

Market Overview



as of: 1st January 2024

- Copper:** The cash price of copper closed last year at 8,476 USD/t. The average annual price of copper on the LME (cash settlement) was 8,478 USD/t in 2023, compared to 8,797 USD/t in 2022, which means a decrease of 3.6% year on year. Market participants are divided on the outlook for 2024 (*page 2*).
- Precious metals:** Physical investment in 2023 is projected to fall by 21 per cent to a three-year low of 263 million ounces. While most markets have seen weaker volumes, losses have been concentrated in India and Germany. In India, record high local prices both deterred new investor purchases and led to profit taking, resulting in a 46 per cent decline (*page 5*).
- Euro zone:** Financial markets saw a roughly 75% chance of a rate cut at the Fed's March 19-20 policy meeting, according to CME Group's FedWatch Tool (*page 7*).

Key market prices

| | Close price | 2w chng. |
|------------------------|-------------|----------|
| LME (USD/t) | | |
| ▲ Copper | 8 476.00 | 0.1% |
| ▼ Nickel | 16 300.00 | -2.6% |
| LBMA (USD/troz) | | |
| ▼ Silver | 23.79 | -1.7% |
| ▲ Gold (PM) | 2 062.40 | 1.5% |
| FX | | |
| ▲ EURUSD | 1.1050 | 1.0% |
| ▲ EURPLN | 4.3480 | 0.9% |
| ▲ USDPLN | 3.9350 | 0.1% |
| ▼ USDCAD | 1.3226 | -1.1% |
| ▲ USDCLP | 884.59 | 2.1% |
| Stocks | | |
| ▼ KGHM | 122.70 | -0.5% |

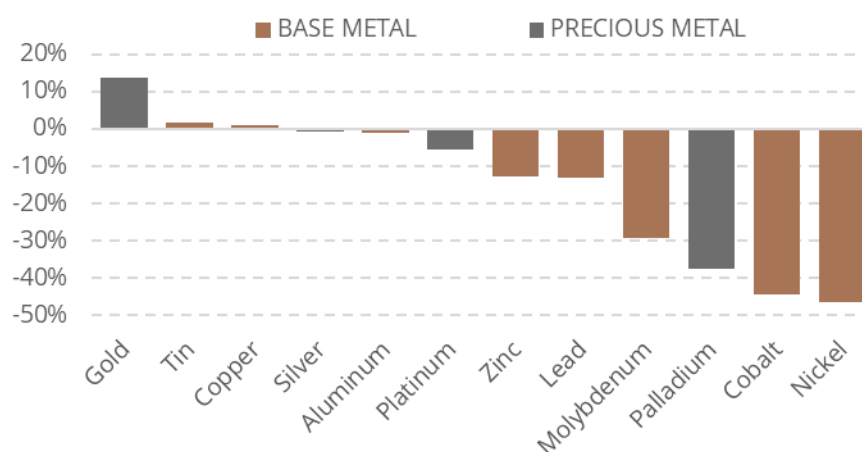
Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 10*)

Important macroeconomic data

| Release | For | | |
|--|-----|---------|---|
|  Official manuf. PMI | Dec | 49.0 | ▼ |
|  Durable goods orders | Nov | 5.4% | ▲ |
|  CPI (yoy) | Nov | 3.1% | - |
|  Industrial prod. (yoy) | Nov | -0.7% | ▼ |
|  Copper production (mt) | Nov | 444 905 | ▼ |

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

Change in the valuation of selected metals in 2023



Source: Refinitiv, KGHM Polska Miedź S.A.

Market Risk Unit

marketrisk@kgm.com

Base and precious metals | Other commodities

Copper

2023 copper market summary

The cash price of copper closed last year at 8,476 USD/t. The average annual price of copper on the LME (cash settlement) was 8,478 USD/t in 2023, compared to 8,797 USD/t in 2022, which means a decrease of 3.6% year on year. Market participants are divided on the outlook for 2024.

In 2023, the copper price was influenced by several factors, the most important of which seem to be supply and demand events and the strength of the US dollar, especially against the Chinese yuan, the world's largest consumer of the red metal. At the beginning of last year, we observed a strong increase in the copper price, which exceeded 9,300 USD/t (cash price) in the second half of January. It occurred in a climate of high hopes for economic recovery and demand increase in China, after the country abandoned its zero covid policy. Additional significant support was provided by the political turmoil in Peru and the related concerns about metal production in the country, which is the second largest global supplier of copper just after Chile. At the same time, the weakening of the USD emerged causing the metal price to become more attractive to buyers in other currencies, including CNY.

The following months brought disappointment with the dynamics of economic recovery in China, especially the continuing weakness of the housing construction sector, which is responsible for a significant part of China's copper consumption. The only bright sign of copper demand came from energy sector. Demand in the world ex-China, including the USA and the EU, was also not great. Concerns about metal production in Peru did not come true either, as it not only did not decline, but also surprised to the upside, climbing above the range of the last 10 years and lasting for several months. The demand-supply situation, in the environment of increasing interest rates and turmoil in the banking system, both in the USA (SVB) and in Europe (Credit Suisse), accompanied by the strengthening of the USD (safe heaven during any financial tumult), had an impact on the LME copper price, which in the second half of May dropped to approximately 7,850 USD/t (cash price).

The following months showed the decline in Chinese demand for metals, including copper, resulted from the big crisis in the real-estate sector. It was largely offset by the broadly understood renewable energy sector, including installations of photovoltaic farms and the production of electric cars. Data indicating continued healthy demand for the red metal amidst the still relatively weak USD became the background for an increase in the price of copper, which in the first half of August reached approximately USD 8,800/t. However, from that moment on, until the beginning of October, we could observe a decline in the price of the red metal, which then reached its last year's minimum at a level

slightly above USD 7,820/t (cash price). This decline was accompanied by a dynamic strengthening of USD against other major currencies, including CNY.

The situation reversed again at the end of October, when the US dollar began to weaken, which, with a short break at the turn of November and December, lasted until the end of the year. It was also the time when information appeared about problems with the Cobre Panama copper mine, owned by First Quantum. The mine production was eventually completely suspended, which significantly changed the balance in the copper market already for 2023 but also for the forecasts for at least the next year, as this unit was responsible for approximately 1.5% (370 kt per year) of global copper production.

In these circumstances, the cash price of copper closed last year at 8,476 USD/t. The average annual price of copper on the LME (cash settlement) was 8,478 USD/t in 2023, compared to 8,797 USD/t in 2022, which means a decrease of 3.6% year on year. Market participants are divided on the outlook for 2024. Some emphasize the prospect of further economic stimulus in China (more likely in the second half of the year), sustaining demand from the energy transition and the hope of interest rate cuts as inflation declines, further emphasizing supply-side problems. Others are more cautious because of weak economic growth globally, which could cause a recession in some countries.

Nickel is year's biggest metals loser, copper manages small gain

Persistent high inflation caused a global economic slowdown, and although some metals recorded growth during the year, the worst performer in 2023 was nickel, a metal seem to be seem as a star of global energy transition and key electrification component.

In a mostly lackluster year for metals trading, nickel emerged as the worst performer and might not see a reprieve anytime soon. The metal used in stainless steel and electric vehicle batteries posted an annual drop of 45% on the London Metal Exchange, the biggest decline since 2008. That's by far the worst outcome among industrial metals, and contrasts with a minor gain for copper or with iron ore's advance of about 20% in Singapore. Metals have been pressured last year by global economic headwinds and uncertainty over China's growth outlook. The LME's all-in gauge of six metals is down 5.6% for the year, a second annual decline. In most cases, concerns over tightening supply or even shortages have proved unfounded or perhaps premature. But those worries were particularly true for nickel, a market that's been flooded with a wave of new material from top producer Indonesia. Demand growth has also faded. Investors continue to bet against nickel. Net-short positions on the metal among the top 20 brokers on the Shanghai Futures Exchange are currently the biggest in at least six months. Copper's annual gain comes after a fourth-quarter rebound, helped by optimism that the Federal Reserve will start cutting interest rates next year. Prices will hit \$10,000 a metric ton within 12 months, Goldman Sachs Group Inc. said in a Dec. 18 note.

Other important information on copper market:

- The global refined copper market showed a 53,000 metric tons deficit in October, compared with a 56,000 metric tons deficit in September, the International Copper Study Group (ICSG) said. World refined copper output in October was 2.34 million metric tons, while consumption was 2.39 million metric tons. When adjusted for changes in inventory in Chinese bonded warehouses, there was a 52,000 metric tons deficit in October compared with a 62,000 metric tons deficit in September, the ICSG said.
- Chilean miner Codelco, the world's No. 1 copper producer, reached contract agreements with three unions, putting off the risk of a strike. The 36-month contract offers were accepted by more than 70% of those who voted. In Santiago, the supervisors' union, which had been in a formal negotiation period with the company, agreed on a 30-month contract with 92% of the vote. Codelco said the three new agreements "respond to the current business context and seek to increase the company's competitiveness," though it did not disclose their financial details. The miner is going through a historic production slide due to delays in progress on so-called structural projects, which seek to counteract a dip in deposits' mineral grade. Mining investments in Chile, the world's largest copper producer, are expected to hit \$65.71 billion in the 2023-2032 period, the country's copper commission Cochilco said in a statement. That is less than the \$73.65 billion estimated in its previous 10-year forecast released last year as the new forecast takes into account 49 projects, while the previous one was based on 53 projects. Copper projects are seen receiving the bulk of the projected investments for the period, with \$57.35 billion, according to the commission. Investments in gold, iron ore, lithium and other industrial minerals were estimated at \$8.36 billion.

Precious Metals

India drags global demand for silver in 2023

Physical investment in 2023 is projected to fall by 21 per cent to a three-year low of 263 million ounces. While most markets have seen weaker volumes, losses have been concentrated in India and Germany. In India, record high local prices both deterred new investor purchases and led to profit taking, resulting in a 46 per cent decline.

Global demand for silver will likely decline 10 per cent in 2023 with offtake of silver jewellery and silverware declining by 22 per cent and 47 per cent, respectively, with India being the prime factor behind the dip. Key findings reported by Philip Newman, Managing Director at Metals Focus, and Sarah Tomlinson, Director of Mine Supply, during the Silver Institute's Annual Silver Industry Dinner showed that globally, total silver demand is forecast to ease by 10 per cent to 1.14 billion ounces in 2023.

Gains in industrial applications will be offset by losses in all other key segments. Physical investment in 2023 is projected to fall by 21 per cent to a three-year low of 263 million ounces. While most markets have seen weaker volumes, losses have been concentrated in India and Germany. "In India, record high local prices both deterred new investor purchases and led to profit taking, resulting in a 46 per cent decline," the findings said.

"The demand for silver jewellery has been down, primarily owing to various economic factors, including the geo-political situation, the fluctuation of dollar against the rupee, and implications of the downtrend in the Chinese economy as the country struggles to come out of the pandemic," said Colin Shah, Kama Jewelry.

Since March, domestic prices have been congested inside ₹78,000-66,000 a kg level, denting purchases from rural areas from where silver in the form of jewellery is mostly consumed. Silver prices on an average were much higher than last year in 2023 and even the bottom prices of silver were significantly higher compared with 2022. "The demand for silverware and silver jewellery has always been price elastic which is why we have seen that in the years when silver prices are lower, we usually see robust demand but when silver prices are higher, we see lower demand," said Amit Goel, Co-Founder and Chief Global Strategist at Pace 360 said.

Shah said the worst is now over for silver. Multiple indicators such as the probable ceasefire between the countries in conflict and the favourable growth and inflation estimates by the US Fed are expected to emanate into a rise in overall consumption of commodities, including silver. International prices are likely to soften further due to demand worries. It is unlikely to see major rallies unless a sharp recovery in China's industrial demand. At the same time, domestic prices are likely to hold firm due to the depreciating rupee.

Goel said the silver deficit will likely come down in 2024 as its prices are expected to go up, which would mean that the demand for silverware and silver jewellery will decline. "Investor demand probably will not come down because the macro conditions in 2024 are going to be much more favourable for silver than they have been this year. But we do believe that the silver deficit, which was at about 143 million ounces in the year 2023, is going to go down to about 110-120 million ounces in the year 2024," he said. Goel said silver prices could go up by about 10-15 per cent in 2024, though silver may tend to underperform compared to gold. The gold-silver ratio will probably move up and that is because gold will probably go up by 20 per cent at the same time. "That being said, silver is expected to do well as it is still in deficit. This will support prices and since next year seems to be bullish for precious metals, silver is also going to go up along with gold.

Global economies | Foreign exchange markets











US inflation decelerating in boost to economy

Financial markets saw a roughly 75% chance of a rate cut at the Fed's March 19-20 policy meeting, according to CME Group's FedWatch Tool.



U.S. prices fell in November for the first in more than 3,5 years, pushing the annual increase in inflation further below 3%, and boosting financial market expectations of an interest rate cut from the Federal Reserve in March 2024. The report from the Commerce Department also showed underlying inflation pressures continuing to subside. This was yet another data set showcasing the durability of the economic expansion, thanks to a resilient labor market. The economy has defied dire predictions of recession from economists and some business executives going back to late 2022. Inflation, as measured by the personal consumption expenditures (PCE) price index, fell 0.1% last month, the Commerce Department's Bureau of Economic Analysis said. That was the first monthly decline in the PCE price index since April 2020 and followed an unchanged reading in October. Food prices edged down 0.1% and energy prices dropped 2.7%. In the 12 months through November, the PCE price index increased 2.6% after rising 2.9% in October. October marked the first time since March 2021 that the annual PCE price index was below 3%. The so-called core PCE price index advanced 3.2% year-on-year, the smallest rise since April 2021, after increasing 3.4% in October. The Fed tracks the PCE price measures for its 2% inflation target. The government reported that core PCE inflation increased at a 2.0% annualized rate in the third quarter. That, combined with November's mild gain, put the six-month core PCE inflation rate at 1.9%. Financial markets saw a roughly 75% chance of a rate cut at the Fed's March 19-20 policy meeting, according to CME Group's FedWatch Tool. Subsiding inflation is brightening the mood for many Americans, with a separate report from the University of Michigan showing consumer sentiment soaring in December, reversing all declines from the previous four months. The U.S. central bank held rates steady and policymakers signaled in new economic projections that the historic monetary policy tightening engineered over the last two years is at an end and lower borrowing costs are coming in 2024. Since March 2022, the Fed has hiked its policy rate by 525 basis points to the current 5.25%-5.50% range. With the labor market still fairly tight, wages jumped 0.6% in November, more than offsetting the drag on personal income from decreases in government aid, including food stamps, social security and Medicaid. Personal income rose 0.4%. The saving rate ticked up to 4.1% from 4.0%, which bodes well for spending. Income at the disposal of households after accounting for inflation and taxes rose 0.4% after gaining 0.3% in October. That allowed Americans to open their wallets at the start of the holiday shopping season. Consumer spending, which accounts for more than two-thirds of U.S. economic activity, increased 0.2% in November after rising 0.1% in October. Mortgage rates continue to decline from 23-year highs, which should help new home sales. Gross domestic product growth estimates for the fourth quarter range from as low as a 1.1% annualized rate to as high as a 2.8% pace. The economy grew at a 4.9% rate in the third quarter.



Macroeconomic calendar

Important macroeconomic data releases

| Weight | Date | Event | For | Reading ¹ | Previous | Consensus ² | |
|------------------------------------|--------|--|-----|----------------------|----------|------------------------|---|
| China | | | | | | |  |
| 🔴🔴 | 27-Dec | Industrial profits (yoy) | Nov | 29.5% ▲ | 2.7% | -- | |
| 🔴🔴🔴 | 31-Dec | Official manufacturing PMI | Dec | 49.0 ▼ | 49.4 | 49.6 | 🔴 |
| Poland | | | | | | |  |
| 🔴🔴🔴🔴 | 18-Dec | Core CPI (excluding food and energy, yoy) | Nov | 7.3% ▼ | 8.0% | 7.3% | 🔴 |
| 🔴🔴🔴🔴 | 20-Dec | Sold industrial production (yoy)‡ | Nov | -0.7% ▼ | 1.9% | 0.8% | 🔴 |
| 🔴🔴 | 20-Dec | Average gross salary (yoy) | Nov | 11.8% ▼ | 12.8% | 11.4% | 🟢 |
| 🔴🔴 | 20-Dec | Producer inflation PPI (yoy)‡ | Nov | -4.7% ▼ | -4.2% | -3.8% | 🔴 |
| 🔴 | 20-Dec | Employment (yoy) | Nov | -0.2% ▼ | -0.1% | -0.2% | 🔴 |
| 🔴🔴🔴 | 21-Dec | Retail sales (yoy) | Nov | 2.6% ▼ | 4.8% | 3.7% | 🔴 |
| 🔴🔴 | 22-Dec | Unemployment rate | Nov | 5.0% - | 5.0% | 5.0% | 🔴 |
| 🔴 | 22-Dec | M3 money supply (yoy) | Nov | 7.6% ▼ | 8.2% | 8.3% | 🔴 |
| US | | | | | | |  |
| 🔴🔴🔴🔴🔴 | 21-Dec | GDP (annualized, qoq) - | 3Q | 4.9% ▼ | 5.2% | 5.2% | 🔴 |
| 🔴🔴 | 21-Dec | Philadelphia Fed business outlook | Dec | -10.5 ▼ | -5.9 | -3.0 | 🔴 |
| 🔴🔴🔴🔴 | 22-Dec | Consumer spending inflation PCE (mom)‡ | Nov | 0.1% - | 0.1% | 0.2% | 🔴 |
| 🔴🔴🔴🔴 | 22-Dec | Consumer spending inflation PCE (yoy)‡ | Nov | 3.2% ▼ | 3.4% | 3.3% | 🔴 |
| 🔴🔴 | 22-Dec | Durable goods orders - preliminary data‡ | Nov | 5.4% ▲ | -5.1% | 2.3% | 🟢 |
| 🔴🔴 | 22-Dec | Personal income (sa, mom)‡ | Nov | 0.4% ▲ | 0.3% | 0.4% | 🔴 |
| 🔴🔴 | 22-Dec | Personal spending (sa, mom)‡ | Nov | 0.2% ▲ | 0.1% | 0.3% | 🔴 |
| 🔴🔴 | 22-Dec | University of Michigan confidence index - final data | Dec | 69.7 ▲ | 69.4 | 69.4 | 🟢 |
| 🔴 | 26-Dec | Dallas Fed manufacturing activity | Dec | -9.3 ▲ | -19.9 | -17.0 | 🟢 |
| 🔴 | 27-Dec | Richmond Fed manufacturing index | Dec | -11.0 ▼ | -5.0 | -3.0 | 🔴 |
| Eurozone | | | | | | |  |
| 🔴🔴🔴🔴 | 19-Dec | Consumer inflation CPI (yoy) - final data‡ | Nov | 2.4% ▼ | 2.9% | 2.4% | 🔴 |
| 🔴🔴🔴🔴 | 19-Dec | Core CPI (yoy) - final data | Nov | 3.6% - | 3.6% | 3.6% | 🔴 |
| 🔴 | 20-Dec | Consumer confidence - preliminary data | Dec | -15.1 ▲ | -16.9 | -16.3 | 🟢 |
| Germany | | | | | | |  |
| 🔴🔴 | 18-Dec | IFO business climate‡ | Dec | 86.4 ▼ | 87.2 | 87.7 | 🔴 |
| 🔴🔴 | 20-Dec | GfK consumer confidence‡ | Jan | -25.1 ▲ | -27.6 | -27.0 | 🟢 |
| France | | | | | | |  |
| <i>No major data in the period</i> | | | | | | | |
| Italy | | | | | | |  |
| <i>No major data in the period</i> | | | | | | | |
| UK | | | | | | |  |
| 🔴🔴🔴🔴 | 20-Dec | Consumer inflation CPI (yoy) | Nov | 3.9% ▼ | 4.6% | 4.3% | 🔴 |
| 🔴🔴🔴🔴🔴 | 22-Dec | GDP (yoy) - final data | 3Q | 0.3% ▼ | 0.6% | 0.6% | 🔴 |
| 🔴🔴🔴🔴 | 22-Dec | GDP (qoq) - final data | 3Q | -0.1% ▼ | 0.0% | 0.0% | 🔴 |
| Japan | | | | | | |  |
| 🔴🔴🔴🔴 | 22-Dec | Consumer inflation CPI (yoy) | Nov | 2.8% ▼ | 3.3% | 2.8% | 🔴 |
| 🔴🔴🔴🔴 | 28-Dec | Industrial production (yoy) - preliminary data | Nov | -1.4% ▼ | 1.1% | -2.1% | 🟢 |
| Chile | | | | | | |  |
| 🔴🔴🔴🔴🔴 | 19-Dec | BCCh overnight rate target | Dec | 8.25% ▼ | 9.00% | 8.25% | 🔴 |
| 🔴🔴🔴 | 29-Dec | Total copper production (metric tons) | Nov | 444 905 ▼ | 464 311 | -- | |
| 🔴🔴🔴 | 29-Dec | Manufacturing (yoy) | Nov | 4.5% ▼ | 9.5% | 5.1% | 🔴 |

| Weight | Date | Event | For | Reading ¹ | Previous | Consensus ² |
|---|--------|------------------------------|-----|--|----------|--|
| Canada  | | | | | | |
| ⦿⦿⦿⦿ | 19-Dec | Consumer inflation CPI (yoy) | Nov | 3.1% - | 3.1% | 2.9%  |
| ⦿⦿⦿⦿⦿ | 22-Dec | GDP (yoy) | Oct | 0.9%  | 0.6% | 1.0%  |

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

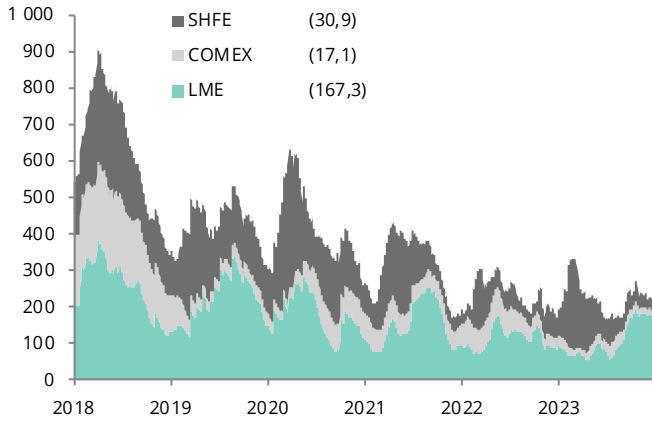
Key base & precious metal prices, exchange rates and other important market factors

| (as of: 29-Dec-23) | Price | Price change ¹ | | | | From year beginning ² | | |
|-----------------------------------|-----------|---------------------------|----------|----------|----------|----------------------------------|-----------|-----------|
| | | 2W | QTD | YTD | 1Y | Average | Min | Max |
| LME (USD/t; Mo in USD/lbs) | | | | | | | | |
| Copper | 8 476.00 | ▲ 0.1% | ▲ 3.0% | ▲ 1.1% | ▲ 1.0% | 8 477.77 | 7 812.50 | 9 436.00 |
| Molybdenum | 18.53 | ▲ 3.9% | ▼ -22.0% | ▼ -29.1% | ▼ -29.1% | 24.39 | 17.18 | 38.28 |
| Nickel | 16 300.00 | ▼ -2.6% | ▼ -11.9% | ▼ -46.4% | ▼ -45.7% | 21 473.88 | 15 885.00 | 31 200.00 |
| Aluminum | 2 335.50 | ▲ 6.4% | ▲ 1.2% | ▼ -1.1% | ▼ -1.5% | 2 249.54 | 2 068.50 | 2 636.00 |
| Tin | 25 175.00 | ▼ -0.2% | ▲ 4.0% | ▲ 1.5% | ▲ 1.8% | 25 959.04 | 22 225.00 | 32 050.00 |
| Zinc | 2 640.50 | ▲ 4.6% | - 0.0% | ▼ -12.7% | ▼ -12.5% | 2 646.57 | 2 224.00 | 3 509.00 |
| Lead | 2 031.00 | ▼ -1.2% | ▼ -8.1% | ▼ -13.0% | ▼ -12.2% | 2 138.18 | 1 985.00 | 2 331.00 |
| LBMA (USD/troz) | | | | | | | | |
| Silver | 23.79 | ▼ -1.7% | ▲ 3.1% | ▼ -0.6% | ▼ -0.3% | 23.35 | 20.09 | 26.03 |
| Gold ² | 2 062.40 | ▲ 1.5% | ▲ 10.3% | ▲ 13.8% | ▲ 13.7% | 1 941.48 | 1 810.95 | 2 078.40 |
| LPPM (USD/troz) | | | | | | | | |
| Platinum ² | 1 006.00 | ▲ 6.3% | ▲ 9.0% | ▼ -5.5% | ▼ -2.4% | 965.16 | 850.00 | 1 128.00 |
| Palladium ² | 1 119.00 | ▼ -1.0% | ▼ -13.2% | ▼ -37.4% | ▼ -37.0% | 1 336.06 | 957.00 | 1 802.00 |
| FX³ | | | | | | | | |
| EURUSD | 1.1050 | ▲ 1.0% | ▲ 4.3% | ▲ 3.6% | ▲ 3.8% | 1.0813 | 1.0469 | 1.1255 |
| EURPLN | 4.3480 | ▲ 0.9% | ▼ -6.2% | ▼ -7.3% | ▼ -7.4% | 4.5431 | 4.3053 | 4.7895 |
| USDPLN | 3.9350 | ▲ 0.1% | ▼ -9.9% | ▼ -10.6% | ▼ -10.7% | 4.2023 | 3.8990 | 4.4888 |
| USDCAD | 1.3226 | ▼ -1.1% | ▼ -2.2% | ▼ -2.3% | ▼ -2.4% | 1.3497 | 1.3128 | 1.3875 |
| USDCNY | 7.1000 | ▼ -0.3% | ▼ -2.7% | ▲ 2.9% | ▲ 1.9% | 7.0864 | 6.7010 | 7.3439 |
| USDCLP | 884.59 | ▲ 2.1% | ▼ -2.5% | ▲ 2.9% | ▲ 3.2% | 839.07 | 781.49 | 945.61 |
| Money market | | | | | | | | |
| 3m LIBOR USD | 5.593 | ▼ -0.03 | ▼ -0.06 | ▲ 0.83 | ▲ 0.84 | 5.396 | 4.782 | 5.687 |
| 3m EURIBOR | 3.909 | ▼ -0.01 | ▼ -0.04 | ▲ 1.78 | ▲ 1.73 | 3.438 | 2.170 | 4.002 |
| 3m WIBOR | 5.880 | ▲ 0.06 | ▲ 0.11 | ▼ -1.14 | ▼ -1.14 | 6.525 | 5.620 | 7.010 |
| 5y USD interest rate swap | 4.219 | - 0.00 | - 0.00 | ▲ 0.20 | ▲ 0.24 | 3.821 | 3.418 | 4.408 |
| 5y EUR interest rate swap | 2.431 | ▼ -0.06 | ▼ -0.98 | ▼ -0.81 | ▼ -0.71 | 3.120 | 2.358 | 3.500 |
| 5y PLN interest rate swap | 4.395 | ▲ 0.27 | ▼ -0.11 | ▼ -1.77 | ▼ -1.80 | 5.009 | 4.065 | 6.125 |
| Fuel | | | | | | | | |
| WTI Cushing | 71.65 | ▲ 0.3% | ▼ -21.1% | ▼ -10.7% | ▼ -8.6% | 77.65 | 66.74 | 93.68 |
| Brent | 99.06 | ▲ 5.3% | ▲ 5.3% | ▼ -0.1% | ▲ 1.8% | 106.52 | 84.59 | 137.67 |
| Diesel NY (ULSD) | 4.57 | ▼ -1.2% | ▲ 26.0% | ▲ 62.0% | ▲ 62.0% | 3.93 | 2.85 | 5.08 |
| Others | | | | | | | | |
| VIX | 12.45 | ▲ 0.17 | ▼ -5.07 | ▼ -9.22 | ▼ -8.99 | 16.85 | 12.07 | 26.52 |
| BBG Commodity Index | 98.65 | ▼ -0.3% | ▼ -5.9% | ▼ -12.6% | ▼ -12.2% | 104.45 | 96.37 | 112.52 |
| S&P500 | 4 769.83 | ▲ 1.1% | ▲ 11.2% | ▲ 24.2% | ▲ 23.9% | 4 283.73 | 3 808.10 | 4 783.35 |
| DAX | 16 751.64 | ▲ 0.0% | ▲ 8.9% | ▲ 20.3% | ▲ 19.0% | 15 677.15 | 14 181.67 | 16 794.43 |
| Shanghai Composite | 2 974.94 | ▲ 1.1% | ▼ -4.4% | ▼ -3.7% | ▼ -3.2% | 3 175.74 | 2 898.88 | 3 395.00 |
| WIG 20 | 2 342.99 | ▲ 1.0% | ▲ 22.3% | ▲ 30.7% | ▲ 30.0% | 2 002.27 | 1 670.18 | 2 371.28 |
| KGHM | 122.70 | ▼ -0.5% | ▲ 9.6% | ▼ -3.2% | ▼ -4.4% | 119.54 | 104.60 | 153.80 |

° 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

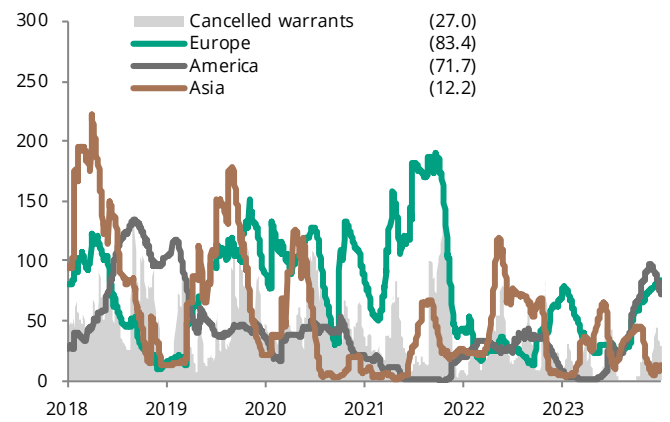
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



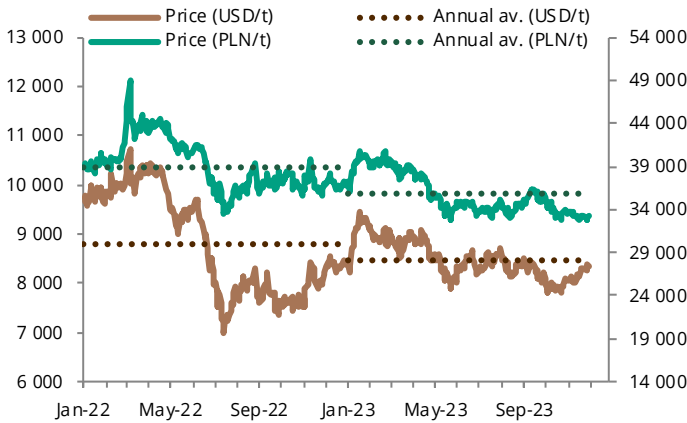
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



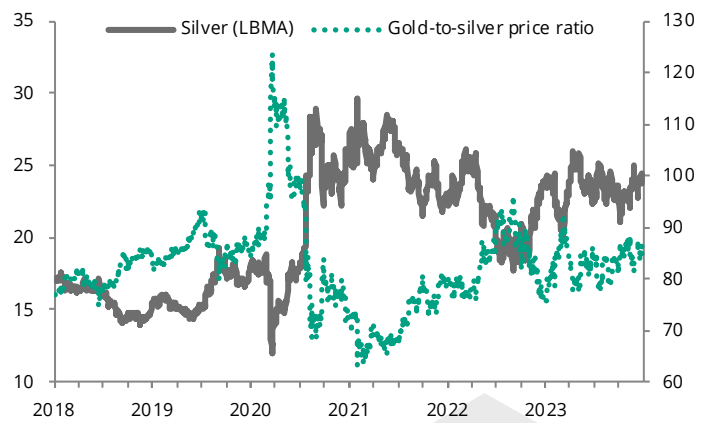
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



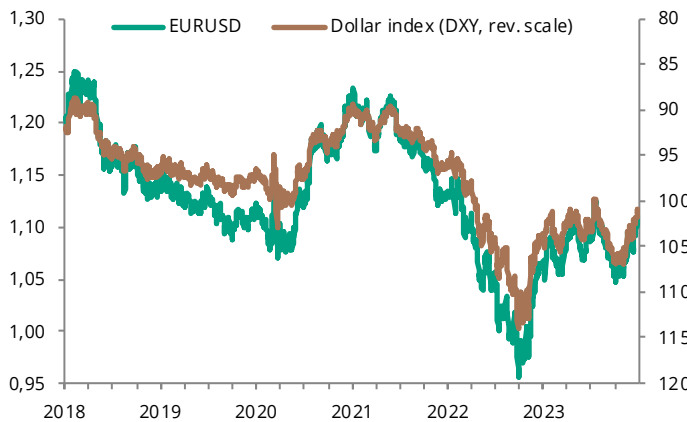
Source: Bloomberg, KGHM Polska Miedź

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



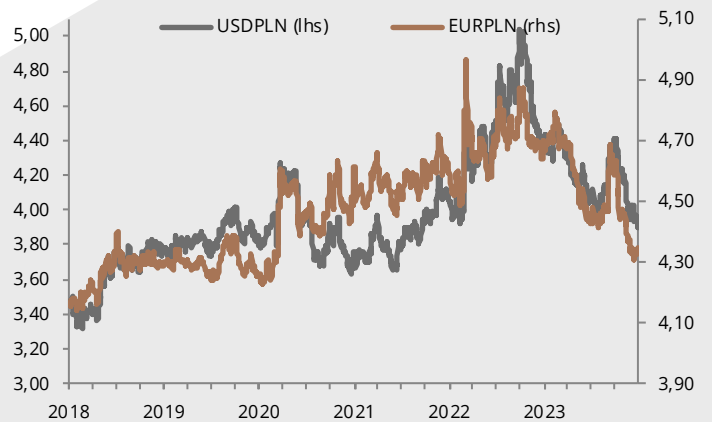
Source: Bloomberg, KGHM Polska Miedź

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:
18 - 31 December 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