

# Market Overview



as of: 5<sup>th</sup> December 2022





- **Copper:** China's 2023 copper consumption is set to increase by between 110,000 tonnes and 120,000 tonnes compared with an expected rise of between 50,000 tonnes and 70,000 tonnes this year (page 2).
- **Precious metals:** Gold trade into China in October was only 7% of the 10-month total, reflecting the slowdown in the market due to increasing lockdowns (page 4).
- **Euro zone:** Vice Chair Lael Brainard said it is possible that longer-term changes, such as those associated with labor scarcity, a relocation of supply chains, and climate change "could reduce the elasticity of supply and increase inflation volatility into the future." (page 5).

## Key market prices

	Close price	2w chng.
<b>LME (USD/t)</b>		
▲ Copper	8 342.00	3.7%
▲ Nickel	27 145.00	9.2%
<b>LBMA (USD/troz)</b>		
▲ Silver	22.61	7.2%
▲ Gold (PM)	1 784.75	1.9%
<b>FX</b>		
▲ EURUSD	1.0538	1.7%
▼ EURPLN	4.6850	-0.5%
▼ USDPLN	4.4492	-1.9%
▲ USDCAD	1.3468	0.6%
▼ USDCLP	885.77	-3.8%
<b>Stocks</b>		
▲ KGHM	118.20	3.7%

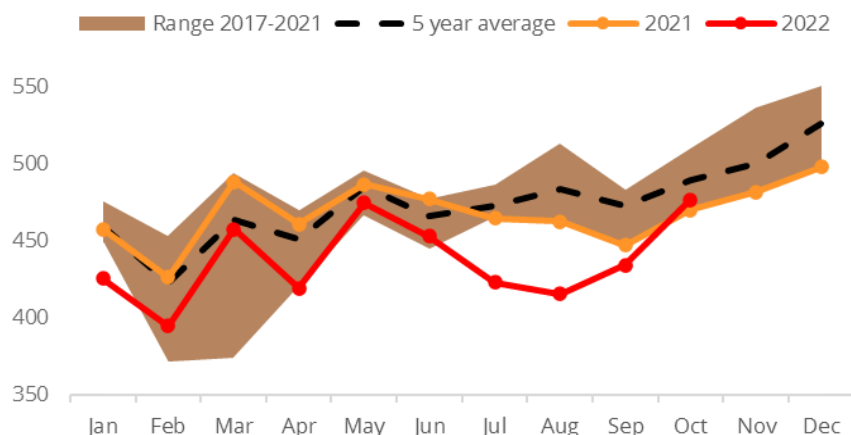
Source: Bloomberg, KGHM Polska Miedź S.A.; (more on page 8)

## Important macroeconomic data

Release	For		
 Manufacturing PMI	Nov	47.7	-
 Manufacturing PMI	Nov	43.4	▲
 Official manuf. PMI	Nov	48.0	▼
 Manufacturing PMI	Nov	47.1	-
 Copper production (mt)	Oct	485 447	▲

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

## In October, copper production in Chile returned to the range of the last five years



Source: Bloomberg, KGHM Polska Miedź S.A.

## Market Risk Unit

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## Base and precious metals | Other commodities

### Copper

#### China Copper Demand To Rise On Surging EV Output, Power Investment

**China's 2023 copper consumption is set to increase by between 110,000 tonnes and 120,000 tonnes compared with an expected rise of between 50,000 tonnes and 70,000 tonnes this year.**

According to Reuters copper demand in China will grow faster in 2023, thanks to rising investment in renewable power projects and production of electric vehicles while the country's expected reopening is seen boosting growth. China's stringent measures to curb the spread of the coronavirus pandemic as well as a deepening slump in the country's huge real estate sector have weighed on refined copper demand in 2022. But it is expected to ease some COVID-19 curbs next year, offering some respite to the world's second-largest economy. A slump in copper consumption in the construction sector has been more than outweighed by demand from the power grid and auto sector, according to state-backed Minmetals Economic Research Institute. China's 2023 copper consumption is set to increase by between 110,000 tonnes and 120,000 tonnes compared with an expected rise of between 50,000 tonnes and 70,000 tonnes this year, Zuo Geng, chief researcher at the institute said at the CRU World Copper Conference Asia in Singapore. "As demand for copper from the new energy field is beyond expectation, demand for copper in China is still robust and even climbs up a bit," he said. Zuo said investments in China's power grid and power supply projects this year were higher than in the previous three years, adding about 180,000 to 200,000 tonnes of demand. That more than compensated for the decline in copper demand from the real estate sector of up to 130,000 tonnes. China's total consumption of refined copper was 12.5 million tonnes in 2021, according to the World Bureau of Metal Statistics, and 10.7 million tonnes for the first nine months of this year. Copper demand from the auto sector is set to rise by as much as 160,000 tonnes next year, said Zuo, after demand growth of between 100,000 and 120,000 tonnes in 2022. Auto production recovered in China in the third quarter, driven by the electric vehicle sector, said Zuo. In the first three quarters of 2022, EV production has already exceeded the whole of last year's output by 700,000 vehicles, he added. China's expected reopening from pandemic restrictions will also give copper consumption a boost of about half a percent, Nicholas Snowden, metals strategist at Goldman Sachs said at the same event. China eased COVID-19 curbs but has since tightened some restrictions as coronavirus cases mount. The restrictions, as well as an ongoing slump in China's property sector, have weighed on copper demand. Government measures to support and stabilise the country's property sector are expected to help but the sector would require a longer time to recover, "possibly one or more quarters", said Amelia Xiao Fu, head of

Commodity Markets Strategy, Bank of China International. "(The) measures have more impact in stabilising developers and avoid systemic risk, rather than give an immediate boost in terms of demand," she said. "The key for demand is people's confidence... to go into the market and purchase a new housing unit. That confidence probably needs a longer time to restore." Fu added that China's infrastructure sector saw "very healthy growth" which offset the decline in copper demand in the property market.

### Other important information on copper market:

- As Platts informs Chile's copper production surged in October to its highest level so far this year. Production reached 485,337 mt, up 2.2% yoy and up 10.5% mom. For the first 10 months of the year, production totaled 4.434 million mt, down 5.6% from the same period of 2021. Major producers, including Anglo American, Antofagasta Minerals and Collahuasi, have all posted significant drops in output this year as they struggled with low ore grades, water shortages and technical problems. The Chilean Copper Commission, a government agency, forecast in July that production would fall to 5.43 million mt this year, its lowest level in a decade, while state mining company Codelco, the world's largest producer of copper, expects output to fall to a two-decade low.
- China's refined copper imports hit 265 kt in October, down 5.9% from a year earlier and 27% from a month ago, the latest data released by the General Administration of Customs showed. Rising LME copper prices and weaker domestic premiums caused Chinese copper cathode premiums to fall in the week to Nov. 16 as the import arbitrage remained firmly closed. China's imports of refined copper from Chile -- the world's largest producer of copper -- fell by 40% from a month earlier to 64,588 mt in October, which accounted for 24.4% of the country's total. On the domestic supply, Chinese smelters might keep their operating rate elevated in November, driven by the current high copper concentrates treatment charge and sulfuric acid prices.
- Peru's copper and zinc export shipments gained on the year in September, while lead, tin and molybdenum all fell, the government said Nov. 22. Copper exports rose 13% to 246,700 mt from 218,300 mt a year earlier. Zinc shipments rebounded 5.6% to 91,900 mt. Lead dropped 24% to 50,800 mt. Minsur saw tin export shipments from its San Rafael mine drop 5% to 2,300 mt, while molybdenum exports plunged 44% to 2,100 mt.

## Precious Metals

### China's net gold imports via Hong Kong nearly halve in October

**Gold trade into China in October was only 7% of the 10-month total, reflecting the slowdown in the market due to increasing lockdowns.**

As Reuters informs China's net gold imports in October via Hong Kong fell 45% from the previous month, Hong Kong Census and Statistics Department data showed, a drop that analysts said was likely partly due to the impact of China's COVID curbs on logistics. Total gold imports via Hong Kong were down nearly 43% to 21.31 tonnes. The Hong Kong data may not provide a complete picture of Chinese purchases, as gold is also imported via Shanghai and Beijing. China usually imports most of its bullion from Australia, South Africa and Switzerland. China's central bank controls how much gold enters the country through a system of quotas given to commercial banks. Through October, Chinese dealers sold gold at premiums of anywhere between \$23 and \$45 an ounce over global benchmark spot prices XAU= amid relatively less supply. But the premiums have since eased as a strict 'zero-COVID' policy takes a toll on the world's second-largest economy and begins to eat into gold demand as well. Gold trade into China in October was only 7% of the 10-month total, reflecting the slowdown in the market due to increasing lockdowns, StoneX analyst Rhona O'Connell said. Meanwhile, customs data showed Switzerland exported 43.7 tonnes of gold in October to mainland China, down from 44 tonnes in September.

## Global economies | Foreign exchange markets




### Brainard Says String Of Supply Shocks Keeps Inflation Risks High

**Vice Chair Lael Brainard said it is possible that longer-term changes, such as those associated with labor scarcity, a relocation of supply chains, and climate change “could reduce the elasticity of supply and increase inflation volatility into the future.”**

Federal Reserve Vice Chair Lael Brainard said US central bankers must lean against the risk of inflation expectations rising above the 2% target in a world where inflation may be less stable than in recent decades. “In the presence of a protracted series of supply shocks and high inflation, it is important for monetary policy to take a risk-management posture to avoid the risk of inflation expectations drifting above target,” Brainard said in remarks released Monday. “A drawn-out sequence of adverse supply shocks that has the cumulative effect of constraining potential output for an extended period is likely to call for monetary policy tightening to restore balance between demand and supply.” The Fed said her presentation was an updated version of June 24 comments made by Brainard during a Bank for International Settlements conference in Basel, Switzerland. US central bankers have raised interest rates aggressively this year to try and curb with inflation that has jumped to 40-year highs. They next meet Dec. 13-14 and investors expect them to hike by 50 basis points, slowing down after four consecutive 75 basis-point increases that has lifted the target range for benchmark rate to 3.75% to 4%. Brainard said inelastic supply is what distinguishes the post-pandemic recovery from the preceding 30 years, and even if constraints are temporary there is the risk that the longer they are drawn out, the more effect it has on the economy’s potential to grow. “A protracted series of adverse supply shocks could persistently weigh on potential output or could risk pushing inflation expectations above target in ways that call for monetary policy to tighten for risk-management reasons,” Brainard said. She said it is also possible that longer-term changes, such as those associated with labor scarcity, a relocation of supply chains, and climate change “could reduce the elasticity of supply and increase inflation volatility into the future.”

# Macroeconomic calendar

## Important macroeconomic data releases

Weight	Date	Event	For	Reading <sup>1</sup>	Previous	Consensus <sup>2</sup>
<b>China</b> 						
🔴🔴🔴🔴	25-Nov	Reserve requirement ratio	Nov	11.0% ▼	11.3%	--
🔴🔴🔴	30-Nov	Official manufacturing PMI	Nov	48.0 ▼	49.2	49.0 📉
🔴🔴🔴	01-Dec	Caixin's manufacturing PMI	Nov	49.4 ▲	49.2	48.9 📈
<b>Poland</b> 						
🔴🔴🔴🔴	22-Nov	Sold industrial production (yoy)	Oct	6.8% ▼	9.8%	7.8% 📉
🔴🔴	22-Nov	Average gross salary (yoy)	Oct	13.0% ▼	14.5%	13.9% 📉
🔴🔴	22-Nov	Producer inflation PPI (yoy)	Oct	22.9% ▼	24.6%	23.5% 📉
🔴	22-Nov	Employment (yoy)	Oct	2.4% ▲	2.3%	2.2% 📈
🔴🔴🔴	23-Nov	Retail sales (yoy)	Oct	18.3% ▼	21.9%	21.0% 📉
🔴	24-Nov	M3 money supply (yoy)	Oct	7.0% ▼	7.7%	7.5% 📉
🔴🔴	25-Nov	Unemployment rate	Oct	5.1% -	5.1%	5.1% 🟡
🔴🔴🔴🔴	30-Nov	GDP (yoy) - final data	3Q	3.6% ▲	3.5%	--
🔴🔴🔴🔴	30-Nov	GDP (qoq) - final data	3Q	1.0% ▲	0.9%	--
🔴🔴🔴🔴	30-Nov	Consumer inflation CPI (yoy) - preliminary data	Nov	17.4% ▼	17.9%	18.0% 📉
🔴🔴🔴	01-Dec	Manufacturing PMI	Nov	43.4 ▲	42.0	43.0 📈
<b>US</b> 						
🔴	22-Nov	Richmond Fed manufacturing index	Nov	-9.0 ▲	-10.0	-8.0 📉
🔴🔴🔴	23-Nov	Composite PMI - preliminary data	Nov	--	48.2	48.0
🔴🔴🔴	23-Nov	Manufacturing PMI - preliminary data	Nov	--	50.4	50.0
🔴🔴🔴	23-Nov	PMI services - preliminary data	Nov	--	47.8	48.0
🔴🔴	23-Nov	Durable goods orders - preliminary data‡	Oct	1.0% ▲	0.3%	0.4% 📈
🔴🔴	23-Nov	University of Michigan confidence index - final data	Nov	56.8 ▲	54.7	55.0 📈
🔴	28-Nov	Dallas Fed manufacturing activity	Nov	-14.4 ▲	-19.4	-21.0 📈
🔴🔴🔴🔴	30-Nov	GDP (annualized, qoq) -	3Q	2.9% ▲	2.6%	2.8% 📈
🔴🔴🔴🔴	01-Dec	Consumer spending inflation PCE (mom)	Oct	0.2% ▼	0.5%	0.3% 📉
🔴🔴🔴🔴	01-Dec	Consumer spending inflation PCE (yoy)‡	Oct	5.0% ▼	5.2%	5.0% 🟡
🔴🔴🔴	01-Dec	Manufacturing PMI - final data‡	Nov	47.7 -	47.7	47.6 📈
🔴🔴	01-Dec	ISM Manufacturing	Nov	49.0 ▼	50.2	49.7 📉
🔴🔴	01-Dec	Personal income (sa, mom)	Oct	0.7% ▲	0.4%	0.4% 📈
🔴🔴	01-Dec	Personal spending (sa, mom)	Oct	0.8% ▲	0.6%	0.8% 🟡
🔴🔴	02-Dec	Change in non-farm payrolls (ths)‡	Nov	263 ▼	284	200 📈
🔴🔴	02-Dec	Underemployment rate (U6)	Nov	6.7% ▼	6.8%	--
🔴🔴	02-Dec	Unemployment rate	Nov	3.7% -	3.7%	3.7% 🟡
🔴	02-Dec	Average hourly earnings (yoy)‡	Nov	5.1% ▲	4.9%	4.6% 📈

Weight	Date	Event	For	Reading <sup>1</sup>	Previous	Consensus <sup>2</sup>
<b>Eurozone</b>						
☉	22-Nov	Consumer confidence - preliminary data‡	Nov	-23.9 ▲	-27.5	-26.0 ▲
☉☉☉	23-Nov	Composite PMI - preliminary data	Nov	47.8 ▲	47.3	47.0 ▲
☉☉☉	23-Nov	Manufacturing PMI - preliminary data	Nov	--	46.4	46.0
☉☉☉	23-Nov	Services PMI - preliminary data	Nov	--	48.6	48.0
☉	28-Nov	M3 money supply (yoy)	Oct	5.1% ▼	6.3%	6.1% ▼
☉	29-Nov	Economic confidence‡	Nov	93.7 ▲	92.7	93.2 ▲
☉	29-Nov	Industrial confidence	Nov	-2.0 ▼	-1.2	-0.5 ▼
☉	29-Nov	Consumer confidence - final data	Nov	-23.9 -	-23.9	--
☉☉☉☉	30-Nov	Core CPI (yoy) - preliminary data	Nov	5.0% -	5.0%	5.0% ○
☉☉☉☉	30-Nov	CPI estimate (yoy)	Nov	10.0% ▼	10.6%	10.4% ▼
☉☉☉	01-Dec	Manufacturing PMI - final data‡	Nov	47.1 -	47.1	47.3 ▼
☉☉	01-Dec	Unemployment rate	Oct	6.5% ▼	6.6%	6.6% ▼
☉☉	02-Dec	Producer inflation PPI (yoy)	Oct	30.8% ▼	41.9%	31.7% ▼
<b>Germany</b>						
☉☉☉	23-Nov	Composite PMI - preliminary data	Nov	--	45.1	44.9
☉☉☉	23-Nov	Manufacturing PMI - preliminary data	Nov	--	45.1	45.0
☉☉	24-Nov	IFO business climate‡	Nov	86.3 ▲	84.5	85.0 ▲
☉☉☉☉☉	25-Nov	GDP (yoy) - final data	3Q	1.2% ▲	1.1%	1.1% ▲
☉☉☉☉☉	25-Nov	GDP (sa, qoq) - final data	3Q	0.4% ▲	0.3%	0.3% ▲
☉☉	25-Nov	GfK consumer confidence	Dec	-40.2 ▲	-41.9	-39.6 ▼
☉☉☉☉	29-Nov	Harmonized consumer inflation HICP (yoy) - preliminary data	Nov	11.3% ▼	11.6%	11.3% ○
☉☉☉☉	29-Nov	Consumer inflation CPI (yoy) - preliminary data	Nov	10.0% ▼	10.4%	10.4% ▼
☉☉	30-Nov	Unemployment rate	Nov	5.6% ▲	5.5%	5.5% ▲
☉☉☉	01-Dec	Manufacturing PMI - final data‡	Nov	46.2 -	46.2	46.7 ▼
☉☉☉	01-Dec	Retail sales (yoy)‡	Oct	-6.6% ▼	-0.2%	-2.9% ▼
<b>France</b>						
☉☉☉	23-Nov	Composite PMI - preliminary data	Nov	--	50.2	49.4
☉☉☉	23-Nov	Manufacturing PMI - preliminary data	Nov	--	47.2	47.0
☉☉☉☉☉	30-Nov	GDP (yoy) - final data	3Q	1.0% -	1.0%	1.0% ○
☉☉☉☉☉	30-Nov	GDP (qoq) - final data	3Q	0.2% -	0.2%	0.2% ○
☉☉☉☉	30-Nov	Harmonized consumer inflation HICP (yoy) - preliminary data	Nov	7.1% -	7.1%	7.0% ▲
☉☉☉☉	30-Nov	Consumer inflation CPI (yoy) - preliminary data	Nov	6.2% -	6.2%	6.1% ▲
☉☉☉	01-Dec	Manufacturing PMI - final data‡	Nov	48.3 -	48.3	49.1 ▼
☉☉☉☉	02-Dec	Industrial production (yoy)‡	Oct	-2.7% ▼	1.6%	--
<b>Italy</b>						
☉☉☉☉☉	30-Nov	GDP (wda, yoy) - final data	3Q	2.6% -	2.6%	2.6% ○
☉☉☉☉☉	30-Nov	GDP (wda, qoq) - final data	3Q	0.5% -	0.5%	0.5% ○
☉☉☉☉	30-Nov	Harmonized consumer inflation HICP (yoy) - preliminary data	Nov	12.5% ▼	12.6%	12.1% ▲
☉☉☉	01-Dec	Manufacturing PMI	Nov	48.4 ▲	46.5	47.0 ▲
☉☉	01-Dec	Unemployment rate	Oct	7.8% ▼	7.9%	8.0% ▼
<b>UK</b>						
☉☉☉	23-Nov	Manufacturing PMI (sa) - preliminary data	Nov	--	46.2	45.8
☉☉☉	23-Nov	Composite PMI - preliminary data	Nov	--	48.2	47.5
☉☉☉	01-Dec	Manufacturing PMI (sa) - final data‡	Nov	46.5 -	46.5	46.2 ▲
<b>Japan</b>						
☉☉☉	24-Nov	Composite PMI - preliminary data	Nov	--	51.8	--
☉☉☉	24-Nov	Manufacturing PMI - preliminary data	Nov	--	50.7	--
☉☉☉☉	30-Nov	Industrial production (yoy) - preliminary data	Oct	3.7% ▼	9.6%	5.1% ▼
<b>Chile</b>						
☉☉☉	30-Nov	Total copper production (metric tons)	Oct	485 447 ▲	439 277	--
☉☉☉	30-Nov	Manufacturing (yoy)	Oct	-9.2% ▼	-3.4%	-4.3% ▼
☉☉☉☉	01-Dec	Economic activity (yoy)	Oct	-1.2% ▼	-0.4%	-1.5% ▼
<b>Canada</b>						
☉☉☉☉☉	29-Nov	GDP (yoy)	Sep	3.9% ▼	4.0%	3.8% ▲
☉☉☉☉☉	29-Nov	GDP (annualized, qoq)‡	3Q	2.9% ▼	3.2%	1.5% ▲
☉☉☉	02-Dec	Net change in employment (ths)	Nov	10.1 ▼	108	10.0 ▲

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

<sup>2</sup> 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

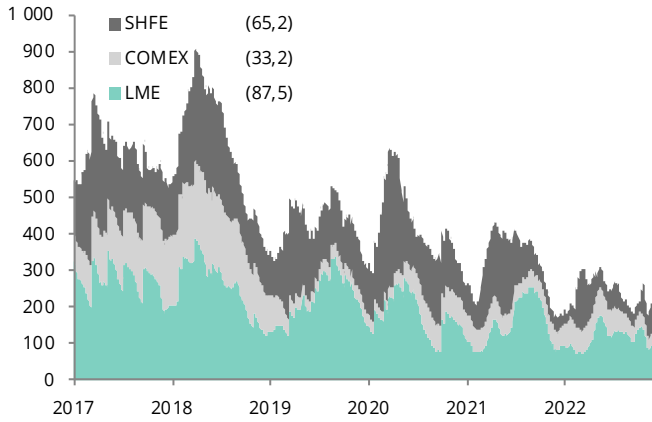
(as of: 02-Dec-22)	Price	Price change <sup>1</sup>				From year beginning <sup>2</sup>		
		2W	QTD	YTD	1Y	Average	Min	Max
<b>LME (USD/t; Mo in USD/lbs)</b>								
Copper	8 342.00	▲ 3.7%	▲ 9.1%	▼ -13.9%	▼ -12.4%	8 829.46	7 000.00	10 730.00
Molybdenum	20.90	▲ 7.7%	▲ 20.9%	▲ 12.3%	▲	18.04	13.92	20.90
Nickel	27 145.00	▲ 9.2%	▲ 21.8%	▲ 29.7%	▲ 34.4%	25 334.14	19 100.00	45 795.00
Aluminum	2 448.50	▲ 3.4%	▲ 12.3%	▼ -12.7%	▼ -7.8%	2 727.38	2 080.00	3 984.50
Tin	23 500.00	▲ 8.0%	▲ 13.3%	▼ -40.7%	▼ -40.5%	31 762.23	17 700.00	50 050.00
Zinc	3 066.50	▲ 2.0%	▲ 2.7%	▼ -15.5%	▼ -6.9%	3 504.79	2 682.00	4 530.00
Lead	2 171.00	▼ -0.2%	▲ 14.9%	▼ -6.8%	▼ -6.0%	2 144.94	1 754.00	2 513.00
<b>LBMA (USD/troz)</b>								
Silver	22.61	▲ 7.2%	▲ 18.8%	▼ -2.1%	▲ 0.9%	21.61	17.77	26.18
Gold <sup>2</sup>	1 784.75	▲ 1.9%	▲ 6.8%	▼ -1.9%	▲ 1.1%	1 800.30	1 628.75	2 039.05
<b>LPPM (USD/troz)</b>								
Platinum <sup>2</sup>	1 007.00	▲ 2.1%	▲ 16.6%	▲ 4.7%	▲ 7.4%	957.31	831.00	1 151.00
Palladium <sup>2</sup>	1 874.00	▼ -4.7%	▼ -15.4%	▼ -2.8%	▲ 8.8%	2 132.05	1 786.00	3 015.00
<b>FX<sup>3</sup></b>								
EURUSD	1.0538	▲ 1.7%	▲ 8.1%	▼ -7.0%	▼ -7.1%	1.0522	0.9565	1.1464
EURPLN	4.6850	▼ -0.5%	▼ -3.8%	▲ 1.9%	▲ 1.8%	4.6884	4.4879	4.9647
USDPLN	4.4492	▼ -1.9%	▼ -10.2%	▲ 9.6%	▲ 9.5%	4.4667	3.9218	5.0381
USDCAD	1.3468	▲ 0.6%	▼ -1.7%	▲ 6.2%	▲ 5.1%	1.2966	1.2451	1.3856
USDCNY	7.0535	▼ -0.9%	▼ -0.9%	▲ 11.0%	▲ 10.6%	6.7175	6.3093	7.3050
USDCLP	885.77	▼ -3.8%	▼ -8.3%	▲ 4.9%	▲ 7.0%	873.15	777.10	1 042.97
<b>Money market</b>								
3m LIBOR USD	4.733	▲ 0.07	▲ 0.98	▲ 4.52	▲ 4.55	2.224	0.216	4.779
3m EURIBOR	1.975	▲ 0.15	▲ 0.80	▲ 2.55	▲ 2.54	0.214	-0.576	1.984
3m WIBOR	7.240	▼ -0.16	▲ 0.03	▲ 4.70	▲ 5.06	5.964	2.590	7.610
5y USD interest rate swap	3.679	▼ -0.39	▼ -0.46	▲ 2.31	▲ 2.36	3.005	1.445	4.488
5y EUR interest rate swap	2.605	▼ -0.15	▼ -0.36	▲ 2.59	▲ 2.74	1.641	0.031	3.196
5y PLN interest rate swap	5.585	▼ -0.86	▼ -1.46	▲ 1.85	▲ 2.41	5.939	3.780	7.911
<b>Fuel</b>								
WTI Cushing	79.98	▼ -0.1%	▲ 0.6%	▲ 3.9%	▲ 20.3%	96.18	76.71	123.70
Brent	84.85	▼ -3.7%	▼ -1.5%	▲ 9.5%	▲ 21.2%	101.65	79.83	133.89
Diesel NY (ULSD)	318.60	▼ -12.2%	▼ -5.2%	▲ 33.0%	▲ 51.4%	377.30	241.70	534.54
<b>Others</b>								
VIX	19.06	▼ -4.06	▼ -12.56	▲ 1.84	▼ -8.89	25.97	16.91	36.45
BBG Commodity Index	114.47	▼ -0.3%	▲ 2.7%	▲ 15.4%	▲ 20.3%	119.45	100.58	136.61
S&P500	4 071.70	▲ 2.7%	▲ 13.6%	▼ -14.6%	▼ -11.0%	4 112.20	3 577.03	4 793.54
DAX	14 529.39	▲ 0.7%	▲ 19.9%	▼ -8.5%	▼ -4.8%	13 844.99	11 975.55	16 271.75
Shanghai Composite	3 156.14	▲ 1.9%	▲ 4.4%	▼ -13.3%	▼ -11.7%	3 233.90	2 886.43	3 632.33
WIG 20	1 733.46	▲ 1.5%	▲ 25.8%	▼ -23.5%	▼ -21.3%	1 809.64	1 358.50	2 411.11
KGHM	118.20	▲ 3.7%	▲ 34.8%	▼ -15.2%	▼ -18.7%	127.18	84.22	182.20

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

Source: Bloomberg, KGHM Polska Miedź

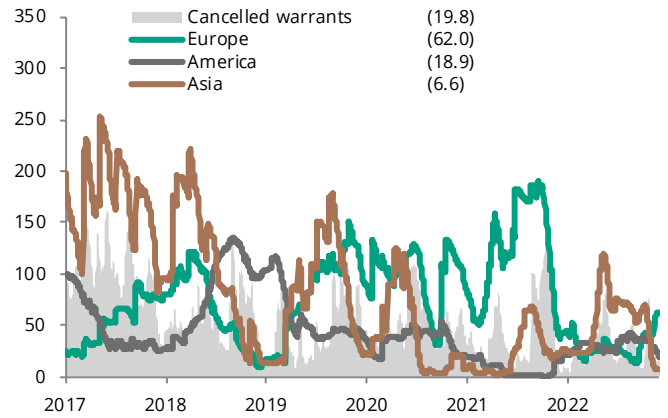


**Copper: official exchange stocks (thousand tonnes)**



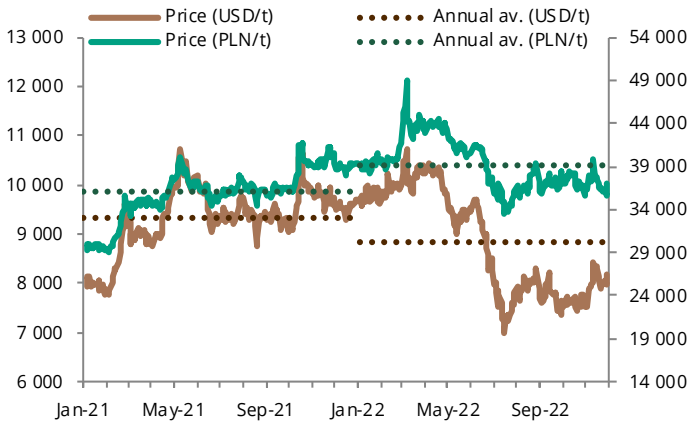
Note: Latest values in brackets. Source: Bloomberg, KGHM

**Copper: official LME stocks (thousand tonnes)**



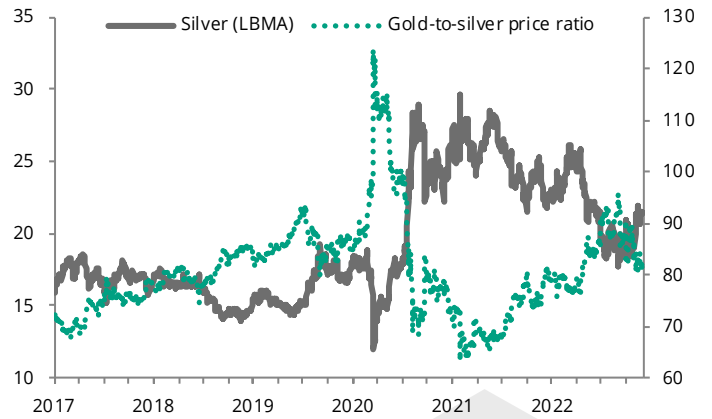
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



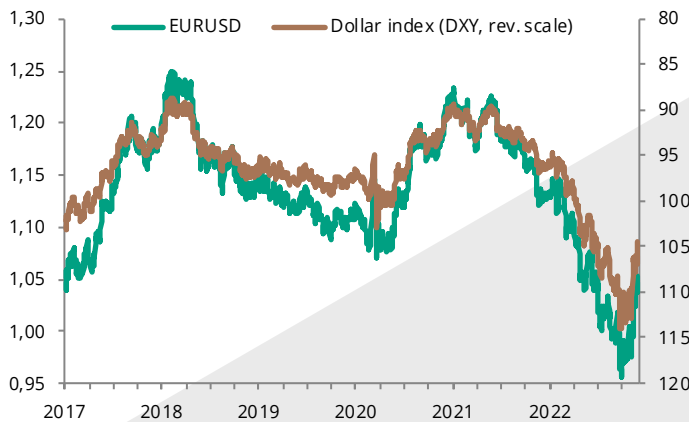
Source: Bloomberg, KGHM Polska Miedź

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



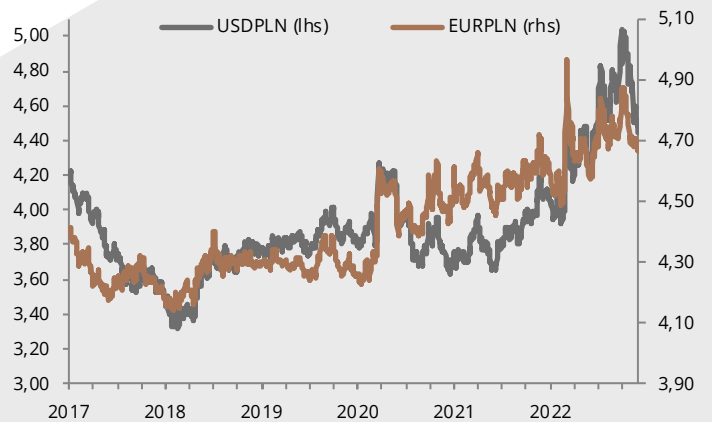
Source: Bloomberg, KGHM Polska Miedź

**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:  
**21 November – 5 December 2022.**

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

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