

Market Overview



as of: 25th September 2023






- **Copper:** The Udokan mine begins mining in the far east of Russia. This is despite the sanctions imposed by the US on Udokan Copper LLC. Project, however, relies on its proximity to top metals consumer China and on demand there, as well as future demand from the global green energy transition (*page 2*).
- **Nickel:** The Philippines, the world's second-largest supplier of nickel to the Chinese market, is pressuring mining companies to invest in processing plants instead of exporting raw ore, which is expected to make the country one of the main players in the supply of the metal needed in the electric vehicle sector (*page 2*).
- **Precious metals:** Cochilco believes that the decline in silver demand this year will be mainly due to a reduction in physical silver investments in 2023. This will be driven by the lower participation of Indian investors compared to 2022, when they were extremely active (*page 4*).
- **USA:** FOMC held its target range for the federal funds rate at 5.25% to 5.5%, while updated quarterly projections showed 12 of 19 officials favored another rate hike in 2023 (*page 5*).

Key market prices

	Close price	2w chng.
LME (USD/t)		
▼ Copper	8 188.00	-0.4%
▼ Nickel	19 050.00	-4.3%
LBMA (USD/troz)		
▲ Silver	23.65	2.8%
▼ Gold (PM)	1 927.35	0.0%
FX		
▼ EURUSD	1.0647	-0.5%
▲ EURPLN	4.6069	0.1%
▲ USDPLN	4.3269	0.7%
▼ USDCAD	1.3464	-1.2%
▲ USDCLP	891.73	1.4%
Stocks		
▲ KGHM	111.45	1.0%

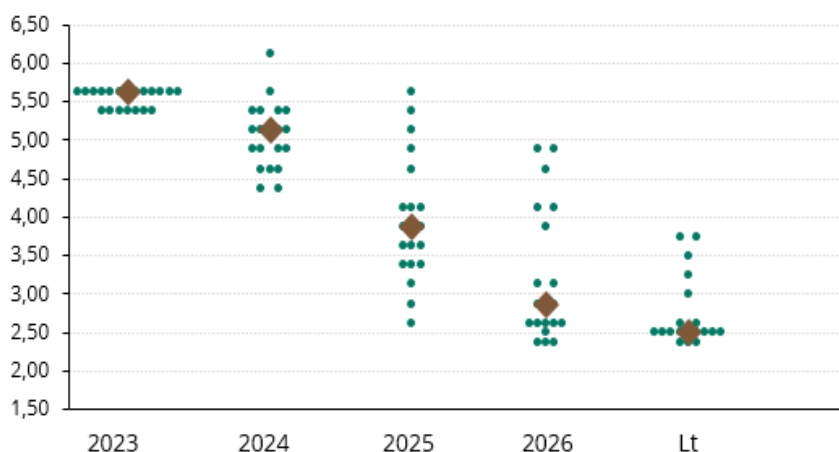
Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 9*)

Important macroeconomic data

Release	For	
 New yuan loans	Aug	1 360 ▲
 Capacity utilization	Aug	79.7% ▲
 Trade balance	Jul	1 068 ▲
 Manufacturing PMI	Sep	43.4 ▼
 Composite PMI	Sep	43.5 ▼

Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 7*)

FOMC members median in September 2023



Source: Bloomberg, KGHM Polska Miedź S.A.

Market Risk Unit

marketrisk@kgm.com

Base and precious metals | Other commodities

Copper

Russia's Largest Untapped Copper Deposit Starts Concentrate Production

The Udokan mine begins mining in the far east of Russia. This is despite the sanctions imposed by the US on Udokan Copper LLC. Project, however, relies on its proximity to top metals consumer China and on demand there, as well as future demand from the global green energy transition.

Copper concentrate production started at Russia's largest undeveloped copper deposit on September 11th. The long-awaited Udokan project in Russia's far east is coming on stream at a challenging time. The United States imposed sanctions on its operator - Udokan Copper LLC - in April as part of a wave of restrictions placed on Russia due to its activities in Ukraine. Copper prices also fell 14% in 2022 and are flat so far this year due to weaker than expected demand. The project, however, relies on its proximity to top metals consumer China and on demand there, as well as future demand from the global green energy transition. The processing plant at Udokan will produce sulphide copper concentrate with 40-45% metal content, the company said. It plans commercial sales this year, but has not disclosed potential buyers yet. Once the first stage of the metallurgical plant is launched in 2024, Udokan will be able to handle up to 15 million metric tons of ore per year, with annual production of up to 150,000 tons of copper in the form of copper cathode and concentrate. The deposit is the largest in Russia with an estimated 26.7 million tons of copper resources. It has been untapped since its discovery in 1949 because the technology didn't exist to exploit its unique and difficult-to-extract ore. In the 1970s, a student at the Moscow Mining Institute researched the idea of a "clean" nuclear blast to extract Udokan's ore, but that remained on paper. Russian billionaire Alisher Usmanov bought the right to develop Udokan for \$500 million from the government just before the 2008 financial crisis. It took 10 years to solve the technical challenges of the project, create a new geological model and start construction. By 2028, Udokan plans to build the second stage of its mining and metallurgical complex, increasing annual capacity to 24-28 million tons of ore and up to 450,000 tons of copper.

Top Philippine nickel miners may spend \$2 billion in new plants

The Philippines, the world's second-largest supplier of nickel to the Chinese market, is pressuring mining companies to invest in processing plants instead of exporting raw ore, which is expected to make the country one of the main players in the supply of the metal needed in the electric vehicle sector.

The Philippines' two biggest nickel producers are planning to invest about \$1 billion each to build processing plants, the companies' top executives said, boosting the government's push to develop the Southeast Asian nation's downstream mineral industry. Nickel Asia Corp. is eyeing a third high-pressure acid leaching plant near a mining project in Pujada peninsula in southern Davao Oriental province. Global Ferronickel Holdings Inc. is in talks with a Chinese firm for its first HPAL facility to be constructed near its mines in southern Surigao province, President Dante Bravo said in a separate interview. He declined to identify the company, citing a non-disclosure agreement, but said the project will require at least \$1 billion investment. Both planned projects are subject to feasibility studies by the companies, the executives said. The Philippines, the world's second-largest nickel supplier to top market China, has been pushing miners to invest in processing facilities instead of just shipping out raw ore to become a major player in the electric-vehicle supply chain. The country is considering following top nickel exporter Indonesia by taxing nickel ore exports to lure investment in processing plants. Nickel Asia, partly owned by Japan's Sumitomo Metal Mining Co., runs the Philippines' only two processing plants for the metal used to make stainless steel and batteries for electric vehicles. Partnering with Sumitomo for a third facility would be the "default strategy," but Nickel Asia is also open to other foreign investors, Zamora said. The Philippines can add two to three more processing plants, but taxing exports of nickel ore to push miners to invest in the downstream sector may be counter productive, according to Zamora. That will only make it harder for miners to make money, he said, adding that improving the process for companies to secure permits for new mines will be a better strategy. Global Ferronickel hopes to have a "definitive agreement" with the Chinese company by the first quarter of 2024 to invest in the processing plant and expects to finance it via debt and equity, said Bravo. "We think it's very much viable, we have the tonnage, and the location seems to be ideal. And now we have the support from the government saying they can provide incentives and expedite the permitting process," he said.

Other important information on copper market:

- China's top copper smelters forming the China Smelters Shopping Team (CSPT) kept the TC/RC benchmark for copper concentrates unchanged for the fourth quarter of 2023 amid expectations of ample supply in the market. The rates set at CSPT meeting are USD 95/t and USc 9.5/lb. This is the highest rate since the fourth quarter of 2017. TC/RC tend to fall as supply decreases and rise as more concentrate becomes available. The supply increase is expected to be mainly due to increased production at Canadian miner Teck Resource's Quebrada Blanca Phase 2 copper project in Chile, after production began earlier this year..
- The global refined copper market showed a 19,000 metric tons deficit in July, compared with a 72,000 metric tons deficit in June, the International Copper Study Group (ICSG) said. For the first 7 months of the year, the market was in a 215,000 metric tons surplus compared with a 254,000 metric tons deficit in the same period a year earlier, the ICSG said. World refined copper output in July was 2.30 million metric tons , while consumption was 2.32 million metric tons.

Precious Metals

Global silver demand to fall 9.4% in 2023, Chile's Cochilco says
Cochilco believes that the decline in silver demand this year will be mainly due to a reduction in physical silver investments in 2023. This will be driven by the lower participation of Indian investors compared to 2022, when they were extremely active.

Global demand for silver will decline by 9.4% this year largely due to a drop in investment, but the market will maintain a deficit, according to a report from Chilean state agency Cochilco. "The drop in demand would originate, fundamentally, from the decline in physical investment in silver in 2023, given a lower participation of Indian investors compared to 2022," Cochilco's executive vice president, Joaquín Morales told Reuters. He added that Indian investors were "especially active" last year. The industrial sector will be the largest silver consumer this year, followed by physical investment in the metal, adding up to 35,019 metric tons compared to 38,643 tons in 2022. Industrial demand is increasing due to the growing solar energy and the electric vehicle industries, the report noted. Despite the drop in demand, supply for 2023 is expected to reach 31,815 tons, an increase of 1.8%. This is due to better prospects for mining production. At the end of July, silver reached \$24.40 per ounce, up 1.7% from the end 2022. The average price for 2023 is expected to reach \$24.60. Easing U.S. inflation and a weak dollar buoyed the price of silver during the second quarter, according to the report. This is due to the metal's dual role as a precious metal and an industrial metal that rises in value when the dollar depreciates. Morales says the dollar is expected to weaken this year and is more relevant to the price "than the weakness of the Chinese economy." In 2022, the largest silver producers were Mexico, China, Peru, Poland and Russia. Fresnillo, KGHM, Newmont, Glencore and Hindustan Zinc are the largest silver producing companies. Peru registered the biggest drop in production with a decrease of 7%, but Morales says "an increase in production is expected by 2023."

Global economies | Foreign exchange markets





Fed Leaves Rates Unchanged, Signals Another Hike This Year FOMC held its target range for the federal funds rate at 5.25% to 5.5%, while updated quarterly projections showed 12 of 19 officials favored another rate hike in 2023.








The Federal Reserve left its benchmark interest rate unchanged while signaling borrowing costs will likely stay higher for longer after one more hike this year. The US central bank's policy-setting Federal Open Market Committee, in a post-meeting statement in Washington, repeated language saying officials will determine the "extent of additional policy firming that may be appropriate." Fed Chair Jerome Powell said officials are "prepared to raise rates further if appropriate, and we intend to hold policy at a restrictive level until we're confident that inflation is moving down sustainably toward our objective." The FOMC held its target range for the federal funds rate at 5.25% to 5.5%, while updated quarterly projections showed 12 of 19 officials favored another rate hike in 2023, underscoring a desire to ensure inflation continues to decelerate. Powell emphasized the Fed will "proceed carefully" as it assesses incoming data and the evolving outlook and risks, echoing remarks he made at the Fed's annual symposium in Jackson Hole, Wyoming last month. Fed officials also see less easing next year than they expected in June, according to the new projections, reflecting renewed strength in the economy and labor market. They now expect it will be appropriate to reduce the federal funds rate to 5.1% by the end of 2024, according to their median estimate, up from 4.6% when projections were last updated in June. They see the rate falling thereafter to 3.9% at the end of 2025, and 2.9% at the end of 2026. Treasuries sold off after the decision, with the yields on two-, five- and 10-year US government bonds all rising to the highest in more than a decade. The dollar also reversed earlier declines, ending the day higher, and the S&P 500 index of stocks erased earlier gains. After a historically rapid tightening that took the federal funds rate from nearly zero in March 2022 to above 5% in May of this year, the central bank has in recent months pivoted to a slower pace of increases. The new tack seeks to let incoming data determine the peak level for interest rates as inflation decelerates toward the 2% target. The Fed's preferred index of prices, excluding food and energy, rose 4.2% in the 12 months through July. Officials also continued to project inflation would fall below 3% next year, and see it returning to 2% in 2026. They expect economic growth to slow in 2024 to 1.5% after an upwardly revised 2.1% pace in 2023. The higher-for-longer projection for interest rates in part reflects a more sanguine view on the path for unemployment. Policymakers now see the jobless rate rising to 4.1% in 2024, compared with 4.5% in the June projection round. Powell said a "soft landing" is not the Fed's baseline expectation for the US economy, but it is the primary objective as it seeks to contain inflation. Data published since the Fed's last meeting have generally shown the labor market and consumer spending remain resilient despite the rise in rates, while core inflation has continued to decelerate. Still, there are plenty of headwinds policymakers must

consider. Oil prices have surged by about 30% since June, while a resumption of student-loan payments next month will take more discretionary spending power out of consumers' hands.

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
China 						
⊕	11-Sep	New yuan loans (CNY bn)	Aug	1 360 ▲	346	1 250 ▲
⊕⊕⊕⊕⊕	14-Sep	Reserve requirement ratio	Sep	10.5% ▼	10.8%	--
⊕⊕⊕⊕	15-Sep	Industrial production (yoy)	Aug	4.5% ▲	3.7%	3.9% ▲
⊕⊕	15-Sep	Fixed assets investments (ytd, yoy)	Aug	3.2% ▼	3.4%	3.3% ◓
⊕	15-Sep	Retail sales (yoy)	Aug	4.6% ▲	2.5%	3.0% ▲
Poland 						
⊕⊕	13-Sep	Trade balance (EUR mn)	Jul	1 068 ▲	1 029	580 ▲
⊕⊕	13-Sep	Exports (EUR mn)	Jul	25 909 ▼	27 886	25 954 ◓
⊕⊕	13-Sep	Current account balance (EUR mn)	Jul	566 ▼	2 431	1 300 ◓
⊕⊕⊕⊕	15-Sep	Consumer inflation CPI (yoy) - final data	Aug	10.1% -	10.1%	--
⊕⊕⊕⊕	18-Sep	Core CPI (excluding food and energy, yoy)	Aug	10.0% ▼	10.6%	10.1% ◓
⊕⊕⊕⊕	20-Sep	Sold industrial production (yoy)‡	Aug	-2.0% ▲	-2.3%	-1.7% ◓
⊕⊕	20-Sep	Average gross salary (yoy)	Aug	11.9% ▲	10.4%	11.8% ▲
⊕⊕	20-Sep	Producer inflation PPI (yoy)‡	Aug	-2.8% ▼	-2.1%	-2.9% ▲
⊕	20-Sep	Employment (yoy)	Aug	0.0% ▼	0.1%	0.1% ◓
⊕⊕⊕	21-Sep	Retail sales (yoy)	Aug	3.1% ▲	2.1%	1.6% ▲
⊕	22-Sep	M3 money supply (yoy)	Aug	7.3% ▼	8.0%	7.1% ▲
US 						
⊕⊕⊕⊕	13-Sep	Consumer inflation CPI (mom)	Aug	0.6% ▲	0.2%	0.6% ⊕
⊕⊕⊕⊕	13-Sep	Consumer inflation CPI (yoy)	Aug	3.7% ▲	3.2%	3.6% ▲
⊕⊕	14-Sep	Retail sales (excluding autos, mom)‡	Aug	0.6% ▼	0.7%	0.4% ▲
⊕⊕⊕⊕	15-Sep	Industrial production (mom)‡	Aug	0.4% ▼	0.7%	0.1% ▲
⊕⊕	15-Sep	University of Michigan confidence index - preliminary data	Sep	67.7 ▼	69.5	69.0 ◓
⊕	15-Sep	Capacity utilization‡	Aug	79.7% ▲	79.5%	79.3% ▲
⊕⊕⊕⊕⊕	20-Sep	FOMC base rate decision - upper bound (Fed)	Sep	5.50% -	5.50%	5.50% ⊕
⊕⊕⊕⊕⊕	20-Sep	FOMC base rate decision - lower bound (Fed)	Sep	5.25% -	5.25%	5.25% ⊕
⊕⊕	21-Sep	Philadelphia Fed business outlook	Sep	- 13.5 ▼	12.0	- 1.0 ◓
⊕⊕⊕	22-Sep	Composite PMI - preliminary data	Sep	50.1 ▼	50.2	50.4 ◓
⊕⊕⊕	22-Sep	Manufacturing PMI - preliminary data	Sep	48.9 ▲	47.9	48.2 ▲
⊕⊕⊕	22-Sep	PMI services - preliminary data	Sep	50.2 ▼	50.5	50.7 ◓
Eurozone 						
⊕	12-Sep	ZEW survey expectations	Sep	- 8.9 ▼	- 5.5	--
⊕⊕⊕⊕	13-Sep	Industrial production (sa, mom)‡	Jul	-1.1% ▼	0.4%	-0.9% ◓
⊕⊕⊕⊕	13-Sep	Industrial production (wda, yoy)‡	Jul	-2.2% ▼	-1.1%	-0.3% ◓
⊕⊕⊕⊕⊕	14-Sep	ECB main refinancing rate	Sep	4.50% ▲	4.25%	4.25% ▲
⊕⊕⊕⊕⊕	14-Sep	ECB deposit facility rate	Sep	4.0% ▲	3.8%	3.8% ▲
⊕⊕	15-Sep	Labour costs (yoy)‡	2Q	4.5% ▼	5.2%	--
⊕	15-Sep	Trade balance (EUR mn)	Jul	6.5 ▼	23.0	--
⊕⊕⊕⊕	19-Sep	Consumer inflation CPI (yoy) - final data	Aug	5.2% ▼	5.3%	5.3% ◓
⊕⊕⊕⊕	19-Sep	Core CPI (yoy) - final data	Aug	5.3% -	5.3%	5.3% ⊕
⊕	21-Sep	Consumer confidence - preliminary data	Sep	- 17.8 ▼	- 16.0	- 16.5 ◓
⊕⊕⊕	22-Sep	Composite PMI - preliminary data	Sep	47.1 ▲	46.7	46.5 ▲
⊕⊕⊕	22-Sep	Manufacturing PMI - preliminary data	Sep	43.4 ▼	43.5	44.0 ◓
⊕⊕⊕	22-Sep	Services PMI - preliminary data	Sep	48.4 ▲	47.9	47.6 ▲

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
Germany 						
👤👤👤	22-Sep	Composite PMI - preliminary data	Sep	46.2 ▲	44.6	44.7 ▲
👤👤👤	22-Sep	Manufacturing PMI - preliminary data	Sep	39.8 ▲	39.1	39.5 ▲
France 						
👤👤👤👤	15-Sep	Harmonized consumer inflation HICP (yoy) - final data	Aug	5.7% -	5.7%	5.7% ○
👤👤👤👤	15-Sep	Consumer inflation CPI (yoy) - final data‡	Aug	4.9% -	4.9%	4.8% ▲
👤👤👤	22-Sep	Composite PMI - preliminary data	Sep	43.5 ▼	46.0	46.0 ◡
👤👤👤	22-Sep	Manufacturing PMI - preliminary data	Sep	43.6 ▼	46.0	46.1 ◡
Italy 						
👤👤👤👤	11-Sep	Industrial production (wda, yoy)‡	Jul	-2.1% ▼	-0.7%	-1.8% ◡
👤👤👤👤	15-Sep	Harmonized consumer inflation HICP (yoy) - final data	Aug	5.5% -	5.5%	5.5% ○
UK 						
👤👤	12-Sep	Unemployment rate (ILO, 3-months)	Jul	4.3% ▲	4.2%	4.3% ○
👤👤👤👤	13-Sep	Industrial production (yoy)	Jul	0.4% ▼	0.7%	0.4% ○
👤👤👤👤	20-Sep	Consumer inflation CPI (yoy)	Aug	6.7% ▼	6.8%	7.0% ◡
👤👤👤👤👤	21-Sep	BoE base rate decision	Sep	52.5 -	52.5	55.0 ◡
👤👤👤	22-Sep	Manufacturing PMI (sa) - preliminary data	Sep	44.2 ▲	43.0	43.2 ▲
👤👤👤	22-Sep	Composite PMI - preliminary data	Sep	46.8 ▼	48.6	48.7 ◡
Japan 						
👤👤👤👤	14-Sep	Industrial production (yoy) - final data	Jul	-2.3% ▲	-2.5%	--
👤👤👤👤	22-Sep	Consumer inflation CPI (yoy)	Aug	3.2% ▼	3.3%	3.0% ▲
👤👤👤	22-Sep	Composite PMI - preliminary data	Sep	51.8 ▼	52.6	--
👤👤👤	22-Sep	Manufacturing PMI - preliminary data	Sep	48.6 ▼	49.6	--
Chile 						
<i>No major data in the period</i>						
Canada 						
👤👤👤👤	19-Sep	Consumer inflation CPI (yoy)	Aug	4.0% ▲	3.3%	3.8% ▲

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

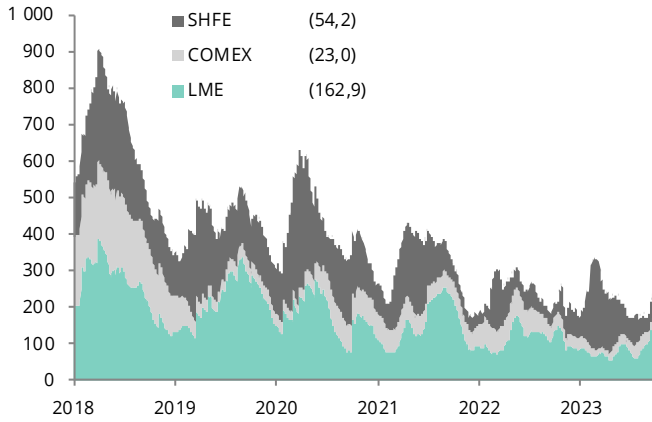
Key base & precious metal prices, exchange rates and other important market factors

(as of: 22-Sep-23)		Price change ¹					From year beginning ²		
	Price	2W	QTD	YTD	1Y	Average	Min	Max	
LME (USD/t; Mo in USD/lbs)									
Copper	8 188.00	▼ -0.4%	▼ -0.3%	▼ -2.4%	▲ 4.8%	8 597.82	7 910.00	9 436.00	
Molybdenum	23.95	▼ -2.4%	▲ 7.6%	▼ -8.3%	▲	26.33	17.86	38.28	
Nickel	19 050.00	▼ -4.3%	▼ -5.3%	▼ -37.4%	▼ -22.3%	23 004.95	18 955.00	31 200.00	
Aluminum	2 199.50	▲ 3.1%	▲ 4.9%	▼ -6.8%	▲ 0.2%	2 270.64	2 068.50	2 636.00	
Tin	25 325.00	▼ 0.0%	▼ -8.6%	▲ 2.1%	▲ 16.5%	26 485.87	22 225.00	32 050.00	
Zinc	2 532.50	▲ 5.3%	▲ 7.2%	▼ -16.3%	▼ -19.1%	2 700.74	2 224.00	3 509.00	
Lead	2 216.00	▼ -3.0%	▲ 5.3%	▼ -5.1%	▲ 18.1%	2 141.43	1 989.00	2 331.00	
LBMA (USD/troz)									
Silver	23.65	▲ 2.8%	▲ 5.3%	▼ -1.2%	▲ 20.8%	23.41	20.09	26.03	
Gold ²	1 927.35	▼ 0.0%	▲ 0.8%	▲ 6.3%	▲ 15.3%	1 931.53	1 810.95	2 048.45	
LPPM (USD/troz)									
Platinum ²	940.00	▲ 4.4%	▲ 4.8%	▼ -11.7%	▲ 3.2%	984.69	887.00	1 128.00	
Palladium ²	1 275.00	▲ 5.6%	▲ 1.7%	▼ -28.7%	▼ -41.2%	1 423.46	1 200.00	1 802.00	
FX³									
EURUSD	1.0647	▼ -0.5%	▼ -2.0%	▼ -0.2%	▲ 7.7%	1.0840	1.0500	1.1255	
EURPLN	4.6069	▲ 0.1%	▲ 3.5%	▼ -1.8%	▼ -3.5%	4.5831	4.4135	4.7895	
USDPLN	4.3269	▲ 0.7%	▲ 5.4%	▼ -1.7%	▼ -10.5%	4.2288	3.9451	4.4888	
USDCAD	1.3464	▼ -1.2%	▲ 1.7%	▼ -0.6%	▼ -0.1%	1.3455	1.3128	1.3807	
USDCNY	7.2990	▼ -0.6%	▲ 0.6%	▲ 5.8%	▲ 3.1%	7.0371	6.7010	7.3439	
USDCLP	891.73	▲ 1.4%	▲ 11.1%	▲ 3.7%	▼ -5.0%	818.58	781.49	897.17	
Money market									
3m LIBOR USD	5.661	▼ -0.01	▲ 0.12	▲ 0.89	▲ 2.02	5.305	4.782	5.684	
3m EURIBOR	3.958	▲ 0.16	▲ 0.38	▲ 1.83	▲ 2.84	3.248	2.170	3.958	
3m WIBOR	5.790	▼ -0.22	▼ -1.11	▼ -1.23	▼ -1.35	6.802	5.790	7.010	
5y USD interest rate swap	4.219	- 0.00	- 0.00	▲ 0.20	▲ 0.20	3.821	3.418	4.408	
5y EUR interest rate swap	3.360	▲ 0.11	▲ 0.10	▲ 0.12	▲ 0.56	3.140	2.672	3.479	
5y PLN interest rate swap	4.460	▲ 0.30	▼ -0.54	▼ -1.70	▼ -1.84	5.173	4.140	6.125	
Fuel									
WTI Cushing	91.13	▲ 4.1%	▲ 29.0%	▲ 13.5%	▲ 8.6%	76.95	66.74	91.48	
Brent	99.67	▲ 2.7%	▼ -18.0%	▲ 0.5%	▲ 34.0%	111.82	93.29	137.67	
Diesel NY (ULSD)	3.82	▲ 3.1%	▼ -5.7%	▲ 35.3%	▲ 60.8%	3.93	2.85	5.08	
Others									
VIX	17.20	▲ 3.36	▲ 3.61	▼ -4.47	▼ -10.15	17.36	12.82	26.52	
BBG Commodity Index	106.22	▲ 0.1%	▲ 4.7%	▼ -5.8%	▼ -8.4%	105.26	97.96	112.52	
S&P500	4 320.06	▼ -3.1%	▼ -2.9%	▲ 12.5%	▲ 15.0%	4 220.71	3 808.10	4 588.96	
DAX	15 557.29	▼ -1.2%	▼ -3.7%	▲ 11.7%	▲ 24.1%	15 662.65	14 181.67	16 469.75	
Shanghai Composite	3 132.43	▲ 0.5%	▼ -2.2%	▲ 1.4%	▲ 0.8%	3 232.89	3 064.08	3 395.00	
WIG 20	1 949.25	▲ 0.3%	▼ -5.4%	▲ 8.8%	▲ 28.4%	1 947.64	1 670.18	2 193.56	
KGHM	111.45	▲ 1.0%	▼ -0.8%	▼ -12.1%	▲ 23.2%	121.51	104.60	153.80	

¹ 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

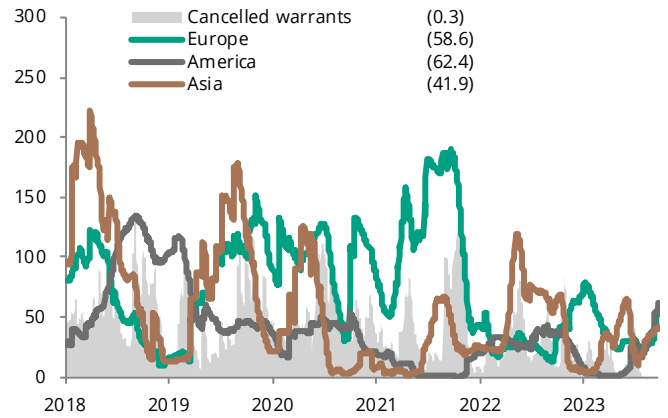
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



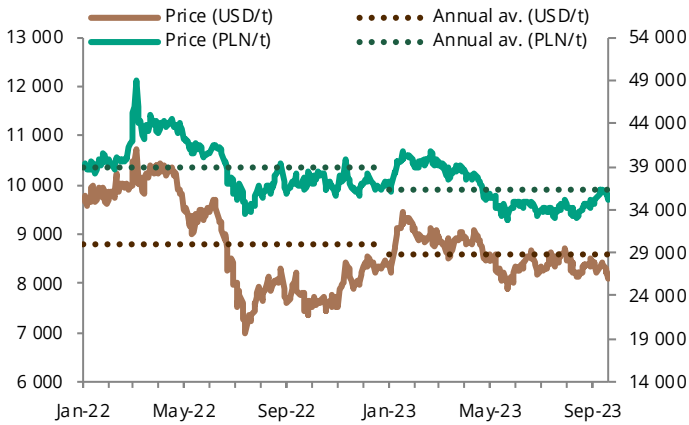
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



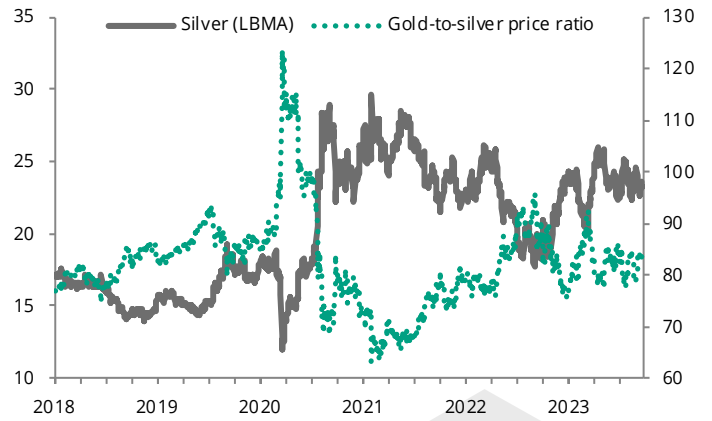
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



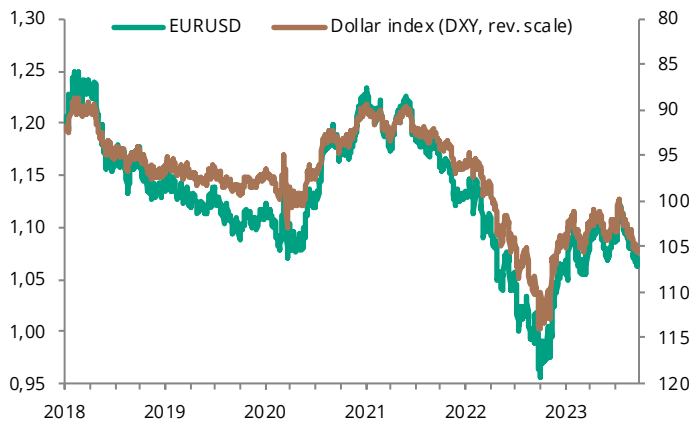
Source: Bloomberg, KGHM Polska Miedź

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



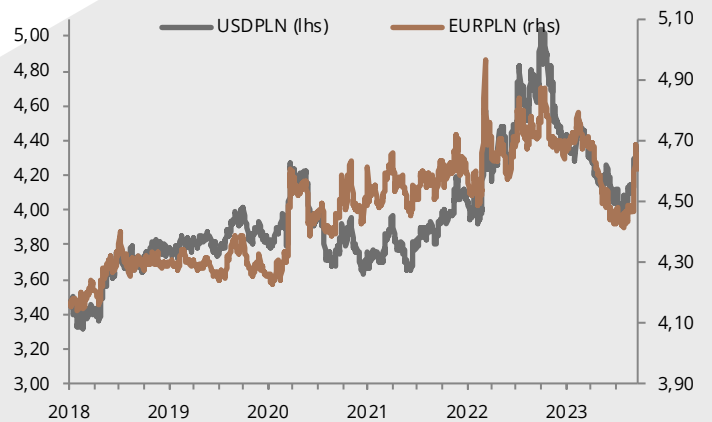
Source: Bloomberg, KGHM Polska Miedź

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:
11 – 24 September 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 Zabezpieczeń (Hedging Department)
Wydział Ryzyka Rynkowego (Market Risk Unit)
ul. M. Skłodowskiej-Curie 48
59-301 Lubin, Poland