Deloitte.

Overview of steel and iron market – 2018

Deloitte CIS Research Center

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Contents

Foreword

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We are pleased to present you with the full version of our analytical report.
Being the first issue for 2018, this report provides updates for 2017, as well and expert forecasts for 2018 and 2019.

The key findings from our research will be published by leading Russian media outlets.

Published annually since 2015, the report delivers a comprehensive look on developments in the metals industry.

If you have any questions regarding this research, please do not hesitate to contact us.

Key topics:

- Overview of the global steel and iron market
- Overview of the Russian steel and iron market
- Metals industry in Russia – challenges and opportunities

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Key findings

After the industry stabilised in 2016, global output and consumption of steel continued to grow in 2017:

- Steel output up 5.3 percent at 1,691 million tonnes.
- Steel consumption up 3.6 percent at 1,657 million tonnes.

The increase in output was partly due to China increasing production to a higher-than-expected level during the last six weeks of 2017. However, forecasts for 2018 indicate that global steel output will increase by a moderate 0.5 percent and global steel consumption will go up 1.3 percent.

The current US trade policies make predictions more difficult. After the US imposed duties on steel, domestic prices grew by more than 25 percent above the global market in April.

Russia's metals production index was 96.4 percent in 2017. However, a closer look at products by category reveals that many products demonstrated positive dynamics by yearend as compared to the previous year. Wire products and seamless casing pipes showed the highest growth – 31.7 percent and 19.8 percent, respectively.

Based on EBITDA for 2017, NLMK has become the top performer in the Russian steel market.

In monetary terms, Russian exports of basic metal products were up 38 percent for rolled products and up 116 percent for tube products in 2017.

At the same time, Russian imports of basic metal products increased by 42 percent for rolled products and 40 percent for tube products in 2017.

Investments

While seeing a huge potential for enhanced processing technology to spark growth for Russian steelmakers in terms of new capacities, new products, and new product lines, experts from the Institute for Scientific Forecasting of the Russian Academy of Sciences point to insufficient strategic investment in this area. At the current stage, over 50 percent of exports (pig iron, blooms, and hot-rolled products) go to other countries for further processing.

Consumers

The metals industry has a customer engagement model that is focused on relatively simple tasks to serve the needs of construction businesses, large fuel and energy customers, transportation companies, and the machine-building industry. Developing an SME segment that would be based on the use of metal products requires a relevant engagement model, which Russia has started to build.

Governance

The metals industry is particularly known for the fact that key management and strategic decisions are concentrated in the hands of large shareholders. Despite this, experts believe that the industry has one of the most efficient governance models. This model enables a low risk of conflict between owners and managers, while the international nature of the metals industry helps to reduce other risks related to economic processes in a specific country. This allows us to conclude that the existing challenges will not have any significant impact on the development of the industry in the mid-term.

The industry is undergoing a change, with steelmakers transforming into investment companies to distribute their income more efficiently to areas other than their core operations.

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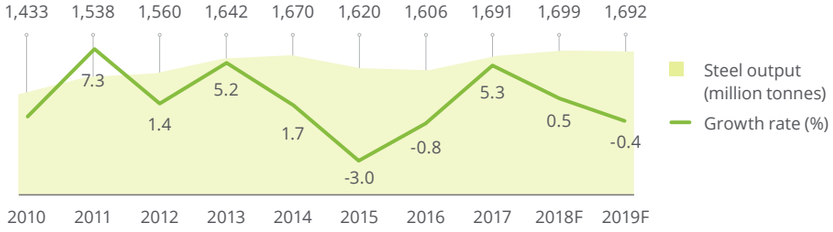
Overview of the global steel and iron market

Production output trends

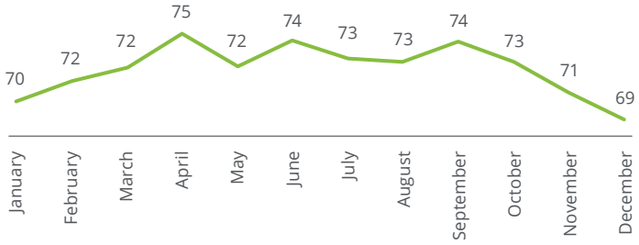
The final data for 2017 by the World Steel Association demonstrates that the production output for Q4 2017 has turned out to be stronger than expected, with annual global output up 5.3 percent as compared with the estimates by the EIU (4.1 percent). This is partly due to China boosting its output above the expected level during the last six weeks in 2017. EIU experts expect the output rates from H2 2017 to continue into H1 2018 before slowing down in H2 2018. Even though production output for 2018 in China is forecast to remain rather weak, it will be boosted by a stronger production in other Asian regions and the developed markets such as the EU and the US. As a result, global steel output is set for a moderate increase of 0.5 percent this year.

Figure 1. Global steel output since 2010



China. After hitting a record of 2.5 million tonnes per day in August 2017, Chinese steel output has remained relatively strong. With domestic steel production growing by 5.7 percent in 2017, EIU experts predict only 0.5-percent growth for 2018 due to the Chinese government taking measures to reduce steel output to fight air pollution. The move by the government to cut production capacities by 50 percent in 28 cities during the period from 15 November 2017 to 15 March 2018 to improve air quality has had a minor impact as other Chinese regions have increased their output. In 2015, the Chinese government committed to reducing steel production by 200 million tonnes annually until 2020. As expected, government officials have announced that China has already reduced annual output by 150 million tonnes, an equivalent of the overall capacity operated by the North American metals industry. In addition, 2017 saw the government shut down induction furnace capacities with an output of 120–140 million tonnes per year. In the absence of official statistics, annual steel output produced with this rather inefficient technology can be estimated at about 40 million tonnes. However, this has had a significant impact on the availability of steel. According to EIU experts, the removal of these capacities increased utilization rates by more than 80 percent across China, thus becoming one of the key factors behind increased steel prices in 2017.

Figure 2. Global capacity utilisation rate (%)



Asia. In 2017, steel output in Asian countries other than China went up by 5.5 percent due to new capacities coming online in Vietnam and India. South Korea and Taiwan contributed 3.6 and 6.8 percent, respectively. The growth in this region is partly attributable to China significantly lowering exports to Asia in 2017, resulting in local producers regaining their market shares. In addition, overall output in the region was further reduced as Japan cut its production by 0.1 percent. Despite this, the EIU has upgraded their 2018 output projections for the region to 3.8 percent as Chinese exports continue at a low level, benefitting producers in other countries. With the region's GDP slightly down on the previous years, the EIU expects the region to see a moderate increase of 1.5 percent in production output in 2019. At the same time, the potential in countries such as Vietnam will further boost output in the region.

Source: World Steel Association, EIU forecast

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Production output trends

Figure 3. Steel output trend in 2017 (million tonnes)

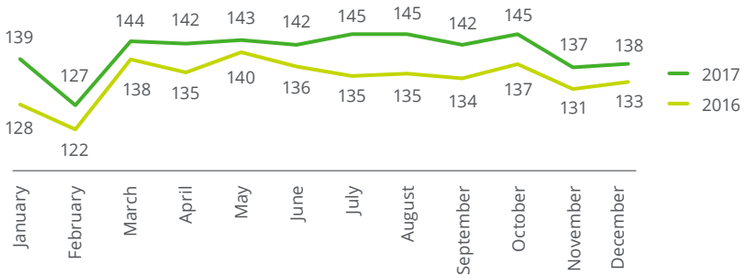
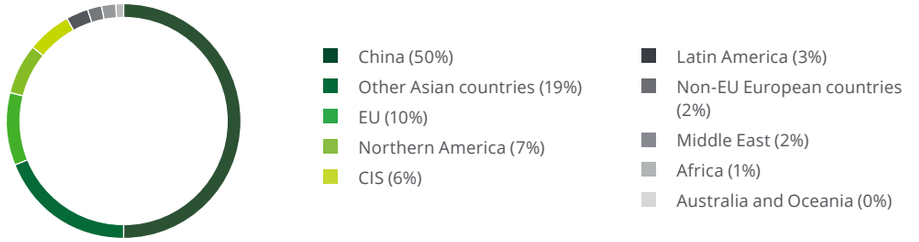


Figure 4. Global steel output by region in 2017 (%)



The EU. The EU is continuing with measures aimed at protecting the steel industry from a combination of low prices, high costs, and cheap imports. In March 2018, the EU approved final import tariffs of 17.2–28.5 percent on Chinese galvanized steel products, which accounted for 50 percent in the international market in 2016. In October 2017, the European Commission agreed to set anti-dumping levies of EUR 60–90 per tonne on certain suppliers of hot-rolled products from Iran, Russia, Ukraine, and Brazil while some companies like Severstal continue with more flexible individual tariffs with which they will be able them to return to the EU market. Meanwhile, other suppliers will have to leave the market. Even though the expectation is that it will benefit EU producers, some of them will be replaced with suppliers from countries such as Turkey, India, and South Korea.

The EIU has downgraded its steel output growth projections for the EU to 2.5 percent in 2018, from 4.1 percent in 2017. As the EU continues with stable economic growth, European producers will become positioned to increase their market share due to import barriers. The only downside to this future could be Algeria, with its weak demand for reinforcement steel. In 2018, the Algerian government will try to stop EU imports in a move to protect local steelmakers. Even though reinforcement steel producers from the EU have several alternative market options, output in this segment may suffer. This segment currently operates at a capacity utilisation of 60 percent. However, a decrease in sales by 20 percent may trigger more shutdowns and optimisations across the industry.

India. The Indian steel industry grew by 6.2 percent in 2017 on the previous year amidst increased capacities and lower inventories. Indian steelmakers have reaped benefits from minimum import prices (MIPs) introduced in 2016. As MIPs ran across almost the whole spectrum of steel products priced significantly above the market, they worked to exclude almost all imports from the Indian market. MIPs were introduced for five years. The EIU expects that India will see a 5-percent increase in steel output in 2018, outpacing Japan, the second largest global steel producer after China.

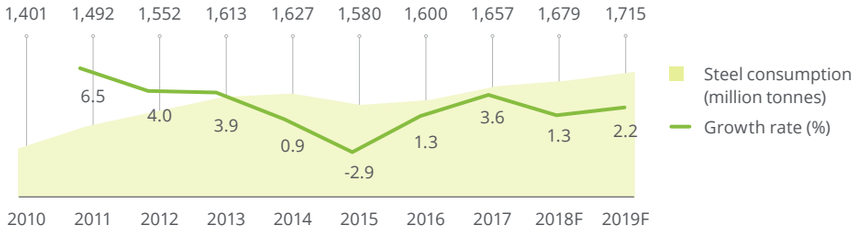
North America. In 2017, American crude steel production received an additional boost from Big River Steel, which started production in December 2016. In addition, higher prices have restarted idle capacities. The American steel industry ran at low utilisation levels throughout most of 2017 as it had to address operational issues as a recognition of excessive cuts to costs for major repairs. In the United States, total output for H1 2017 was by 1.3 percent higher than the same period in 2016, increasing up to 4 percent in H2 2017. Mexican steel production grew at even a higher rate of 6.3 percent, with a boost from new capacities. NAFTA (the US, Canada, and Mexico) saw their total output go up by 4.9 percent year-on-year. In March 2018, the US government announced a 25-percent tariff on steel imports and a 10-percent tariff on aluminum imports under Section 232, with EIU experts now predicting an annual growth of 4.5 percent in the regional output for 2018.

Source: World Steel Association, EIU

Consumption trends

Higher than expected economic indicators and stronger steel output in Q4 2017 led to the EIU raising its estimate of world steel consumption in 2017 to 3.6 percent, against the previous forecast of 3.2 percent. This economic momentum is expected continue at least in the first half of 2018 despite the moderate slowdown in China's growth rates, as construction and manufacturing activities will decline only slightly. In 2018, the EIU forecasts an increase in global demand for steel by 1.3%.

Figure 5. Global steel consumption since 2010



Source: World Steel Association, EIU forecast

China. In 2017, China increased steel consumption by 5.2 percent, which also reflects some inventory increase as producers expanded their inventories in anticipation of sharper decreases in supply expected in late 2017 and early 2018. The EIU expects China to reduce its steel consumption to 0.5% in 2018 due to producers cutting down on capital investments (2017: 7.2% percent). The construction sector, including infrastructure and real estate, will remain critical to the overall demand for steel in China as it accounts for almost two-thirds of the country's steel consumption. Monetary policy will have a less pronounced impact on real estate and construction. Demand may also be lower in 2018 as the authorities take measures to limit environmental pollution. One-third of Chinese steel outside the construction sector goes to the manufacturing industry, including shipbuilding, car manufacturing and industrial products, as well as household electrical appliances. In 2017, manufacturing grew at a higher rate of 6.6 percent, compared to 5.5 percent in 2016. While the automotive sector accounts for about 10% of total steel demand in China, its growth will slow down in 2018–19. Car sales grew by only 2.1 percent year-on-year in January-October 2017, well below the same period in 2016 (14 percent). This is partly due to reduced tax incentives for sales of new cars. There were also other ownership limitations aimed at curbing pollution.

Asia. Steel consumption in the region grew by about 2.5 percent in 2017. The smaller countries in Southeast Asia such as Vietnam, Indonesia, Thailand, and the Philippines account for 25 percent of total Asian demand, compared to India with its share of 20 percent. Despite this, 2017 saw India experience difficulties, as the growth in manufacturing fell below expectations, preventing accelerated growth in the regional demand. Another hindrance to overall activity in the region came from a weaker demand in the Japanese construction sector. South Korea improved its performance in the second half of 2017. Consumption in the region is expected to see a 2-percent increase in 2018, which is partly due to the industry stimulation package by South Korea.

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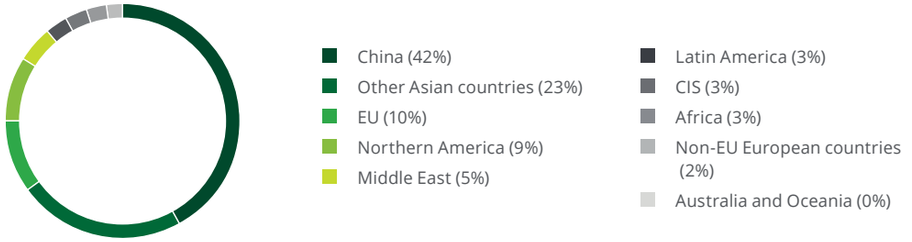
Consumption trends

Figure 6. Global steel consumption by region in 2017 (%)



North America. The US consumes 75 percent of the steel in North America. According to the American Iron and Steel Institute (AISI), construction accounted for 43 percent of the steel consumed in 2016. The American automotive sector has a share of 27 percent in the domestic demand for steel. Steel consumption from automotive markets may be at risk in the long term as aluminum is replaced and alloys are developed. Another threat to long-term demand for steel comes from electric cars due to advances in technology and a longer useful life that tends to reduce the need to replace cars. After peaking in 2016, domestic car production and sales will probably continue to drive stronger consumption of steel in 2018. Activity in the automotive and housing construction sectors is expected to slow down as monetary policy continues to ease up gradually. Manufacturing is likely to continue with moderate growth in 2018–19 due to commodity prices remaining higher than in 2016 and the energy and resource sector keeping up its activities. Specifically, steel consumption may receive a boost from higher demand for steel pipes as oil production rebounds.

The EIU generally expects that total annual growth in steel consumption in North America will slow down to 2 percent in 2018 and 1 percent in 2019, against an increase of 4.3 percent in 2017.

The EU. Although the European Central Bank (ECB) may set about reducing the quantitative easing program in 2018, the economy would need to be strong enough to deliver self-sustaining growth. Given a strong growth of 2.6% in 2017, EIU experts believe that GDP growth in the EU will remain fairly stable to reach 2.3% in 2018. A strong automotive industry, which accounts for almost 20 percent of the consumption in the region, will boost demand for steel. The number of car registrations grew by 3.4 percent year-on-year in January–October 2017. At the same time, lower unemployment increased consumer demand for home appliances. The EIU predicts growth in the demand for steel of 2.5% for 2018 and 1.5% for 2019, which is 2.3 percent lower than in 2017. In the EU, the fastest growing demand is concentrated in Central European regions where infrastructure investments and production facility relocations will support the demand for steel. Additional budgetary spending poses a higher risk for demand in Germany where Angela Merkel's CDU may have to increase infrastructure expenditure as a concession to their coalition partners.

Source: World Steel Association, EIU

Raw material price trends

Figure 7. Prices for iron ore in 2017, USD per tonne (Fe 62%, CFR, Tianjin, China)

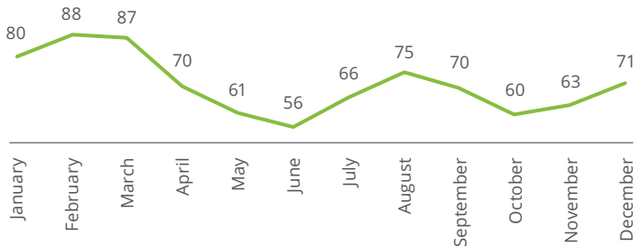
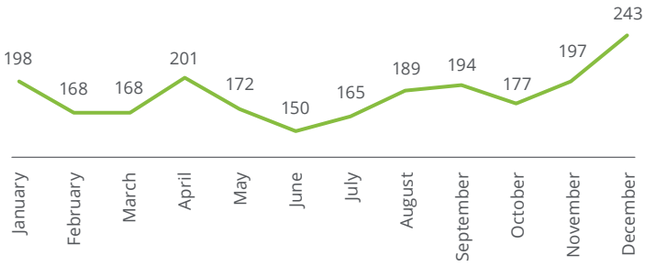


Figure 8. Prices for coking coal in 2017, USD per tonne (FOB, Australia)



Source: Singapore Exchange LTD, EIU

Ore

After reaching almost USD 90 per tonne in early 2017, prices for iron ore were down to USD 50–60 per tonne in May and June as a result of increased inventories and weaker steel prices. In late August, ore prices returned to almost USD 80 per tonne, boosted by an increase in steel production by China. Despite this, concerns over a potential reduction in production capacities by China resulted in prices going down to USD 60 per tonne, following a decrease in winter demand from China and swelling inventories in Chinese ports. In December and January, prices edged marginally higher because the reduction in production capacities was not as strong as expected.

The EIU predicts that prices for iron ore will stay at about USD 45–70 per tonne in 2018–19. At the same time, EIU experts do not rule out that prices may decrease to a minimum of USD 35 per tonne in many years.

Coal

Contracts for Q1 2017 reached a maximum value of USD 285 per tonne. Integrated producers saw their production costs increase by USD 110–120 per tonne in the period between Q3 2016 and Q1 2017. While a jump in prices can partly be explained by higher demand from China and India, as well as by short-term demand coverage in other markets, supply remains the main reason. In Q3 2017, a number of mines in Australia announced the onset of force-majeure events due to floods hitting the county and supply issues in Mozambique. The sharpest increase in prices came from Anglo-American mines announcing the force-majeure circumstances at German Creek in October. This mine produces 1.8–1.9 million tonnes of coking coal quarterly.

In 2017, coking coal prices saw two increases – the first in April, when Tropical Cyclone Debbie hit Queensland in Australia, damaging the major railways carrying coal to ports; the second in December, when prices went over USD 250 per tonne due to delays in shipments from Dalrymple Bay, a coal terminal in Australia. These increases were also triggered by the limitations on coking coal production in China. Despite this, early 2018 saw prices fall to USD 200 per tonne amidst a rich supply, low demand from China, and shipments resumed by Australian ports, even though these ports depend on weather conditions.

The EIU forecast: Buyers and sellers are increasingly looking for sport markets for price adjustment, rather than for quarterly contracts. Low inventories may contribute to spot prices staying within a corridor of USD 125 to USD 160 per tonne in 2018–19, but curbing supply may lead to spot prices increasing over USD 200 per tonne.

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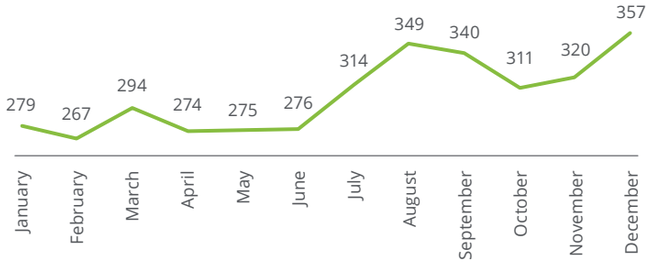
Raw material price trends

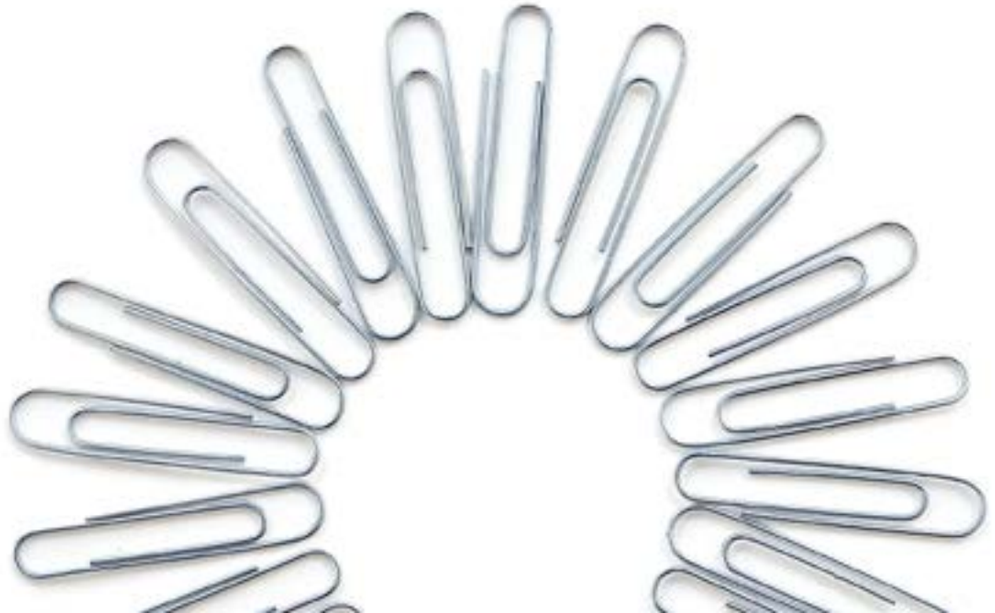
Figure 9. Prices for ferrous scrap in 2017, USD per tonne (Steel Scrap Futures – (SSCc1))



Source: Investing.com

Ferrous scrap

Ferrous scrap prices stem from steel prices. Pig iron and scrap are interchangeable input components (i.e. substitute products) for steel production. According to the World Steel Association, steel produced from scrap with electric arc furnaces accounted for 25.7 percent of global steel output in 2016 (2010: 29.1 percent). Scrap metal prices change in line with prices for iron ore and coking coal. With positive market developments, scrap metal prices tend to outpace commodity prices. In a situation with negative developments, scrap prices decrease faster than prices for iron ore. Unlike iron ore prices, scrap prices are less differentiated by quality (density and homogeneity) and region (transportation). Average global prices for quality ferrous scrap are defined based on prices for major imports and exports of HMS 1 and 2 (FOB Rotterdam, FOB US East Coast, C&F Asia Pacific and C&F China), No. 1 bushelling, No. 1 bundles. Seasonality plays an important role in the scrap market. This market functions in a relatively simple manner: a growth in prices for metal products increases scrap inventories and prices for scrap metals. Unlike primary raw materials (iron ore), scrap metals are generally traded in local markets.



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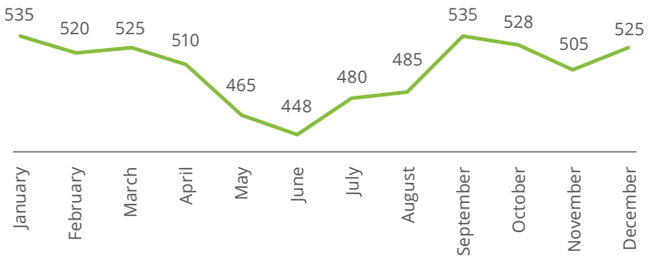
Steel price trends

Figure 10. Price trends for hot-rolled products in 2017, USD per tonne (FOB EU export, HR coil)



In 2017, steel prices in China remained high, with a stronger-than-predicted increase of more than USD 600 per tonne expected by yearend. However, prices for hot-rolled products dropped to USD 570 per tonne due to the weaker economic performance in March 2018. EIU experts predict that as domestic demand in China slows down it will trigger higher exports, putting pressure on global prices.

By 2019, slow growth in demand and higher costs for keeping inventories, driven by higher interest rates, will force inventory adjustments and lead to lower production output due to lower prices. To replace expensive capacities, global prices, which will stay just above production costs, will need to start growing in the middle of 2019. However, forecasting prices for steel is currently hindered by US trade policy. After the US imposed duties on steel, domestic prices grew by more than 25 percent above the global market in April.

Source: EIU forecast, MetalBulletinDaily

Overview of the Russian steel and iron market

Production output trends

The metals production index is 96.4 percent for 2017. The downward trend lasting from 2016 to early 2017 began to reverse in Q3 2017, with indicators improving from -8.9 percent in Q1 2017 and -1.6 percent in Q2 2017 to +6.2 percent (Q3 2017). This is explained by positive developments in the internal and external economic environment. High prices for steel in other countries worked to drive prices for Russian steel products up to a level of export price parity. As a result, Q3 2017 saw a growth in production accompanied by a growth in prices for steel products. This increase was mainly driven by consumption of rolled products growing by 9.6 percent for eight months in 2017 as compared to the same period in 2016. However, Q4 2017 suffered a significant decrease in output, down 10.2 percent. A look at products by category reveals that many products demonstrated positive dynamics by yearend as compared to the previous year. Wire products and seamless casing pipes showed the highest growth – 31.7 percent and 19.8 percent, respectively.

Strong domestic demand during the year was maintained by increased consumption from the construction industry (e.g. large-scale construction projects such as the Crimean Bridge and the Power of Siberia) and the machine-building industry, including the automotive sector.

Figure 11. Metal products shipped in 2017 and 2016 (RUB million)

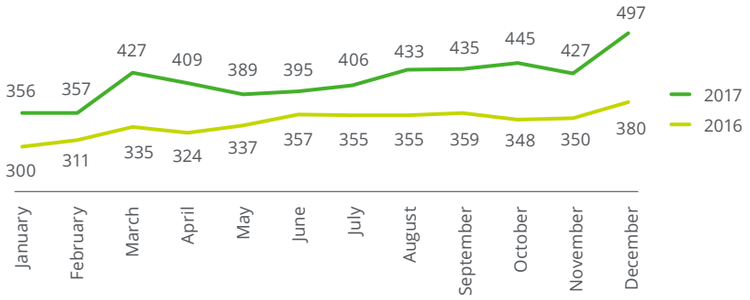
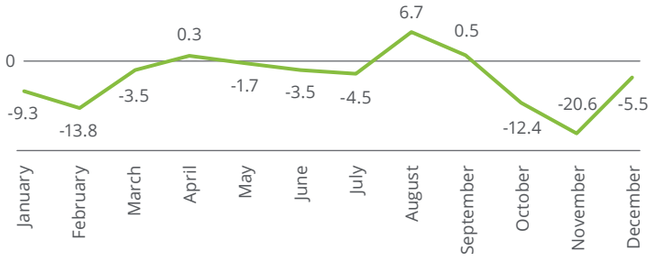


Figure 12. Production output in volume terms, 2017/ 2016 (%)



Source: RosStat, the Russian Ministry of Economic Development

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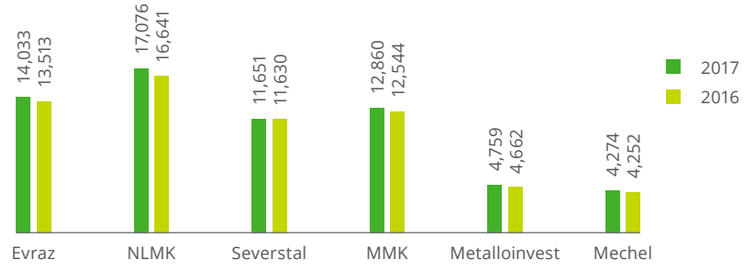
Production output trends

Table 1. Financial performance of the top Russian steelmakers

	Revenue, USD million		EBITDA, USD million		EBITDA margin (%)	
	2017	**2016**	**2017**	**2016**	**2017**	**2016**
EVRAZ	10,827	7,713	2,624	1,542	24%	20%
NLMK	10,065	7,636	2,655	1,941	26%	25%
Severstal	7,848	5,916	2,577	1,911	33%	32%
MMK	7,546	5,630	2,032	1,641*	27%	29%
Metalloinvest	6,231	4,261	2,120	1,258	34%	30%
Mechel	5,128	4,122	1,391	988	27%	24%

Figure 13. Steel output by the top steelmakers, 2017/2016 (thousand tonnes)



In 2017, output from EVRAZ, NLMK, Severstal, MMK, Metalloinvest and Mechel totaled 64.7 tonnes, accounting for 90 percent of the steel produced in Russia.
The top Russian metal makers demonstrated margins varying from 24 to 33 percent, all up on the previous year except for MMK, whose EBITDA margin was down 2 percent.

EVRAZ has entered into a new long-term contract with RZhD to supply rail products. The contract is for a period of five years effective 19 February 2018. During this period, EVRAZ will supply 3.2 million tonnes of rail products for a total of RUB 111.7 billion*. The contract provides for formula-based pricing. EVRAZ will continue to supply rails in all categories that are in high demand from RZhD, including special-purpose products such as rails for combined high-speed compatible traffic, rails for low temperature applications, heat hardened rails and switch-point rails. EVRAZ is the only producer offering products in all of these categories in Russia. As provided for by the contract, EVRAZ will gradually increase the supply of rails with a length of 100 meters to 360,000 tonnes by 2020.

In 2017, product shipments from Severstal to Russian machine building companies were up 7 percent to 504 thousand tonnes on 2016. This increase was primarily due to higher demand for metal products from machine building sectors such as railway, agriculture, transportation, and lifting/transportation machinery. Last year Severstal achieved the highest product quality for one of its major clients (Caterpillar Tosno) as product rejections were down to a 10-year minimum (0.0005 percent), with only two items rejected.

In 2017, Metalloinvest increased shipments of rolled products for bridge construction applications by 24 percent to 230,000 tonnes, from 186,000 tonnes in 2016. The year 2017 saw several significant infrastructure facilities commissioned. These facilities were constructed with bridge steel produced by Ural Steel that is part of Metalloinvest, including the bridge over the Volga River in Nizhny Novgorod and the bridge over the Tur River in Tyumen. An opening ceremony held in late 2017 saw a highway bridge put into operation near Budovo in the Tver region. The 122.3-meter-long bridge was built with 974 tonnes of steel supplied by Ural Steel.

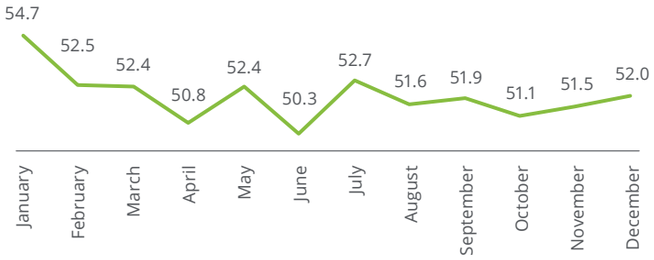
Sources: corporate reports, evraz.com, severstal.com, metalloinvest.com

*The indicator of 2016 was adjusted for the effect of the sale of the stake in Fortescue Metals group (FMG)

Consumption trends

RosStat estimates that Russia's GDP grew by 1.5 percent in 2017 after the economic downturn of 2015–16. Regular data updates available to RosStat demonstrate a positive contribution from the manufacturing industry to Russia's GDP in 2017. Coming from manufacturing companies, these updates indicate stable economic growth. The year 2017 also saw accelerated growth in rail freight, car sales, and air transportation.

Figure 14. Russian Purchasing Managers Index (PMI) in 2017



Overall, manufacturing output slowed down to 1.0 percent, from 1.3 percent in 2016.

Business sentiment indicators derived from surveys remain at their highest for many years. For instance, the PMI averaged 55.3 for 2017, achieving the highest level since 2008. In January 2018, the PMI continued above 50 (54.8) to indicate a potential for growth in manufacturing. In Q4 2017, RosStat's Manufacturing Business Confidence Index adjusted for seasonality demonstrated stable positive dynamics for the first time since Q2 2012.

Late 2017 saw the manufacturing industry disrupt the economic upturn as a growth of 1.8 percent year-on-year in manufacturing output in January–September 2017 reversed to a decline of 1.7 percent year-on-year in Q4 2017. As a result, the annual growth in manufacturing turned out to be lower than expected (up 1 percent on 2016). This drastic year-end decline came from a confluence of predictable and unpredictable events occurring in markets for certain products.

National defense expenditure underspent by 6.7 percent against the updated public budget leading to weaker output in the manufacturing segment producing goods under the category "Other transportation machinery and equipment" by the end of 2017.

Sources: Markit Economics, the Russian Ministry of Economic Development of the Russian Federation

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Consumption trends

Gross fixed capital investment grew by 3.6 percent in 2017. Preliminary estimates show that purchases of machinery and equipment from both domestic and foreign sources are the major contributor to the growth in fixed capital investment. Output of local machinery for fixed capital investment increased by 8.6 percent in 2017, compared to 8.9 percent year-on-year in Q4 2017. Investment sentiment in the second half of 2017 was also boosted by the rebound in the construction industry, as seen in terms of annual increases, due to expanding production in the construction materials segment.

- Severstal predicts domestic demand for steel to increase by 3–4 percent in 2018. The company also expects long-term consumption to go up by another 8 percent (3.3 million tonnes) by 2021 as construction gains momentum. This year Severstal operates at full capacity utilisation, with output remaining the same as in the previous year.
- Victor Rashnikov's MMK also sees a rebound potential for domestic demand as it points to factors such as a more stable rouble exchange rate, lower lending rates, the governmental support promised for client industries and the continuing potential for import substitution. MMK expects metal consumption to grow by 4 percent this year, putting Russian steelmakers in a position where they can ramp up output.
- With construction stepping up its activities, this growth could be even higher. NLMK is also fairly positive about the outlook for domestic production and consumption. For instance, Vladimir Lisin, a beneficiary of NLMK, does not rule out further capacity expansion in Lipetsk this year.

Housing construction is one of the top priorities for the Russian economy. In his address to the Federal Assembly of the Russian Federation on 1 March 2018, President Vladimir Putin called for a housing construction rate of 120 million sq.m per annum. However, the President did not mention any timeframe for this task. Importantly, the Russian Ministry of Construction reported that housing completion was down to 78.6 million sq.m in 2017, down 2 percent on 2016. This year the level of residential construction is expected to total 80 million sq.m.

Figure 15. Demand for cars and spare parts (USD billion)

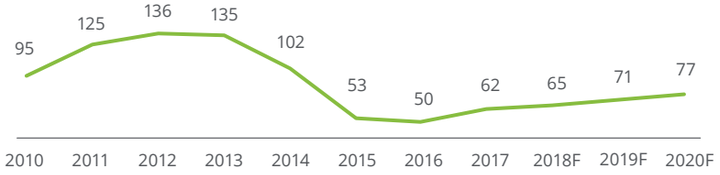


Figure 16. Consumer spending (USD billion)

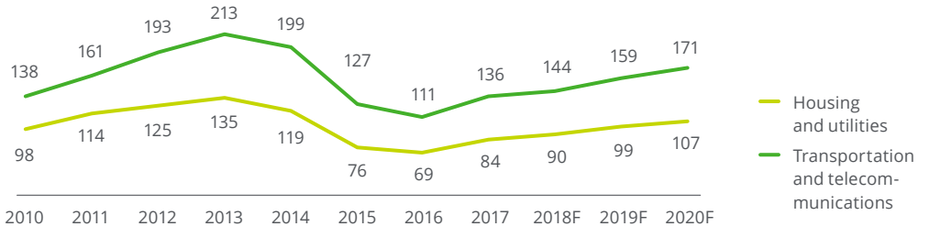
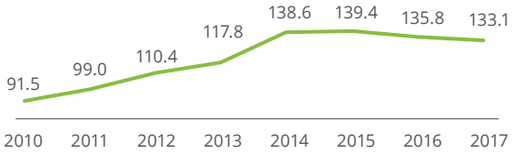


Figure 17. Completion of housing and other buildings (million sq.m)



Sources: Ministry of Economic Development of the Russian Federation, EIU Forecast, Deloitte analysis, vedomosti.ru, Interfax.ru

Exports of ferrous metals

In 2017, exports of flat-rolled products were up 38 percent in monetary terms and down 3 percent in volume terms on 2016, totalling USD 4,558 million and 8,633 thousand tonnes.

In 2017, exports of tube products were up 116 percent in monetary terms and up 65 percent in volume terms on 2016, totaling USD 2,088 million and 2,153 thousand tonnes.

Figure 18. Exports of flat-rolled products by quarter

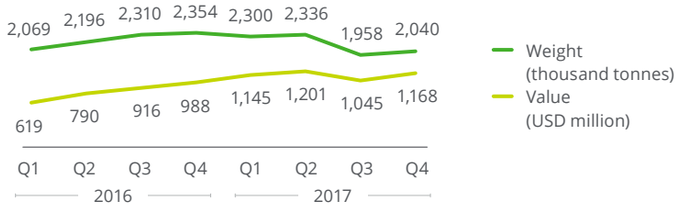


Figure 19. Exports of tube products by quarter

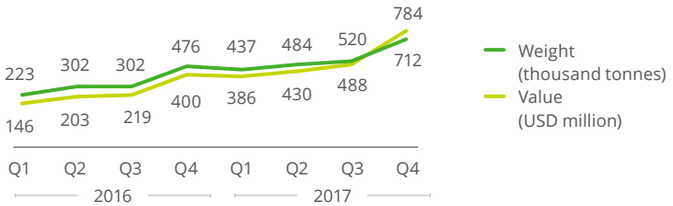


Table 2. Exports of flat-rolled products

	Value (USD million)		Weight (thousand tonnes)	
	2017	**2016**	**2017**	**2016**
Turkey	1,288	909	2,666	2,577
Belarus	391	250	592	474
Iran	255	226	535	641
Kazakhstan	237	146	374	301
Uzbekistan	236	156	332	263
Egypt	200	70	439	224
USA	196	14	315	25
Latvia	172	162	310	450
Vietnam	170	114	356	430
Ukraine	150	98	247	213

Table 3. Exports of tube products

	Weight (thousand tonnes)		Value (USD million)	
	2017	**2016**	**2017**	**2016**
Finland	793	211	686	214
Kazakhstan	293	255	350	338
Turkey	282	9	237	20
Belarus	196	154	227	198
USA	156	55	207	81
Uzbekistan	38	13	29	13
Azerbaijan	38	33	49	56
Kyrgyzstan	35	27	48	45
Ukraine	34	20	39	27
Netherlands	30	8	29	21

Sources: Russian Federal Customs Service

Flat-rolled products: TNVED 7208; 7209; 7210; 7211; 7212; tube products: TNVED 7303,7304,7305 and 7306

Imports of ferrous metals

In 2017, imports of flat-rolled products were up 42 percent in monetary terms and up 27 percent in volume terms on 2016, totaling USD 1,978 million and 2,940 thousand tonnes.

In 2017, imports of tube products were up 40 percent in monetary terms and up 44 percent in volume terms, totaling USD 1,056 million and 728 thousand tonnes.

Figure 20. Imports of flat-rolled products by quarter

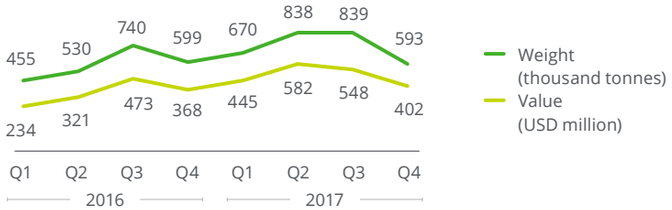


Figure 21. Imports of tube products by quarter

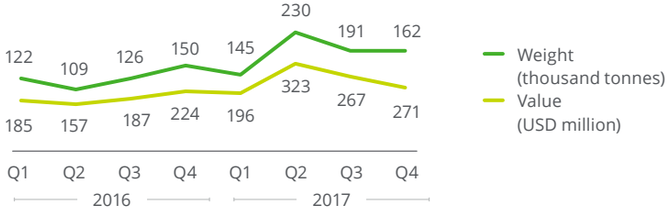


Table 4. Imports of flat-rolled products by major destination

	Value (USD million)		Weight (thousand tonnes)	
	2017	**2016**	**2017**	**2016**
Kazakhstan	775	381	1 320	723
China	414	315	556	474
Ukraine	338	303	644	715
South Korea	150	120	147	128
Germany	72	61	62	61
Belgium	57	67	54	75
Finland	29	23	26	24
France	25	27	24	30
Poland	17	10	13	9
Hungary	14	15	11	12

Table 5. Import of tube products by major destination

	Value (USD million)		Weight (thousand tonnes)	
	2017	**2016**	**2017**	**2016**
China	203	146	115	88
Germany	193	59	135	14
Ukraine	125	106	150	142
Kazakhstan	123	85	135	106
Italy	70	46	18	16
Belarus	69	42	84	61
USA	38	55	5	7
Japan	38	34	12	11
Spain	28	8	4	2
Mexico	27	33	3	5

Sources: Russian Federal Customs Service

Flat-rolled products: TNVED 7208; 7209; 7210; 7211; 7212; tube products: TNVED 7303,7304,7305 and 7306

Key industry events

West-Siberian Metal Plant (EVRAZ) makes the first 54 E1 rail shipment of 1,650 tonnes to Greece

The rails will be used to expand the Athens Metro. In autumn, representatives from Attiko Metro and J&P Avax, a contractor, carried out a production site audit and assessed the rail testing process. The visitors were satisfied with the audit results and the quality of products. «EVRAZ aims at becoming a solid partner on the European railway market. We are looking forward to developing the relationship with our European customers," said Ilya Shirokobrod, Vice President, Sales and Logistics, EVRAZ.

Apart from supplying products, EVRAZ was also in charge of logistics, ensuring the timely delivery of the rails to the port of Eleusis.

Severstal puts the first industrial 3D printer into operation at Cherepovets Steel Mill

The project totals RUB 4.3 million. The new 3D printer will be used by the blank production shop of SSM-TyazhMash to produce models for foundry casting work. The printer is expected to cover about 33 percent of the total demand for casting moulds. "It previously took our patternmakers three days to produce a mould for peripheral plates of the nostril block of a hot-blast stove. With the 3D printer, it takes 16 hours," said Vadim Germanov, General Director of Severstal Russian Steel Division. Designed as a relatively small hollow cube, the printer embodies the latest trends in 3D printing. While enabling faster and leaner production of foundry tooling, it also eliminates the risk of human error. The printer uses environmentally friendly biodegradable plastic that is safe for humans. The printing mechanism builds up layers on top of each other to create a model with properties programmed by a designer with the help of a built-in tablet. Previously, the company used wood to produce foundry tooling, but it was sensitive to moisture and not as durable.

Severstal makes the first shipment of ArmaNorma (A600C) reinforcing bars for Akkuyu, a nuclear power plant project in Turkey

In December 2017, Severstal made the first 400-tonne shipment of reinforcing bars for the concrete foundation of the nuclear power plant. An additional 1,600 tonnes of reinforcing bars are planned to be shipped in early 2018. By 2019, Severstal is expected to ship a total of 32,000 tonnes of metal products for a general designer and contractor – AtomStroyExport (ASE), a company within the Engineering Division of Rosatom.

Additional information: Akkuyu is a nuclear power plant under development in the coastal region of the Mediterranean Sea in Turkey. On 12 May 2010, Russia and Turkey signed an intergovernmental cooperation agreement in Ankara. The project is to deliver four reactors with a capacity of 1,200 MW each. AKKUYU has a planned annual capacity of about 35 billion kWh. This is a serial production project that has been designed based on the project of the nuclear power plant Novovoronezh II in the Voronezh region (Russia). AKKUYU has a lifespan of 60 years. Construction officially commenced on 10 December 2017.

Sources: Corporate press releases

Metals industry in Russia – challenges and opportunities

Investments in the Russian metals industry

Investments can be divided into two categories: infrastructure-supporting investment aimed at keeping output and strategic investment that is meant to deliver new capacities, new products, and new product lines. While seeing a huge potential for enhanced processing technology to spark growth for Russian steelmakers, Russian experts note insufficient strategic investment in this area.

Infrastructure-supporting investment aimed at keeping the existing output has traditionally played a significant role in the metals industry, accounting for about 40 percent in the 2000s, and about 50 percent in the 2010s. This is explained by the need for the reproduction of resources, as well as by the thermochemical operational specificities of steelmaking assets and the heavy depreciation of interchangeable equipment. It is important to note that investments in the 1990s and 2000s were aimed at helping producers adapt to changes in the operating environment, including investment in in-house power units, corporate trading houses, etc. This spending was critical to maintaining output. In the 2010s, producers need investments to adapt to environmental and social requirements.

In the 2000s, steelmakers completed large-scale technological updates, removing open-hearth furnaces, migrating to continuous casting, and renovating blast furnace capacities. Companies launched new products such as galvanised steel, longer rails, and large-diameter tubes. They also set up smaller facilities to produce metal products from scrap. This segment will continue to evolve throughout the current decade.

Enhanced metal processing technology is another area offering attractive investment opportunities. At the current stage, over 50 percent of exports (pig iron, blooms, and hot-rolled products) go to other countries for further processing. The local market is quite aware of the existing technological solutions, which accounted for 25 percent of investment initiatives in the 1980s. However, whether such solutions can be deployed efficiently primarily depends on implementation conditions. Stronger investment in the manufacturing of finished metal products is dependent on growth in the domestic demand for metals produced with the use of enhanced processing solutions.

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Metals industry in Russia – challenges and opportunities

Governance in the Russian metals industry

Management and strategic decisions are made by to key shareholders (i.e. industry leaders with ownership interest ranging from 30 percent to 90 percent, with an average percentage of ownership at 65 percent). Is it a growth challenge or opportunity for the industry? Global practices provide no clear answer. However, the 2008 crisis in the US and the EU can tell us something, with managers delivering a blow to owners, and governments absorbing the blow. Russia has gained vast historical (Demidov, Morozov, Smirnov families) and modern experience. But the key challenge for economical stability and growth always stays same – succession.

With semi-continuous large-scale production processes, the metals industry has one of the most efficient and business-relevant management models.

As one of the advantages, it enables managing vertical links between technologically related production clusters while delivering a lower risk of conflict between owners and managers. The diversified business model allows generating revenue streams that can be consolidated and invested in projects with the highest potential in sectors under control.

While lowering risks related to developments in the Russian economy, the transnational nature of the metals industry leads to higher global risks. The two previous decades have demonstrated that companies were able to find solutions under conditions that were more challenging compared to those of the 2010s. Therefore, there is no reason to believe that the existing challenges will have a significant mid-term impact on the Russian metals industry.

Steelmakers continue to streamline their governance frameworks on a regular basis. The strongest interest is placed on transforming metals companies into investment businesses, as the issue of investing income smartly is increasingly in the spotlight because companies already know how to produce profitably.

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Metals industry in Russia – challenges and opportunities

Local consumers of metal products

Client centricity and products tailored to fit each category of customers have been a trend in many markets, including the metals industry. Customer engagement and insight play a critical role and tech companies have a significant range of solutions to offer.

The Russian metals market can be divided into two distinct product segments.

Russian producers follow global practices when dealing with their large customers. These practices are based on long-term supply contracts at agreed prices, including the coordination of strategic investment plans. Developments in the market are predictable and manageable.

At the same time, the way metal producers do business with smaller customers is significantly behind global practices. This is attributable to how producers engage with their customers. They do so through special entities – metalwork service centers. In Russia, metal services are based on building up competences needed to produce finished metal products. This contributes to enhancing the mobility of the market for metal products, promoting the emergence of new segments such as additive technologies and materials with complex structures.

As a result, the customer engagement model in the metals industry has a focus on relatively simple tasks related to serving the needs of construction businesses, large fuel and energy customers, transport companies, and the machine-building industry. Developing an SME segment that relies on the use of metal products requires a relevant engagement system which Russia has only recently started building.

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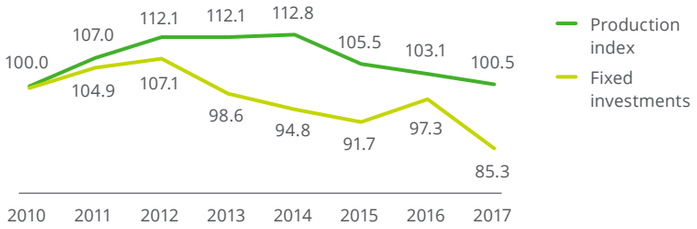
Metals industry in Russia – challenges and opportunities

Investment and production

In 2011–14, the metals industrial production index only showed a marginal growth of 12 percent. In addition, the period from 2015 to 2017 witnessed a downturn in steel production, causing physical output in 2017 to reach the level of 2010.

This came amidst fixed investments decreasing gradually in 2013–15 and 2017. In 2017, fixed investments in terms of volume were just 85.3 percent compared to 2010

Figure 22. Trends in steel output and investments (% on 2010)



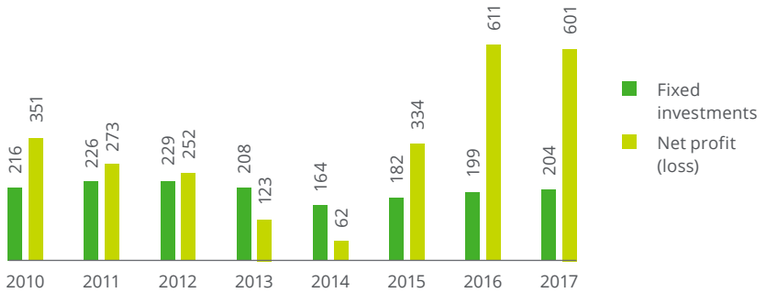
As the post-crisis production rebound comes to a halt, there is a need to find new areas for investing in growth. The transition from the post-crisis mindset to strategic thinking requires decisions and frameworks to support this move. There are new ideas and related implementation approaches being developed that rely on cross-industry and intercompany structures. Putting these approaches into practice will inevitably bring investments into the industry.

Investment and profit

By 2017, the metals industry saw a net profit increase by almost fivefold on the pre-crisis year of 2013, reaching RUB 601 billion at 2010 prices. However, this did not have any impact on fixed investments that have been continuing at about RUB 200 billion for the last eight years.

This increase mainly resulted from the rouble becoming weaker by the end of 2014, triggering a sharp increase in export revenue (in rouble terms) while production costs increased just marginally.

Figure 23. Net profit to investments in the metals industry (RUB billion at 2010 prices)



Despite the resulting boost in profit, limited opportunities for efficient investment in production activities require new investment solutions. This would require further changes to corporate governance. The existing production management framework is augmented by a mechanism for managing investments and delivering strategic initiatives.

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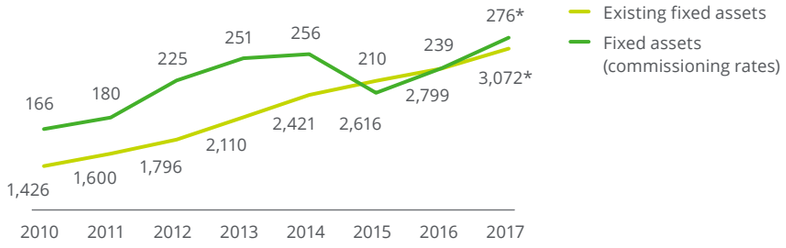
Metals industry in Russia – challenges and opportunities

Investment and fixed assets

The number of fixed assets in metallurgy has increased approximately two-fold since 2010 and in 2017 their number is estimated at 3072 billion rubles.

The entry of fixed assets over the period under review has grown at a moderate pace (an average of 7% per year). The exception was in 2015, when there was a sharp reduction (by 18%).

Figure 24. Fixed assets in the metals industry (RUB billion)



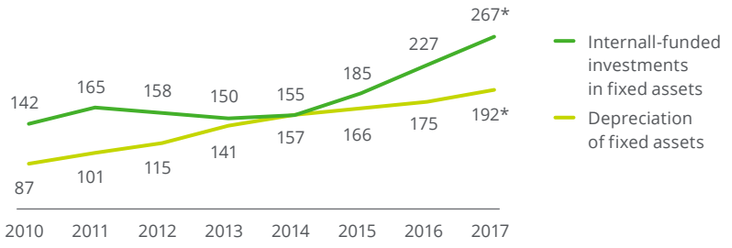
The trends in fixed assets are indicative of an investment pause caused by the uncertainty in both the international and local markets for finance, metal products, and steel equipment.

Investment and depreciation

The year 2017 saw fixed internally-funded investments rise, increasing to RUB 267 billion after the "downward" period of 2012–14 and accounting for 70 percent of total investment in the industry.

While the metals industry witnessed depreciation rates for fixed assets go up by 26 percent on 2010, these rates have been continuing at generally the same level over the last four years (113 percent on average)

Figure 25. Internally funded investments in the metals industry (RUB billion)



Developments in internally-funded investments have been driven by global market issues. Limited access to international financing has resulted in loans being replaced with internal funding. In 2014, metal prices went up as the rouble was down, providing metal producers with internal funds. Despite a weakened rouble and the industry running a large amount of imported equipment, the marginal growth in depreciation rates over 2015–17 can be indicative of problematic depreciation policies in Russia. There is a deferred revaluation at play that may unfold in the future.

*Based on calculations by the Institute for Scientific Forecasting of the Russian Academy of Sciences

Metals industry in Russia – challenges and opportunities

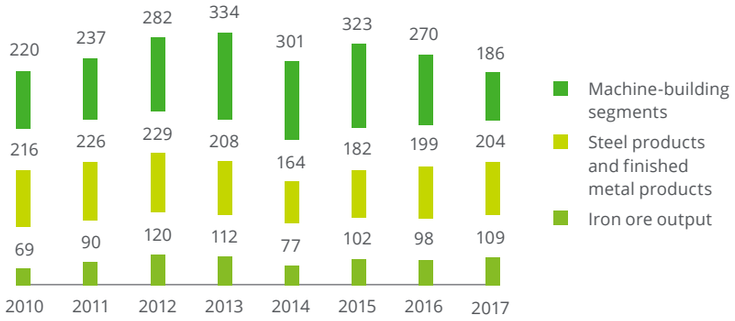
Investment by segment

In 2017, the segments for steel making and finished metal products saw the highest investment of RUB 204 billion.

Overall, investment in fixed assets by metals-related industries did not show any significant growth compared to 2010.

The lack of a balance between investment in metal production and consumption needs to be dealt with as it can threaten future growth in the metals industry. Business development hinges on growth in demand and consumption. The industry needs a stronger focus on developing the local metals market to offer clients finished products. Global steelmaking practices attest to the high efficiency of investments in enhanced processing when compared to the need for additional processing by end customers in the construction or machine-building industries.

Figure 26. Investments by segment (fixed investments, RUB billion at 2010 prices)

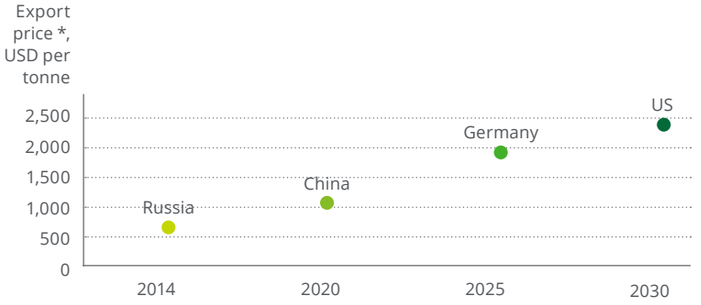


Investment and prices

Russia is lagging behind the world's leading producers in terms of average export prices for metal products. Therefore, export prices by global leaders can be used as a target strategic indicator for the Russian metals industry for the period until 2030.

Russia can set a potential goal to reach the pricing level of China by 2020, Germany by 2025 and the USA by 2030. This can be achieved by developing local steelmaking capacities for enhanced processing, as well as by optimising the export mix to reduce the share of pig iron and semi-finished products exported for further processing.

Figure 27. Strategic price targets for Russian metal products classified under TN VED codes 72-73



*The export price for each country is arrived at by dividing the total dollar value of exports for products under TN VED codes 72–73 (except for products under TN VED codes 7203 and 7204) by total exports (in tonnes) for the same TN VED codes. TN VED code 7203 covers direct reduced iron ore products and other sponge iron coming in briquettes, pellets, or similar shapes. TN VED code 7204 covers ferrous metal scrap and waste, as well as remelting scrap ingots that are used as an input for metal products.

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