

Market Overview

as of: 6 January 2020






- Copper:** The leading topic last year was the trade war and its negative impact on the global economy. As a consequence, the IMF lowered its global growth forecasts, and the Fed lowered its interest rates several times. Reduced economic activity, especially in China, which accounts for over 50% of global copper consumption, has caused a reduction in demand for red metal. However, rising mining costs and reduced availability of concentrate and copper scrap stabilized the price of metal (*page 2*).
- Precious metals:** The Russian Central Bank's gold stockpile continued its record growth, climbing to well over 2,600 tonnes, as the country continues its push to diversify international reserves (*page 4*).
- USA-Iran:** Along with recent actions, the long smoldering conflict on the US-Iran line has flared up with new force. According to President Trump, the liquidation of Suleimani was a defensive action, but both the Iraqi prime minister and spokesman for the US House of Representatives believe that this was the unlawful use of US forces (*page 5*).
- Great Britain:** Before Andrew Bailey, the new head of Bank of England, took over the leadership of FCA in 2016, worked for 30 years in the Central Bank (*page 5*).

Key market prices

	Close price	3w chng.
LME (USD/t)		
▼ Copper	6 077.00	-1.3%
▼ Nickel	13 740.00	-2.4%
LBMA (USD/troz)		
▲ Silver	18.21	7.0%
▲ Gold (PM)	1 548.75	4.8%
FX		
▲ EURUSD	1.1147	0.0%
▼ EURPLN	4.2569	-0.2%
▼ USDPLN	3.8213	-0.3%
▼ USDCAD	1.2988	-1.2%
▼ USDCPL	754.16	-1.6%
Stocks		
▼ KGHM	96.12	-2.0%

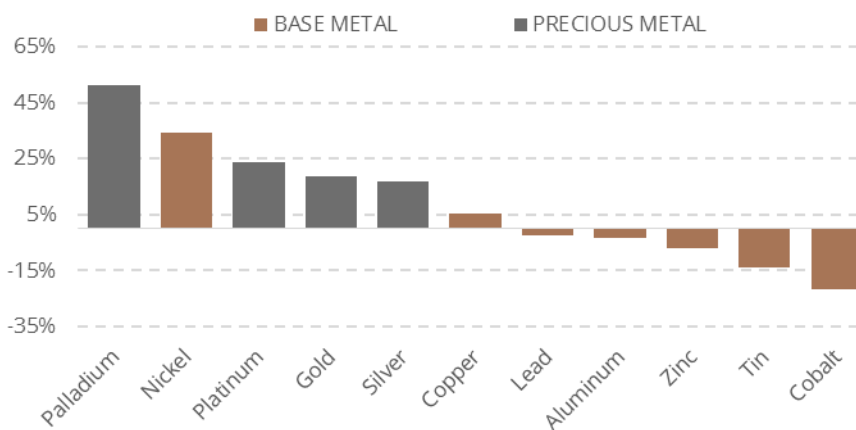
Source: Bloomberg, KGHM Polska Miedz S.A.; (*more on page 8*)

Important macroeconomic data

Release	For		
 GDP (yoy)	3Q	6.5%	▼
 CPI (yoy)	Sep	2.3%	▼
 BCCh rate decision	Oct	2.75%	▲
 Industr. prod. (wda, yoy)	Aug	-0.1%	▼
 ZEW survey expectations	Oct	-19.4%	▼

Source: Bloomberg, KGHM Polska Miedz S.A.; (*more on page 6*)

Rates of return of major non-ferrous metals in 2019



Source: Reuters, KGHM Polska Miedz S.A.

Market Risk Unit

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Base and precious metals | Other commodities

Copper

The leading topic last year was the trade war and its negative impact on the global economy. As a consequence, the IMF lowered its global growth forecasts, and the Fed lowered its interest rates several times. Reduced economic activity, especially in China, which accounts for over 50% of global copper consumption, has caused a reduction in demand for red metal. However, rising mining costs and reduced availability of concentrate and copper scrap stabilized the price of metal.

Summary of 2019 in the context of the copper market

The average cash settlement price was close to USD 6,000/t, and its maximum deviation was not more than USD 600/t

Comparing the difference in the price of copper from the first and last official listing of 2019, which was just 317 USD/t (approx. 5%), one can conclude that the last year did not abound in breakthrough events for the red metal. The average cash settlement price was close to USD 6,000/t, and its maximum deviation was not more than USD 600/t in either side. The relatively low volatility, however, does not reflect the plethora of information, macroeconomic readings and geopolitical aspects that have contributed to the image of the copper market in 2019.

In the first half of 2019, copper cash settlement price on the London Metal Exchange (LME) was in the range of around 5,750-6,570 USD/t. Once again, the main topic last year was the trade war and its gradual escalation, until November/December, when the presidents of China and the US arrived to a preliminary agreement on the first phase of the agreement between the countries. A final agreement remains distant because the parties have diverging expectations that divide them more than they unite. In addition, it seems that strictly commercial issues were not the main point of the dispute. President D. Trump underlined that the protection of intellectual property and theft of technology is at the epicenter of conflict.

At this point one can ask - how did the trade war affect the price of copper? There can be several answers. The most obvious factor is through the demand for the red metal, which, in the case of countries involved in trade conflict (except for the US and China, the European Union and Japan are also "playing") accounts for prevailing market share. For example - China is responsible for over 50% of global copper consumption and for many years it has been responsible for the largest increase in the volume of consumption in annual terms. In the event of a slowdown in economic growth caused by the escalation of the trade conflict and the entry into force of further tariffs and sanctions, negative sentiment may translate into a lower dynamics of demand growth, which would have an impact on the price of metal.

While in the first half of the year price of copper was supported by the lack of further appreciation of the US dollar and the hopes for an early resolution of the trade conflict, the US administration, contrary to the expectations of market participants, imposed tariffs on goods from China. As a consequence, the US dollar strengthened, while in fear of a contagion of the trade conflict to other economic areas, assets started selling in many markets, including the basic metals market, prompting a fall in the price of red metal below USD 6,000/t in June 2019.

The second half of the year was primarily marked by deteriorating macroeconomic indicators and further trade war escalation. In addition to the weakening data from China (the lowest GDP growth dynamics for over two decades), also in the German economy there was a slowdown in activity, mainly in the industrial sector. PMI indicator fell significantly below the level of 50 points separating the theoretical limit of the slowdown from growth. Due to the weakening macroeconomic environment, the International Monetary Fund once again, last time in October, reduced the dynamics of global GDP growth. In recent months, only the US economy has remained relatively stable. The threat of further slowdown has prompted the US Federal Reserve to change its rhetoric. In a result they introduced interest rate cuts and returned to increasing the balance sheet size through activity on the interbank market caused by low liquidity on the short-term interest rate market.

In terms of fundamentals, the price of copper was stabilized by information on increased costs in the industry and the decreasing availability of concentrate and copper scrap. It significantly reduced the discounts (including TC/RC) to a level significantly affecting the profitability of non-integrated refined copper producers, mainly in China. The first rumors of production reduction appeared in Q4 2019, while market participants are trying to quantify to what extent further mining output reduction and low TC / RC premiums will affect the copper market.

According to ICSG data for 9 months of 2019, the refined copper market deficit (based on the apparent demand method in China) amounted to 390 kt. Copper price in Q4 was also influenced by nationwide protests in Chile, which, in addition to social aspects, also affected the activity of copper producers. Part of November production was disturbed, which may be the reason for the growing imbalance on the copper market and one of the reasons for further price increases in 2019.

Other important information on copper market:

- According to Bloomberg China's copper makers walk the same treacherous path taken by steel and aluminum: rampant expansion that leaves smelters fighting weak profitability. China now makes about 40% of the world's refined copper after a flurry of smelter construction over the past decade. That's slashed its need for imported metal, while boosting purchases of the raw material. The industry faces a shakeup as smelters fight for market share

on the one hand, and raw material supplies on the other. That jives with the experience of the steel and aluminum industries, both of which expanded relentlessly until supply overwhelmed demand and forced a painful period of restructuring. Capacity growth has seen more private companies enter the market in recent years. They're suffering the most, and are most likely to be forced out. The pressure on private producers echoes steel and aluminum, where larger, state-owned players have benefited from government-backed restructuring at the expense of smaller companies.

- The global world refined copper market showed a 81,000 tonnes deficit in September, compared with a 37,000 tonnes surplus in August, the International Copper Study Group (ICSG) said in its latest monthly bulletin. For the first 9 months of the year, the market was in a 393,000 tonnes deficit compared with a 330,000 tonnes deficit in the same period a year earlier, the ICSG said. World refined copper output in September was 2.00 million tonnes, while consumption was 2.08 million tonnes. Bonded stocks of copper in China showed a 136,000 tonnes deficit in September compared with a 10,000 tonnes deficit in August.

Precious Metals

The Russian Central Bank's gold stockpile continued its record growth, climbing to well over 2,600 tonnes, as the country continues its push to diversify international reserves.

Russian continues to build gold stockpile in effort to reverse form USD

Russia produced over 185.1 tonnes of gold in the first six months of 2019. The figures mark a 17.77 percent increase compared to the same period last year, when production reached 157.2 tonnes. With strong demand from investors driven by the state's eagerness to reduce dependence on the US dollar, and with some of the largest estimated gold assets in the world, Russian gold producers have enjoyed a major boom in gold production in recent years. According to central bank figures, the country's bullion stockpile topped 2,261 tonnes as of December 1, ranking fifth in the world behind the US, Germany Italy and France in total holdings. The bullion, estimated to be worth \$110 billion, is part of Russia's growing \$548.7 billion national reserve cushion. Once one of the largest investors in US debt, Moscow has dropped its US treasury holdings substantially in recent years, and has urged other countries to reconsider the global role of the dollar amid US efforts to use their currency's status as the world's reserve currency to bully the rest of the world.

Global economies | Foreign exchange markets

Iran Promises To Avenge U.S. Killing Of Top Iranian Commander Soleimani

Along with recent actions, the long smoldering conflict on the US-Iran line has flared up with new force. According to President Trump, the liquidation of Suleimani was a defensive action, but both the Iraqi prime minister and spokesman for the US House of Representatives believe that this was the unlawful use of US forces.

Concern about disruption to Middle East oil supplies pushed oil prices up nearly \$3.

As Reuters informs, Iran threatened to hit back hard after a U.S. air strike in Baghdad killed Qassem Soleimani, commander of Iran's elite Quds force and architect of its growing military influence in the Middle East. Soleimani was a general who was regarded as the second most powerful figure in Iran after Ayatollah Ali Khamenei. The overnight attack, authorised by President Donald Trump, marked a dramatic escalation in a "shadow war" in the Middle East between Iran and the United States and its allies, principally Israel and Saudi Arabia. Top Iraqi militia commander Abu Mahdi al-Muhandis, an adviser to Soleimani, was also killed in the attack. Responding to the strike, Iraq's prime minister said Washington had violated a deal for keeping U.S. troops in his country. Israel put its army on high alert and Britain and France voiced concerns about an escalation. The Pentagon said the "U.S. military has taken decisive defensive action to protect U.S. personnel abroad by killing Qassem Soleimani" and that the strike was ordered by Trump to disrupt future Iranian attack plans. Concern about disruption to Middle East oil supplies pushed oil prices up nearly \$3. The U.S. embassy in Baghdad urged all American citizens to depart Iraq immediately. Over two decades he had been at the forefront of projecting the Islamic Republic's military influence across the Middle East, acquiring celebrity status at home and abroad. U.S. House of Representatives Speaker Nancy Pelosi, a Democrat and strong critic of the Republican president, said the attack was carried out without consultation with Congress and without authorization for the use of military force against Iran.




Bailey to guide Bank of England through Brexit







Before Andrew Bailey, the new head of Bank of England, took over the leadership of FCA in 2016, worked for 30 years in the Central Bank

Britain's new government named Andrew Bailey as the Bank of England's next boss. During a 30-year stint at the BoE, Bailey helped shore up the banking system against the global financial crisis. Since 2016 he has led the industry's watchdog, the Financial Conduct Authority. Finance minister Sajid Javid called him "the stand-out candidate" as Britain maps out its future outside the EU, and he hailed Bailey's role in quelling the 2008-09 crisis. The 60-year-old will serve an eight-year term starting on March 16.

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
China 						
★★★★	16-Dec	Industrial production (yoy)	Nov	6.2% ▲	4.7%	5.0% ▲
★★	16-Dec	Fixed assets investments (ytd, yoy)	Nov	5.2% -	5.2%	5.2% ○
★	16-Dec	Retail sales (yoy)	Nov	8.0% ▲	7.2%	7.6% ▲
★★	27-Dec	Industrial profits (yoy)	Nov	5.4% ▲	-9.9%	--
★★★★	31-Dec	Official manufacturing PMI	Dec	50.2 -	50.2	50.1 ▲
★★★★	02-Jan	Caixin's manufacturing PMI	Dec	51.5 ▼	51.8	51.6 ▼
Poland 						
★★★★	16-Dec	Core CPI (excluding food and energy, yoy)	Nov	2.6% ▲	2.4%	2.5% ▲
★★	16-Dec	Trade balance (EUR mn)‡	Oct	440 ▼	830	415 ▲
★★	16-Dec	Exports (EUR mn)‡	Oct	21 791 ▲	20 018	21 730 ▲
★★	16-Dec	Current account balance (EUR mn)‡	Oct	529 ▼	962	287 ▲
★★	18-Dec	Average gross salary (yoy)	Nov	5.3% ▼	5.9%	5.9% ▼
★	18-Dec	Employment (yoy)	Nov	2.6% ▲	2.5%	2.5% ▲
★★★★	19-Dec	Sold industrial production (yoy)‡	Nov	1.4% ▼	3.7%	0.3% ▲
★★	19-Dec	Producer inflation PPI (yoy)‡	Nov	-0.1% ▲	-0.3%	0.2% ▼
★★★★	20-Dec	Retail sales (yoy)	Nov	5.9% ▲	5.4%	4.8% ▲
★★	23-Dec	Unemployment rate	Nov	5.1% ▲	5.0%	5.1% ○
★	23-Dec	M3 money supply (yoy)	Nov	9.4% ▲	9.3%	9.2% ▲
★★★★	02-Jan	Manufacturing PMI	Dec	48.0 ▲	46.7	47.0 ▲
US 						
★★	16-Dec	Composite PMI - preliminary data	Dec	--	52.0	--
★★	16-Dec	Manufacturing PMI - preliminary data	Dec	--	52.6	52.6
★★	16-Dec	Manufacturing PMI - preliminary data	Dec	--	51.6	52.0
★★	16-Dec	PMI services - preliminary data	Dec	--	51.6	52.0
★★★★	17-Dec	Industrial production (mom)‡	Nov	1.1% ▲	-0.9%	0.9% ▲
★	17-Dec	Capacity utilization‡	Nov	77.3% ▲	76.6%	77.4% ▼
★★	19-Dec	Philadelphia Fed business outlook	Dec	0.3 ▼	10.4	8.0 ▼
★★★★	20-Dec	GDP (annualized, qoq) -	3Q	2.1% -	2.1%	2.1% ○
★★★★	20-Dec	Consumer spending inflation PCE (mom)	Nov	0.1% -	0.1%	0.1% ○
★★★★	20-Dec	Consumer spending inflation PCE (yoy)‡	Nov	1.6% ▼	1.7%	1.5% ▲
★★	20-Dec	Personal income (sa, mom)‡	Nov	0.5% ▲	0.1%	0.3% ▲
★★	20-Dec	Personal spending (sa, mom)	Nov	0.4% ▲	0.3%	0.4% ○
★★	20-Dec	University of Michigan confidence index - final data	Dec	99.3 ▲	99.2	99.2 ▲
★★	23-Dec	Durable goods orders - preliminary data‡	Nov	-2.0% ▼	0.2%	1.5% ▼
★	24-Dec	Richmond Fed manufacturing index	Dec	- 5.0 ▼	- 1.0	1.0 ▼
★	30-Dec	Dallas Fed manufacturing activity	Dec	- 3.2 ▼	- 1.3	0.0 ▼
★	31-Dec	S&P/CaseShiller home price index‡	Oct	218 ▲	218	218 ▲
★★	03-Jan	ISM Manufacturing	Dec	47.2 ▼	48.1	49.0 ▼

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
Eurozone 						
***	16-Dec	Composite PMI - preliminary data	Dec	--	50.6	50.7
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	46.9	47.3
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	51.9	52.0
***	16-Dec	Services PMI - preliminary data	Dec	--	51.9	52.0
**	16-Dec	Labour costs (yoy)‡	3Q	2.6% ▼	2.8%	--
*	17-Dec	Trade balance (EUR mn)	Oct	28.0 ▲	18.7	--
****	18-Dec	Consumer inflation CPI (yoy) - final data‡	Nov	1.0% ▲	0.7%	1.0% ○
****	18-Dec	Core CPI (yoy) - final data	Nov	1.3% -	1.3%	1.3% ○
*	20-Dec	Consumer confidence - estimation	Dec	-8.1 ▼	-7.2	-7.0 ◡
*	03-Jan	M3 money supply (yoy)‡	Nov	5.6% ▼	5.7%	5.7% ◡
Germany 						
***	16-Dec	Composite PMI - preliminary data	Dec	--	49.4	49.9
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	44.1	44.6
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	51.7	52.0
**	18-Dec	IFO business climate‡	Dec	96.3 ▲	95.1	95.5 ▲
**	20-Dec	GfK consumer confidence	Jan	9.6 ▼	9.7	9.8 ◡
****	03-Jan	Harmonized consumer inflation HICP (yoy) - preliminary data	Dec	1.5% ▲	1.2%	1.4% ▲
****	03-Jan	Consumer inflation CPI (yoy) - preliminary data	Dec	1.5% ▲	1.1%	1.4% ▲
**	03-Jan	Unemployment rate	Dec	5.0% -	5.0%	5.0% ○
France 						
***	16-Dec	Composite PMI - preliminary data	Dec	--	52.1	52.0
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	51.7	51.5
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	52.2	52.1
****	03-Jan	Harmonized consumer inflation HICP (yoy) - preliminary data	Dec	1.6% ▲	1.2%	1.4% ▲
****	03-Jan	Consumer inflation CPI (yoy) - preliminary data	Dec	1.4% ▲	1.0%	1.3% ▲
Italy 						
****	16-Dec	Harmonized consumer inflation HICP (yoy) - final data	Nov	0.2% ▼	0.4%	0.4% ◡
**	02-Jan	Manufacturing PMI	Dec	46.2 ▼	47.6	47.2 ◡
UK 						
***	16-Dec	Manufacturing PMI (sa) - preliminary data	Dec	--	48.9	49.2
***	16-Dec	Manufacturing PMI (sa) - preliminary data	Dec	--	49.3	49.5
***	16-Dec	Composite PMI - preliminary data	Dec	--	49.3	49.5
**	17-Dec	Unemployment rate (ILO, 3-months)	Oct	3.8% -	3.8%	3.9% ◡
****	18-Dec	Consumer inflation CPI (yoy)	Nov	1.5% -	1.5%	1.4% ▲
*****	19-Dec	BoE base rate decision	Dec	0.75% -	0.75%	0.75% ○
****	19-Dec	BoE asset purchase target (GBP bn)	Dec	435 -	435	435 ○
****	20-Dec	GDP (yoy) - final data	3Q	1.1% ▲	1.0%	1.0% ▲
****	20-Dec	GDP (qoq) - final data	3Q	0.4% ▲	0.3%	0.3% ▲
Japan 						
***	16-Dec	Composite PMI - preliminary data	Dec	--	49.8	--
***	16-Dec	Manufacturing PMI - preliminary data	Dec	--	48.9	--
****	20-Dec	Consumer inflation CPI (yoy)	Nov	0.5% ▲	0.2%	0.5% ○
****	27-Dec	Industrial production (yoy) - preliminary data	Nov	-8.1% ▼	-7.7%	-8.1% ○
Chile 						
***	31-Dec	Total copper production (metric tons)	Nov	504 366 ▲	493 988	--
***	31-Dec	Manufacturing (yoy)	Nov	3.2% ▲	-5.8%	-5.0% ▲
****	02-Jan	Economic activity (yoy)	Nov	-3.3% ▲	-3.4%	-3.5% ▲
Canada 						
****	18-Dec	Consumer inflation CPI (yoy)	Nov	2.2% ▲	1.9%	2.2% ○
****	23-Dec	GDP (yoy)‡	Oct	1.2% ▼	1.5%	1.4% ◡

¹ Reading difference to previous release: ▲ = higher than previous; ▼ = lower than previous; = = equal to previous.

² Reading difference to consensus: ▲ = higher than consensus; ◡ = lower than consensus; ○ = equal to consensus.

mom = month-on-month; yoy = year-on-year; qoq = quarter on quarter; ytd year-to-date; sa = seasonally adjusted; wda = working days adjusted; ‡ = previous data after revision.

Source: Bloomberg, KGHM Polska Miedź

Key market data

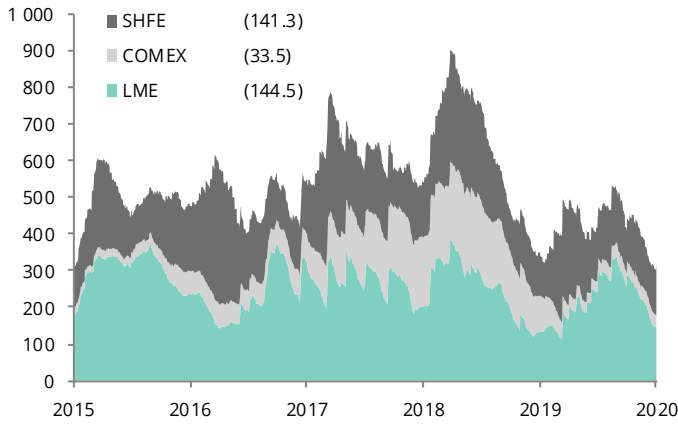
Key base & precious metal prices, exchange rates and other important market factors

<i>(as of: 03-Jan-20)</i>		Price change ¹					From year beginning ²		
	Price	3W	QTD	YTD	1Y	Average	Min	Max	
LME (USD/t; Mo in USD/lbs)									
Copper	6 077.00	▼ -1.3%	▼ -1.3%	▼ -1.3%	▲ 4.6%	6 121.25	6 077.00	6 165.50	
Molybdenum	9.32	▲ 1.5%	▲ 1.3%	-	-	9.26	9.20	9.32	
Nickel	13 740.00	▼ -2.4%	▼ -1.9%	▼ -1.9%	▲ 28.2%	13 907.50	13 740.00	14 075.00	
Aluminum	1 758.00	▼ -0.3%	▼ -2.3%	▼ -2.3%	▼ -3.7%	1 765.00	1 758.00	1 772.00	
Tin	16 750.00	▼ -2.5%	▼ -0.6%	▼ -0.6%	▼ -14.1%	16 950.00	16 750.00	17 150.00	
Zinc	2 284.00	▲ 0.7%	▼ -0.4%	▼ -0.4%	▼ -7.9%	2 291.50	2 284.00	2 299.00	
Lead	1 889.50	▲ 0.9%	▼ -1.8%	▼ -1.8%	▼ -2.8%	1 896.75	1 889.50	1 904.00	
LBMA (USD/troz)									
Silver	18.21	▲ 7.0%	▲ 0.9%	▲ 0.9%	▲ 17.2%	18.07	17.93	18.21	
Gold ²	1 548.75	▲ 4.8%	▲ 1.7%	▲ 1.7%	▲ 20.0%	1 537.93	1 527.10	1 548.75	
LPPM (USD/troz)									
Platinum ²	983.00	▲ 5.5%	▲ 1.2%	▲ 1.2%	▲ 23.8%	985.00	983.00	987.00	
Palladium ²	1 977.00	▲ 0.7%	▲ 3.0%	▲ 3.0%	▲ 55.8%	1 961.50	1 946.00	1 977.00	
FX ³									
EURUSD	1.1147	▲ 0.0%	▼ -0.8%	▼ -0.8%	▼ -1.8%	1.1170	1.1147	1.1193	
EURPLN	4.2569	▼ -0.2%	▼ 0.0%	▼ 0.0%	▼ -1.1%	4.2570	4.2569	4.2571	
USDPLN	3.8213	▼ -0.3%	▲ 0.6%	▲ 0.6%	▲ 1.0%	3.8107	3.8000	3.8213	
USDCAD	1.2988	▼ -1.2%	-	-	▼ -3.8%	1.2990	1.2988	1.2992	
USDCNY	6.9663	▼ -0.4%	▲ 0.0%	▲ 0.0%	▲ 1.4%	6.9653	6.9643	6.9663	
USDCLP	754.16	▼ -1.6%	▲ 0.7%	▲ 0.7%	▲ 8.2%	751.45	748.74	754.16	
Money market									
3m LIBOR USD	1.874	▼ -0.02	▼ -0.03	▼ -0.03	▼ -0.92	1.887	1.874	1.900	
3m EURIBOR	-0.384	▲ 0.01	▼ 0.00	▼ 0.00	▼ -0.08	-0.382	-0.384	-0.379	
3m WIBOR	1.710	▲ 0.01	-	-	▼ -0.01	1.710	1.710	1.710	
5y USD interest rate swap	1.610	▼ -0.08	▼ -0.12	▼ -0.12	▼ -0.81	1.651	1.610	1.693	
5y EUR interest rate swap	-0.181	▲ 0.00	▼ -0.07	▼ -0.07	▼ -0.33	-0.164	-0.181	-0.146	
5y PLN interest rate swap	1.748	▲ 0.08	▼ -0.03	▼ -0.03	▼ -0.31	1.766	1.748	1.785	
Fuel									
WTI Cushing	63.05	▲ 4.7%	▲ 3.3%	▲ 3.3%	▲ 33.9%	62.12	61.18	63.05	
Brent	68.96	▲ 2.8%	▲ 3.8%	▲ 3.8%	▲ 26.3%	67.79	66.62	68.96	
Diesel NY (ULSD)	206.01	▲ 2.8%	▲ 1.6%	▲ 1.6%	▲ 18.3%	203.94	201.86	206.01	
Others									
VIX	14.02	▲ 1.88	▲ 0.24	▲ 0.24	▼ -11.43	13.25	12.47	14.02	
BBG Commodity Index	81.37	▲ 1.5%	▲ 0.6%	▲ 0.6%	▲ 5.1%	81.18	81.00	81.37	
S&P500	3 234.85	▲ 1.4%	▲ 0.1%	▲ 0.1%	▲ 32.1%	3 246.35	3 234.85	3 257.85	
DAX	13 219.14	▼ -1.4%	▼ -0.2%	▼ -0.2%	▲ 26.9%	13 302.54	13 219.14	13 385.93	
Shanghai Composite	3 083.79	▲ 3.3%	▲ 1.1%	▲ 1.1%	▲ 25.1%	3 084.49	3 083.79	3 085.20	
WIG 20	2 173.97	▲ 2.9%	▲ 1.1%	▲ 1.1%	▼ -3.3%	2 187.04	2 173.97	2 200.10	
KGHM	96.12	▼ -2.0%	▲ 0.6%	▲ 0.6%	▲ 11.6%	97.01	96.12	97.90	

[°] change over: 2W = two weeks; QTD = quarter-to-day; YTD = year-to-date; 1Y = one year. ¹ based on daily closing prices. ² latest quoted price. ³ central banks' fixing rates (Bank of China HK for USD/CNY). ⁴

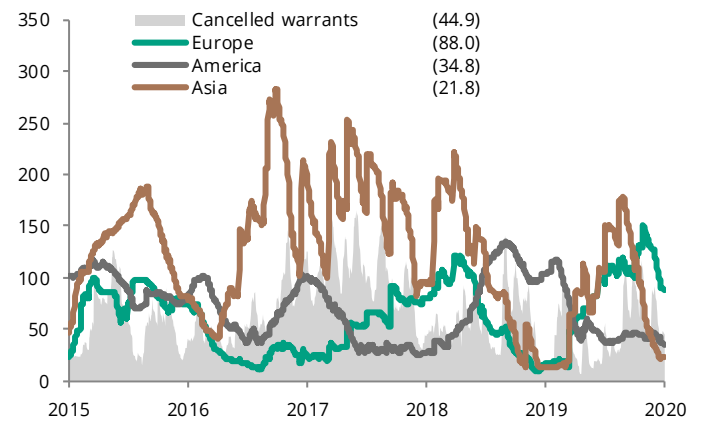
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



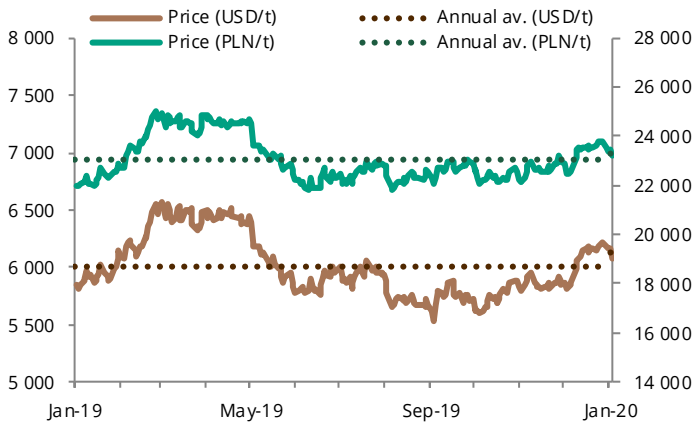
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



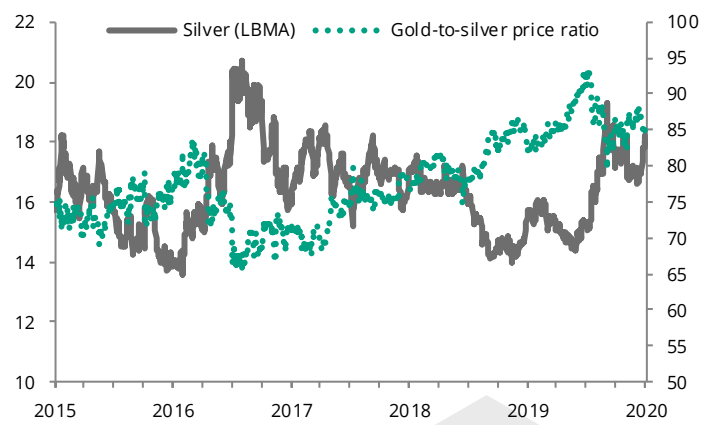
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: price in USD (lhs) and PLN (rhs) per tonne



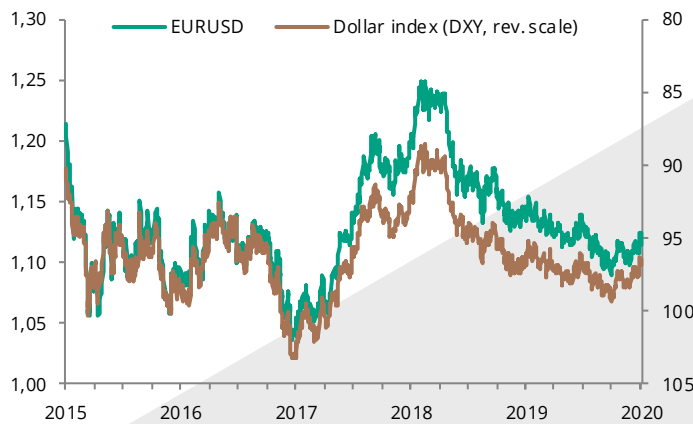
Source: Bloomberg, KGHM Polska Miedź

Silver: price (lhs) and gold ratio (rhs)



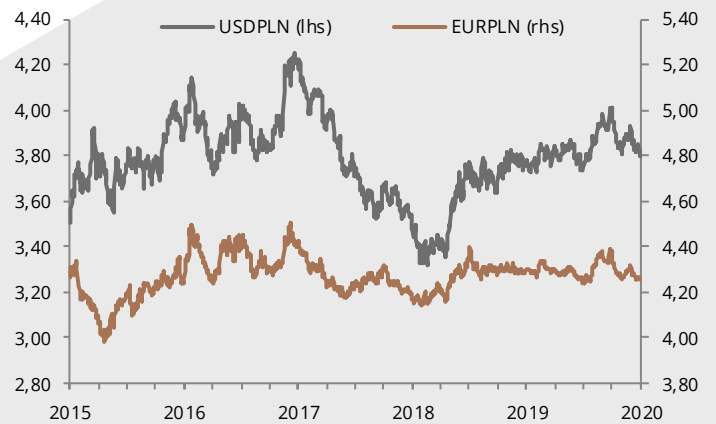
Source: Bloomberg, KGHM Polska Miedź

USD: dollar index (lhs) and ECB-based EURUSD (rhs)



Source: Bloomberg, KGHM Polska Miedź

PLN: NBP-fixing based rate vs. USD (lhs) and EUR (rhs)



Source: Bloomberg, KGHM Polska Miedź

Legal note

This document has been prepared based on the below listed reports, among others, published in the following period:
16 December 2019 – 5 January 2020.

- Barclays Capital, ▪ BofA Merrill Lynch, ▪ Citi Research, ▪ CRU Group, ▪ Deutsche Bank Markets Research,
- GavekalDragonomics, ▪ Goldman Sachs, ▪ JPMorgan, ▪ Macquarie Capital Research, ▪ Mitsui Bussan Commodities,
- Morgan Stanley Research, ▪ SMM Information & Technology, ▪ Sharps Pixley.

Moreover, additional information published here was acquired in direct conversations with market dealers, from financial institution reports and from the following websites: ▪ thebulliondesk.com, ▪ lbma.org.uk, ▪ lme.co.uk, ▪ metalbulletin.com, ▪ nbp.pl, , also: Bloomberg and Thomson Reuters.

Official metals prices are available on following websites:

- base metals: www.lme.com/dataprices_products.asp (charge-free logging)
- silver and gold: www.lbma.org.uk/pricing-and-statistics
- platinum and palladium: www.lppm.com/statistics.aspx

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