders PMI indicating a contraction. Unemployment is still at the lowest level in several decade for most OECD economies, despite somewhat sluggish real wages growth.

In the euro area, real GDP is expected to grow by 1.2% in 2019 and 1.4% in 2020. Domestic demand is expected to continue to be supported by accommodative monetary and fiscal policy. Demand is also likely to continue to benefit from the resilience of private consumption due to robust labour markets, with unemployment rates standing at multi-year lows. Nevertheless, weak external demand and low business confidence are weighing on private investment. Faster efforts to develop the banking union could reinforce resilience to future crises.

In the United States (U.S.), real GDP is expected to grow by 2.8% in 2019 and 2.3% in 2020. Fiscal policy is expected to become less supportive and broadly neutral over the 2019-2020 period, as the effect of the fiscal stimulus introduced in 2017 and 2018 progressively wears off. Weaker global demand, as well as trade and policy uncertainties, are weighing on exports and investment, thus dampening economic activity. In spite of these factors, the U.S. labour market remains strong, with unemployment at its lowest point in decades and wages picking up, which should continue to underpin consumption growth. Risks to financial stability stem from historically high asset valuations, and the potential for a correction in these valuations, as well as a large amount of non-financial corporate debt, with the rating quality of newly issued corporate debt decreasing over time. In this low interest rate environment, regulators need to ensure that the quality of debt does not deteriorate further.

In Japan, economic growth is projected to be 0.7% in 2019 and 0.6% in 2020, supported by wage and investment growth which should boost private consumption. Fiscal measures are expected to cushion the negative impact on consumption resulting from the increase of the consumption tax (from 8% to 10%). The main risk to the Japanese economic outlook remains the country's fiscal sustainability, as Japan has the highest government debt-to-GDP ratio ever recorded in the OECD area.

In the People's Republic of China (hereafter "China"), GDP growth is expected to slow down to 6.2% in 2019 and to 6.0% in 2020. Growth has weakened gradually amid ongoing trade tensions and global uncertainties. Total exports and imports of capital goods have decelerated due to the gradual rebalancing of the economy between manufacturing and services, as well as to its greater reliance on domestic sourcing for the purchase of its capital goods. Domestic demand, in particular private consumption, has remained robust thanks to steadily rising disposable incomes. Infrastructure investment has increased, boosted by the increase of quotas for local government special bonds[1] and the easing of rules for private companies' bond issuance. Real estate investment, on the other hand, remains weak, and new residential housing is starting to decline. Business investment remains stable, particularly in services, as the economy continues to rebalance. Monetary policy tightened somewhat over the past year

by the restrictions placed on shadow banking, but a number of measures, including cuts in reserve ratio requirements, are ensuring that overall financial conditions have not tightened.[2] A number of different measures, including more stringent disclosure requirements to increase transparency, also aim to facilitate private firms' access to finance. Nevertheless, the removal of implicit government guarantees for State-Owned Enterprises (SOE) would be a necessary step to enable market-based pricing of risks and to increase lenders' efficiency in allocating resources, as noted in the May 2019 OECD Economic Outlook. According to the Outlook, eliminating restrictions on the entry of foreign firms would contribute to create a level playing field and would further increase resource allocation efficiency.

In India, GDP growth is projected to remain strong, reaching 7.2% in 2019 and 7.4% in 2020. Public investment continues to grow robustly, supported by public sector projects, e.g. in infrastructure. In contrast, private investment, particularly in manufacturing, has been affected by uncertainty ahead of the parliamentary elections, combined with persistent challenges with financing projects, acquiring land and obtaining all the necessary licences. Consumption in rural areas, in particular two-wheeler and tractor vehicle sales, has slowed due to subdued agricultural prices and wages. Fiscal policy is supporting consumption demand, with various welfare schemes targeting the poor being implemented.[3] According to the May 2019 OECD Economic Outlook, additional spending could be partly financed by winding down ineffective spending programmes, which would avoid increasing the relatively high public debt and crowding-out private investment. There seems to be room for expansionary monetary policy thanks to subdued inflation, but the continuously increasing share of non-performing loans is cause for concern. According to the May 2019 OECD Economic Outlook, improving public banks' governance would ensure a sounder allocation of resources. Implementing stringent rules for defaulting borrowers and time-bound resolution of insolvency procedures would also contribute to that goal. The exacerbation of geopolitical tensions and rising oil prices continue to pose downside risks to growth in India.

In Brazil, the economy continues to recover, albeit at a slow pace. GDP growth is forecast to reach 1.4% in 2019 and 2.3% in 2020, supported by private consumption. Uncertainty concerning the ability of the new administration to deliver reforms, in particular pension reform, is weighing on investment and business confidence. Growth in the services and primary sectors has helped to compensate for a contraction in industrial output. Low inflation, moderate wage growth and historically low interest rates are supporting private consumption. Financial conditions are projected to remain favourable, with credit growing for households, yet continuing to decline for the corporate sector. Current reform plans to strengthen competition in the financial sector are a promising step to reduce borrowing costs. Downside risks include a deteriorating fiscal position and a loss of business confidence, should the newly elected government fail to reach consensus on pension reform.

Table 1. OECD Economic Projections, May 2019

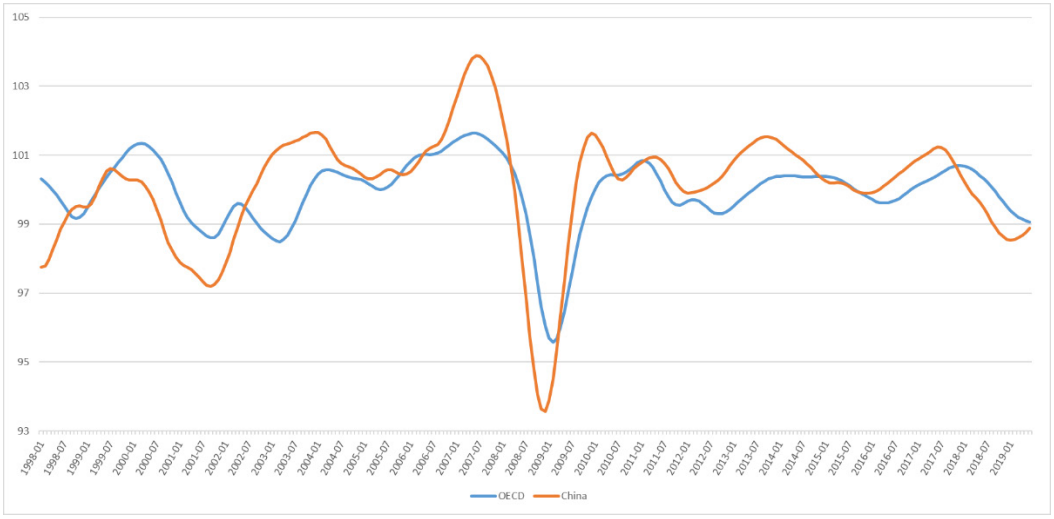
Real GDP growth (%)

	2016	2017	2018	2019	2020
World [1]	**3.1**	**3.7**	**3.5**	**3.2**	**3.4**
United States	1.6	2.2	2.9	2.8	2.3
Euro area	1.9	2.5	1.8	1.2	1.4
Germany	2.2	2.5	1.5	0.7	1.2
France	1.1	2.3	1.6	1.3	1.3
Italy	1.2	1.8	0.7	0.0	0.6
Spain	3.2	3.0	2.6	2.2	1.9
Japan	0.6	1.9	0.8	0.7	0.6
United Kingdom	1.8	1.8	1.4	1.2	1.0
Mexico	2.7	2.3	2.0	1.6	2.0
Korea	2.9	3.1	2.7	2.4	2.5
Canada	1.1	3.0	1.8	1.3	2.0
Turkey	3.2	7.4	2.6	-2.6	1.6
Australia	2.8	2.4	2.7	2.3	2.5
China	6.7	6.8	6.6	6.2	6.0
India [2]	8.2	7.2	7.0	7.2	7.4
Russia	0.3	1.6	2.3	1.4	2.1
Brazil	-3.3	1.1	1.1	1.4	2.3
Indonesia	5.0	5.1	5.2	5.1	5.1
South Africa	0.4	1.4	0.8	1.2	1.7
OECD [1]	**1.8**	**2.6**	**2.3**	**1.8**	**1.8**
Non-OECD [1]	**4.3**	**4.6**	**4.5**	**4.3**	**4.6**
World real GDP growth	**3.1**	**3.7**	**3.5**	**3.2**	**3.4**

Note: 1. Moving nominal GDP weights using purchasing power parities.
2. Fiscal years starting in April.
Source: OECD Economic Outlook, May 2019, at: http://www.oecd.org/eco/outlook/economic-outlook.

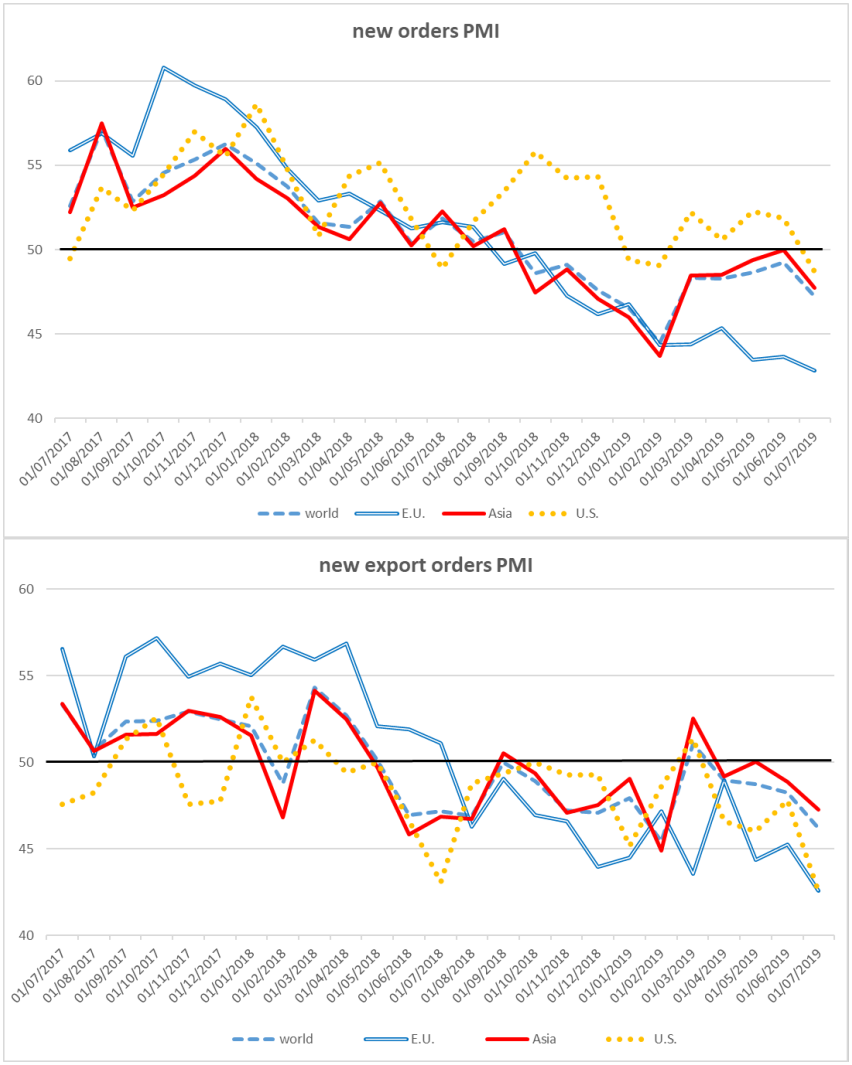
The OECD Composite Leading Indicator (CLI), which aims to capture early signals of turning points in business cycles, is currently at its lowest level since 2009 for OECD economies and China. A downward trending CLI, even in a context of positive real growth, suggests that the economy is approaching a downturn: the economy may still be experiencing growth above its longer-term level, but the situation will soon revert and growth will decrease until it is below its potential rate. The CLI for both the OECD area and China are at readings below 100 (i.e. below the trend of economic activity) and close to levels observed during the 2008 economic and financial crisis.

Figure 1. OECD Composite Leading Indicator



Note: The OECD Composite Leading Indicator takes into account a wide range of economic data, including consumer and business sentiment indicators, for 33 OECD countries, as well as some non-OECD countries. The series selected to build the indicator, for each economy, as well as the methodology used, are described in http://www.oecd.org/sdd/leading-indicators/oecd-cli-detailed-methodological-information.htm.
Source: (OECD, 2019[1])

Figure 2. Steel Purchasing Managers' indices (PMIs)

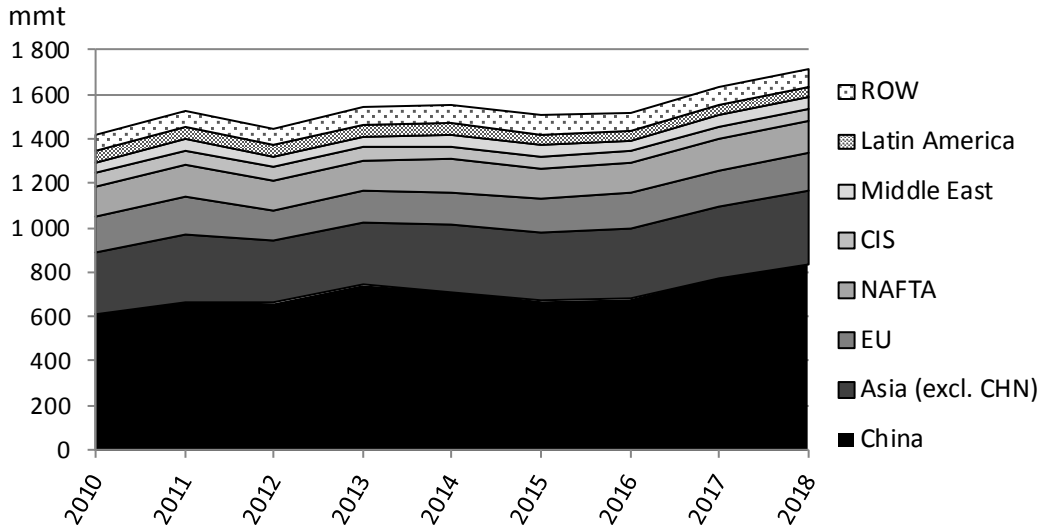


Note: An index less than 50 indicates that more purchasing managers expect a decrease over the next month than an increase.
Source: IJS Markit, via Datastream

3. Steel consumption

Global steel demand has been increasing gradually in recent years (Figure 3). The latest information suggests that apparent steel use (measured in terms of finished steel products) in 2018 reached 1 712.1 million metric tonnes (mmt), up 4.9% from the level attained in 2017 (1 632.5 mmt).[4] The increase in global steel demand was supported by China (which recorded a 7.9% growth rate), Africa (5.6%), the E.U. (4.3%), the Commonwealth of Independent States (CIS) region (3.5%), Asia (excluding China) (3.4%), Latin America (2.6%) and the North American Free Trade Agreement (NAFTA) region (1.5%). Steel demand decreased in the "Other Europe" (9.5%) and Middle East (6.0%) regions.

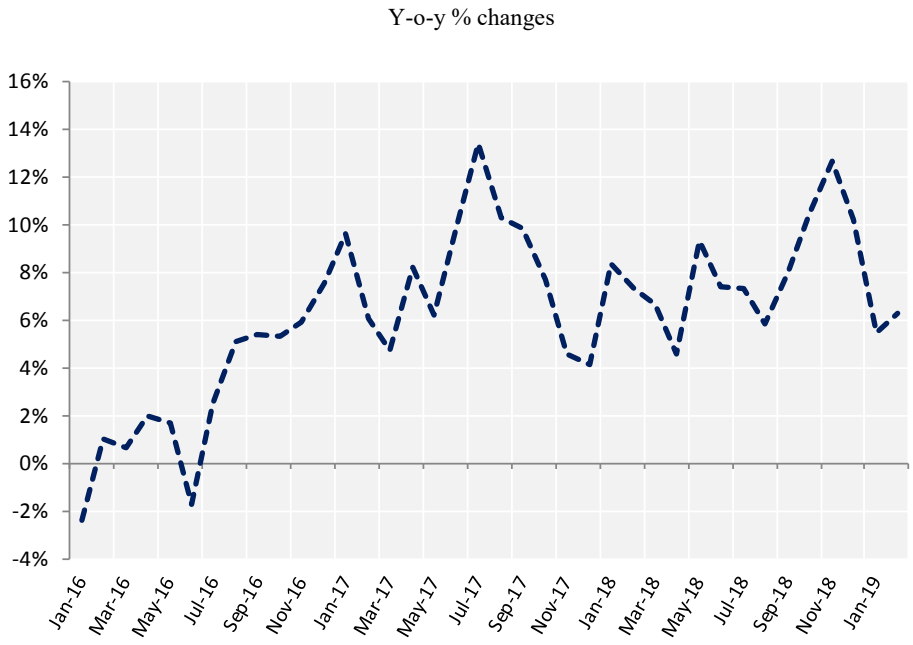
Figure 3. Apparent steel use (finished steel products)



Source: World Steel Association (worldsteel, 2019[2]).

To shed light on recent monthly developments, Figure 4 below presents the y-o-y percentage change in the combined consumption of hot-rolled products for the ten largest steel-consuming economies, which together account for approximately 72% of global steel demand. This indicator increased by an average of 5.8%, y-o-y, in the first two months of 2019.

Figure 4. Consumption of hot-rolled steel products, major economies (aggregate)



Note: Total represents the combined consumption of hot-rolled steel products of the following economies: Brazil, China, Germany, India, Italy, Japan, Korea, Mexico, Russia and the U.S. The consumption of hot-rolled products is defined as the sum of production and net imports (ISSB, 2019[3]).
Source: OECD calculations based on data from ISSB (International Steel Statistics Bureau).

3.1. Americas

According to data from the World Steel Association (worldsteel, 2019[2]), finished steel consumption in the U.S. increased by 2.6% in 2018 compared to the previous year. Housing and non-residential construction has been contributing to the growth of steel demand, while vehicle production in the U.S. also increased moderately by 1.1% in 2018 (Metal Expert, 2018[4]; OICA, 2019[5]). Steel demand in Mexico decreased by 4.2% in 2018 (worldsteel, 2019[2]). The Mexican manufacturing sector performed well in 2018, yet the country's construction market remained weak, reflecting low public and private investment, according to the Mexican steel producer Ternium (Ternium, 2019[6]). Conversely, steel demand in Canada increased in 2018 for the third consecutive year, showing a growth rate of 4.2% (worldsteel, 2019[2]).

Steel demand in Latin America has partially recovered from the lows of 2016, reaching 43.3 mmt in 2018, i.e. a 2.6% increase compared to 2017 (worldsteel, 2019[2]). In Brazil, the largest steel consuming economy in this region, apparent use of finished steel products increased by 7.7% in 2018 (worldsteel, 2019[2]). Construction activity in 2018 was weak compared to the previous year, but the automotive and machinery and equipment sectors performed strongly and more than offset the downturn experienced by the construction sector (Instituto Aço Brasil, 2018[7]). Elsewhere in the region, Argentina and Venezuela saw their domestic steel consumption decrease by 2.0% and 60.0% in 2018, respectively (worldsteel, 2019[2]). Argentina's steel demand recovery came to a halt last year due to the effects of the currency depreciation on steel-consuming sectors, such as construction and manufacturing industries (Platts, 2019[8]). The steel market in Venezuela continues to experience significant challenges

amidst ongoing strikes, a currency devaluation in August 2018 and the broader economic recession (Platts, 2019[8]).[5]

3.2. Africa and Middle East

In Africa, apparent use of finished steel in Egypt, the largest consumer in the region, recovered by 8.8% in 2018. Investment in the energy sector and a recovery in the real estate market have supported domestic steel demand in that economy (worldsteel, 2019[9]). Steel demand in South Africa remained flat in 2018 (zero growth). According to ArcelorMittal South Africa (AMSA), manufacturing, mining and construction, which are the major steel-consuming sectors in South Africa, showed no noticeable improvement in 2018 (AMSA, 2019[10]).

In the Middle East, Iranian apparent finished steel use contracted by 2.0% in 2018, partly reflecting the economic impacts of sanctions (worldsteel, 2019[9]).

3.3. Asia and Oceania

The reported 7.9% growth in Chinese apparent use of finished steel, which accounted for around 49% of the global total in 2018, includes the one-off statistical effect resulting from the closure of induction furnaces that were previously operating in the informal sector. Without this effect, the steel demand growth rate would have been 2.1% (worldsteel, 2019[9]). The recent growth in Chinese steel demand has been supported by government stimulus measures provided to boost construction activity (worldsteel, 2019[9]).

Steel demand in India, the third largest steel consuming economy in the world, remained strong. India became the second largest steel producer in 2018, registering 106.5 mmt of production (worldsteel, 2019[2]). Apparent use of finished steel products in 2018 increased by 8.2%. The implementation of government-driven large-scale infrastructure projects, such as housing, power transmission and railways, is contributing to the growth of domestic demand (Business Standard, 2018[11]).

In Japan, apparent use of finished steel products increased by 1.6% in 2018, supported by the favourable investment environment and construction activities, as well as a boost in consumer spending prior to the increase of the consumption tax in the autumn of 2019 (worldsteel, 2019[9]). Steel demand in Korea decreased by 4.9% in 2018 compared to the previous year, explained by a slowdown in the construction and shipbuilding sectors (KOSA, 2019[12]).

According to the South East Asia Iron and Steel Institute (SEAISI), apparent steel consumption in the Association of Southeast Asian Nations region (ASEAN-6, i.e. Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam), increased by 5% in 2018 to 80 million metric tonnes (Metal Expert, 2019[13]). Steel demand in Indonesia and the Philippines recorded strong growth, of 11% and 10.5% in 2018, respectively, mainly driven by the construction sector. Malaysia's steel consumption increased by 3.5%, supported by the government's stimulus measures that focussed on infrastructure projects (SEAISI, 2019[14]). Steel demand in Thailand has slightly recovered, doing so by 1% in 2018 in the wake of output growth in the construction and manufacturing sectors. Steel demand in Viet Nam recovered by 3% in 2018, after posting a decline of 5.8% in 2017, while Singapore's steel demand also increased by 3.5% last year.

3.4. Europe and CIS economies

A recent report by the European Steel Association (EUROFER) indicates that steel demand in the E.U. benefited from moderate growth in steel-using sectors in 2018 (Eurofer, 2019[15]). This was evidenced by the 2.7% increase in the Steel Weighted Industrial Production Index (SWIP).[6] Apparent steel consumption in the E.U. fell by 2.5% in the first quarter of 2019, in y-o-y terms, which was driven by the construction industry (where output increased by 4.9%, y-o-y, during the first quarter of 2019), but offset to some extent by the automotive industry (where output decreased by 5.1% y-o-y). Construction activity was supported by both residential and non-residential demand. In western European countries, real estate markets continued to experience growth, driven by strong private demand for housing and supported by rising incomes and greater household access to financing. In central European countries, construction activity was driven by infrastructure projects and healthy domestic conditions. In contrast, activity in the automotive industry fell in the first quarter of 2019 due to weak domestic and export demand for passenger cars. Production in Germany and Italy fell by around 10%, y-o-y, and other western European countries also registered declines in production.

Apparent use of finished steel products in Turkey declined by 14.8% in 2018, owing declining investment in construction and machinery, and a contraction in automotive production (OECD, 2019[16]; Turkey Automotive Manufacturers, 2019[17]). The depreciation of the lira increased the debt-servicing requirements of firms and consumers who had borrowed in dollars or euros. As a result, previously available credit from abroad became scarcer and economic activity contracted (The Economist, 2019[18]).

In the Commonwealth of Independent States (CIS) region, Russian apparent use of finished steel products grew by 0.7% in 2018, compared with the previous year. This was mainly driven by new infrastructure projects and investments to modernise downstream industries, including digitalisation-related investments, and investments for environmental and energy efficiency purposes (Russian Steel, 2019[19]). In Ukraine, apparent steel consumption increased by 2.2% in 2018. According to the Ukrainian steel company Metinvest, demand growth was supported by key steel-consuming industries, such as the construction and railway industries (Metinvest, 2019[20]).

4. Steel production

World crude steel production increased by 5.1% in the first half of 2019 compared to the same period of the previous year, but there were significant differences across regions (Table 2). The strongest regional year-on-year growth over the first half of 2019 occurred in Asia (7.6%) and in Africa (7.6%). Steel production growth was also robust in the Middle East (4.3%). In contrast, North America experienced only moderate production growth (1.4%), and production contracted in Other Europe (-8%), in Oceania (-6%), in the E.U. (-2.5%) and in South America (-1.6%).

Table 2. World crude steel production developments in 2019

	Level, thousand mmt		% change, year-on-year		
	Jun 2019	**2018**	**Jun 2019**	**Jan-Jun 2019 /Jan-Jun 2018**	**2018 / 2017**
EU	13 790	167 742	-3.0	-2.5	-0.4
Other Europe	3 026	40 821	-8.4	-8.0	0.5
CIS	8 229	100 729	-2.6	0.0	-0.2
North America	9 874	120 285	-0.2	1.4	3.9
South America	3 563	44 279	-3.1	-1.6	1.4
Africa	1 234	14 530	0.7	7.6	6.9
Middle East	3 108	35 582	3.4	4.3	11.1
Asia, of which:	115 622	1 259 371	7.4	7.6	6.4
China	87 533	924 814	10.0	10.2	7.0
Oceania	534	6 341	-4.4	-6.0	5.9
World	158 978	1 789 680	4.6	5.1	5.0

Source: World Steel Association, as of June 2019. Data are based on monthly production data and can differ slightly from annual data published after December of each year.

4.1. Americas

In North America, total crude steel production increased moderately, growing by about 1.4% year-on-year during the first half of 2019, a significant slowdown from the 3.9% annual growth rate registered in 2018 for the region. This moderate growth reflects marked divergences among the economies of the region. The U.S. registered strong steel production growth (5.4%), while the Mexican and Canadian steel industries saw production fall sharply (-7.5% and -10.9%, respectively).

In Latin America, steel production contracted by 1.6% during the first half of 2019, compared to the same period in 2018. The very subdued pace of growth in Brazil (+0.5%) could not compensate for the large steel production declines observed in Argentina (-9%), Chile (-17%), Colombia (-12%) and Venezuela (-64%).

4.2. Africa and the Middle East

African steel production increased by 7.6% in the first half of 2019, reaching 7.7 mmt of crude steel produced during the first half of 2019. The increase was driven by very strong and stable production growth in Egypt (13.6%), while steel production decreased in South Africa (-2%)

In the Middle East, steel production growth was more moderate in the first half of 2019 (4.3%), with output reaching a level of 18.3 mmt, compared to the pace of growth witnessed in 2018 (11.1%). Steel production growth in the first half of 2019 was mainly led by Iran (5.6%), while Saudi Arabia's steel production grew by a moderate 1.5%.

4.3. Asia and Oceania

Crude steel production increased by 7.6% in Asia in the first half of 2019, reaching a level of 659.6 mmt, compared to 612.8 mmt produced during the first half of 2018. The increase was led by double-digit growth in Chinese steel production (+10.2%), which brought production to a total of 491.6 mmt during the first half of 2019 compared to a level of 446.1 mmt produced during the first half of 2018. Steel production increased strongly in Viet Nam (+31%), while in India it was also robust (+5%), with somewhat more moderate growth in Chinese Taipei (+1.1%) and in Korea (+1.1%). On the other hand, steel production decreased in Japan (-3.6%), while Thailand experienced a significant contraction of 35%.

In Oceania, Australian crude steel production decreased by 7%, falling to a level of 2.7 mmt during the first half of 2019, compared to 2.9 mmt over the same period in 2018.

4.4. Europe and CIS economies

In the E.U., steel production experienced a year-on-year decline of 2.5% in the first half of 2019. The decrease was led by Poland (-6%), followed by Germany (-5.1%) and France (-3.5%). Italian production also contracted (-2%) while Spanish steel production remained broadly unchanged.

In the "Other Europe" region, steel output declined by 8% over the first half of 2019, driven by the decline in Turkish steel output of 10.1%. In the CIS region, steel output was stable. Russian output decreased slightly (-0.7%), but the decrease was compensated by recovery in Ukrainian steel production, which expanded by 5.2% following last year's decline.

5. World steel trade

Table 3 presents recent data on steel trade developments in the 10 largest steel-producing economies. Exports from China increased by 12.7% in the first three months of 2019 compared to the same period in the previous year. Exports from the E.U. (external trade) and India have declined, by 0.7% and 2.5%, y-o-y, respectively, during January-March 2019. Exports from Japan and the U.S. declined sharply, i.e. by 20.0% and 25.7%, y-o-y, respectively in the period January-March 2019. Steel exports from Korea and Russia have also decreased during the first three months of 2019, by 2.5% and 5.0%, respectively. Conversely, exports from Turkey and Brazil increased by 16.7% and 3.2%, y-o-y, in the first three months of 2019, respectively. Iran, which has recently begun to experience strong steel export growth (exporting 9.2 mmt of steel in 2018, an increase of 145% compared to 2015), recorded a 15.7% decline in export shipments in the first three months of this year.

Turning to steel imports, the E.U. and the U.S., the largest steel-importing economies, saw steel imports decrease by 1.3% and 4.8%, respectively, in January-March 2019, compared to the corresponding period in 2018. The volume of imported steel products in India, Japan, Korea and Brazil increased in the first three months of 2019, by 21.9%, 15.9%, 12.1% and 4.3%, y-o-y, respectively. Steel imports in China and Russia declined by 17.1% 8.7%, y-o-y, during the same time period, respectively. Turkey and Iran recorded significant decreases in steel imports of 31.1% and 70.3%, respectively, likely reflecting developments in domestic markets (see Section 3.).

Table 3. Steel trade developments across major steel-producing economies

Thousands of metric tonnes		2015	2016	2017	2018	2019 Jan-Mar	2018 Jan-Mar	% change, y-o-y Jan-Mar 2019
China (People's Republic of)	**Exports**	110 928	107 531	74 238	68 107	16 729	14 843	12.7%
	Imports	13 048	13 467	13 792	14 221	3 158	3 809	-17.1%
EU-28 (external trade)	**Exports**	32 998	29 193	30 508	27 807	6 747	6 796	-0.7%
	Imports	37 385	41 150	41 702	45 643	11 598	11 749	-1.3%
India	**Exports**	7 117	9 933	15 964	10 687	3 097	3 177	-2.5%
	Imports	13 249	9 857	8 818	8 964	2 381	1 953	21.9%
Japan	**Exports**	40 720	40 452	37 408	35 782	7 422	9 276	-20.0%
	Imports	5 850	5 965	6 186	5 992	1 710	1 476	15.9%
United States	**Exports**	9 620	8 920	10 081	8 476	1 790	2 409	-25.7%
	Imports	35 564	29 918	34 327	30 612	7 413	7 786	-4.8%
Korea	**Exports**	31 077	30 504	31 254	29 959	7 555	7 750	-2.5%
	Imports	21 546	23 168	19 208	14 818	4 414	3 937	12.1%
Russian Federation	**Exports**	29 605	31 104	31 087	33 265	7 699	8 108	-5.0%
	Imports	4 309	4 389	6 407	6 282	1 382	1 514	-8.7%
Turkey	**Exports**	14 687	15 117	16 083	19 552	5 230	4 483	16.7%
	Imports	18 415	15 344	13 352	10 258	2 019	2 930	-31.1%
Brazil	**Exports**	13 624	13 378	15 301	13 903	3 680	3 566	3.2%
	Imports	3 141	1 827	2 275	2 339	595	571	4.3%
Iran	**Exports**	3 764	5 623	7 336	9 235	2 356	2 795	-15.7%
	Imports	4 396	4 652	3 065	1 757	217	729	-70.3%

Definition: HS 7206 to 7302, 7304-7306, and 7307.21-7307.99 excluding some forgings (7326.19), points and switches/crossings (7302.30 and 7302.90), some forged cold finished sections (7216.69 and 7216.99), some cold formed sections (7216.61 and 7216.91), welded shapes and sections (7301.20) and steel castings (7325.99).
Note: The economies listed in this table are the major crude steel producing economies by production volume in 2018 (worldsteel, 2019[2]).
Source: OECD calculations based on data from ISSB (International Steel Statistics Bureau).

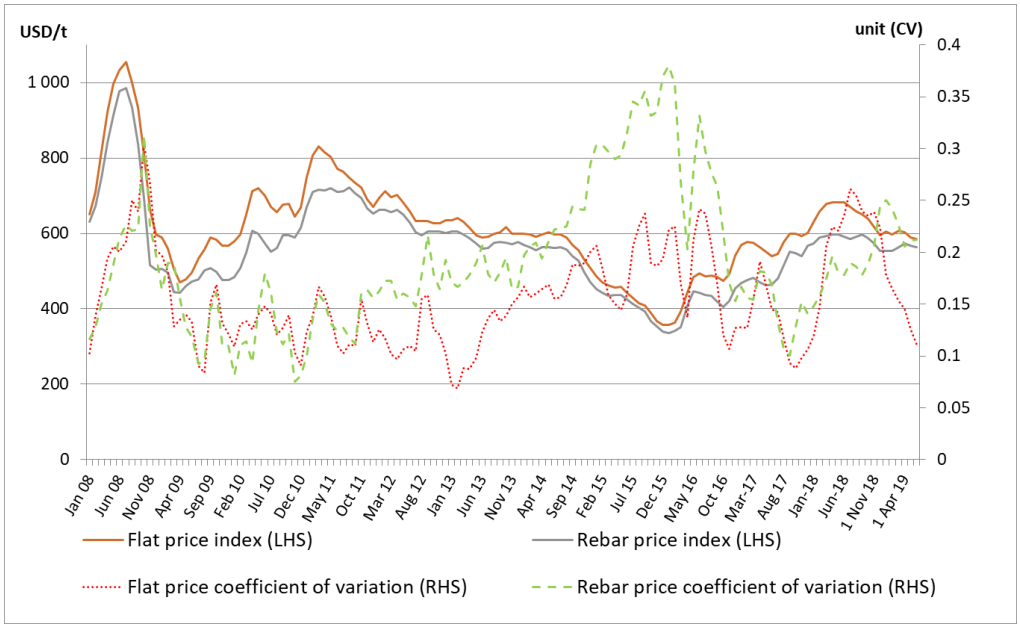
6. Steel and steelmaking raw material prices

6.1. Steel prices

The uptick in steel demand from 2016 onwards prompted steel prices to rebound from their 2015 lows, but the trend was short-lived. Indeed, both world hot-rolled coil (HRC) and rebar prices have steadily declined from their May 2018 heights, and have stabilised since the beginning of 2019. On 1 June 2019, flat and rebar price indexes computed based on Platt's regional prices stood at USD 585.4 per tonne and USD 563.9 per tonne, respectively, very similar to their 2013-2014 levels, and with a similar price differential between the two products as that seen in 2013-2014. These price levels have remained stable since the beginning of this year (Figure 5).

Interestingly, differences in prices across regions have narrowed, particularly for flat products, as reflected in the decrease in the price dispersion indicators depicted in Figure 5. As regional price dispersion has previously been associated with significant price declines (e.g. during 2015, price dispersion was very high and the price index at its lowest level during the whole 2008-2018 period), a decrease in price dispersion could indicate some stability of the current price levels. A flat outlook for steel prices was also the forecast made by Markit at its Pricing and Purchasing Seminar in May 2019.[7]

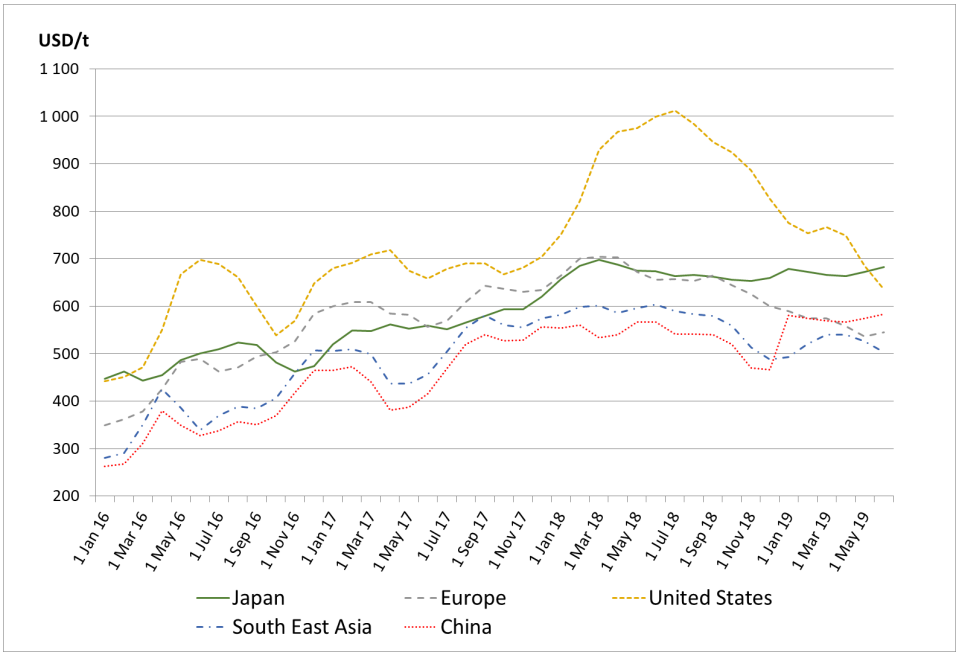
Figure 5. Aggregate flat and rebar steel prices (latest June 2019)



Notes: The flat price and rebar price indices are defined as the arithmetic average of the individual regional Platts price series for the U.S., North Europe, China, Japan, India and Russia, when available. This simple arithmetic average had the closest fit to the two global Platts price indices used in Market reports prior to the two global price indices being discontinued by Platts (from September 2017 onwards). The coefficients of variation (CV) are defined as the ratio of the standard deviation of the regional Platts price series making up the indices to their (arithmetic) mean, and thus captures price dispersion across regions.
Source: Platts Steel Business Briefing.

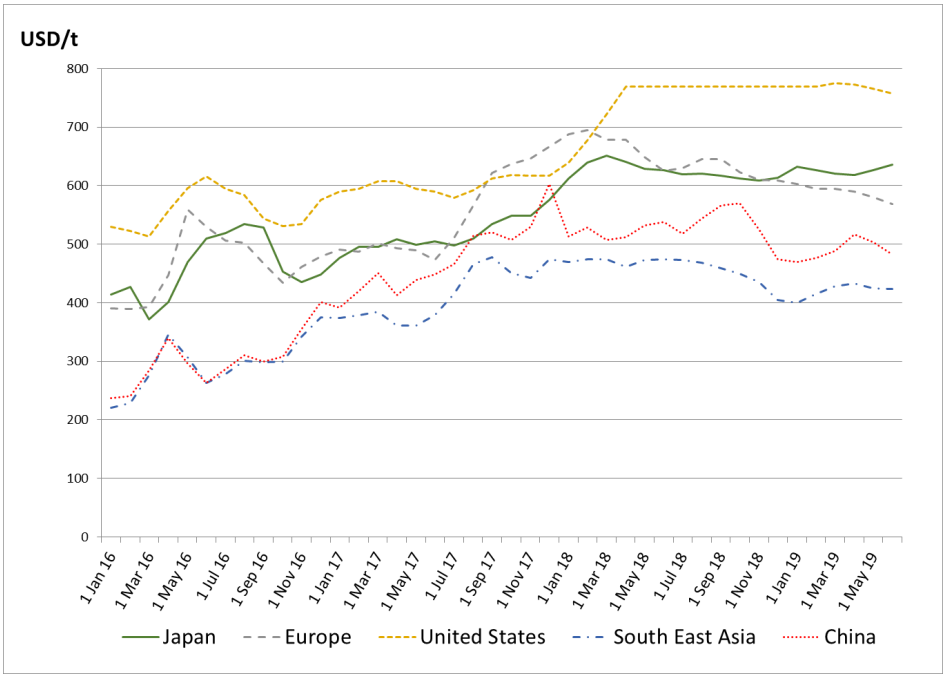
Flat steel prices increased more rapidly in the U.S. than in other economies during the first half of 2018, but changed course during the second half of the year (Figure 6), completely reversing those gains. Platt's published a stable U.S. rebar steel price during most of the period, arguing that market players had adopted a "wait and see" attitude which precluded giving any direction to U.S. rebar prices (Figure 7). Other regional prices also seem to confirm that steel prices remained relatively stable during the first half of 2019 (Figure 6, Figure 7).

Figure 6. Steel price for flat products, by region



Source: Platts Steel Business Briefing.

Figure 7. Steel price for rebar products, by region



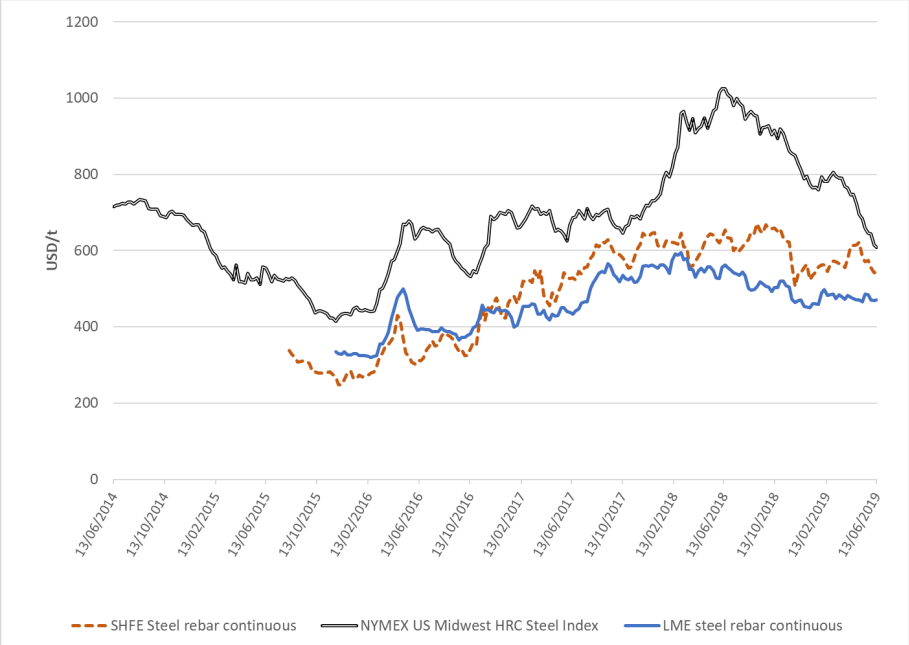
Note: The stabilisation of U.S. rebar price from May 2018 to March 2019 is explained by a market attitude of "wait and see" since the new, higher price level has been reached, according to the explanation provided by Platt's analysts to the OECD Secretariat on June 2018.
Source: Platts Steel Business Briefing.

As discussed in a previous report on steel market developments (OECD, 2018[21]), steel futures prices tend to move slightly in advance of spot prices[8], suggesting that they are able to predict steel spot price dynamics at the daily frequency by quickly incorporating new market information.

For the purpose of analysis, this paper uses continuous steel price indices, constructed from a number of steel futures contracts by rolling them over. More precisely, each month the price data are extracted from a different steel contract price series of the same maturity as the contract used one month prior. Figure 8 below shows three steel futures continuous contracts, as provided by Thomson Reuters Datastream. There has been a steady decrease in steel futures prices since early- to mid-2018, reversing some of the previous gains.

Figure 8. Steel futures prices

Indices of three continuously rolled steel futures contract prices, USD per tonne



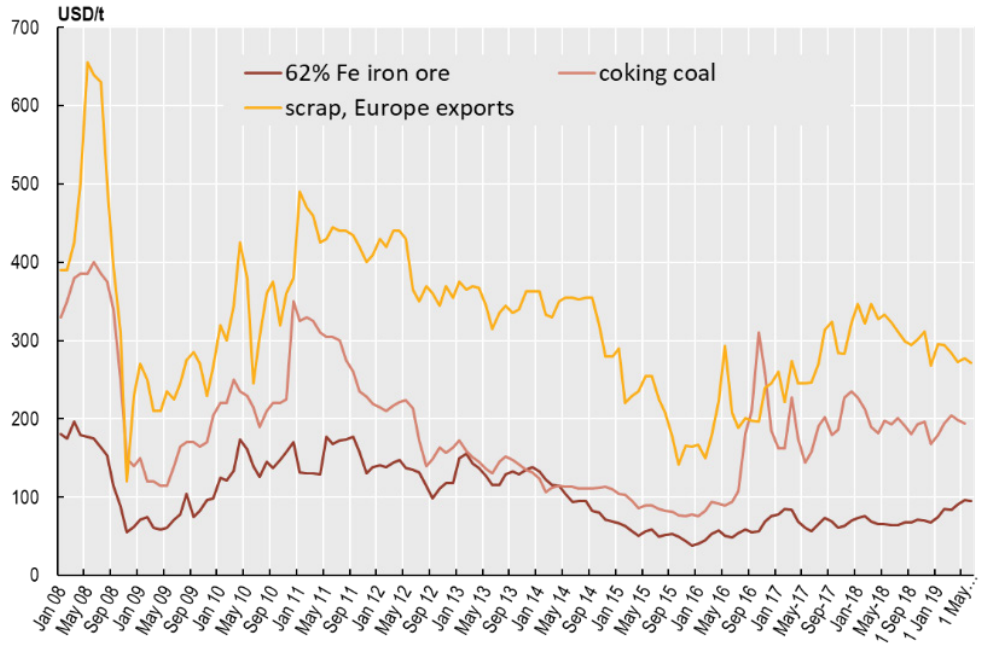
Note: NYMEX US Midwest futures prices were converted to correspond to *metric* tonnes rather than short tons. SHFE Steel rebar futures prices were converted from RMB to USD using daily exchange rates at closing. For more information on contract specifications, please refer to https://www.lme.com/en-GB/Metals/Ferrous/Steel-Rebar#tabIndex=0 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 thorough description of futures contracts and steel futures markets, see (OECD, 2018[21]).
Source: Thomson Reuters, Datastream.

6.2. Steelmaking raw material prices

Prices of the main steelmaking raw materials have followed divergent trajectories in 2019. European scrap export prices (Rotterdam, FOB) have continued to decrease, falling to USD 271 per tonne in June 2019 (Figure 9), while the Chinese scrap price has seen its climb stall (Figure 10). Coking coal prices have fluctuated around the same level since January 2017, and in June 2019 stood at USD 194 per tonne. Iron ore prices increased during the first half of 2019, from USD 74.6 per tonne in January 2019 to USD 95.7 per tonne in June 2019

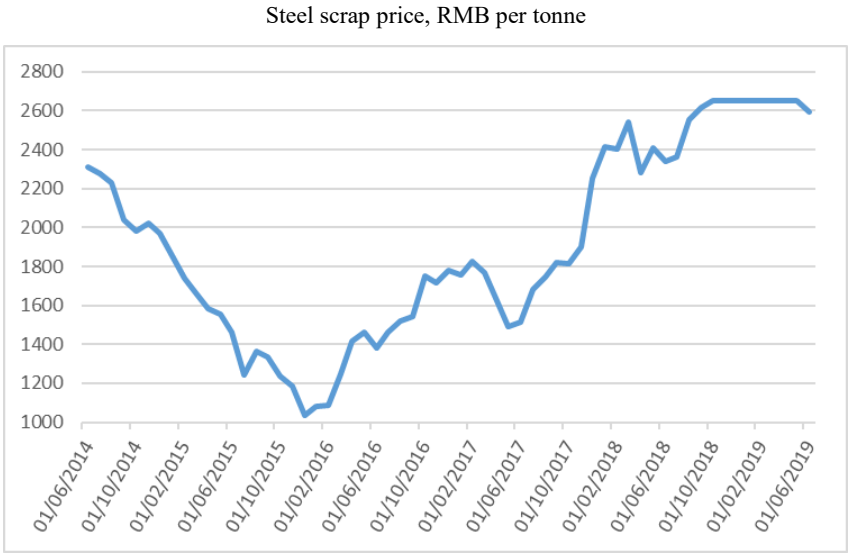
(Figure 9). However, iron ore price dynamics are more likely to reflect the Vale iron ore disaster in Brazil (see Section 6.3), rather than long-term fundamentals in the iron ore market.Overall, profit margins, as approximated by the difference between the prices of steel and a basket of steel inputs, have continued their downward trend (Figure 11).

Figure 9. Prices for key steel-making raw materials



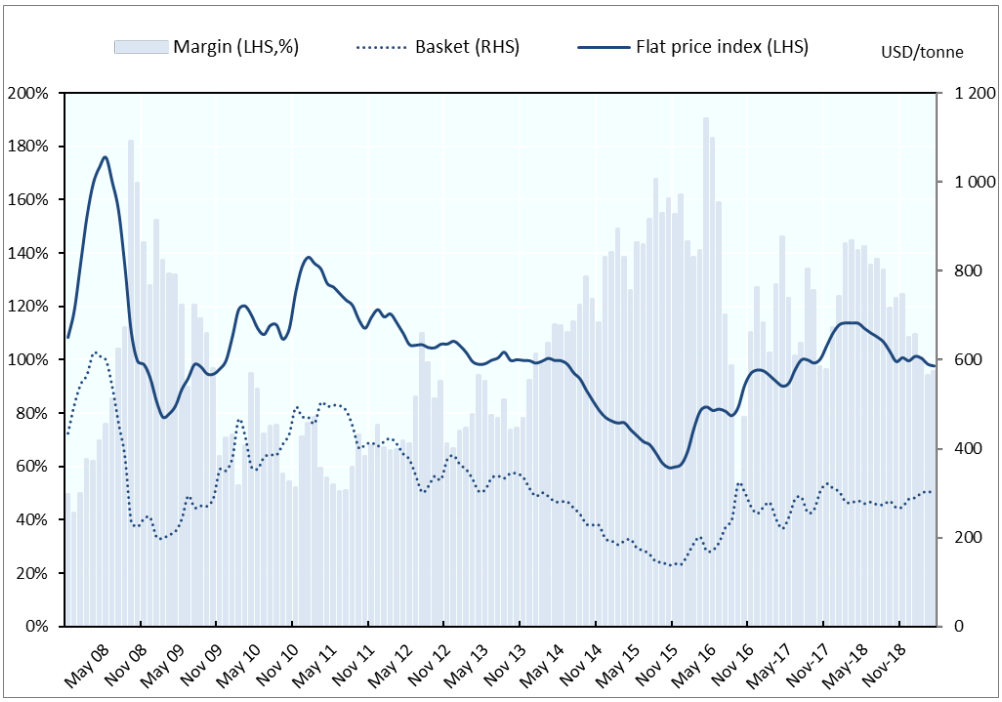
Note: The iron ore price series is Platt's "*Forwards / SGX 62% Fe Iron Ore cash-settled swaps (dry metric tonne) / China import CFR Tianjin port $/t*"; the coking coal price series is Datastream's "*Premium Coking Coal Australia*"; the scrap price series is Platt's "*Scrap / Platts TSI HMS 1&2 (75:25) / Europe export FOB Rotterdam $/t*"
Source: Platts Steel Business Briefing (SBB), Datastream.

Figure 10. Upward trend in Chinese scrap prices has recently stabilised



Source: Datastream price series "Steel Scrap Price Index SHCNFSI - PRICE INDEX", originally sourced from Home Steel.

Figure 11. Margin between steel and raw material prices



Note: The raw materials basket for steel production includes 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 (see OECD, 2016). Prices used are as follows: Iron ore Fines, 62% Fe, SPOT, CFR China; Hard coking coal spot, FOB Australia; Scrap, #1 HMS, FOB Rotterdam. The basket is compared against HRC world prices. The margin is defined as the per cent difference between the steel flat price and the raw materials basket price.
Source: OECD calculations based on Platts Steel Business Briefing.

6.3. Special feature: a look at regional iron ore use and costs following Vale's dam disaster

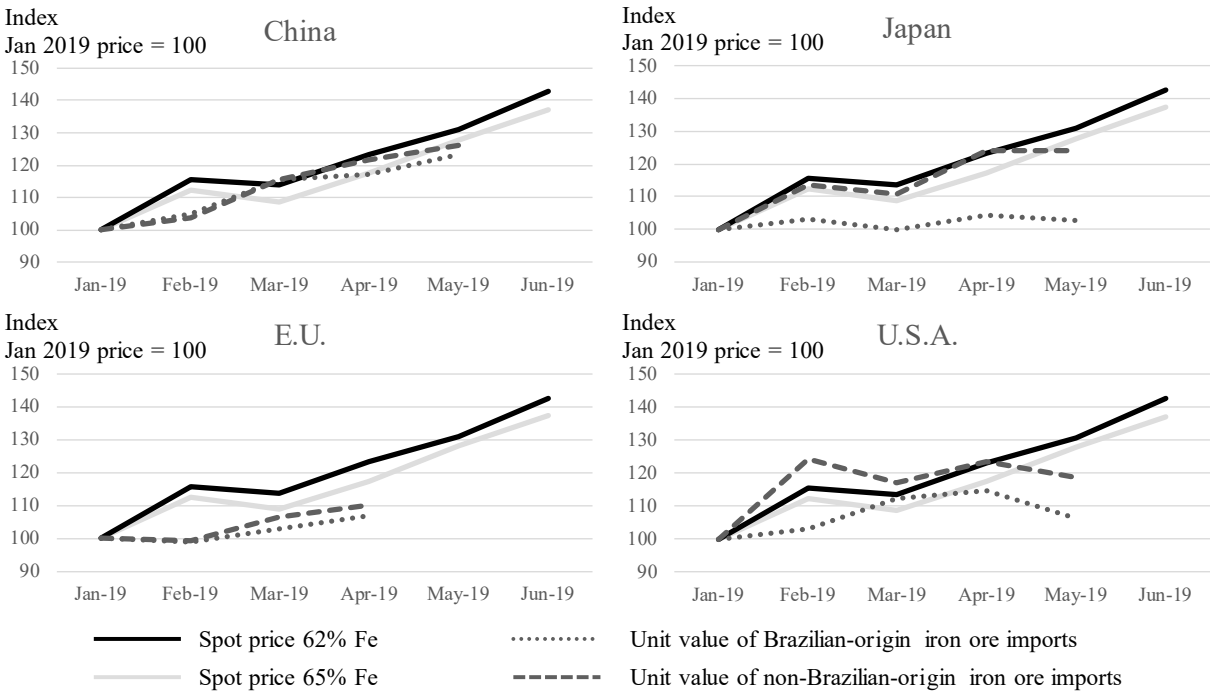
On 25 January 2019, the tailing dam at one of Vale's mines collapsed causing many deaths (Reuters, 2019[22]). Tailing dams are areas used to stock the non-commercial by-products of iron-ore separation. The collapse triggered a series of investigations (including criminal) and resulted in the temporary closure of other Brazilian mines with tailing dams considered unsafe (Reuters, 2019[23]).

Vale is the largest iron-ore miner in the world and Brazil the second-largest iron-ore exporting economy after Australia.[9] In 2018, Brazil exported 394 mmt of iron ore, equivalent to 25% of total global exports. The dam accident caused a substantial contraction in expected iron-ore supply from Vale, and from Brazil more broadly, for the year 2019, with the impact on production expected to continue through 2020 and 2021. Vale's updated "guidance" indicates iron-ore sales of between 307 and 332 mmt for the year 2019, a decline of between 33 and 58 mmt compared to 2018 (Vale, 2019[24]). Globally, this is likely to be partly offset by other miners' increase in production. However, this offset has not taken place during the first half of 2019, when also other miners suffered disruptions to production and shipments (Anglo American Ltd, 2019[25]; BHP Billiton, 2019[26]; Rio Tinto, 2019[27]).

Since news of the dam rupture, iron-ore prices have risen by 42.7%, from USD 76.05 per tonne (62% Fe) in January to USD 108.5 per tonne in June 2019. However, not all iron-ore imports have appreciated in line with spot prices. In particular, in the importing economies shown in Figure 12, the unit value of iron-ore imports of Brazilian origin has lagged behind and in some cases has not increased as much as iron-ore spot prices or the unit value of imports of non-Brazilian origin. This suggests that tightness in Brazilian supply has so far benefited mostly non-Brazilian iron-ore exporters. It is possible that this trend will change, particularly if the premium for the high-grade iron ore, mostly exported by Brazilian miners, were to increase.[10]

It is important to note that the unit value of Brazilian imports lagged more markedly in Japan, suggesting that a different pricing mechanism for iron-ore imports of Brazilian origin may be at play (for example scheduled contract negotiations or a longer time lag in the tracking of spot prices by these longer-term contracts). By contrast in China, where steel mills mostly buy iron ore on the spot market, the unit value of iron-ore imports moved in closer alignment with monthly spot prices.

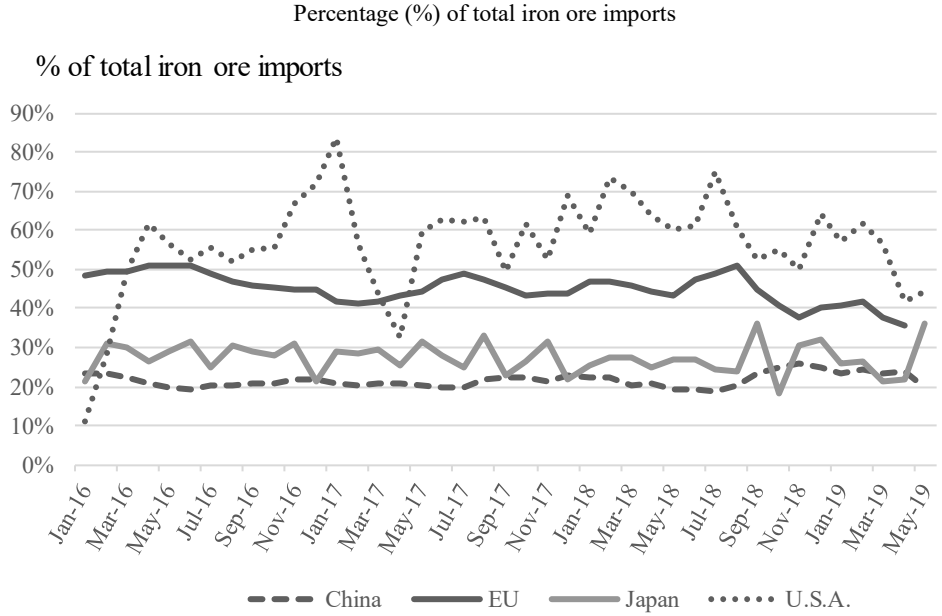
Figure 12. Iron ore prices and unit value of imports in selected steelmaking economies



Note: The unit value of iron ore imports is calculated as the value of monthly iron ore imports expressed in USD divided by the quantity of monthly iron ore imports expressed in tonnes. It is calculated on imports of agglomerated and non-agglomerated ore. These two categories include all traded iron ore products: fines, pellets and lumps.
Source: OECD calculations based on ISSB, Platts, and SteelHome.

What are the implications of recent developments for steelmakers? First, the use of Brazilian-origin iron ores in steelmaking raw-materials mixes has already started to decline in three of the regions shown in Figure 13. This trend could persist and strengthen later in the year, if lower shipments take time to show in import statistics, with lags longer for the farthest destinations. Second, as non-Brazilian ores have so far appreciated more than Brazilian ores, a potential future acceleration of price rises for Brazilian ores may amplify the inflationary effect of higher iron ore prices on steelmakers' costs, should high iron-ore prices persist. Third, it should also be pointed out that although the U.S. source most of their iron-ore imports from Brazil, the absolute values are very low because most of the iron ore used in the U.S. is sourced domestically. It is therefore likely that changes to the seaborne iron-ore supply will have a smaller effect on steelmaking costs in the U.S., when compared to large iron ore importing economies such as China, the E.U. and Japan (see Figure 14 and Figure 15).

Figure 13. Share of iron ore sourced from Brazil in total iron-ore imports of major steel-producing economies



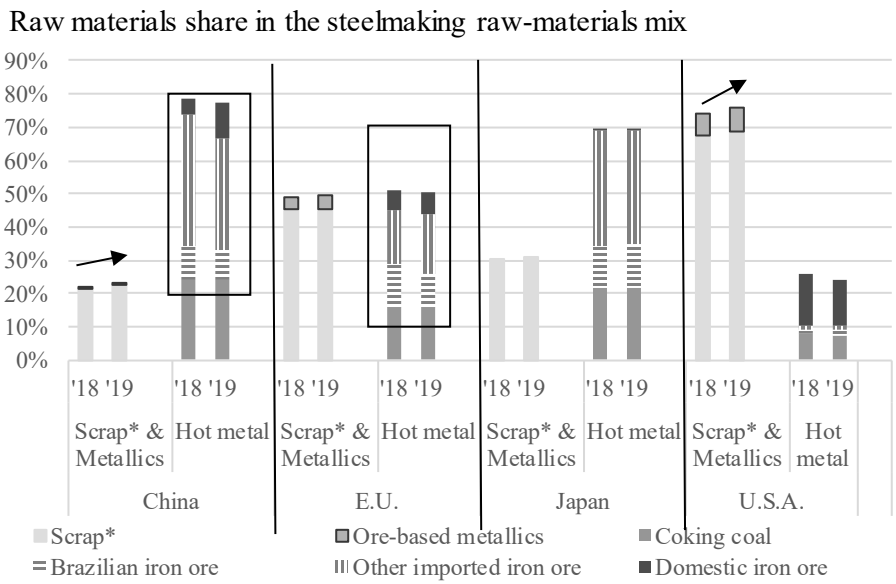
Note: Higher volatility in the U.S. is due to the low volume of U.S. iron-ore imports. The U.S. mostly sources iron ore domestically. In 2018, domestic supplies accounted for an estimated 85% of U.S. iron-ore requirements. The estimate is calculated as the iron ore required to support U.S. production of hot-metal and DRI, once iron-ore imports are accounted for.
Source: OECD calculations based on ISSB data.

Iron ore sourced from Brazil seems to have been substituted with iron ores of different origin, not only imported but also domestically produced, in certain steel-producing economies during the period January to May 2019 compared to January to May 2018. This is most notable in China and in the E.U., as shown by the black squares in Figure 14. However, less substitution appears to have taken place in Japan. [11]

It also appears that scrap started to substitute for hot metal in the steelmaking mix. During the first few months of 2019, this shift happened most visibly in China and in the U.S., as shown by the arrows in Figure 14. Figure 14 shows the change in the mix of raw materials required to produce an average tonne of crude steel between early 2018 and early 2019. In the economies analysed, the fraction of hot metal in steelmaking has declined since January 2019 in favour of greater scrap use or a combination of greater scrap use and other metallics (see note in Figure 14).

Figure 14. Raw materials in steelmaking by volume, averages by economy

Raw materials share (%) in the steelmaking raw material mix



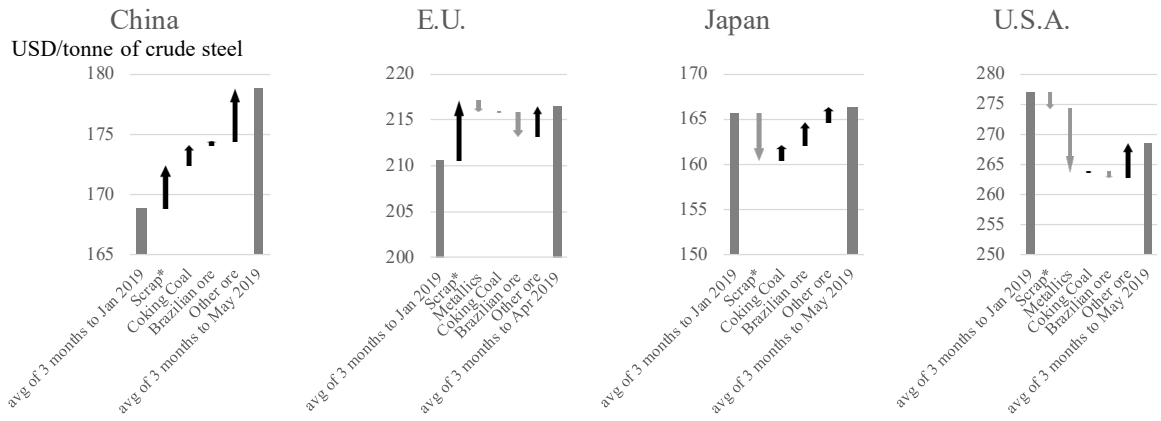
Note: The chart shows the apparent consumption of steelmaking raw materials by economy. The calculation is based on the first five months of statistics in 2018 and 2019 for China, Japan and the U.S., and on the first four months for the E.U. — data for the E.U. are only available until April 2019. The calculations rely upon reported data for crude-steel production, hot-metal and DRI production, and iron ore imports. Rates of raw materials use in steelmaking are as per Figure 11. *Domestic iron* ore is a residual calculated as the iron ore required by hot-metal and DRI production, once iron-ore net imports are accounted for. As such, domestic iron ore represents the sum of domestic iron ore production, change in iron ore stocks and reporting errors. The E.U. is treated as one trading entity throughout the paper. Ore-based metallics are imports of pig iron and DRI, The *scrap** share is the residual metallic required by reported crude-steel production, once hot-metal production and imports of ore-based metallics are accounted for. As a residual, the scrap* series is most accurately understood as the sum of scrap consumption, the stock change of ore-based metallics, and errors in the reporting of trade, production of crude steel and production of hot metal. As such, the calculation warrants two caveats. Firstly, it is sensitive to a change in metallics stock. Imports of ore-based metallics are small relative to the total raw-materials mix – in 2018, imports of ore-based metallics accounted for 1% of raw-materials requirement across all 4 economies and 7% in the U.S., the largest consumer. Additionally DRI is difficult to store (Dutta and Sah, 2014[28]), suggesting that the impact of stock change on the calculation of scrap* as a residual is likely to be negligible and geographically limited to the U.S. and, to a lesser extent, the E.U. Secondly, the calculation is sensitive to reporting of crude-steel and hot-metal production. Revisions to reported hot-metal production could perceptibly change the level of implied scrap consumption.
Source: OECD calculations based on ISSB and worldsteel data.

The shift towards scrap cannot be attributed solely to disruptions of Brazilian iron-ore supply, as iron-ore imports have a relatively low share in the steelmaking raw-materials mix in the U.S. and efforts to control hot-metal production in China may also have contributed to the shift towards more scrap usage. Additionally, in Japan and the E.U., the most exposed regions to Brazilian iron-ore supply, crude steel production fell in the first few months of 2019, reducing overall demand for steelmaking raw materials and therefore mitigating an eventual need to shift more intensely from hot metal to scrap. Further substitution towards scrap may occur if the supply-demand balance for Brazilian iron ore tightens further during the course of 2019, for instance if crude-steel production (notably in the EU and Japan) strengthens or due to low supplies from other iron-ore exporting economies.

Figure 15 shows the combined effect of quantity and price changes on the proportion of steelmaking cost attributable to raw materials between January 2019, before Vale's dam collapse, and May 2019, the last month for which statistics were available (April 2019 for the E.U.). The figure provides a satisfactory quantification of the changes in the cost of the key raw materials used in steelmaking since the beginning of 2019.[12]

Overall, Figure 15 shows that raw-material costs increased in all regions except the U.S.. It also shows that most of the changes in costs have come from scrap and iron ore of non-Brazilian origin (including domestically produced). Non-Brazilian iron ore has both increased its share in the hot-metal raw-materials mix and appreciated faster than Brazilian iron ore. The inflationary pressure of scrap costs on steel producers has varied across economies, depending on the extent of changes in domestic scrap prices and in scrap use. Higher scrap use has compensated for the effect of falling domestic scrap prices in the E.U. and compounded higher domestic scrap prices in China. In Japan and the U.S., the scrap-price decline was sufficient to compensate for higher scrap use in steelmaking.

Figure 15. Costs of steelmaking raw materials in selected economies



Note: Only changes in the cost of raw materials in steelmaking are illustrated. To reduce the volatility associated with comparing costs in two months, three-month moving averages have been used instead. Assumptions used in the calculations are described in the note of Figure 14. Pricing of Brazilian iron ore is the unit value of imports of Brazilian origin. Pricing of domestic iron ore is assumed to be equal to the unit value of non-Brazilian imports. Pricing for scrap* is based on domestic benchmarks, which are the monthly averages of the following Platts prices: SB01227 - Scrap / Shredded / N.Europe domestic delivered, SB01129 - Scrap / HMS DDP Jiangsu steel mill / China domestic VAT-inclusive, SB01109 - Scrap / H2 / Tokyo Steel purchase price del. Okayama, SB01135 - Scrap / HMS 1/2 / N.America domestic Del. Mill. Please note that the trend for these prices may differ from what is shown in Figure 9.
Source: OECD calculations based on ISSB, SteelHome, Platts and worldsteel

The analysis presented thus far is based on very recent developments in iron-ore and other raw-materials markets. As the impact of Vale's damn disaster might take longer to reflect on the raw-materials and steel markets, it is important to keep monitoring developments in these markets. Better understanding of the changes in the consumption of steelmaking raw materials would inform analysis of the operational costs faced by steelmakers.

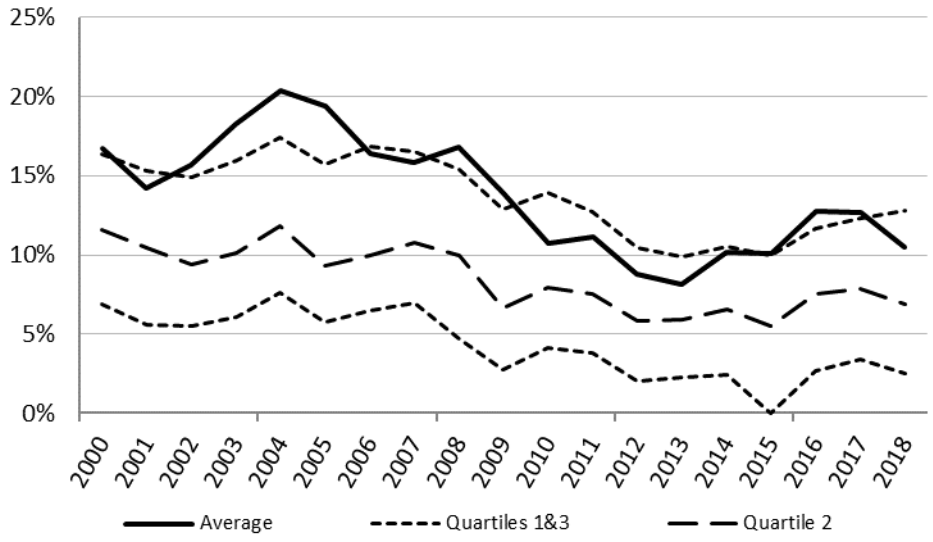
7. Financial performance of steel companies

7.1. Profitability

The average operating profitability of the global steelmaking industry, as captured by the ratio of EBITDA (earnings before interest, taxes and depreciation) to sales revenues (weighted by total sales) resumed its long-term downward trend in 2018. Operating profitability declined last year to about 10%, ending the 2012-16 rebound, during which profitability had increased from a record low of 8% to 12.4% (Figure 16). This suggests that e.g. structural imbalances are still weighing on the industry's profitability.

Indeed, overall operating profitability for the steel industry remains well below its 2004 peak, when it reached 20%. In 2018, median operating profitability was much lower than the industry-wide average, as shown by the difference between the "average" and "Quartile 2" lines in Figure 16, standing slightly below 7%. Profitability is probably still below sustainable levels for a large number of firms. Indeed, the "Quartile 2" line in Figure 16 indicates that 50% of the companies have operating profitability levels below 7%, while the lower dashed line shows that almost 25% of the steelmaking companies are operating with profitability ratios lower than 2.5%, and are thus likely faced with a particularly challenging financial situation.

Figure 16. Evolution of operating profits between 2000 and 2018

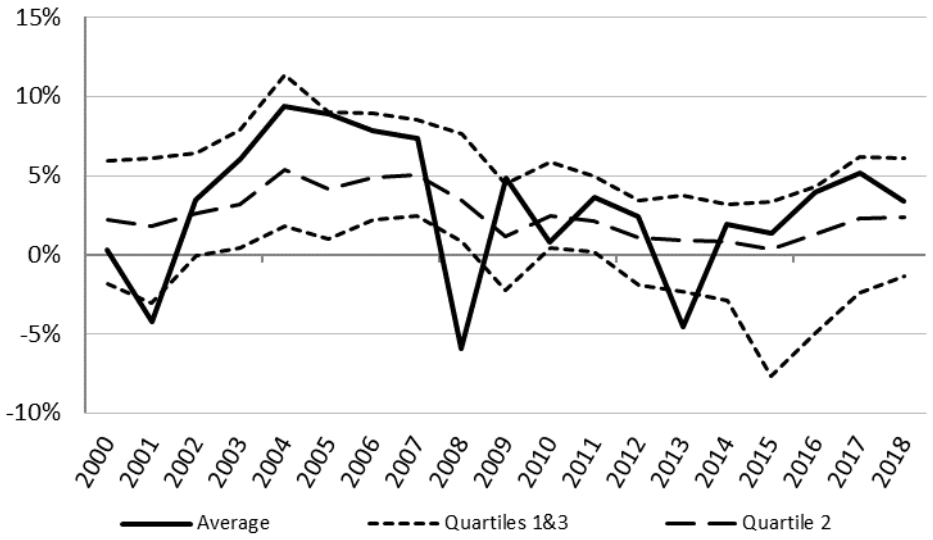


Note: Operating profitability is defined as EBITDA (earnings before interest, taxes, depreciation and amortisation) to sales revenue in per cent. The dotted lines provide information on the distribution (first and third quartiles) of operating profitability across the firms in the sample: 25% of the companies have operating profitability below (above) the first (third) quartile line. The long dashed line provides information on median operating profitability across firms in the sample: this line divides the distribution in two halves with 50% of the companies having operating profitability below the line. The heavy line depicts the industry average operating profitability, weighted by total sales.
Source: OECD calculations based on data from Thomson Reuters Eikon.

The steel industry's net profit, which is derived from operating profit by deducting all expenses incurred by firms, including taxes, interest paid on debt, depreciation and amortisation, also indicates an industry that is facing challenging financial conditions. Figure 17 shows that the (weighted) average net profit margin (net profits over sales) of steel companies seems to have resumed the downward trend it started in 2004, notwithstanding some volatility and in line with operating profits. The net profit margin fell from about 5% in 2017 to about 3% in 2018, remaining well below its 2004 record level of almost 10%.

The median net profit margin (i.e. the long dashed line denoted as "Quartile 2" in Figure 17) stabilised at around 2.5% in 2018, a level similar to that prevailing the year before, and higher than its 2015 low of zero. The gap between the first and fourth quartile of the net profit distribution, which had widened considerably in 2015 but then narrowed during 2016, continued to narrow in 2017 and 2018 as the net profits of the least profitable firms continued to increase. This being said, about 29% of the firms in the sample made net losses in 2018, which is about the same proportion as in 2017 (28%), but more than double the proportion of firms making net losses in 2014 (11%).

Figure 17. Evolution of net profit margin between 2000 and 2018



Note: The dotted lines provide information on the distribution (first and third quartiles) of net profits across the firms in the sample: 25% of the companies have net profits below (above) the first (third) quartile line. The long dash line provides information on median net profits across firms in the sample: this line divides the distribution in two halves with 50% of the companies having net profits below the line. The heavy line depicts the industry average net profits, weighted by sales.
Source: OECD calculations based on data from Thomson Reuters Eikon.

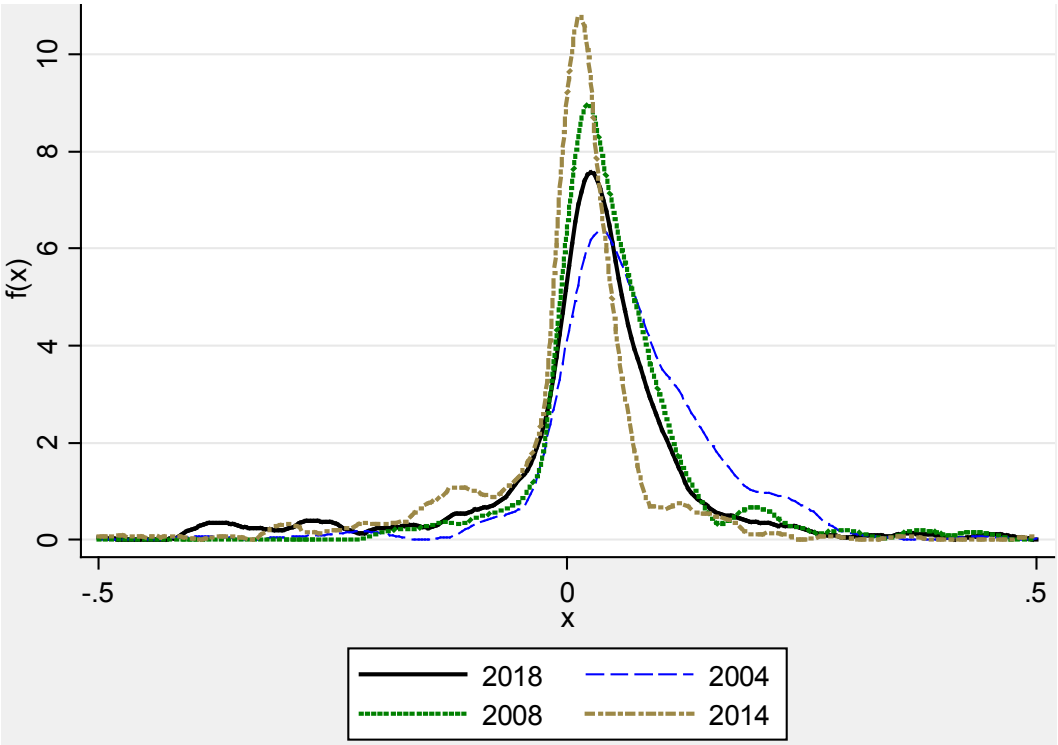
Figure 18 shows the evolution of the distribution of (a logarithmic transformation of) net profit margins across steelmaking companies between four selected years (2004, 2008, 2014 and 2018). It is clear that there was a strong shift in the distribution towards the left (i.e. lower profitability) between 2004 and 2014: the reduction in average profitability was felt across the board. A fatter left tail in the 2014 distribution also indicates that considerable number of firms still faced considerable challenges, when compared the majority of firms.

In 2018, the distribution has shifted back to the right, but remains still much more in negative territory than in 2004, as can be seen by comparing the two shapes on Figure 18. Moreover,

the relatively fat left tail of the distribution in 2018 (the solid black line appears above all others) suggests that a non-negligible number of steel firms are facing considerable financial difficulties. Also, net profits seem to have been more heterogeneous across firms in 2018 (more dispersion), with a smaller number of firms standing at the middle of the distribution.

Figure 18. Distribution of net profits in selected years

2004, 2008, 2014 and 2018



Note: This figure plots the distributions of net profit margin in different years using kernel density estimates. The kernel density estimate gives an approximation of the probability density function of a given distribution — up to a given point x in the horizontal axis, the area under this function provides the percentage of observations that have values that are lower or equal to x. The total area below the curve for each year equals one. For presentation purposes, the net profit values shown on the X axis of the chart range between -50% and 50%.
Source: OECD calculations based on data from Thomson Reuters Eikon.

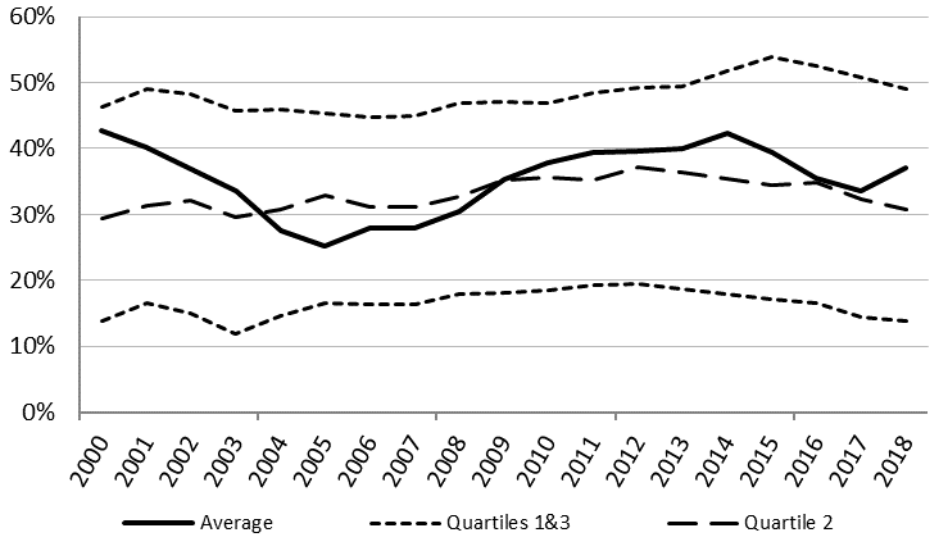
7.2. Indebtedness

After maintaining relatively stable levels of debt from 2000 to 2007, steel companies seem to have resorted to higher levels of debt possibly as a consequence of the relatively weak market environment, which has reduced profits, coupled with a global easing of firms financing conditions. In 2014, the trend reverted and steel firms started to deleverage. Overall, financial data for 2018 suggest that, although a majority of steel firms are deleveraging (as indicated by the decline in median levels of indebtedness), some firms have reverted to taking on more debt, driving the average debt level higher (Figure 19).

However, caution is warranted in interpreting the proportion of the reduction of steel companies' indebtedness. First, only debt of publicly listed companies is included in the Reuters Eikon data used for this report. Hence, debt levels represented in Figure 19 exclude data for unlisted firms (including state owned companies), some of which are possibly large

and indebted. Second, in some large steel-producing economies, debt has been reduced by using debt-for-equity swaps that are not necessarily market-driven and lack clarity concerning losses in cases of bankruptcy (Ren, 2017[31]). Finally, the maturity of the debt and the average interest rate paid are two other relevant aspects to consider for assessing corporate indebtedness. A decrease in average debt maturity and an increase in average interest rate has been documented for steel companies in some jurisdictions, which means that steel companies pay more to borrow for shorter periods of time (Financial Times, 2018[32]). This means that the total indebtedness represented in Figure 19 is not enough to capture completely steel firms' financial conditions, which may be more precarious than it seems.

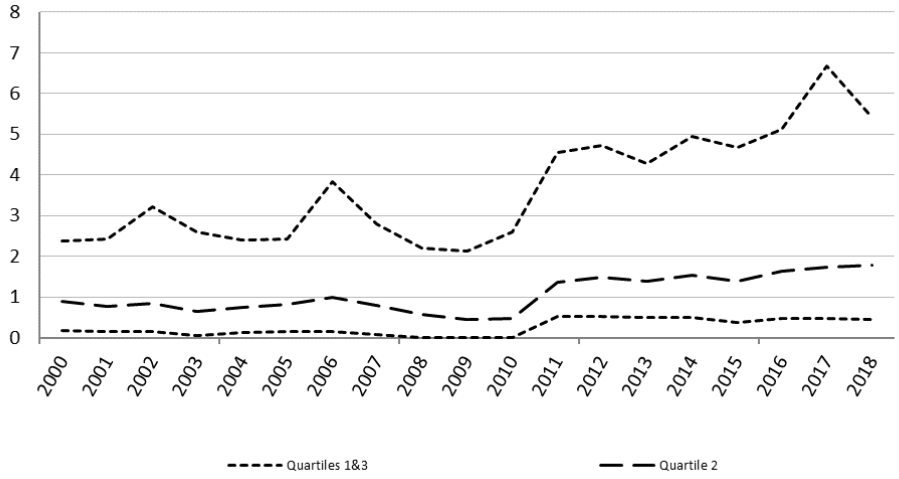
Figure 19. Evolution of indebtedness between 2000 and 2018



Note: The dotted lines provide information on the distribution (first and third quartiles) of indebtedness across the firms in the sample: 25% of the companies have debt to asset ratios below the quartile line at the bottom of the chart, and 25% have ratios above the quartile line at the top. The remaining 50% of companies have debt to asset ratios between the first and third quartile lines. The long dash line provides information on median indebtedness across firms in the sample: this line divides the distribution in two halves with 50% of the companies having debt to assets ratios below the line and 50% above the line. The heavy line depicts the industry average indebtedness, weighted by sales.
Source: OECD calculations based on data from Thomson Reuters Eikon.

Figure 20 shows that the amount of short term debt relative to the amount of long term debt of steel companies in the sample has been on an upward trend since 2010. This means that more and more steel firms are increasingly borrowing at shorter maturities, potentially exposing themselves to interest rate risks and liquidity shortages.

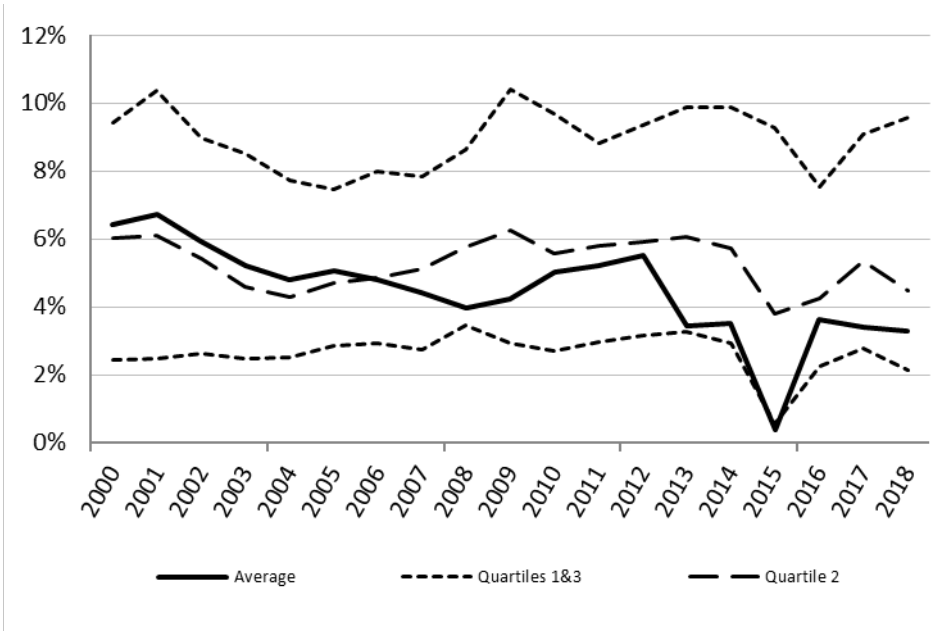
Figure 20. Ratio of short term debt over long term debt of steel firms



Note: The dotted lines provide information on the distribution (first and third quartiles) of debt composition, represented by the ratio of short term debt over long term debt, across all the firms in the sample: 25% of the companies have a short term debt over long term debt ratio below the quartile line at the bottom of the chart, and 25% have ratios above the quartile line at the top. The remaining 50% of companies have debt to asset ratios between the first and third quartile lines. The long dash line provides information on the median short term debt over long term debt ratio across firms in the sample: this line divides the distribution in two halves with 50% of the companies having debt to assets ratios below the line and 50% above the line.
Source: OECD calculations based on data from Thomson Reuters Eikon.

In a context of very fragile balance sheets, the 2018 increase in average total debt is cause for concern. Moreover, the shift towards shorter-term debt, particularly for the first quartile of the distribution, which has more than five times more short-term debt than long-term debt, is also worrying. This shift, together with easing financing conditions across the board in the recent past, may explain the low average interest rate paid by steel firms on their outstanding debt. In 2018, steel firms paid an average (weighted by sales) interest of 3% on their outstanding debt (across all maturities), compared to 5% in 2000 (Figure 21).

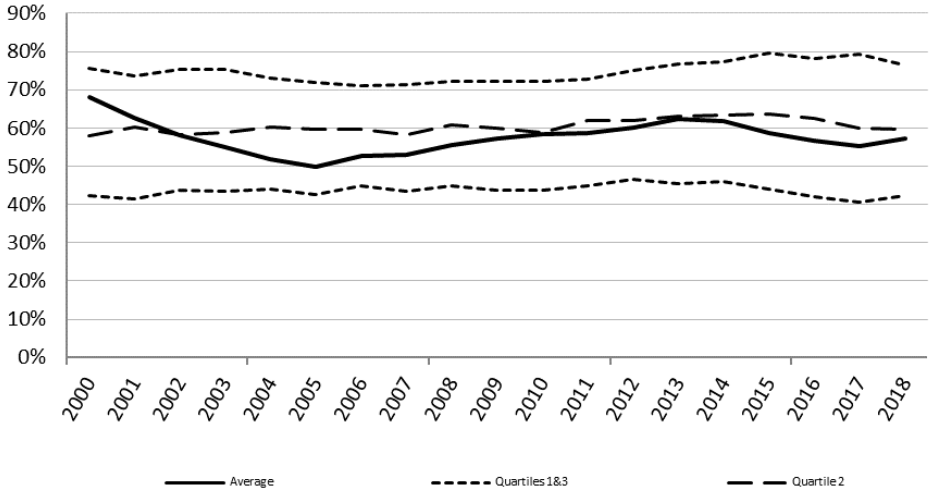
Figure 21. Evolution of interest paid on total debt from 2000 to 2018



Note: The dotted lines provide information on the distribution (first and third quartiles) of interest paid over total debt across the firms in the sample: 25% of the companies have a ratio of interest paid over total debt below the quartile line at the bottom of the chart, and 25% have ratios above the quartile line at the top. The remaining 50% of companies have ratios of interest paid over total debt between the first and third quartile lines. The long dash line provides information on the ratio of interest paid over total debt across firms in the sample. The heavy line depicts the industry average indebtedness, weighted by sales.
Source: OECD calculations based on data from Thomson Reuters Eikon.

Although debt usually constitutes the bulk of the liabilities a steel firm carries, there are other forms of liabilities. For example, outstanding bills to suppliers, also known as account payables, are another type of liability, as are wages due and pensions. Technically, a steel firm could reduce its debt by delaying the payment it makes to its suppliers. To avoid misinterpreting the situation due to these possible substitution effects, it is useful to consider the ratio of total liabilities over assets (Figure 22), and to compare it to the debt-to-asset ratio shown before.

Figure 22. Ratio of steel firms' liabilities over assets



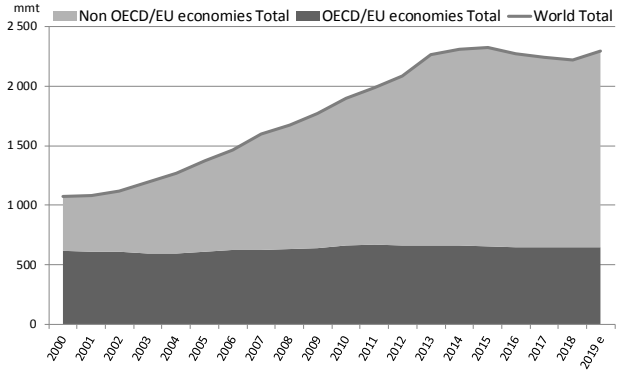
Note: Liabilities are defined here as total liabilities, including short-term and long-term debt, account payables and deferred income tax. Assets are defined as total assets, which includes properties, plants, long-term investments, but also intangibles (e.g. patents). The dotted lines provide information on the distribution (first and third quartiles) of the ratio of liabilities over assets across the firms in the sample: 25% of the companies have liabilities to assets ratios below the quartile line at the bottom of the chart, and 25% have ratios above the quartile line at the top. The remaining 50% of companies have liabilities to assets ratios between the first and third quartile lines. The long dash line provides information on median ratio of liabilities over assets across firms in the sample. The heavy line depicts the industry average ratio, weighted by sales.
Source: OECD calculations based on data from Thomson Reuters Eikon.

8. The global steelmaking capacity situation

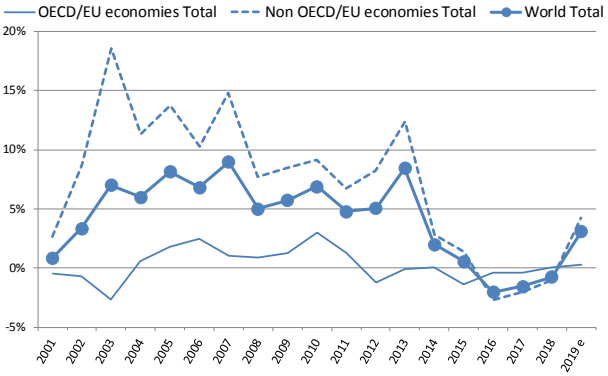
Global steelmaking capacity (in nominal crude terms) decreased from 2016 to 2018. The latest available information (as of June 2019) suggests that capacity could increase in 2019 for the first time since 2015 (Figure 23). The OECD has lowered its 2018 estimate for global steelmaking capacity by 12.3 mmt to 2 221.4 million metric tonnes (mmt), after incorporating new information on closures that was not previously available as well as updated information on the status of certain investment projects. The net capacity change in the first half of 2019, taking into account new capacity additions and closures, brings current global steelmaking capacity up to 2 290.1 mmt, representing a 3.1% increase from the level at the end of 2018.

Figure 23. Evolution of crude steelmaking capacity in OECD/EU economies and non OECD/EU economies

A. Level (mmt)



B. Annual % change.

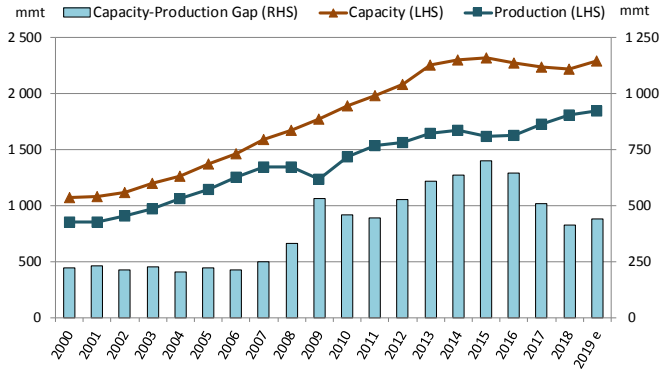


Note: "e" denotes estimate based on the annual level of capacity in place at the end of June 2019. The capacity data reflect all available information on new investments and closures up to the end of June 2019. Please see OECD (2019[32]) for further information about updates of new steelmaking capacity investments and closures, as well as capacity projects that are underway and planned over the next few years.
Source: OECD.

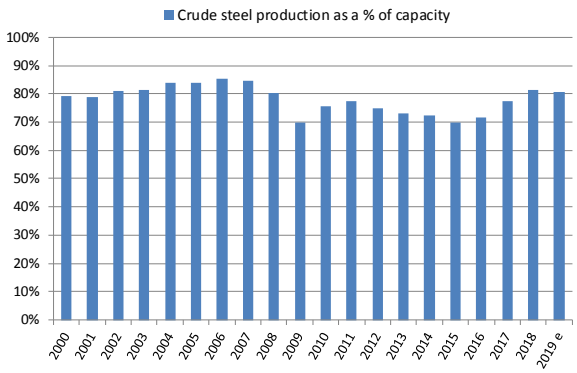
The gap between global capacity and production narrowed between 2015 and 2018 as a result of the decrease in global crude steelmaking capacity (i.e. by 4.3% in that period) and the strong increase in steel production (an increase of 11.6%). However, capacity and production developments during the first half of 2019 point again to a widening of the gap between capacity and production this year. With global capacity at 2 290.1 mmt and production at 1 850 mmt (annualized) in the first half of 2019, the gap between capacity and production has increased to 440.0 mmt, up from 413.0 mmt in 2018 (Figure 24.A). World steel production as a share of capacity has eased slightly, from 81.4% last year to approximately 80.8% in the first half of 2019 (Figure 24.B)

Figure 24. Global crude steelmaking capacity and crude steel production

A. Capacity-Production gap (mmt)



B. Crude steel production as a % of capacity



Note: "e" denotes estimation. Capacity data reflect information up to June 2019. Annual production data from 2000 to 2018 are based on "World Steel in Figures 2019" published by the World Steel Association (World Steel Association, 2019[33]). An assumption of annual production data for 2019 is made based on production data for the first six months of 2019—the 6-month total is multiplied by two to derive an annualised figure. Monthly production data for 2019 are based on World Steel Association's press release on 24 June 2019 (World Steel Association, 2019[34]) and a subsequent data release including June 2019 production figures. Please see OECD (2019[32]) for further information about updates of new steelmaking capacity investments and closures, as well as capacity projects that are underway and planned over the next few years.
Source: OECD for capacity and World Steel Association for production.

9. The steel market outlook

9.1. The global steel market outlook

According to the April 2019 Short Range Outlook (SRO) of the World Steel Association (worldsteel), world finished steel demand should increase by 1.3% to reach 1 735.0 mmt in 2019 (worldsteel, 2019[9]). The World Steel Association expects global steel demand to continue to grow, albeit at a moderating pace, in line with the slowing global economy. As of April 2019, worldsteel was forecasting a weak 1% growth rate in steel demand for 2020, which would bring global finished steel demand to 1 751.6 mmt by 2020. Moreover, worldsteel highlights two main downside risks to its outlook: uncertainty over the trade environment and financial market vulnerabilities (worldsteel, 2019[9]).

9.2. Regional steel market outlook

9.2.1. Americas

The World Steel Association expects the broad recovery in steel demand across Central and South America to continue, despite internal and external uncertainty. According to its April 2019 SRO, the region's steel consumption is expected to grow by 3.6% in 2019 to reach 44.9 mmt, with growth picking up to 7.5% in 2020 (worldsteel, 2019[9]). Political uncertainty in Venezuela may nevertheless impact developments in the region (worldsteel, 2019[9]).

The Latin American Steel Association (Alacero) indicated that the economic crisis and stagflation in Argentina, the pension reform in Brazil, the deceleration of economic growth in Mexico, and growing trade frictions are resulting in considerable uncertainty for the region's steel industry (Alacero, 2019[35]). Large investment banks have reduced their exposure to Latin America, with significant investment flows leaving the region in 2019, which could hamper economic growth (Alacero, 2019[36]). Alacero also raised concerns that the trade diversion of steel products resulting from the response of some regions to unfair trade practices could have significant impacts upon industrial sectors in the region (Alacero, 2019[37]), to some extent because steel is also imported indirectly through steel-containing manufactured products (Baida, 2019[38]). Due to market conditions, a number of capacity projects in the region had to be put on hold, and some capacity is reported to have been temporarily closed (Guerra and Carvalho, 2019[39]).

In Brazil, automotive export sales decreased by 42% from January to June (y-o-y), reflecting the impacts of the Argentinian economic crisis on import demand for vehicles. Brazilian domestic demand for automobiles remained strong, with a 12% y-o-y increase during the same period (Metal Expert, 2019[40]). Market experts expect a continuation of weak automotive export sales but strong domestic demand in Brazil (Metal Expert, 2019[40]). The World Steel Association expects the construction sector in Brazil to improve in 2019 (worldsteel, 2019[9]). Other factors that may have a bearing on broader economic and steel demand developments in Brazil include pension reform, along the lines of the recent proposal submitted to Brazil's Congress, which could help ensure that uncertainty about social security reform dissipates, and promote greater investor confidence, growth in formal employment and domestic demand, and stability in financing costs on public debt (OECD, 2019[41]), (Metal Expert, 2019[40]).

According to its April 2019 SRO, worldsteel expects steel demand growth in the NAFTA/USMCA region to moderate to 1.1% in 2019, with steel demand reaching a level of

144.5 mmt (worldsteel, 2019[9]). Steel demand growth is expected to slow down in the U.S. due to both waning fiscal stimulus and some degree of monetary policy normalisation, which could dampen construction and manufacturing growth. Investment activity in oil and gas exploration is also expected to decelerate, while a boost in infrastructure spending seems unlikely (worldsteel, 2019[9]). There have been signs of weakening demand, with some steel companies recently resorting to lay-offs (Isidore, 2019[42]). One factor explaining softer steel demand conditions in the U.S. currently could be the unwinding of last year's significant stockpiling (of steel products) by domestic U.S. steel users (Isidore, 2019[42]). America's Transportation Infrastructure Act of 2019 will entail some infrastructure projects that could help mitigate the softening of domestic steel demand to some extent (AISI, 2019[43]). In Mexico, the World Steel Association expects steel demand to moderate due to weak mining investment, fiscal budget constraints, policy uncertainties and a slowing US economy (worldsteel, 2019[9]). Turning to Canada, recent indicators point to solid growth in steel demand so far in 2019. Underlying macroeconomic developments are expected to continue supporting steel demand growth going forward. In the industrial sector, for example, relatively high profits and some capacity constraints are leading to strong business investment in machinery and equipment, which is underpining steel demand (Scotiabank, 2019[44]). Survey data suggest that business investment trends will remain strong until the remainder of the year, and oil and gas developments in Western Canada, e.g. the LNG Canada project in Kitimat, should also provide further support for demand for steel pipes and other products (Scotiabank, 2019[44]), (CanadianSteel, 2019[45])). Other factors that may support steel demand in the future also include rapid and accelerating population growth, which along with solid employment growth, is underpinning consumer spending and the housing market (Scotiabank, 2019[44])

9.2.2. Africa and Middle East

According to worldsteel's April 2019 SRO, steel demand in the Middle East is expected to decrease by 2.6% this year, falling to a level of 48.9 mmt, and then to rebound by 1.2% in 2020 to reach 49.5 mmt (worldsteel, 2019[9]). Steel demand in the gulf region is likely to continue to benefit from investments made in preparation for events such as the World Expo 2020 in Dubai and the FIFA World Cup 2022 in Qatar (Khaleej Times, 2019[46]). There is also some anecdotal evidence of some degree of regional trade integration in the Middle East region, that could be benefiting from a combination of lower tariffs within the region and higher tariffs elsewhere (Arab Iron & Steel Union, 2019[47]).

In the United Arab Emirates, some steel companies that are facing weaker demand from the domestic construction sector are seeking other markets to sell their products, in particular Iraq, but also Syria and Yemen (Arif, 2018[48]). Steel demand in the northern region of Iraq could increase due to rebuilding efforts. According to some observers, Iraq's demand for concrete reinforcing steel is projected to reach 2.4 mmt in 2020, as part of post-war reconstruction efforts, while local factories are projected to produce only one million metric tonnes of steel that year (Abdullah, 2019[49]). Public investment in the Iraqi steel sector is picking up, seen in the deployment of the country's largest rolling mill recently (Arab Iron & Steel Union, 2019[50]).

The National Committee for the Steel Industry of Saudi Arabia reports that the Saudi market currently requires more than 20 mmt of steel products to meet domestic demand. This number is likely to increase as more projects that are part of the Saudi Vision 2030 come on stream.[13] Saudi Arabia's government announced its largest-ever budget of SAR 1.1 trillion for the year 2019 to help achieve the objectives of its Vision 2030 (Metal Expert, 2019[51]). Saudi Arabia's construction sector showed signs of improvement in the first half of 2019, despite rising supply which curtails local developers margins. Government initiatives are expected to boost

and diversify the economy going forward, supporting local developers, which are quite optimistic about the second half of 2019 (Metal Expert, 2019[51]).

According to the news provider Fastmarkets, he outlook for the Iranian steel market is still unfavourable due to trade sanctions (Fastmarkets, 2018[52]). The Iranian government nevertheless maintained its ambitious steel production target of 55 mmt per year by 2025 as part of its "2025 Vision Plan" (Fastmarkets, 2018[52]). Local news media reported that the Iranian Vice President formally inaugurated a rebar mill in the Khouzestan province in south Iran, and that the domestic Iranian steel market being tight at the moment, a portion of the new company's output will be exported to Iraq and Syria, despite challenges involved with exporting of semi-finished products from Iran (Staff, 2019[53]). In spite of weak internal demand, it is possible that production continues to increase, supported by exports in response to the country's currency devaluation. Indeed, local reports suggest that there is a 30% difference between domestic and export steel prices, providing an incentive for Iranian mills to focus on exports (Staff, 2019[54]).

In Africa, worldsteel expects steel consumption to grow by 3.0% in both 2019 and 2020, reaching a level of 39.2 mmt in 2020 (worldsteel, 2019[9]). The outlook for South Africa's steel industry is weak due to higher electricity costs, railway transportation costs, and primary raw material costs — a situation that is not expected to improve in the next two years and that prompted job cuts in the South African steel sector (Warwick, 2019[55]). South Africa recently introduced a carbon tax and some steel companies are already subject to it. There is nevertheless uncertainty about whether public utility companies, including energy providers, will be subject to the tax, and if so, whether any additional costs will be passed on to consumers such as steel firms (Warwick, 2019[56]). In Egypt, the extension of the metro in Cairo should sustain steel demand, particularly for domestic mills (Metal Expert, 2019[57]). In Algeria, limited domestic demand due to the unstable economic and political situation in the country, coupled with its expanding production capacity, has prompted national long steel producers to be more active in export sales (Metal Expert, 2019[58]).

9.2.3. Asia and Oceania

The April 2019 forecast by worldsteel points to steel demand in the Asia and Oceania region continuing to grow by 1.7% in 2019, with growth expected to slow to 0.4% in 2020. India and ASEAN are likely to drive the projected increase in steel use in the region, while steel demand in China is expected to stagnate in 2019 and 2020 (worldsteel, 2019[9]).

According to the forecast, Chinese steel demand growth is expected to decelerate in 2019 (+1.0%). The slowdown reflects continued efforts to shift to a more consumption-driven growth path and trade tensions, which, together, could result in a slowdown of investment activity and sluggish manufacturing activity. The World Steel Association noted, however, that heightened stimulus measures to improve the deteriorating economic environment was an upside risk to this outlook (worldsteel, 2019[9]). According to the China Iron and Steel Association (hereafter "CISA"), Chinese steel demand is expected to remain stable in late 2019, supported by infrastructure, property construction and manufacturing. In particular, an acceleration in the pace of growth of fixed asset investment in infrastructure and manufacturing could continue in the second half of 2019 (CISA, 2019[59]). According to the National Bureau of Statistics of China (NBS), infrastructure investment (including the construction of roads, bridges and subways, but excluding electric power, heat power, gas and water) grew by 4.1%, y-o-y, during January-June 2019, while manufacturing (incl. machinery, automobiles, chemical products and home appliances) increased by 3.0%, y-o-y (NBS, 2019[60]).

In June 2019, the State Council of China announced that it would allow local governments to use special bonds as capital for major infrastructure projects, such as railways, highways and power supply facilities, and that financial institutions would be encouraged to invest in such bonds (State Council, 2019[61]) (Reuters, 2019[62]). This measure could accelerate infrastructure project implementation and boost steel demand. According to an analysis by Wood Mackenzie, this measure could increase investment in infrastructure by an additional 1%-3% on an annual basis (Wood Mackenzie, 2019[63]). With regard to the automotive industry, the China Association of Automobile Manufacturers expects sales to decline by 5% to 26.68 million vehicles in 2019, down from 28.1 million vehicles in the previous year (Reuters, 2019[64]). The Chinese government has implemented the new vehicle emission standards ahead of schedule in several cities and provinces, including Beijing, Shanghai, and Tianjin as well as the provinces of Hebei and Guangdong from 1 July 2019, and this measure could have an important impact on the demand for automobiles (Reuters, 2019[65]).

According to worldsteel, India could soon become the world's second largest steel-consuming economy, with demand expected to grow by 7.1% in 2019. While the fiscal deficit could weigh on public investment, the wide range of continuing infrastructure projects is likely to support growth in steel demand (worldsteel, 2019[9]). The Indian government has supported investment in infrastructure through the new Union Budget 2019-20, which includes the upgrading of 125 000 kilometres of roads over the next five years, providing 19.5 million houses to eligible beneficiaries during the fiscal years (FY) of 2019-2020 and 2021-2022, as well as investments in suburban railways and modernisation of railway stations (Press Information Bureau of India, 2019[66]). Vehicle production and sales have declined in India; total vehicle production (including passenger and commercial vehicles, three wheelers and two wheelers) fell by 10.5%, y-o-y, during the first quarter (from April to June) of FY 2019-2020 and passenger vehicle sales contracted by 18.4% (the largest decline among all vehicle segments), according to the Society of Indian Automobile Manufacturers (SIAM, 2019[67]). Demand for vehicles is shrinking due to higher interest costs, following the non-bank lending crisis, and rising vehicle prices (The Economic Times, 2019[68]).[14]

Steel demand in Japan is expected to contract slightly, declining by 1.0% in 2019 (worldsteel, 2019[9]). Steel demand from the construction sector in the 2019-2020 FY (April 2019-March 2020) is expected to be slightly higher than the previous FY because of strong growth in civil engineering activity. However, growth in the manufacturing sector, especially the automotive and electrical machinery industries, is expected to be sluggish due to the consumption tax increase in Japan (from 8% to 10% in October 2019), according to the outlook of the Japan Iron and Steel Federation (JISF, 2019[69]). The Japanese economy is expected to continue recovering at a moderate pace, supported by the effects of monetary policy easing and public investment, stable industrial production and increasing capital investment by Japanese companies, which could support short-term prospects for Japanese steel demand. However, any further trade frictions and a slowdown of the global economy are regarded as important downside risks (Cabinet Office of Japan, 2019[70]).

Steel demand in Korea is expected to continue declining in 2019, doing so by 0.4% according to worldsteel, reflecting measures to cool property prices and a deteriorating export environment. However, steel demand could see a mild recovery of 1.3% in 2020 (worldsteel, 2019[9]) (Yonhap News Agency, 2018[71]). According to the economic outlook of the Bank of Korea, construction investment is expected to continue declining mainly driven by the slowdown in residential building construction. In addition, facilities investment is also forecast to decrease in 2019 due to the sluggishness of the global economy and heightening uncertainty related to trade frictions (Bank of Korea, 2019[72]).

Steel demand in the ASEAN region is expected to continue exhibiting solid growth momentum in 2019 and 2020, driven by numerous government-led infrastructure projects. Steel consumption in the ASEAN-5 region (Indonesia, Malaysia, Philippines, Thailand and Viet Nam) is expected to grow by 5.6% in 2019 and 5.5% in 2020, and could reach a level of 80 mmt by 2020 (worldsteel, 2019[2]). In April 2019, the government of Malaysia decided to resume the development of two infrastructure projects — the construction of the "East Coast Rail Link and the "Bandar Malaysia Project" — which could boost domestic steel demand in the medium and long term (Prime Minister's Office of Malaysia, 2019[73]).[15][16] The Indonesian Iron and Steel Association (IISA) forecasts that domestic steel demand could continue to grow by 6% in 2019, supported by the residential and non-residential buildings sector as a result of rapid urbanisation and industrialisation (Metal Expert, 2019[74]) (Platts, 2019[75]). Steel consumption in the Philippines is also likely to increase by about 5% to 6% in 2019, mainly supported by public and private construction projects, according to the Philippine Iron and Steel Institute (PISI) (BusinessWorld, 2019[76]). Viet Nam could continue to enjoy a gradual increase in steel demand supported by government-led infrastructure projects related to urbanisation and the transportation system (Platts, 2019[77]).[17] Steel demand in Thailand is likely to increase by at least 7.5% in 2019, mainly driven by the expansion of government-led infrastructure projects, such as the Eastern Economic Corridor area, as well as by the expansion of the automotive industry, machinery and other manufacturing sectors, according to the financial performance report published by the Thai steel company Millcon Steel (Millcon Steel, 2019[78]).[18]

9.2.4. Europe and CIS economies

The World Steel Association expects finished steel demand to increase by a meagre 0.3% in the European Union and by 1.2% in the Other Europe region in 2019, according to its April 2019 SRO (worldsteel, 2019[9]). The World Steel Association expects steel demand growth to increase in 2020, but this is dependent on an easing of trade tensions.

Eurofer forecasts a relatively positive outlook for the construction industry, despite downward pressures exerted on the construction sector by weakening E.U. economic fundamentals (Eurofer, 2019[15]). Eurofer predicts total E.U. construction output to rise by 2.1% in 2019 and by 1.7% in 2020, with the gradual slowdown owing to order backlogs for 2019. In particular, demand for residential buildings will continue to be strong, supported by relatively high levels of consumer confidence, rising wages and low costs of financing. The non-residential sector will suffer from business uncertainty in general, the weak E.U. export performance, and the uncertainty surrounding Brexit. On the other hand, public construction investment in non-residential and civil engineering projects will remain a growth driver of non-residential construction in 2019-2020 (Eurofer, 2019[15]).

According to Eurofer, the outlook for E.U. automotive demand will remain subdued in 2019, despite a recovery from the emission standards disruption experienced in 2018 (Eurofer, 2019[15]). Eurofer forecasts a 0.2% decline in automotive output in 2019 and a recovery of about 1.6% in 2020. This is due to a number of factors: a saturated automobile market that has exhausted its replacement demand, the uncertainty surrounding the future of diesel-powered cars in the Europe, the risks of a no-deal Brexit, increasing trade frictions affecting vehicles and automotive parts, and demand from emerging markets that is increasingly being satisfied by domestic production rather than imports (Eurofer, 2019[15]). Nevertheless, the launch of a number of new car models in 2020, including new electric vehicles, should have a mild positive impact on E.U. car demand (Eurofer, 2019[15]). For the time being, there is anecdotal evidence that auto part suppliers are trying to remain flexible in the face of uncertainties, buying more often in the spot market than through long-term contracts, while European hot-

rolled coiled mills have not cut production, resulting in downward pressure on prices (Griffin, 2019[79]).

Eurofer also forecasts very weak demand from other steel using sectors in the E.U. in 2019, followed by improvements in 2020. Production in the mechanical engineering sector is forecast to rise by 0.4% in 2019 and by 0.8% in 2020. Steel tube production is expected to fall by 0.2% in 2019 and rise by 1% in 2020. Production of electrical domestic appliances is forecast to decline by 0.1% in 2019, before increasing by 2.2% in 2020 (Eurofer, 2019[15]).

Steel prices are expected by the market to remain flat in Europe, in spite of higher raw material costs (Russel, 2019[80]). Inventory levels are high and some destocking is expected during the summer of 2019 (Russel, 2019[80]). According to Eurofer, there are also concerns regarding carbon dioxide emissions policies and environmental regulation stringency in economies from where steel imports are sourced (Villa, 2019[81]). In the U.K., British Steel is in compulsory liquidation. Although the goal is to sell the company entirely, there are some rumours of interest in purchasing individual plants and units separately (Villa, 2019[82]).

The World Steel Association expects steel demand growth in the CIS region to reach 1.4% in 2019 and 1.7% in 2020, according to its April 2019 SRO (worldsteel, 2019[9]). Structural issues might constrain steel demand in Russia, although hydrocarbon production projects of increased complexity and a higher share of horizontal drilling should sustain the demand for steel pipes in Russia, which grew by 1% during the first half of 2019 (Bouckley, 2019[83]). Steel demand should increase in Ukraine, sustained by domestic consumption.

Steel demand in Turkey is still being negatively affected by the country's currency crisis of August 2018, and continued volatility in the Turkish lira. Exchange rate developments are keeping market participants cautious, with prices almost frozen and with low transaction volumes (Arif, 2019[84]). The Turkish construction and automotive sector's sharp decline seen in 2018 is continuing in 2019, amid ongoing exchange rate fluctuations and higher interest rates: sales of domestic passenger and light commercial vehicles have shrunk further (by 45% in January-June 2019, y-o-y) and total house sales in Turkey decreased by 31.3% in May 2019 (Can, 2019[85]) and 49%, y-o-y, in June 2019 (Metal Expert, 2019[86]). Industry sources expect the year-on-year decline in automotive sales and house sales to continue throughout 2019, albeit at a diminishing pace (Can, 2019[85]). Weak domestic conditions may explain why most Turkish mills are turning to exports (Can, 2019[85]).

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Endnotes

1 Special bonds are bonds issued by Chinese local governments to raise funds for infrastructure projects such as railways, roads and shantytown renovation, and is seen as the only legal financing channel for local Chinese governments.

2 A large amount of bonds will mature this year, which may pose liquidity problems to local-government investment vehicles. Loans from the China Development Bank are expected to mitigate this risk. Policy intervention alleviated refinancing concerns also for property firms. Last year the National Development and Reform Commission relaxed the rules for issuing enterprise bonds for top-rated firms. Additionally, as a new measure, banks are now encouraged to channel 30% of their new lending to the private sector.

3 These include a new hospital insurance scheme, the creation of primary health care centres, retirement pensions for workers of the unorganised/informal sector, and an income support scheme for small land-holding farmers

4 It should be noted, however, that this growth rate is partly due to a statistical effect in China. According to the World Steel Association, production switched from induction furnaces to mainstream steel makers, and previously unaccounted production is now reflected in the official statistics. Without this effect, World Steel Association estimates that global apparent steel use grew by 2.1% between 2017 and 2018 (worldsteel, 2019[9]).

5 According to the report by Platts on 28 February 2019, around 95% of Venezuelan construction sector has been inactive due to a shrinkage of demand for housing, and the lack of materials and investments (Platts, 2019[161]).

6 The Steel Weighted Industrial Production Index (SWIP) is the average output of steel-using sectors, weighted by their share in total consumption — see the latest economic and steel market outlook by EUROFER for the detailed definitions (Eurofer, 2019[152]).

7 Markit, private seminar held in Paris, 16th of May.

8 Granger causality tests were performed for the three main world steel futures markets: the London Metal Exchange (LME), the New York Mercantile Exchange (NYMEX), and the Shanghai Futures Exchange (SHFE). The null hypothesis that daily changes in futures prices do not Granger-cause daily changes of steel spot prices is rejected, but not the reverse. Hence, daily futures price changes Granger-cause daily spot price changes but we cannot assert the reverse, suggesting steel futures prices are somehow quicker to incorporate all available information weighing on steel markets than their corresponding steel product spot prices on a daily basis (OECD, 2018[21]).

9 In 2018, the top 5 destinations for Brazilian iron-ore exports were: China, the E.U., Malaysia, Japan, and South Korea, together accounting for 85.5% of total Brazilian iron-ore exports.

10 Data on the ferrous content (Fe) of iron ore production or exports is not reported. However, Brazil and Vale are widely believed to be the largest exporters of high-ferrous-content iron-ore products (Russell, 2019[165]). High-ferrous-content ores typically yield more iron than fines with lower concentration of Fe. Additionally they tend to contain less impurities allowing for relatively cleaner steelmaking. For these reasons they tend to be priced at a premium. Non-Fe elements in iron ore also impact prices — e.g. price discounts are applied for high concentrations of alumina, silica, sulphur, and phosphorus. The 65%-Fe (high-grade) premia are not constant and depend on the willingness of steelmakers to maximise

productivity. In 2017 and 2018, the 65%-Fe premium reached its historical peak. Figure 11 shows that spot-price increases since the beginning of the year were lower for 65% Fe than for 62% Fe. It also shows that the unit value of imports of Brazilian origin overall increased less than the unit value of imports of non-Brazilian origin. Not only productivity but also other pricing considerations (e.g. premia paid for non-Brazilian low-alumina ores) may play a role in the relatively slower appreciation of Brazilian-origin iron ore.

11 This may be due to a combination of factors, including: i) Japanese steelmakers buy on long-term contracts, ii) geographical considerations, given that Japan is more distant from Brazil than the E.U. (where buyers also rely on contracts), thus import statistics may take longer to show a decline in shipments from Brazil; and iii) the decline in Japanese hot-metal production in the first five months of the year resulted in lower demand for iron ore. Such lower demand might have offset the lower availability of Brazilian-origin iron ore, leaving the raw-materials mix unchanged.

12 Data are shown as three-month moving averages to reduce the variation when comparing two months, given the monthly volatility in the data. As raw materials constitute only a portion of steelmaking costs, readers should note that the figure is only indicative of the portion of costs attributable to raw materials, and not of overall steelmaking costs.

13 https://vision2030.gov.sa/en

14 According to the article by Financial Times on 3 July 2019, around 40% of new vehicle loans in India came from nonbank financiers (Financial Times, 2019[160]), "shadow banking".

15 "East Coast Rail Link (ECRL)" would link the states of east coastal area in Malaysia over around 640 kilometres with high speed train, which is expected to be completed by end of 2026. The Malaysian government has agreed with Chinese contractor the China Communications Construction Company Ltd to cut construction costs by one-third to USD 10.7 billion (Metal Expert, 2019[154]) (ECRL, n.d.[155]).

16 "Bandar Malaysia Project" is a USD 33.8 billion property and transportation project, which would include offices, park and 10 000 units of affordable homes in the southern fringes of Kuala Lumpur. This project would be developed by the consortium with the Malaysian developer and Chinese Railway Engineering Corporation, but had been suspended from May 2017. In addition, the Malaysian Prime Minister noted that the government would prioritise the use of local construction materials, which could include steel (Metal Expert, 2019[153]) (Prime Minister's Office of Malaysia, 2019[73]).

17 For instance, Ho Chi Minh City, the largest city in the country, is trying to attract around USD 53 billion of private and foreign investments for a total of 210 infrastructure projects (Metal Expert, 2019[156]).

18 The Eastern Economic Corridor (EEC) includes three eastern provinces in Thailand namely Chachoengsao, Chonburi and Rayong. Thai heavy industries, such as petrochemical, auto and electronics industries, have been developed in this area. The Thai government has launched measures to support and accelerate economic growth in this area that aim at developing public utilities, transportation and logistics systems (EEC Office, n.d.[157]) (Royal Thai Embassy, n.d.[158]).

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