

Market Overview



as of: 13th March 2023

- **Copper:** The largest copper mining companies are trying to attract and retain workers. While regulatory push back and water supply have been among the mining industry's historical challenges, access to talent has emerged as another worry (*page 2*).
- **Precious metals:** Turkey's central bank, which was the largest buyer of gold in 2022, was also the largest buyer in January. In the first month of 2023, the bank purchased 23 tons of bullion, bringing its official gold reserves to 565 tons (*page 4*).
- **Euro zone:** All economists surveyed by Reuters predict the bank's deposit rate would increase by 50 basis points to 3.00% in March. Medians in the poll showed the euro zone's central bank adding 25 basis points at the following three meetings in May, June and July to give a terminal deposit rate of 3.75%, higher than the 3.25% peak expected in a February poll (*page 5*).

Key market prices

	Close price	2w chng.
LME (USD/t)		
▼ Copper	8 755.00	-0.6%
▼ Nickel	22 675.00	-8.8%
LBMA (USD/troz)		
▼ Silver	20.09	-4.7%
▲ Gold (PM)	1 861.25	2.8%
FX		
▲ EURUSD	1.0586	0.2%
▼ EURPLN	4.6838	-0.9%
▼ USDPLN	4.4266	-0.8%
▲ USDCAD	1.3807	1.4%
▼ USDCLP	800.88	-0.3%
Stocks		
▼ KGHM	121.45	-2.1%

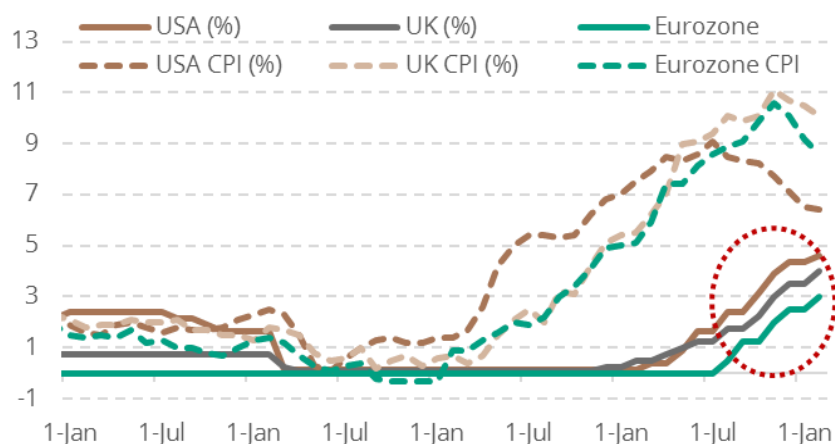
Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 8*)

Important macroeconomic data

Release	For		
 Official manuf. PMI	Feb	52.6	▲
 Non-farm payrolls chng.	Feb	311	▼
 Underemployment rate (l	Feb	6.8%	▲
 Manufacturing PMI	Feb	48.5	▲
 Copper production (mt)	Jan	435 939	▼

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

Interest rates in the Eurozone, USA and UK against the background of CPI inflation in these economies



Source: Bloomberg, KGHM Polska Miedź S.A.

Market Risk Unit

marketrisk@kgm.com

Base and precious metals | Other commodities

Copper

Copper miners scramble for workers

The largest copper mining companies are trying to attract and retain workers. While regulatory push back and water supply have been among the mining industry's historical challenges, access to talent has emerged as another worry.

Copper mining giants are scrambling to attract and retain workers, especially in the United States, amid rising global demand for the red metal for the green energy transition. While regulatory push back and water supply have been among the mining industry's historical challenges, access to talent has emerged as another worry. With workers opting for jobs that are less physically demanding jobs and not in far-flung locales, attracting mining talent is now a key problem for the industry, facing a wave of retirements in the next decade. Workers are needed with skills to build and run mines producing lithium, nickel, copper and other metals to feed the green energy transition. Freeport-McMoRan Inc's US copper production slipped at the end of 2022 and the company expects it to dip 1% this year due to a lack of talent at a time of rising copper demand. The Phoenix-based company, which has more than 1,000 US job openings, has boosted already-lucrative salaries and offered one-time bonuses to lure and retain workers, but has begun using contractors to run at least one US mine, chief executive Richard Adkerson told Reuters on the sidelines of the CERWeek energy conference in Houston. "It is affecting our operations to a degree and affecting our expansion plans. We're just trying to make our work as attractive to people as we can," said Adkerson, who has run the company since 2003. "But it's not an insurmountable problem." Freeport has boosted its outreach to college-age students and waived baccalaureate requirements for some mine supervisory positions, he said. Freeport has also expanded its outreach to women, highlighting that several of the company's largest North American mines are led by women and that Kathleen Quirk, Freeport's president, runs the company alongside Adkerson. Freeport, which operates mines in many rural locations, has also in recent years built more gymnasiums, grocery stores, retail outlets and related facilities at mine sites for workers and their families. Freeport peer Rio Tinto Ltd has more than 4,000 employees in Utah, where the company runs the Kennecott copper mine. But Rio also aims to open the Resolution Copper mine, a massive underground operation that will require thousands of new employees, posing a recruitment challenge for the Anglo-Australian company. "We do need to step up on partnerships with universities in Utah and Arizona and the traditional schools like Colorado (School of Mines), to make sure that (talent is there) in the future," said Baatar.

Other important information on copper market:

- Panama's Maritime Authority has lifted a suspension on First Quantum Minerals' operations at the port of Punta Rincon, which the Canadian company uses to export copper concentrate from its key Cobre Panama mine. The company, which spent weeks at loggerheads with Panama over Cobre Panama, had said that once the suspension ended, it would be able to resume activity at the port quickly. The Panamanian government and First Quantum said on Wednesday [March 8] they had agreed on the final text for a new contract on the operations of Cobre Panama. Because it could not work at Punta Rincon, First Quantum halted ore processing operations on Feb. 23 after reaching the maximum storage level of copper concentrate – about 100,000 tonnes. About 60% of the copper concentrate exported through Punta Rincon is destined for factories in China.
- Chile's total copper production rose 2.9% in January to 437,900 tonnes, government body Cochilco said on Thursday. Production from state-owned giant Codelco jumped 5.1% on a yearly basis to 127,000 tonnes, Cochilco said. Output from BHP-controlled mine Escondida rose 15.2% to 93,300 tonnes, while Collahuasi, a joint venture of Anglo American and Glencore, produced 42,900 tonnes, a 16.4% decrease.
- Lawmakers in Chile have given the go-ahead for the closure of the state-owned Ventanas copper smelter amid pressure over its environmental impact, the government said. Codelco CEO Andres Sougarret said in a statement that the company will begin relocating workers at the site starting in June. The smelter has capacity to process 420,000 mt/year of copper concentrates. Codelco will continue to operate the electrolytic copper refinery at the site. Codelco announced the permanent closure of the plant last year after deciding that planned investment would not be enough to prevent further environmental incidents. However, a requirement to process ores from local small and medium-scale mines -- dating back to the acquisition of the complex from state-run mining development agency ENAMI in 2005 -- required the change in the law. "Thanks to the approval of this bill, we are guaranteeing to the small-scale miners of Valparaiso, O'Higgins and Coquimbo that their production will continue to be processed in Codelco's other installations," Mining Minister Marcela Hernandez said after the vote. The bill requires the government to present a report to Congress on proposals to expand state-owned smelting capacity in the country within 90 days of the law's publication.
- Chilean exports of copper concentrates have fallen sharply this year following a fire at a key port serving the mining industry, customs data showed March 8. Exports in February fell to 666,404 mt (total weight), down 25% from the same month in the previous year. Exports for the year to date totaled 1.5 million mt, down 22% on the year. A fire in late December 2022 at the Ventanas port in central Chile largely halted bulk exports from the facility. Last month, Anglo American said that it expected lower sales of concentrates from its Los Bronces mine during the first half of 2023 as a result of the fire. Exports to China fell in the two-month period to 1.136 million mt, down 21%, while exports to Japan slid 41% to 176,810 mt.

Precious Metals

Central banks extend gold buying streak in January

Turkey's central bank, which was the largest buyer of gold in 2022, was also the largest buyer in January. In the first month of 2023, the bank purchased 23 tons of bullion, bringing its official gold reserves to 565 tons.

Central bank gold demand picked up from where it left off in 2022 with the addition of 31 tonnes to the global gold reserves in January, the World Gold Council said on Thursday. This total, which represents a 16% monthly increase, falls comfortably within the 20-to-60-tonne range of reported purchases that has been in place over the last 10 consecutive months of net buying, Krishan Gopaul, senior analyst, EMEA, noted. Activity was relatively concentrated during the month, with only three banks accounting for gross purchases of 44 tonnes and one bank offsetting this with 12 tonnes of sales, WGC data show. The largest reported purchaser in 2022 was also the largest buyer in January: the Central Bank of Türkiye (Turkey), which added 23 tonnes during the month, taking its official gold reserves to 565 tonnes. People's Bank of China (PBoC) also bought again during the month, adding 15 tonnes on top of the 62 tonnes reported between November and December 2022. Its gold reserves now total 2,025 tonnes (3.7% of total reserves). The National Bank of Kazakhstan increased its gold reserves by a modest 4 tonnes in January, taking its gold reserves to 356 tonnes. The European Central Bank (ECB) reported a near 2-tonne rise in its gold reserves, though it was not an outright purchase by the bank. This was related to Croatia joining the currency union, as the country was required to transfer the gold as part of a larger transfer of reserve assets to the ECB. For this, the country bought nearly 2 tonnes of gold in December. The Central Bank of Uzbekistan was the only prominent seller during the month, reducing its official gold reserves by almost 12 tonnes (down 3% from December). Its gold holdings now total 384 tonnes, about 66% of its total reserves.

Global economies | Foreign exchange markets





ECB deposit rate to peak at 3.75% or higher: Reuters poll

All economists surveyed by Reuters predict the bank's deposit rate would increase by 50 basis points to 3.00% in March. Medians in the poll showed the euro zone's central bank adding 25 basis points at the following three meetings in May, June and July to give a terminal deposit rate of 3.75%, higher than the 3.25% peak expected in a February poll.

The peak for European Central Bank interest rates will be much higher than thought only a month ago, according to economists polled by Reuters, and they added that stubbornly high inflation would push policymakers to be more aggressive. Having flagged a 50 basis-point lift at the previous Governing Council meeting, ECB President Christine Lagarde doubled down on and said the increase was "very very likely". All 60 economists polled by Reuters March 7-9 believed her and said the bank's deposit rate would rise 50 basis points to 3.00%. Medians in the poll showed the euro zone's central bank adding 25 basis points at the following three meetings in May, June and July to give a terminal deposit rate of 3.75%, higher than the 3.25% peak expected in a February poll. "A 50 basis-point rate hike Thursday (March 16) looks like a done deal. The more heated debate at the ECB will be about the path for monetary policy beyond the March meeting," said Carsten Brzeski at ING. Markets are pricing in a peak of 4.00%. U.S. Federal Reserve Chair Jerome Powell said on Tuesday (March 7) the central bank watching over the world's largest economy would likely need to raise interest rates more than expected in response to recent strong data and was prepared to move in larger steps. But like ECB policymakers who have been arguing over just how high rates in the 20 countries using the euro need to go, economists were also divided. While the median showed the deposit rate peaking at 3.75% it was a view held by only 19 of 60 economists surveyed. Twelve said it would be higher but 29 said it would be lower. The highest forecast was for 4.25%. Euro zone inflation - running at a higher-than-expected 8.5% in February and over four times the bank's 2% goal - was predicted to drift down but remain above target until 2025 at least. It will average 5.8% this year and 2.5% next, the poll showed. "The real economy was stronger than expected at the start of the year, while core inflation was much higher," said Luca Mezzomo at Intesa Sanpaolo. Some economic readings have been better than feared, particularly through the winter, but the recovery is tentative and several indicators added to signs that even if a recession may have been avoided, no upturn is in sight. There is now only a 34% chance of a recession within the coming year, the poll found, down from 50% in a January poll. However, euro zone growth will be far from stellar with a 0.1% contraction pencilled in for this quarter followed by just a 0.1% expansion in the next. That will be followed by 0.2% growth in the following two quarters, according to forecasts barely changed from February. Across this year as a whole the economy will expand 0.5% before growth accelerates to 1.2% in 2024.

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
China 						
🔴🔴🔴	01-Mar	Official manufacturing PMI	Feb	52.6 ▲	50.1	50.7 ▲
🔴🔴🔴	01-Mar	Caixin's manufacturing PMI	Feb	51.6 ▲	49.2	50.7 ▲
🔴	07-Mar	Foreign reserves (USD bn)	Feb	3 133 ▼	3 184	3 157 ▼
🔴🔴🔴🔴	09-Mar	Consumer inflation CPI (yoy)	Feb	1.0% ▼	2.1%	1.9% ▼
🔴🔴	09-Mar	Producer inflation PPI (yoy)	Feb	-1.4% ▼	-0.8%	-1.3% ▼
🔴	10-Mar	New yuan loans (CNY bn)	Feb	1 810 ▼	4 900	1 500 ▲
Poland 						
🔴🔴🔴🔴🔴	28-Feb	GDP (yoy) - final data	4Q	2.0% -	2.0%	--
🔴🔴🔴🔴🔴	28-Feb	GDP (qoq) - final data	4Q	-2.4% -	-2.4%	--
🔴🔴🔴	01-Mar	Manufacturing PMI	Feb	48.5 ▲	47.5	48.0 ▲
🔴🔴🔴🔴	08-Mar	NBP base rate decision	Mar	6.75% -	6.75%	6.75% 🔄
US 						
🔴🔴	27-Feb	Durable goods orders - preliminary data‡	Jan	-4.5% ▼	5.1%	-4.0% ▼
🔴	27-Feb	Dallas Fed manufacturing activity	Feb	-13.5 ▼	-8.4	-9.3 ▼
🔴	28-Feb	Richmond Fed manufacturing index	Feb	-16.0 ▼	-11.0	-5.0 ▼
🔴🔴🔴	01-Mar	Manufacturing PMI - final data	Feb	47.3 ▼	47.8	47.8 ▼
🔴🔴	01-Mar	ISM Manufacturing	Feb	47.7 ▲	47.4	48.0 ▼
🔴🔴🔴	03-Mar	Composite PMI - final data	Feb	50.1 ▼	50.2	--
🔴🔴🔴	03-Mar	PMI services - final data	Feb	50.6 ▲	50.5	50.5 ▲
🔴🔴	06-Mar	Durable goods orders - final data	Jan	-4.5% -	-4.5%	-4.5% 🔄
🔴🔴	10-Mar	Change in non-farm payrolls (ths)‡	Feb	311 ▼	504	225 ▲
🔴🔴	10-Mar	Underemployment rate (U6)	Feb	6.8% ▲	6.6%	--
🔴🔴	10-Mar	Unemployment rate	Feb	3.6% ▲	3.4%	3.4% ▲
🔴	10-Mar	Average hourly earnings (yoy)	Feb	4.6% ▲	4.4%	4.7% ▼
Eurozone 						
🔴	27-Feb	M3 money supply (yoy)	Jan	3.5% ▼	4.1%	3.9% ▼
🔴	27-Feb	Economic confidence‡	Feb	99.7 ▼	99.8	101 ▼
🔴	27-Feb	Industrial confidence‡	Feb	0.5 ▼	1.2	1.8 ▼
🔴	27-Feb	Consumer confidence - final data	Feb	-19.0 -	-19.0	--
🔴🔴🔴	01-Mar	Manufacturing PMI - final data	Feb	48.5 -	48.5	48.5 🔄
🔴🔴🔴🔴	02-Mar	Core CPI (yoy) - preliminary data	Feb	5.6% ▲	5.3%	5.3% ▲
🔴🔴🔴🔴	02-Mar	CPI estimate (yoy)	Feb	8.5% ▼	8.6%	8.3% ▲
🔴🔴	02-Mar	Unemployment rate‡	Jan	6.7% -	6.7%	6.6% ▲
🔴🔴🔴	03-Mar	Composite PMI - final data	Feb	52.0 ▼	52.3	52.3 ▼
🔴🔴🔴	03-Mar	Services PMI - final data	Feb	52.7 ▼	53.0	53.0 ▼
🔴🔴	03-Mar	Producer inflation PPI (yoy)‡	Jan	15.0% ▼	24.6%	17.8% ▼
🔴🔴	06-Mar	Retail sales (yoy)	Jan	-2.3% ▲	-2.8%	-1.8% ▼
🔴🔴🔴🔴🔴	08-Mar	GDP (sa, yoy) - final data	4Q	1.8% ▼	1.9%	1.9% ▼
🔴🔴🔴🔴🔴	08-Mar	GDP (sa, qoq) - final data	4Q	0.0% ▼	0.1%	0.0% 🔄
🔴🔴🔴	08-Mar	Gross fixed capital (qoq)‡	4Q	-3.6% ▼	3.9%	--
🔴🔴🔴	08-Mar	Households consumption (qoq)‡	4Q	-0.9% ▼	0.8%	--

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
Germany						
🔴🔴🔴🔴	01-Mar	Harmonized consumer inflation HICP (yoy) - preliminary data	Feb	9.3% ▲	9.2%	9.0% ▲
🔴🔴🔴🔴	01-Mar	Consumer inflation CPI (yoy) - preliminary data	Feb	8.7% -	8.7%	8.5% ▲
🔴🔴🔴	01-Mar	Manufacturing PMI - final data	Feb	46.3 ▼	46.5	46.5 ◓
🔴🔴	01-Mar	Unemployment rate	Feb	5.5% -	5.5%	5.5% ◓
🔴🔴🔴	03-Mar	Composite PMI - final data	Feb	50.7 ▼	51.1	51.1 ◓
🔴🔴🔴	07-Mar	Factory orders (wda, yoy)‡	Jan	-10.9% ▼	-9.9%	-12.5% ▲
🔴🔴🔴🔴	08-Mar	Industrial production (wda, yoy)‡	Jan	-1.6% ▲	-3.3%	-3.7% ▲
🔴🔴🔴	08-Mar	Retail sales (yoy)‡	Jan	-4.6% ▲	-5.7%	-5.0% ▲
🔴🔴🔴🔴	10-Mar	Harmonized consumer inflation HICP (yoy) - final data	Feb	9.3% -	9.3%	9.3% ◓
🔴🔴🔴🔴	10-Mar	Consumer inflation CPI (yoy) - final data	Feb	8.7% -	8.7%	8.7% ◓
France						
🔴🔴🔴🔴🔴	28-Feb	GDP (yoy) - final data	4Q	0.5% -	0.5%	0.5% ◓
🔴🔴🔴🔴🔴	28-Feb	GDP (qoq) - final data	4Q	0.1% -	0.1%	0.1% ◓
🔴🔴🔴🔴	28-Feb	Harmonized consumer inflation HICP (yoy) - preliminary data	Feb	7.2% ▲	7.0%	7.0% ▲
🔴🔴🔴🔴	28-Feb	Consumer inflation CPI (yoy) - preliminary data	Feb	6.2% ▲	6.0%	6.1% ▲
🔴🔴🔴	01-Mar	Manufacturing PMI - final data	Feb	47.4 ▼	47.9	47.9 ◓
🔴🔴🔴🔴	03-Mar	Industrial production (yoy)‡	Jan	-2.2% ▼	1.8%	0.2% ◓
🔴🔴🔴	03-Mar	Composite PMI - final data	Feb	51.7 ▲	51.6	51.6 ▲
Italy						
🔴🔴🔴	01-Mar	Manufacturing PMI	Feb	52.0 ▲	50.4	51.0 ▲
🔴🔴🔴🔴	02-Mar	Harmonized consumer inflation HICP (yoy) - preliminary data	Feb	9.9% ▼	10.7%	9.5% ▲
🔴🔴	02-Mar	Unemployment rate	Jan	7.9% ▲	7.8%	7.8% ▲
🔴🔴🔴🔴🔴	03-Mar	GDP (wda, yoy) - final data	4Q	1.4% ▼	1.7%	1.7% ◓
🔴🔴🔴🔴🔴	03-Mar	GDP (wda, qoq) - final data	4Q	-0.1% -	-0.1%	-0.1% ◓
🔴🔴🔴	03-Mar	Composite PMI	Feb	52.2 ▲	51.2	52.0 ▲
UK						
🔴🔴🔴	01-Mar	Manufacturing PMI (sa) - final data	Feb	49.3 ▲	49.2	49.2 ▲
🔴🔴🔴	03-Mar	Composite PMI - final data	Feb	53.1 ▲	53.0	53.0 ▲
🔴🔴🔴🔴	10-Mar	Industrial production (yoy)	Jan	-4.3% ▼	-4.0%	-4.1% ◓
Japan						
🔴🔴🔴🔴	28-Feb	Industrial production (yoy) - preliminary data	Jan	-2.3% ▲	-2.4%	-0.7% ◓
🔴🔴🔴	01-Mar	Manufacturing PMI - final data	Feb	47.7 ▲	47.4	--
🔴🔴🔴	03-Mar	Composite PMI - final data	Feb	51.1 ▲	50.7	--
🔴🔴🔴🔴🔴	09-Mar	GDP (annualized, qoq) - final data	4Q	0.1% ▼	0.6%	0.8% ◓
🔴🔴🔴🔴🔴	09-Mar	GDP (qoq, sa) - final data	4Q	0.0% ▼	0.2%	0.2% ◓
Chile						
🔴🔴🔴	28-Feb	Total copper production (metric tons)	Jan	435 939 ▼	497 971	--
🔴🔴🔴	28-Feb	Manufacturing (yoy)	Jan	-1.6% ▲	-4.1%	-3.6% ▲
🔴🔴🔴🔴	01-Mar	Economic activity (yoy)	Jan	0.4% ▲	-1.0%	-0.1% ▲
🔴🔴🔴	07-Mar	Copper exports (USD mn)	Feb	3 449 ▲	2 979	--
🔴🔴	07-Mar	Nominal wages (yoy)	Jan	11.1% ▲	10.8%	--
Canada						
🔴🔴🔴🔴🔴	28-Feb	GDP (yoy)	Dec	2.3% ▼	2.8%	2.7% ◓
🔴🔴🔴🔴🔴	28-Feb	GDP (annualized, qoq)‡	4Q	0.0% ▼	2.3%	1.6% ◓
🔴🔴🔴🔴🔴	08-Mar	BoC base rate decision	Mar	4.50% -	4.50%	4.50% ◓
🔴🔴🔴	10-Mar	Capacity utilization‡	4Q	81.7% ▼	82.2%	--
🔴🔴🔴	10-Mar	Net change in employment (ths)	Feb	21.8 ▼	150	10.0 ▲

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

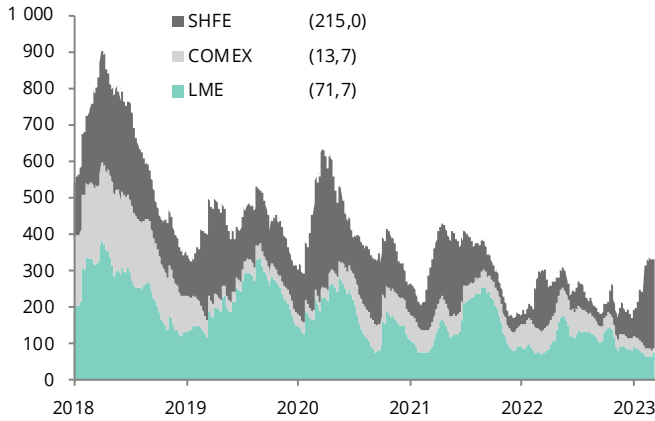
Key base & precious metal prices, exchange rates and other important market factors

(as of: 10-Mar-23)		Price change ¹				From year beginning ²		
	Price	2W	QTD	YTD	1Y	Average	Min	Max
LME (USD/t; Mo in USD/lbs)								
Copper	8 755.00	▼ -0.6%	▲ 4.4%	▲ 4.4%	▼ -13.7%	8 959.65	8 209.00	9 436.00
Molybdenum	33.11	▼ -10.4%	▲ 26.7%	▲ 26.7%	▲	34.09	29.76	38.28
Nickel	22 675.00	▼ -8.8%	▼ -25.5%	▼ -25.5%	▼ -47.3%	26 902.96	22 675.00	31 200.00
Aluminum	2 249.00	▼ -2.5%	▼ -4.7%	▼ -4.7%	▼ -36.4%	2 432.03	2 242.50	2 636.00
Tin	22 500.00	▼ -13.2%	▼ -9.3%	▼ -9.3%	▼ -47.4%	27 008.37	22 500.00	32 050.00
Zinc	2 941.00	▼ -2.6%	▼ -2.8%	▼ -2.8%	▼ -25.8%	3 186.71	2 941.00	3 509.00
Lead	2 077.00	▲ 0.5%	▼ -11.0%	▼ -11.0%	▼ -13.5%	2 146.50	2 034.00	2 331.00
LBMA (USD/troz)								
Silver	20.09	▼ -4.7%	▼ -16.1%	▼ -16.1%	▼ -22.6%	22.53	20.09	24.44
Gold ²	1 861.25	▲ 2.8%	▲ 2.7%	▲ 2.7%	▼ -6.8%	1 870.72	1 810.95	1 932.45
LPPM (USD/troz)								
Platinum ²	953.00	▲ 2.7%	▼ -10.5%	▼ -10.5%	▼ -12.4%	999.27	912.00	1 100.00
Palladium ²	1 389.00	▼ -0.4%	▼ -22.3%	▼ -22.3%	▼ -52.6%	1 602.90	1 361.00	1 802.00
FX³								
EURUSD	1.0586	▲ 0.2%	▼ -0.8%	▼ -0.8%	▼ -4.5%	1.0723	1.0500	1.0988
EURPLN	4.6838	▼ -0.9%	▼ -0.1%	▼ -0.1%	▼ -2.4%	4.7167	4.6688	4.7895
USDPLN	4.4266	▼ -0.8%	▲ 0.6%	▲ 0.6%	▲ 1.8%	4.3962	4.2803	4.4888
USDCAD	1.3807	▲ 1.4%	▲ 1.9%	▲ 1.9%	▲ 8.1%	1.3478	1.3312	1.3807
USDCNY	6.9173	▼ -0.6%	▲ 0.3%	▲ 0.3%	▲ 9.4%	6.8384	6.7010	6.9662
USDCLP	800.88	▼ -0.3%	▼ -6.8%	▼ -6.8%	▼ -0.3%	812.08	781.49	856.31
Money market								
3m LIBOR USD	5.138	▲ 0.18	▲ 0.37	▲ 0.37	▲ 4.34	4.880	4.782	5.154
3m EURIBOR	2.978	▲ 0.28	▲ 0.85	▲ 0.85	▲ 3.48	2.558	2.170	2.978
3m WIBOR	6.930	▼ -0.01	▼ -0.09	▼ -0.09	▲ 2.75	6.940	6.910	7.010
5y USD interest rate swap	4.014	▼ -0.28	▼ -0.01	▼ -0.01	▲ 2.01	3.920	3.497	4.408
5y EUR interest rate swap	3.247	▼ -0.02	▲ 0.01	▲ 0.01	▲ 2.60	3.034	2.672	3.479
5y PLN interest rate swap	5.585	▼ -0.39	▼ -0.58	▼ -0.58	▲ 0.74	5.556	5.040	6.125
Fuel								
WTI Cushing	76.68	▲ 0.5%	▼ -4.5%	▼ -4.5%	▼ -27.7%	77.55	72.84	81.31
Brent	82.39	▼ -0.3%	▼ -3.0%	▼ -3.0%	▼ -27.9%	82.97	76.41	87.23
Diesel NY (ULSD)	279.17	▲ 0.2%	▼ -17.1%	▼ -17.1%	▼ -18.8%	301.27	268.87	358.84
Others								
VIX	24.80	▲ 3.13	▲ 3.13	▲ 3.13	▼ -5.43	20.19	17.87	24.80
BBG Commodity Index	104.55	▼ -0.9%	▼ -7.3%	▼ -7.3%	▼ -16.4%	108.62	104.20	112.52
S&P500	3 861.59	▼ -2.7%	▲ 0.6%	▲ 0.6%	▼ -9.3%	4 010.90	3 808.10	4 179.76
DAX	15 427.97	▲ 1.4%	▲ 10.8%	▲ 10.8%	▲ 14.8%	15 221.46	14 181.67	15 653.58
Shanghai Composite	3 230.08	▼ -1.1%	▲ 4.6%	▲ 4.6%	▼ -2.0%	3 247.01	3 116.51	3 328.39
WIG 20	1 799.58	▼ -0.4%	▲ 0.4%	▲ 0.4%	▼ -8.7%	1 872.77	1 796.87	1 937.98
KGHM	121.45	▼ -2.1%	▼ -4.2%	▼ -4.2%	▼ -31.8%	137.76	121.45	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

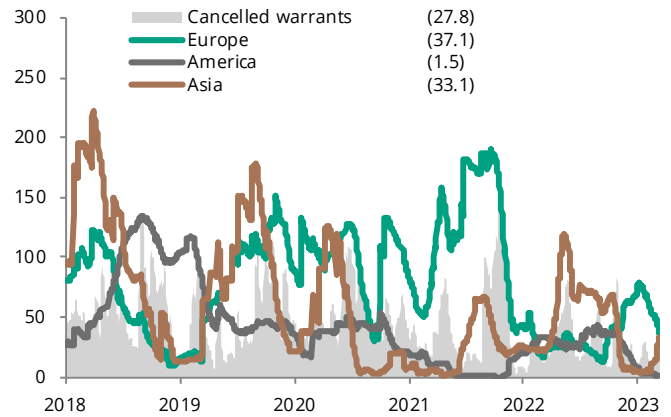
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



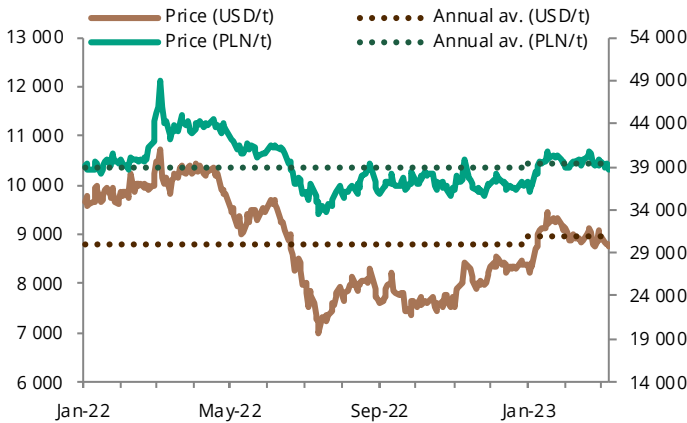
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



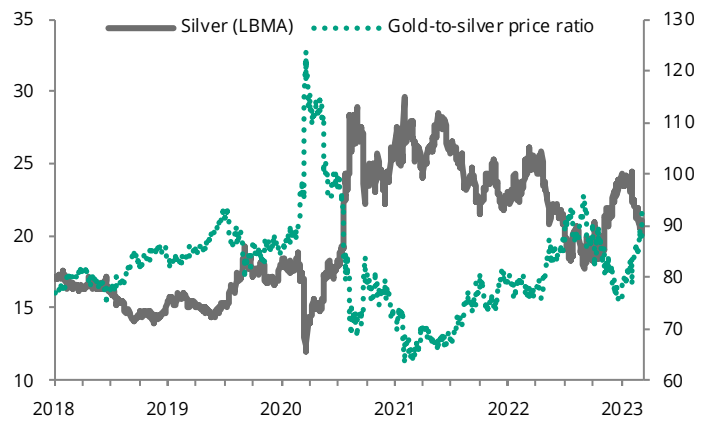
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



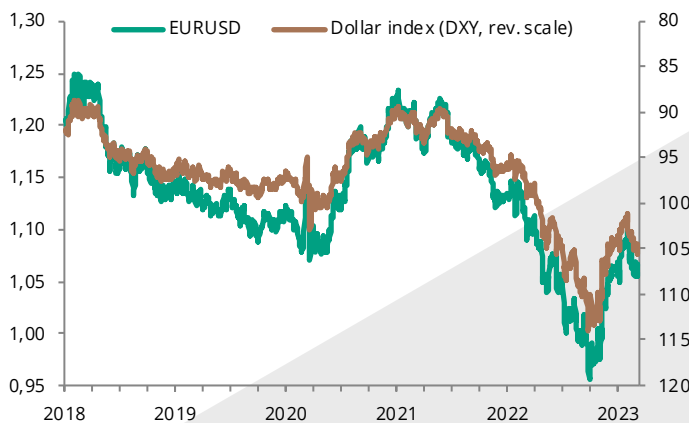
Source: Bloomberg, KGHM Polska Miedź

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



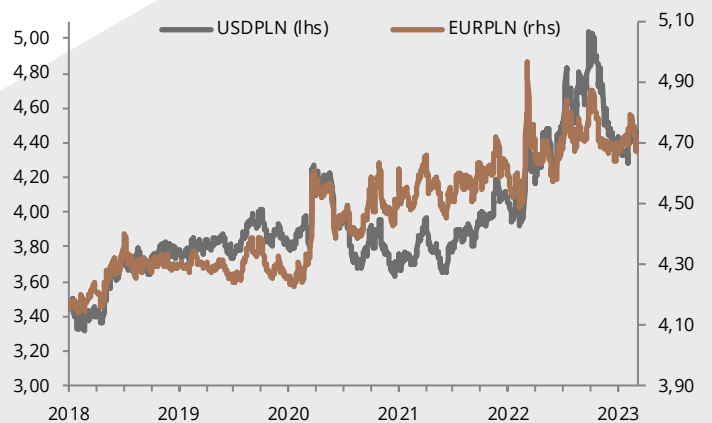
Source: Bloomberg, KGHM Polska Miedź

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:
27 February – 12 March 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

DISCLAIMER

This document reflects the market view of the staff of KGHM Polska Miedz (Polish Copper)'s Market Risk Unit employees on the economy, commodity as well as financial markets. Although, according to the our best of our knowledge, all the facts presented in this publication come from or are based on reliable sources, we do not guarantee their correctness. Moreover, they may be incomplete or shortened. All the opinions and forecasts are backed by diligently-performed analyses valid as of the publishing date and may be subject to change. KGHM Polska Miedz (Polish Copper) S.A. is not obligated to announce any subsequent change of these opinions or forecasts. This document's purpose is solely informative and must not be interpreted as an offer or advice with regards to the purchase/sale of any mentioned financial instrument, nor it is part of such offer or advice.

Re-printing or using this publication or its in whole or part requires prior written consent from KGHM. To acquire that such consent please contact the Communication Department KGHM Polska Miedz SA.

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