

Market Overview

as of: 3th July 2023






- Copper:** According to Robert Friedland, founder of Ivanhoe Mines Ltd., a combination of factors suggests that copper supply will not keep up with demand. Deposits are becoming more expensive and more problematic to explore and exploit, funds are scarce, societies have yet to grasp mining's role in the shift from fossil fuels. Friedland says we are headed for a kind of upheaval, which could result in a very significant increase in the price of copper (*page 2*).
- Lithium:** According to S&P Global Commodity Insights, mines across the African continent are projected to increase lithium production more than 30 times last year's volume by 2027. By then, Africa will account for 12% of global supply, down from 1% in 2022. This is mainly the result of an increased influx of investors from China (*page 3*)
- Precious metals:** Changes in solar panel technology are increasing the demand for silver. According to Bloomberg NEF, standard PERC connectors will be replaced by newer technologies like TOPCon and heterojunction in the next two to three years. While PERC cells need about 10 milligrams of silver per watt, TOPCon cells require 13 milligrams and heterojunction 22 milligrams (*page 5*).
- China:** Declining spending, from holiday travel to car and home purchases, is fuelling expectations for more stimulus to the Chinese economy. The government may consider measures such as easing restrictions on home purchases and down payment requirements for mortgage loans, as well as possible fiscal support for consumption (*page 6*).

Key market prices

	Close price	2w chng.
LME (USD/t)		
▼ Copper	8 210.00	-4.1%
▼ Nickel	20 125.00	-13.0%
LBMA (USD/troz)		
▼ Silver	22.47	-6.3%
▼ Gold (PM)	1 912.25	-2.4%
FX		
▼ EURUSD	1.0866	-0.9%
▼ EURPLN	4.4503	-0.2%
▲ USDPLN	4.1066	0.9%
▲ USDCAD	1.3240	0.3%
▲ USDCLP	802.68	0.7%
Stocks		
▼ KGHM	112.40	-6.9%

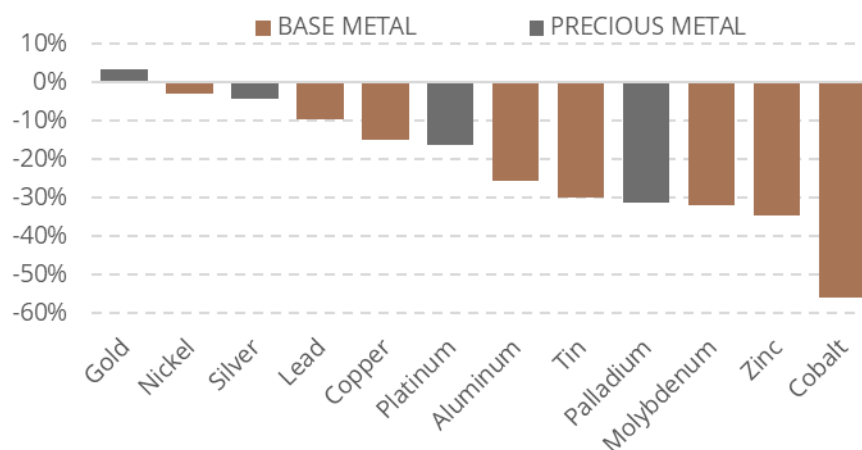
Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 10*)

Important macroeconomic data

Release	For		
 Official manuf. PMI	Jun	49.0	▲
 Composite PMI	Jun	53.0	▼
 Unemployment rate	May	5.1%	▼
 Composite PMI	Jun	50.3	▼
 Copper production (mt)	May	413 083	▼

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

Percentage change in metals prices since the beginning of the current year



Source: Refinitiv, KGHM Polska Miedź S.A.

Market Risk Unit

marketrisk@kgm.com

Base and precious metals | Other commodities

Copper

Friedland warns of a copper 'train wreck' as supply stalls

According to Robert Friedland, founder of Ivanhoe Mines Ltd., a combination of factors suggests that copper supply will not keep up with demand. Deposits are becoming more expensive and more problematic to explore and exploit, funds are scarce, societies have yet to grasp mining's role in the shift from fossil fuels. Friedland says we are headed for a kind of upheaval, which could result in a very significant increase in the price of copper.

Rising prices for other commodities could push copper up as the mining industry struggles to expand ahead of accelerating demand, warns the man behind some of the world's biggest mines. Demand for critical raw materials is set to jump as nations mandate clean energy and transport while clambering to develop their own supply chains. But according to billionaire Robert Friedland, a combination of factors suggests supply won't keep pace. They include the fact that deposits are getting pricier and trickier to find and dig up, funding is scarce, and societies have yet to grasp mining's role in the shift from fossil fuels. Robert Friedland, founder of Ivanhoe Mines Ltd., claims that we are headed for a train wreck here, which could result that copper can go up 10 times. Friedland, who made his fortune from Canadian nickel and is behind massive copper finds in Mongolia and the Congo, has long championed the importance of the metal used in everything from wires to weaponry. Some analysts share his concern about a looming copper crunch, but consensus is for far more gradual price gains in the coming years. Futures are down 10% from a January peak as an uneven post-pandemic recovery in China - the world's biggest metals consumer - and inflation-fighting efforts by central banks restrains demand. Still, Friedland sees copper's long-term prospects supported by decarbonisation, ongoing Chinese demand, the emergence of India and re-militarization in the wake of Russia's invasion of Ukraine. On the supply side, output in top producer Chile has plateaued as ore quality deteriorates. The industry in general is having to dig deeper and contend with an uptick in resource nationalism and far more stringent environmental and social standards. Friedland also points to other commodities as examples of what could happen in a shrinking copper market. Chinese spot prices of molybdenum doubled from August to February amid supply disruptions and growing demand from the renewables and military sectors. The founder of Ivanhoe Mines Ltd. also claims that when the demand for metals increases significantly, prices go crazy and nobody's willing to sell them, and this is the period we enter.

China is at the forefront of investing in lithium in Africa

According to S&P Global Commodity Insights, mines across the African continent are projected to increase lithium production more than 30 times last year's volume by 2027. By then, Africa will account for 12% of global supply, down from 1% in 2022. This is mainly the result of an increased influx of investors from China.

China's early moves to tap into new lithium supply centers in Africa are paying off by helping a leading electric vehicle battery maker navigate a tight market for the key metal. The diversification of supply sources will strengthen China's efforts to defend its dominance in processing metals needed to produce electric vehicle components, such as lithium, nickel and cobalt. Africa will definitely play an important role for China, according to Peng Xu, a Beijing analyst for BloombergNEF. Africa may become the main, alternative to Australia, source of lithium supplies for the Chinese market. According to Bloomberg NEF data, the Democratic Republic of the Congo, Mali and Zimbabwe may join the group of leading producers of mined lithium by the end of the decade. The first shipment of lithium concentrate has arrived at Zhejiang Huayou Cobalt Co. in June 2023 from the Zimbabwe project, while Chengxin Lithium Group Co. announced that its Sabi Star lithium mine has started production in this country. Chinese battery manufacturer Gotion High-Tech Co. signed a preliminary contract to build Africa's first major battery factory for electric cars, which would have an annual capacity of 100 gigawatts and would require an investment of EUR 6 billion. Chinese battery manufacturers, led by CATL and BYD Co., achieved a production capacity of 1 terawatt-hours in 2022 and their horizon is constantly expanding. The US is also exploring options for supplying raw materials from Africa, but so far has only a few tentative plans, including tentative cooperation agreements with the Democratic Republic of the Congo and Zambia, said Alice Yu, a metals and mining analyst at S&P Global Commodity Insights. Morocco, which has a free trade agreement with the United States, is already emerging as a potential hub for electric vehicle battery production, with advantages such as its proximity to Europe and having vast deposits of phosphate needed for lithium iron phosphate (LFP) cells. According to BloombergNEF, global lithium supply will increase by 35% in 2023, half of which will come from entirely new operations. It is assumed that in order to increase the value of exports and increase incomes, African countries will want to focus on increasing the number of lithium processing and refining plants. Zimbabwe and Namibia recently introduced measures to discourage or ban ore exports.

Other important information on copper market:

- Copper output in Chile, the world's largest producer, dropped 14% year-on-year in May to 413,1kt, the country's INE statistics agency said. Manufacturing production in the country, meanwhile, decreased less than expected by 1.2% in the period, the INE added. Economists polled by Reuters had forecast a 4.5% drop.

- Boliden has partially resumed production at its Ronnskar smelter after output was halted following a fire at the facility in mid-June. Boliden said in a statement it expected all production lines at Ronnskar except the electrolytic refinery, which was destroyed in the fire, to be ready for production in July.
- The global refined copper market had a surplus of 42,000 tonnes in April, compared with a 3,000-tonne surplus the previous month, the International Copper Study Group (ICSG). World refined copper output was 2.307 million tonnes and consumption was 2.265 million tonnes, the ICSG said. For the first four months of the year, the market was in a 384,000-tonne surplus compared with a 43,000-tonne deficit in the same period a year earlier, the ICSG said.

Precious Metals

The world's appetite for solar panels is squeezing silver supply

Changes in solar panel technology are increasing the demand for silver. According to Bloomberg NEF, standard PERC connectors will be replaced by newer technologies like TOPCon and heterojunction in the next two to three years. While PERC cells need about 10 milligrams of silver per watt, TOPCon cells require 13 milligrams and heterojunction 22 milligrams.

Changes in the technology of solar panels increase the demand for silver, deepening the shortage of metal supply with a slight increase in mine production in the coming years. Silver provides a conductive layer on both sides of the silicon solar cells. The industry is also starting to create more efficient versions of cells that use much more metal, which is expected to help accelerate the already growing consumption. Solar energy still accounts for a small part of the overall demand for silver, but continues to grow year by year. The Silver Institute predicts in its report that it will account for 14% of consumption this year, up from around 5% in 2014. Much of the growth comes from China, which is on track to install more panels this year than the entire total in the US. According to BloombergNEF, standard PERC connectors will be replaced by newer technologies like TOPCon and heterojunction in the next two to three years. While PERC cells need about 10 milligrams of silver per watt, TOPCon cells require 13 milligrams and heterojunction 22 milligrams. According to The Silver Institute, silver supply looked pretty flat last year, even though demand rose by nearly a fifth. Production forecast shows a growth by 2% this year, while industrial consumption is expected to grow by 4%. The problem for silver buyers is that increasing supply is not easy, given the small number of mines mining silver as the primary metal. About 80% of the metal supply comes from lead, zinc, copper and gold projects, with silver being a by-product. In an environment where miners are already reluctant to commit to large new projects, lower margins in silver compared with other precious and industrial metals mean positive price signals aren't enough to crank up output. Even newly approved projects may not start mining until the next decade. In the result, there is a high pressure on supply, with a study by the University of New South Wales predicting that by 2050 the solar sector could deplete 85-98% of the world's silver reserves. However, Chinese solar companies are actively exploring cheaper alternatives such as electroplated copper, although results so far have been mixed. The president of Longi Green Energy Technology Co., the world's largest producer of panels, says that if silver prices increase, technologies using cheaper metals are sufficiently advanced and will be introduced into the mass production. The price of silver is currently around \$22.70 an ounce. This year, prices have fallen by around 5%, but they are much higher than before the surge in 2020, as the pandemic spurred demand. Philip Klapwijk, managing director of Hong Kong-based consulting firm Precious Metals Insights Ltd., says substitution will look more interesting when silver is, say, \$30 an ounce.

Global economies | Foreign exchange markets

China Economy Gloom Worsens With Weak Consumer Spending Data

Declining spending, from holiday travel to car and home purchases, is fuelling expectations for more stimulus to the Chinese economy. The government may consider measures such as easing restrictions on home purchases and down payment requirements for mortgage loans, as well as possible fiscal support for consumption.

China's consumer-driven recovery is showing more signs of losing momentum as spending slows on everything from holiday travel to cars and homes, adding to expectations for more stimulus to support the economy. Domestic travel spending during the recent holiday for the dragon-boat festival was lower than pre-pandemic levels, according to official data. Home sales figures are below the level in previous years, while estimates for June car sales showed a drop from a year ago. The rebound in consumption after China shed its Covid controls has propelled growth so far this year, but confidence is weak and evidence is mounting that the economy may need more help. After the central bank cut policy rates, economists raised their expectations for more monetary and fiscal stimulus, and state-run media outlets have also published a series of articles highlighting possible avenues of support. According to Lu Ting, chief China economist at Nomura Holdings Inc., holiday tourism data pointed to fading post-Covid recovery momentum for in-person services. He noted that average spending per trip was about 16% lower than in 2019, implying either a weaker intention to spend or less purchasing power. He also expects a further weakening of personal services consumption growth. The sale of houses in major cities and the sale of passenger cars were muted. According to the China Securities Journal, citing economist Gao Ruidong, one fiscal measure would be to accelerate the sale of special local government bonds - a key source of infrastructure funding - so that local authorities use most of their quota this year. The government could still consider measures like easing housing purchasing restrictions and mortgage down-payment requirements, along with possible fiscal support for consumption.

Powell Says Likely Need Two or More Hikes to Cool Inflation






The Fed chairman stated that the timing and scope of further rate hikes will depend on the development of the economy. When asked about the return of low interest rates in the US, he confessed that he was unable to give a long-run answer to that question.







Federal Reserve Chair Jerome Powell said at least two interest-rate increases are likely necessary this year to bring the inflation rate down to the US central bank's 2% target. He also says the timing and extent of any further rate increases will depend on the course of the economy, recognizing that policy tightening has an impact on demand in the most interest rate-sensitive sectors of the economy,

particularly housing and investment. When asked about the return to the low rates in the US, he confessed that he was unable to give a long-run answer to that question. Powell said regulators are committed to learning lessons from the failure of Silicon Valley Bank and two other US lenders. While the largest banks remain well capitalized and safe, and the diversity of the size diversity of the country's banking system should be preserved, more may need to be done in overseeing mid-size banks and the nonbank sector. It also states that the US banking system is strong and resilient. Vice Chair for Supervision Michael Barr is in the midst of a review of bank regulation and is expected to propose changes soon.

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
China 						
☼☼	28-Jun	Industrial profits (yoy)	May	-12.6% ▲	-18.2%	--
☼☼☼	30-Jun	Official manufacturing PMI	Jun	49.0 ▲	48.8	49.0 ○
Poland 						
☼☼☼☼	21-Jun	Sold industrial production (yoy)‡	May	-3.2% ▲	-6.0%	-3.1% ◡
☼☼	21-Jun	Average gross salary (yoy)	May	12.2% ▲	12.1%	12.7% ◡
☼☼	21-Jun	Producer inflation PPI (yoy)‡	May	3.1% ▼	6.2%	4.5% ◡
☼	21-Jun	Employment (yoy)	May	0.4% -	0.4%	0.5% ◡
☼☼☼	22-Jun	Retail sales (yoy)	May	1.8% ▼	3.4%	2.7% ◡
☼	23-Jun	M3 money supply (yoy)	May	7.1% ▲	6.7%	7.2% ◡
☼☼	26-Jun	Unemployment rate	May	5.1% ▼	5.2%	5.1% ○
☼☼☼☼	30-Jun	Consumer inflation CPI (yoy) - preliminary data	Jun	11.5% ▼	13.0%	11.8% ◡
US 						
☼☼☼	23-Jun	Composite PMI - preliminary data	Jun	53.0 ▼	54.3	53.5 ◡
☼☼☼	23-Jun	Manufacturing PMI - preliminary data	Jun	--	48.4	48.5
☼☼☼	23-Jun	PMI services - preliminary data	Jun	--	54.9	54.0
☼	26-Jun	Dallas Fed manufacturing activity	Jun	-23.2 ▲	-29.1	-21.8 ◡
☼☼	27-Jun	Durable goods orders - preliminary data‡	May	1.7% ▲	1.2%	-0.9% ▲
☼	27-Jun	Richmond Fed manufacturing index	Jun	-7.0 ▲	-15.0	-12.0 ▲
☼☼☼☼☼	29-Jun	GDP (annualized, qoq) -	1Q	2.0% ▲	1.3%	1.4% ▲
☼☼☼☼	30-Jun	Consumer spending inflation PCE (mom)	May	0.3% ▼	0.4%	0.3% ○
☼☼☼☼	30-Jun	Consumer spending inflation PCE (yoy)	May	4.6% ▼	4.7%	4.7% ◡
☼☼	30-Jun	Personal income (sa, mom)‡	May	0.4% ▲	0.3%	0.3% ▲
☼☼	30-Jun	Personal spending (sa, mom)‡	May	0.1% ▼	0.6%	0.2% ◡
☼☼	30-Jun	University of Michigan confidence index - final data	Jun	64.4 ▲	63.9	63.9 ▲
Eurozone 						
☼	22-Jun	Consumer confidence - preliminary data	Jun	-16.1 ▲	-17.4	-17.0 ▲
☼☼☼	23-Jun	Composite PMI - preliminary data	Jun	50.3 ▼	52.8	52.5 ◡
☼☼☼	23-Jun	Manufacturing PMI - preliminary data	Jun	--	44.8	44.8
☼☼☼	23-Jun	Services PMI - preliminary data	Jun	52.4 ▼	55.1	54.5 ◡
☼	28-Jun	M3 money supply (yoy)	May	1.4% ▼	1.9%	1.5% ◡
☼	29-Jun	Economic confidence‡	Jun	95.3 ▼	96.4	95.7 ◡
☼	29-Jun	Industrial confidence‡	Jun	-7.2 ▼	-5.3	-5.6 ◡
☼	29-Jun	Consumer confidence - final data	Jun	-16.1 -	-16.1	--
☼☼☼☼	30-Jun	Core CPI (yoy) - preliminary data	Jun	5.4% ▲	5.3%	5.5% ◡
☼☼☼☼	30-Jun	CPI estimate (yoy)	Jun	5.5% ▼	6.1%	5.6% ◡
☼☼	30-Jun	Unemployment rate	May	6.5% -	6.5%	6.5% ○
Germany 						
☼☼☼	23-Jun	Composite PMI - preliminary data	Jun	--	53.9	53.3
☼☼☼	23-Jun	Manufacturing PMI - preliminary data	Jun	--	43.2	43.5
☼☼	26-Jun	IFO business climate‡	Jun	88.5 ▼	91.5	90.7 ◡
☼☼	28-Jun	GfK consumer confidence‡	Jul	-25.4 ▼	-24.4	-23.0 ◡
☼☼☼☼	29-Jun	Harmonized consumer inflation HICP (yoy) - preliminary data	Jun	6.8% ▲	6.3%	6.8% ○
☼☼☼☼	29-Jun	Consumer inflation CPI (yoy) - preliminary data	Jun	6.4% ▲	6.1%	6.3% ▲
☼☼☼	30-Jun	Retail sales (yoy)‡	May	-5.1% ▲	-8.4%	-4.9% ◡
☼☼	30-Jun	Unemployment rate	Jun	5.7% ▲	5.6%	5.6% ▲

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
France 						
🕒🕒🕒	23-Jun	Composite PMI - preliminary data	Jun	--	51.2	51.0
🕒🕒🕒	23-Jun	Manufacturing PMI - preliminary data	Jun	--	45.7	45.3
🕒🕒🕒🕒	30-Jun	Harmonized consumer inflation HICP (yoy) - preliminary data	Jun	5.3% ▼	6.0%	5.4% 📉
🕒🕒🕒🕒	30-Jun	Consumer inflation CPI (yoy) - preliminary data	Jun	4.5% ▼	5.1%	4.6% 📉
Italy 						
🕒🕒🕒🕒	28-Jun	Harmonized consumer inflation HICP (yoy) - preliminary data	Jun	6.7% ▼	8.0%	6.8% 📉
🕒🕒	30-Jun	Unemployment rate	May	7.6% ▼	7.8%	7.9% 📉
UK 						
🕒🕒🕒🕒	21-Jun	Consumer inflation CPI (yoy)	May	8.7% -	8.7%	8.4% 🟢
🕒🕒🕒🕒🕒	22-Jun	BoE base rate decision	Jun	50.0 ▲	45.0	47.5 🟢
🕒🕒🕒	23-Jun	Manufacturing PMI (sa) - preliminary data	Jun	--	47.1	46.8
🕒🕒🕒	23-Jun	Composite PMI - preliminary data	Jun	52.8 ▼	54.0	53.6 📉
🕒🕒🕒🕒🕒	30-Jun	GDP (yoy) - final data	1Q	0.2% -	0.2%	0.2% 🟢
🕒🕒🕒🕒🕒	30-Jun	GDP (qoq) - final data	1Q	0.1% -	0.1%	0.1% 🟢
Japan 						
🕒🕒🕒🕒	20-Jun	Industrial production (yoy) - final data	Apr	-0.7% ▼	-0.3%	--
🕒🕒🕒🕒	23-Jun	Consumer inflation CPI (yoy)	May	3.2% ▼	3.5%	3.2% 🟢
🕒🕒🕒	23-Jun	Composite PMI - preliminary data	Jun	--	54.3	--
🕒🕒🕒	23-Jun	Manufacturing PMI - preliminary data	Jun	--	50.6	--
🕒🕒🕒🕒	30-Jun	Industrial production (yoy) - preliminary data	May	4.7% ▲	-0.7%	4.3% 🟢
Chile 						
🕒🕒🕒🕒🕒	20-Jun	BCCh overnight rate target	Jun	11.25% -	11.25%	11.25% 🟢
🕒🕒🕒	30-Jun	Total copper production (metric tons)	May	413 083 ▼	417 279	--
🕒🕒🕒	30-Jun	Manufacturing (yoy)	May	-1.2% ▲	-6.4%	-3.4% 🟢
Canada 						
🕒🕒🕒🕒	27-Jun	Consumer inflation CPI (yoy)	May	3.4% ▼	4.4%	3.4% 🟢
🕒🕒🕒🕒🕒	30-Jun	GDP (yoy)	Apr	1.7% -	1.7%	1.9% 📉

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

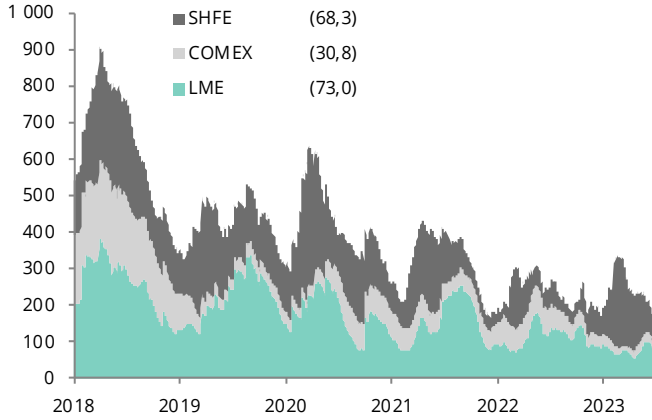
Key base & precious metal prices, exchange rates and other important market factors

(as of: 30-Jun-23)		Price change ¹				From year beginning ²		
	Price	2W	QTD	YTD	1Y	Average	Min	Max
LME (USD/t; Mo in USD/lbs)								
Copper	8 210.00	▼ -4.1%	▼ -8.1%	▼ -2.1%	▼ -0.4%	8 702.87	7 910.00	9 436.00
Molybdenum	22.26	▲ 1.0%	▼ -25.7%	▼ -14.8%	▲	27.53	17.86	38.28
Nickel	20 125.00	▼ -13.0%	▼ -12.9%	▼ -33.9%	▼ -12.9%	24 204.56	19 745.00	31 200.00
Aluminum	2 096.50	▼ -5.8%	▼ -10.3%	▼ -11.2%	▼ -12.5%	2 328.72	2 096.50	2 636.00
Tin	27 700.00	▼ -2.2%	▲ 6.2%	▲ 11.7%	▲ 2.4%	26 301.13	22 225.00	32 050.00
Zinc	2 363.00	▼ -4.9%	▼ -18.7%	▼ -21.9%	▼ -27.3%	2 834.75	2 224.00	3 509.00
Lead	2 105.00	▼ -3.2%	▼ -1.9%	▼ -9.9%	▲ 10.4%	2 129.26	1 989.00	2 331.00
LBMA (USD/troz)								
Silver	22.47	▼ -6.3%	▼ -5.9%	▼ -6.2%	▲ 10.1%	23.31	20.09	26.03
Gold ²	1 912.25	▼ -2.4%	▼ -3.4%	▲ 5.5%	▲ 5.2%	1 931.54	1 810.95	2 048.45
LPPM (USD/troz)								
Platinum ²	897.00	▼ -9.1%	▼ -8.6%	▼ -15.8%	▼ -1.1%	1 009.36	897.00	1 128.00
Palladium ²	1 254.00	▼ -10.3%	▼ -15.8%	▼ -29.9%	▼ -33.6%	1 505.56	1 223.00	1 802.00
FX³								
EURUSD	1.0866	▼ -0.9%	▼ -0.1%	▲ 1.9%	▲ 4.6%	1.0808	1.0500	1.1074
EURPLN	4.4503	▼ -0.2%	▼ -4.8%	▼ -5.1%	▼ -4.9%	4.6276	4.4286	4.7895
USDPLN	4.1066	▲ 0.9%	▼ -4.4%	▼ -6.7%	▼ -8.4%	4.2820	4.0330	4.4888
USDCAD	1.3240	▲ 0.3%	▼ -2.2%	▼ -2.2%	▲ 2.7%	1.3477	1.3151	1.3807
USDCNY	7.2537	▲ 1.8%	▲ 5.5%	▲ 5.1%	▲ 8.3%	6.9337	6.7010	7.2537
USDCLP	802.68	▲ 0.7%	▲ 1.7%	▼ -6.6%	▼ -12.7%	806.22	781.49	856.31
Money market								
3m LIBOR USD	5.545	▲ 0.04	▲ 0.35	▲ 0.78	▲ 3.26	5.151	4.782	5.557
3m EURIBOR	3.577	▲ 0.00	▲ 0.54	▲ 1.45	▲ 3.77	3.003	2.170	3.610
3m WIBOR	6.900	- 0.00	▲ 0.01	▼ -0.12	▼ -0.15	6.916	6.890	7.010
5y USD interest rate swap	4.219	▲ 0.16	▲ 0.59	▲ 0.20	▲ 1.14	3.821	3.418	4.408
5y EUR interest rate swap	3.262	▲ 0.02	▲ 0.22	▲ 0.02	▲ 1.47	3.073	2.672	3.479
5y PLN interest rate swap	4.997	▼ -0.32	▼ -0.50	▼ -1.16	▼ -1.90	5.437	4.950	6.125
Fuel								
WTI Cushing	70.64	▼ -1.6%	▼ -6.6%	▼ -12.0%	▼ -33.2%	74.75	66.74	83.26
Brent	75.68	▼ -0.6%	▼ -5.0%	▼ -10.9%	▼ -34.2%	79.65	71.87	88.37
Diesel NY (ULSD)	245.76	▼ -4.3%	▼ -8.1%	▼ -27.0%	▼ -37.0%	269.25	223.48	358.84
Others								
VIX	13.59	▲ 0.05	▼ -5.11	▼ -8.08	▼ -15.12	18.56	12.91	26.52
BBG Commodity Index	101.48	▼ -3.5%	▼ -3.8%	▼ -10.0%	▼ -13.3%	105.16	97.96	112.52
S&P500	4 450.38	▲ 0.9%	▲ 8.3%	▲ 15.9%	▲ 17.6%	4 103.07	3 808.10	4 450.38
DAX	16 147.90	▼ -1.3%	▲ 3.3%	▲ 16.0%	▲ 26.3%	15 554.75	14 181.67	16 357.63
Shanghai Composite	3 202.06	▼ -2.2%	▼ -2.2%	▲ 3.7%	▼ -5.8%	3 260.54	3 116.51	3 395.00
WIG 20	2 060.38	▼ -2.3%	▲ 17.2%	▲ 15.0%	▲ 21.5%	1 893.36	1 670.18	2 108.05

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

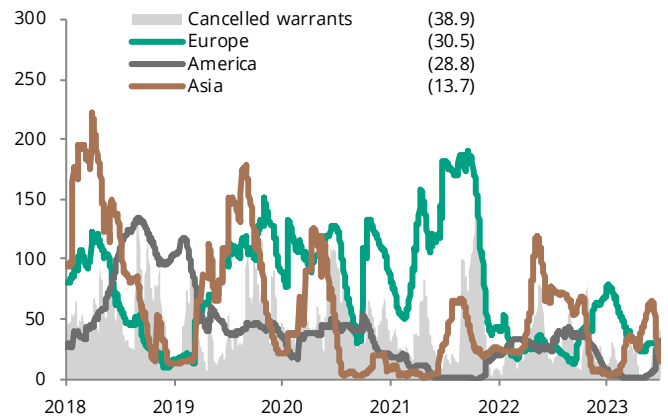
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



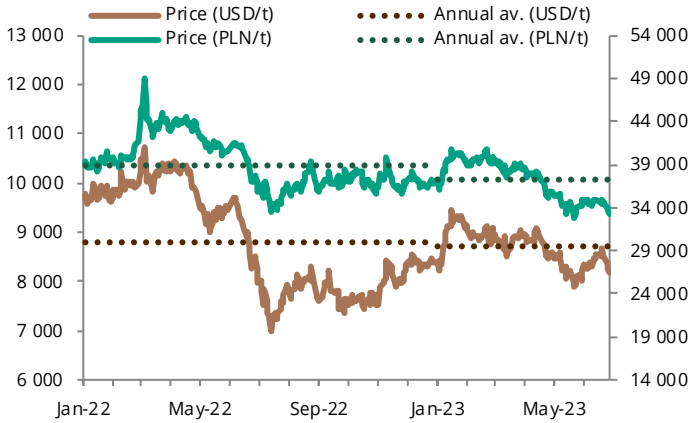
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



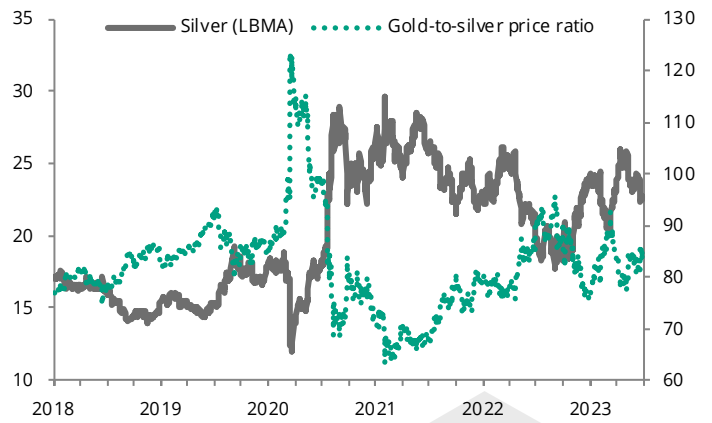
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



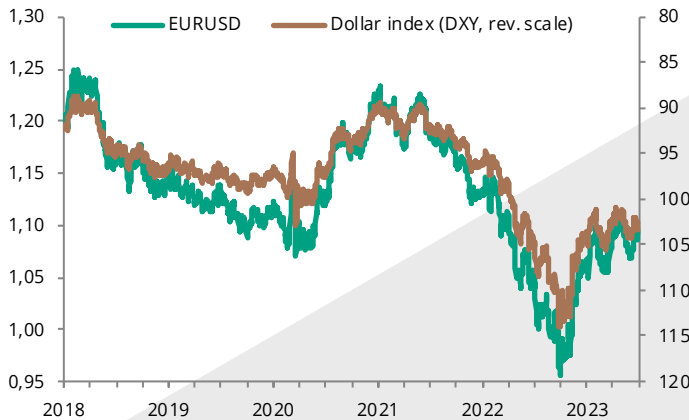
Source: Bloomberg, KGHM Polska Miedz

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



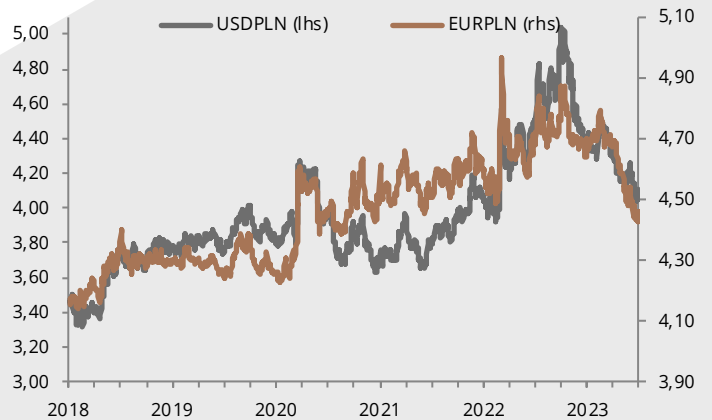
Source: Bloomberg, KGHM Polska Miedz

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



Source: Bloomberg, KGHM Polska Miedz

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



Source: Bloomberg, KGHM Polska Miedz

Legal note

This document has been prepared based on the below listed reports, among others, published in the following period:
19 June – 2 July 2023.

- 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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In case of questions or comments please contact us:

KGHM Polska Miedz (Polish Copper) S.A.
Departament Ryzyka Finansowego i Rynkowego (Financial and Market Risk Department)
Wydział Ryzyka Rynkowego (Market Risk Unit)
ul. M. Skłodowskiej-Curie 48
59-301 Lubin, Poland