

Market Overview

as of: 2nd December 2019





- **Copper:** Codelco is standing as the world's top copper producer is increasingly at risk in the wake of a citizen uprising that is shaking Chile to its core. Without government funding, the company that now produces about 8% of global copper may soon find itself slipping from its top spot (*page 2*).
- **Precious metals:** More and more East European countries are giving up physical gold storage at Bank of England and bringing it to their countries. When you increase your gold reserves, people see this as a sign of strong economic sovereignty (*page 4*).
- **USA - China trade war:** One of the most important dispute point, which is intellectual property might be solved. However, nobody talks about deadlines and the most difficult topics are pushed further to the future (*page 5*).
- **WTO:** President Trump will wants to cut budget for WTO's appellate body claiming that it has overstepped its mandate and threatens American sovereignty (*page 5*).

Key market prices

	Close price	2w chng.
LME (USD/t)		
▲ Copper	5 854.00	0.4%
▼ Nickel	13 810.00	-6.4%
LBMA (USD/troz)		
▲ Silver	16.97	1.0%
▼ Gold (PM)	1 460.15	-0.5%
FX		
▼ EURUSD	1.0982	-0.7%
▲ EURPLN	4.3236	0.8%
▲ USDPLN	3.9288	1.3%
▲ USDCAD	1.3289	0.6%
▲ USDCLP	828.25	5.8%
Stocks		
▼ KGHM	89.90	-5.6%

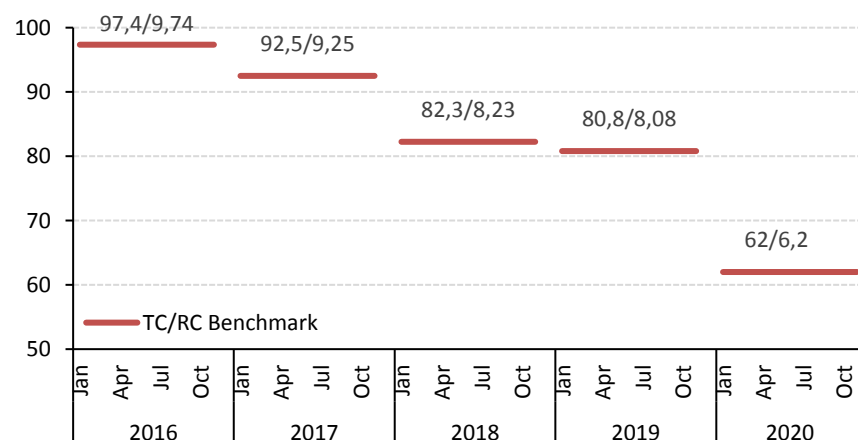
Source: Bloomberg, KGHM Polska Miedź; (*more on page 8*)

Important macroeconomic data

Release	For		
 Official manuf. PMI	Nov	50.2	▲
 Manufacturing (yoy)	Oct	-5.8%	▼
 GDP (annlzd., qoq)	3Q	2.1%	▲
 Retail sales (yoy)	Oct	0.8%	▼
 Industrial prod. (yoy)	Oct	3.5%	▼

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

Next year TC/RC benchmark level might be challenging for some smelters



Source: Bloomberg, KGHM Polska Miedź

Market Risk Unit

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Base and precious metals | Other commodities

Copper

Codelco is standing as the world's top copper producer is increasingly at risk in the wake of a citizen uprising that is shaking Chile to its core. Without government funding, the company that now produces about 8% of global copper may soon find itself slipping from its top spot.

Drop in pre-tax earnings, cut spending, record high debt, reduced government funds – all of that doesn't look appealing for Codelco to modernize aging mines and keep the current production level.

Chile protests could dethrone world's top copper producer

Codelco planned to spend \$20 billion over a decade to modernize its aging mines and hold off a production slump. But protests could jeopardize the state-owned miner's push for needed government funding. The alternatives are largely unappealing. The company could delay the work, but its costs for processing lower quality ore from aging mines is growing. It could boost borrowing, but its debt already sits at a record high. Lately Codelco reported a 57% drop in pre-tax earnings to September due to a combination of factors including heavy rains, a long-dragged strike at its Chuquicamata mine and lower metal prices. President Sebastian Pinera's center-right government earlier this year said talks on Codelco's funding would start as soon as Congress passed a tax reform bill. But since the protests began on Oct. 18, bringing violence to the streets, there's been no further discussion on Codelco's needs. The tax reform has been cast aside, and the government is now pledging to invest \$1.5 billion a year in social projects for the population at large. Codelco's annual production has remained roughly unchanged for the past few years. But while the company has been able to maintain its output, the ore it's extracting from its aging mines is increasingly lower quality, boosting the company's costs to process it. It also involves the added use of pricey modern equipment and new techniques that are expected to help revive mines that, in some cases, are a century old. Without access to government funds to handle this work, the company's debt could soar to \$21 billion from already record-high levels. The company's total debt reached a record high of \$16.1 billion in the second quarter of the year. Codelco sold bonds worth a combined \$180 million in August and \$2 billion in September. Earlier this month it issued HK\$500 million (\$64 million) in debt. Codelco will probably make the final investments needed to complete the expansion of its Chuquicamata mine, which has taken the giant open pit operation in northern Chile underground, but there are questions on whether it will maintain the time line of expansions at El Teniente, its largest mine, and the Andina mine. If El Teniente is delayed, annual output for the company could fall to 1.5 million tons per year. In 2018, Codelco reported 1.81 million tons of output from its own mines, and from stakes it owns in other mines. Close behind is Melbourne-based BHP Group with 1.69 million tons for the fiscal year ended on June 2019.

Chile Urges Copper Mining Companies To Stay Calm

Chile, the world's top copper producer, reassured jittery mining companies, saying it would do everything possible to provide a business-friendly environment even as a month of riots across the country have left more than 20 dead and billions in damages. Chile's copper mines have mostly maintained production and kept operations running normally in the face of the unrest, with only scattered incidents reported. But top miners, including Poland's KGHM Polska Miedz SA, have recently expressed concern about longer-term prospects as the country assesses rewriting its constitution and overhauling tax laws to quell protests. Mining Minister Baldo Prokurica acknowledged their concerns. "Chile is resolving these issues through its institutions, and as such, we will do everything possible to give miners security and assure them certainty". Though the worst of the violence has simmered, the Chile protests show little sign of letting up despite measures taken by President Sebastian Pinera. While most mines are in remote areas, managers and analysts worried that continued unrest could hurt operations that make Chile responsible for around 28% of global production. To date, however, miners have reported only minimal impacts on operations.

Other important information on copper market:

- The global world refined copper market showed a 29,000 tonnes surplus in August, compared with a 71,000 tonnes deficit in July, the International Copper Study Group (ICSG) said in its latest monthly bulletin. For the first 8 months of the year, the market was in a 330,000 tonnes deficit compared with a 268,000 tonnes deficit in the same period a year earlier, the ICSG said. World refined copper output in August was 2.07 million tonnes, while consumption was 2.04 million tonnes. Bonded stocks of copper in China showed a 19,000 tonnes deficit in August compared with a 124,000 tonnes deficit in July.
- According to Bloomberg, BHP Group increased its stake in Ecuadorian copper miner SolGold Plc, another sign that the biggest miners are increasing exposure to copper in the hope that the electrification of cities and cars will boost demand. Melbourne-based BHP paid 17.1 million British pounds to raise its holding in the company to 14.7% almost drawing level with top investor Newcrest Mining Ltd. Brisbane-based SolGold's interests in Ecuador include the flagship Alpala copper-gold project, which the company estimates has a potential 55-year life and is among the world's best undeveloped deposits. The company is also studying 13 other priority targets in the nation. BHP paid 22.15 pence a share, a 9.3% premium to SolGold's 20-day volume-weighted average. The deal also gives BHP options to purchase another 19.25 million shares by 2024. BHP is prioritizing future growth in copper and oil, and sees Ecuador as a key focus for new mining projects. Dwindling supply from aging copper mines and rising demand from renewable energy and the electric vehicle sector will combine to boost the metal's outlook.
- A court in northern Chile has thrown out an appeal against the plan of Mantos Copper company to extend the life of its Manto Verde copper mine. In a ruling, the First Environmental Court in Antofagasta rejected claims by local residents

that authorities had not properly considered the risk of the mine's tailing dam collapsing in the case of a major earthquake or extreme climatic event. Mantos Copper acquired the Mantos Blancos and Manto verde copper mines from Anglo American in 2015 for \$300 million. The two mines produced a total of 83,500 mt of copper last year. The \$832 million investment at Manto verde involves among others the installation of a new concentrator plant extending the life of the operation. The project could produce 270,000 mt/year of concentrate, containing copper and gold. Chilean authorities have stepped up oversight of the mining industry's tailing facilities following the collapse of two major dams in Brazil in recent years.

Precious Metals

More and more East European countries are giving up physical gold storage at Bank of England and bringing it to their countries. When you increase your gold reserves, people see this as a sign of strong economic sovereignty.

Officials from Central and Eastern European countries buy gold and bring it back home.

Gold Is New Idée Fixe for East European Leaders

Poland's government underlined its economic might by completing the repatriation of 100 tons of the metal. In Hungary Prime Minister Viktor Orban has been ramping up holdings of the safe-haven asset to boost the security of his reserves. The gold rush mirrors steps by Russia and China to diversify reserves exceeding \$3 trillion away from the dollar amid flaring geopolitical tensions with the U.S. Motivations in Europe's ex-communist wing, however, can vary. Take the latest example. Former Slovak Premier Robert Fico, who has a shot at returning to power, urges parliament to compel the central bank into bringing home gold stocks stored in the U.K. The reason? Sometimes your international partners can betray you, Fico said, citing a 1938 pact by France, Britain, Italy and Germany allowing Adolf Hitler to annex a chunk what was then Czechoslovakia, and - more recently - the Bank of England's refusal to return Venezuela's gold stock over political differences. "You can hardly trust even the closest allies after the Munich Agreement," Fico told reporters. "I guarantee that if something happens, we won't see a single gram of this gold. Let's do it as quickly as possible." His comments came despite the U.K. being one of Slovakia's closest allies after the Soviet empire crumbled, helping ease the path to European Union and NATO. Fico said Brexit and the risk of a global economic crisis put Slovak gold stored in Britain in a dangerous situation. The gold Poland brought back also came from the U.K., though there was no questioning of Britain's reliability by central bank Governor Adam Glapinski. Instead, he said he wanted to demonstrate the strength of his nation, the largest in the EU's east. Poland has doubled its gold holdings in the past two years and now has the region's biggest stockpile. Hungary, though, has been an active buyer too. Gold reserves surged 10-fold last year. Serbia's leader Aleksandar Vucic, ordered the central bank to boost reserves and to prompt the purchase of nine tons in October. Vucic said last week that more should be bought because "we see in which direction the crisis in the world is moving." The region is buying more of

the metal because of global uncertainty over trade and politics, Brexit and low interest rates, it said.

Global economies | Foreign exchange markets

China to Raise Penalties on IP Theft in Trade War Talks

One of the most important dispute point, which is intellectual property might be solved. However, nobody talks about deadlines and the most difficult topics are pushed further to the future.

China said it's aiming to reduce frequent IP violations by 2022

China said it will raise penalties on violations of intellectual property rights in an attempt to address one of the sticking points in trade talks with the U.S. The country will also look into lowering the thresholds for criminal punishments for those who steal IP, according to guidelines issued by the government on Sunday. It didn't elaborate on what such moves might entail. The U.S. wants China to commit to cracking down on IP theft and stop forcing U.S. companies to hand over their commercial secrets as a condition of doing business there. China said it's aiming to reduce frequent IP violations by 2022 and plans to make it easier for victims of transgressions to receive compensation. The two countries are working toward a partial trade deal and leaving the more controversial issues for later discussions. Reforming state enterprises, opening up the financial sector and enforcing intellectual property rights are issues at the core of U.S. demands for change in China's economic system.

U.S. Offers to Keep the WTO Alive With Painful Conditions





President Trump wants to cut budget for WTO's appellate body claiming that it has overstepped its mandate and threatens American sovereignty.








Donald Trump set the rules for WTO budget and insists on spending cuts for appellate body

The Trump administration, which threatened to block the World Trade Organization's 2020 budget, offered members a proposal that would allow it to continue operating, but would hamstring the WTO's appellate body, which officiates disputes that affect billions of dollars in commerce every year. The U.S. said it would back the USD 197.6 mln budget for 2020 with the condition that no more than 100,000 francs would be paid to appellate body members, an 87% reduction from the full budget allotment. If approved, the U.S. proposal would avert a likely WTO shutdown on Jan. 1. Washington has argued that the appellate body, which is a panel that upholds, modifies, or reverses WTO rulings, has overstepped its mandate and threatens American sovereignty. The Trump administration has said it would block the WTO's entire budget, maintaining that the organization's compensation structure creates an incentive for appellate members, who can make more than 300,000 francs a year, to string out cases to boost pay. While all WTO decisions are made by consensus, the U.S. has an important say in funding matters because it contributes more money than any other single country to the annual budget - 22.7 million Swiss francs in 2019, according to WTO data.

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²
China 						
🔴🔴	27-Nov	Industrial profits (yoy)	Oct	-9.9% ▼	-5.3%	--
🔴🔴🔴	30-Nov	Official manufacturing PMI	Nov	50.2 ▲	49.3	49.5 ▲
Poland 						
🔴🔴	21-Nov	Average gross salary (yoy)	Oct	5.9% ▼	6.6%	6.2% 🟡
🔴	21-Nov	Employment (yoy)	Oct	2.5% ▼	2.6%	2.6% 🟡
🔴🔴🔴🔴	22-Nov	Sold industrial production (yoy)	Oct	3.5% ▼	5.6%	2.5% ▲
🔴🔴	22-Nov	Producer inflation PPI (yoy)‡	Oct	-0.1% ▼	0.8%	0.2% 🟡
🔴🔴🔴	25-Nov	Retail sales (yoy)	Oct	5.4% ▲	5.3%	5.3% ▲
🔴	26-Nov	M3 money supply (yoy)	Oct	9.3% ▼	9.4%	9.0% ▲
🔴🔴	27-Nov	Unemployment rate	Oct	5.0% ▼	5.1%	5.1% 🟡
🔴🔴🔴🔴🔴	29-Nov	GDP (yoy) - final data	3Q	3.9% -	3.9%	--
🔴🔴🔴🔴🔴	29-Nov	GDP (qoq) - final data	3Q	1.3% -	1.3%	--
🔴🔴🔴🔴	29-Nov	Consumer inflation CPI (yoy) - preliminary data	Nov	2.6% ▲	2.5%	2.6% 🟡
US 						
🔴🔴	21-Nov	Philadelphia Fed business outlook	Nov	10.4 ▲	5.6	6.0 ▲
🔴🔴🔴	22-Nov	Composite PMI - preliminary data	Nov	51.9 ▲	50.9	--
🔴🔴🔴	22-Nov	Manufacturing PMI - preliminary data	Nov	--	51.3	51.4
🔴🔴🔴	22-Nov	PMI services - preliminary data	Nov	51.6 ▲	50.6	51.0 ▲
🔴🔴	22-Nov	University of Michigan confidence index - final data	Nov	96.8 ▲	95.7	95.7 ▲
🔴	25-Nov	Dallas Fed manufacturing activity	Nov	-1.3 ▲	-5.1	-3.8 ▲
🔴	26-Nov	Richmond Fed manufacturing index	Nov	-1.0 ▼	8.0	5.0 🟡
🔴	26-Nov	S&P/CaseShiller home price index‡	Sep	218 ▲	218	--
🔴🔴🔴🔴🔴	27-Nov	GDP (annualized, qoq) -	3Q	2.1% ▲	1.9%	1.9% ▲
🔴🔴🔴🔴	27-Nov	Consumer spending inflation PCE (mom)	Oct	0.1% ▲	0.0%	0.1% 🟡
🔴🔴🔴🔴	27-Nov	Consumer spending inflation PCE (yoy)	Oct	1.6% ▼	1.7%	1.7% 🟡
🔴🔴	27-Nov	Durable goods orders - preliminary data‡	Oct	0.6% ▲	-1.4%	-0.9% ▲
🔴🔴	27-Nov	Personal income (sa, mom)	Oct	0.0% ▼	0.3%	0.3% 🟡
🔴🔴	27-Nov	Personal spending (sa, mom)	Oct	0.3% ▲	0.2%	0.3% 🟡
Eurozone 						
🔴	21-Nov	Consumer confidence - estimation	Nov	-7.2 ▲	-7.6	-7.3 ▲
🔴🔴🔴	22-Nov	Composite PMI - preliminary data	Nov	50.3 ▼	50.6	50.9 🟡
🔴🔴🔴	22-Nov	Manufacturing PMI - preliminary data	Nov	--	45.9	46.4
🔴🔴🔴	22-Nov	Services PMI - preliminary data	Nov	51.5 ▼	52.2	52.4 🟡
🔴	28-Nov	M3 money supply (yoy)‡	Oct	5.6% -	5.6%	5.5% ▲
🔴	28-Nov	Economic confidence	Nov	101 ▲	101	101 ▲
🔴	28-Nov	Industrial confidence	Nov	-9.2 ▲	-9.5	-9.1 🟡
🔴	28-Nov	Consumer confidence - final data	Nov	-7.2 -	-7.2	--
🔴	28-Nov	Business climate indicator‡	Nov	-0.2 ▼	-0.2	-0.1 🟡
🔴🔴🔴🔴	29-Nov	Core CPI (yoy) - preliminary data	Nov	1.3% ▲	1.1%	1.2% ▲
🔴🔴🔴🔴	29-Nov	CPI estimate (yoy)	Nov	1.0% ▲	0.7%	0.9% ▲
🔴🔴	29-Nov	Unemployment rate‡	Oct	7.5% ▼	7.6%	7.5% 🟡

Weight	Date	Event	For	Reading ¹	Previous	Consensus ²	
Germany							
☆☆☆☆	22-Nov	GDP (yoy) - final data	3Q	1.0% -	1.0%	1.0%	○
☆☆☆☆	22-Nov	GDP (sa, qoq) - final data	3Q	0.1% -	0.1%	0.1%	○
☆☆	22-Nov	Composite PMI - preliminary data	Nov	49.2 ▲	48.9	49.3	◡
☆☆	22-Nov	Manufacturing PMI - preliminary data	Nov	--	42.1	42.8	
☆☆	25-Nov	IFO business climate‡	Nov	95.0 ▲	94.7	95.0	○
☆☆	26-Nov	GfK consumer confidence	Dec	9.7 ▲	9.6	9.6	◡
☆☆☆☆	28-Nov	Harmonized consumer inflation HICP (yoy) - preliminary data	Nov	1.2% ▲	0.9%	1.1%	◡
☆☆☆☆	28-Nov	Consumer inflation CPI (yoy) - preliminary data	Nov	1.1% -	1.1%	1.2%	◡
☆☆	29-Nov	Retail sales (yoy)	Oct	0.8% ▼	3.4%	3.0%	◡
☆☆	29-Nov	Unemployment rate	Nov	5.0% -	5.0%	5.0%	○
France							
☆☆	22-Nov	Composite PMI - preliminary data	Nov	52.7 ▲	52.6	52.8	◡
☆☆	22-Nov	Manufacturing PMI - preliminary data	Nov	--	50.7	50.9	
☆☆☆☆	29-Nov	GDP (yoy) - final data	3Q	1.4% ▲	1.3%	1.3%	◡
☆☆☆☆	29-Nov	GDP (qoq) - final data	3Q	0.3% -	0.3%	0.3%	○
☆☆☆☆	29-Nov	Harmonized consumer inflation HICP (yoy) - preliminary data	Nov	1.2% ▲	0.9%	1.1%	◡
☆☆☆☆	29-Nov	Consumer inflation CPI (yoy) - preliminary data	Nov	1.0% ▲	0.8%	1.0%	○
Italy							
☆☆☆☆	29-Nov	GDP (wda, yoy) - final data	3Q	0.3% -	0.3%	0.3%	○
☆☆☆☆	29-Nov	GDP (wda, qoq) - final data	3Q	0.1% -	0.1%	0.1%	○
☆☆☆☆	29-Nov	Harmonized consumer inflation HICP (yoy) - preliminary data	Nov	0.4% ▲	0.2%	0.3%	◡
☆☆	29-Nov	Unemployment rate - preliminary data	Oct	9.7% ▼	9.9%	9.8%	◡
UK							
☆☆	22-Nov	Manufacturing PMI (sa) - preliminary data	Nov	--	49.6	48.9	
☆☆	22-Nov	Composite PMI - preliminary data	Nov	48.5 ▼	50.0	50.2	◡
Japan							
☆☆☆☆	22-Nov	Consumer inflation CPI (yoy)	Oct	0.2% -	0.2%	0.3%	◡
☆☆	22-Nov	Composite PMI - preliminary data	Nov	49.9 ▲	49.1	--	
☆☆	22-Nov	Manufacturing PMI - preliminary data	Nov	--	48.4	--	
☆☆☆☆	29-Nov	Industrial production (yoy) - preliminary data	Oct	-7.4% ▼	1.3%	-5.2%	◡
Chile							
☆☆☆☆	18-Nov	GDP (yoy)	3Q	3.3% ▲	1.9%	3.3%	○
☆☆	29-Nov	Total copper production (metric tons)	Oct	493 988 ▲	488 687	--	
☆☆	29-Nov	Manufacturing (yoy)	Oct	-5.8% ▼	2.1%	-7.8%	◡
Canada							
☆☆☆☆	20-Nov	Consumer inflation CPI (yoy)	Oct	1.9% -	1.9%	1.9%	○
☆☆☆☆	29-Nov	GDP (yoy)‡	Sep	1.6% ▲	1.5%	1.4%	◡
☆☆☆☆	29-Nov	GDP (annualized, qoq)‡	3Q	1.3% ▼	3.5%	1.3%	○

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

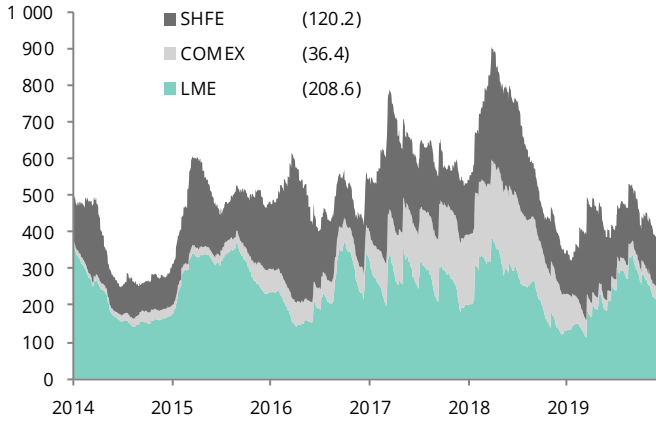
Key base & precious metal prices, exchange rates and other important market factors

(as of: 29-Nov-19)		Price change ¹					From year beginning ²		
	Price	2W	QTD	YTD	1Y	Average	Min	Max	
LME (USD/t; Mo in USD/lbs)									
Copper	5 854.00	▲ 0.4%	▲ 2.2%	▼ -1.9%	▼ -6.8%	5 994.35	5 537.00	6 572.00	
Molybdenum	8.95	▼ -3.8%	▼ -24.0%	-	-	11.53	8.28	12.70	
Nickel	13 810.00	▼ -6.4%	▼ -21.4%	▲ 30.3%	▲ 26.8%	13 948.11	10 440.00	18 625.00	
Aluminum	1 785.50	▲ 2.4%	▲ 4.8%	▼ -4.5%	▼ -7.6%	1 792.91	1 697.00	1 923.00	
Tin	16 350.00	▲ 1.2%	▲ 1.8%	▼ -16.2%	▼ -12.0%	18 775.90	15 710.00	21 925.00	
Zinc	2 312.50	▼ -3.0%	▼ -2.7%	▼ -7.9%	▼ -9.4%	2 569.71	2 211.00	3 018.00	
Lead	1 947.00	▼ -1.5%	▼ -6.6%	▼ -3.1%	▲ 0.8%	2 008.30	1 768.00	2 267.00	
LBMA (USD/troz)									
Silver	16.97	▲ 1.0%	▼ -1.7%	▲ 9.7%	▲ 18.9%	16.13	14.38	19.31	
Gold ²	1 460.15	▼ -0.5%	▼ -1.7%	▲ 13.9%	▲ 19.1%	1 386.15	1 269.50	1 546.10	
LPPM (USD/troz)									
Platinum ²	894.00	▲ 0.8%	▼ -0.7%	▲ 12.6%	▲ 9.0%	858.40	782.00	977.00	
Palladium ²	1 832.00	▲ 6.8%	▲ 9.4%	▲ 45.1%	▲ 56.0%	1 508.40	1 267.00	1 833.00	
FX³									
EURUSD	1.0982	▼ -0.7%	▲ 0.9%	▼ -4.1%	▼ -3.6%	1.1202	1.0889	1.1535	
EURPLN	4.3236	▲ 0.8%	▼ -1.1%	▲ 0.5%	▲ 0.8%	4.3011	4.2406	4.3891	
USDPLN	3.9288	▲ 1.3%	▼ -1.8%	▲ 4.5%	▲ 4.1%	3.8396	3.7243	4.0154	
USDCAD	1.3289	▲ 0.6%	▲ 0.3%	▼ -2.6%	▲ 0.1%	1.3278	1.3038	1.3600	
USDCNY	7.0325	▲ 0.1%	▼ -1.6%	▲ 2.2%	▲ 1.3%	6.8976	6.6872	7.1789	
USDCPL	828.25	▲ 5.8%	▲ 14.1%	▲ 19.2%	▲ 23.2%	697.01	649.22	828.25	
Money market									
3m LIBOR USD	1.906	▲ 0.01	▼ -0.18	▼ -0.90	▼ -0.83	2.363	1.891	2.804	
3m EURIBOR	-0.401	▲ 0.00	▲ 0.02	▼ -0.09	▼ -0.09	-0.354	-0.448	-0.306	
3m WIBOR	1.710	-	▼ -0.01	▼ -0.01	▼ -0.01	1.719	1.710	1.720	
5y USD interest rate swap	1.586	▼ 0.00	▲ 0.08	▼ -0.98	▼ -1.40	1.983	1.254	2.715	
5y EUR interest rate swap	-0.229	▼ -0.01	▲ 0.18	▼ -0.43	▼ -0.51	-0.138	-0.553	0.222	
5y PLN interest rate swap	1.653	▼ -0.14	▲ 0.00	▼ -0.46	▼ -0.67	1.875	1.440	2.240	
Fuel									
WTI Cushing	55.17	▼ -3.3%	▲ 2.0%	▲ 21.5%	▲ 7.2%	56.77	46.54	66.40	
Brent	61.34	▼ -1.8%	▲ 2.5%	▲ 15.4%	▲ 4.1%	63.91	53.83	73.89	
Diesel NY (ULSD)	188.01	▼ -1.7%	▼ -1.4%	▲ 11.8%	▲ 2.1%	193.48	170.01	212.40	
Others									
VIX	12.62	▲ 0.16	▼ -3.62	▼ -12.80	▼ -6.17	15.54	11.54	25.45	
BBG Commodity Index	77.11	▼ -1.5%	▼ -0.9%	▲ 0.5%	▼ -6.7%	79.42	75.97	83.06	
S&P500	3 140.98	▲ 0.6%	▲ 5.5%	▲ 25.3%	▲ 14.7%	2 889.42	2 447.89	3 153.63	
DAX	13 236.38	▲ 0.2%	▲ 6.5%	▲ 25.4%	▲ 17.2%	12 024.88	10 416.66	13 289.46	
Shanghai Composite	2 871.98	▼ -1.3%	▼ -1.1%	▲ 15.2%	▲ 11.9%	2 915.32	2 464.36	3 270.80	
WIG 20	2 158.94	▼ -3.2%	▼ -0.7%	▼ -5.2%	▼ -6.3%	2 262.16	2 051.44	2 414.41	
KGHM	89.90	▼ -5.6%	▲ 12.4%	▲ 1.1%	▼ -0.4%	92.80	73.76	112.00	

° 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

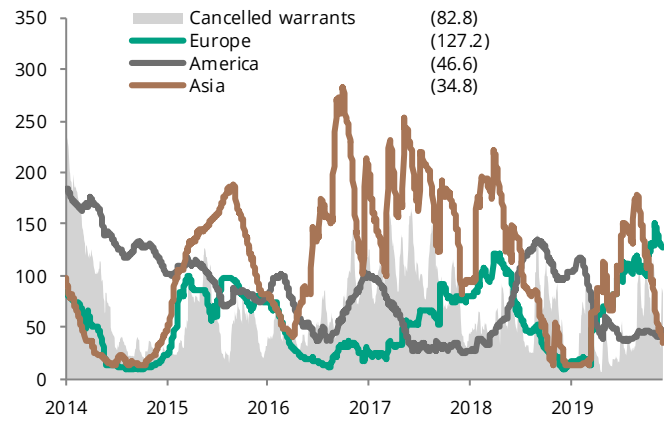
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



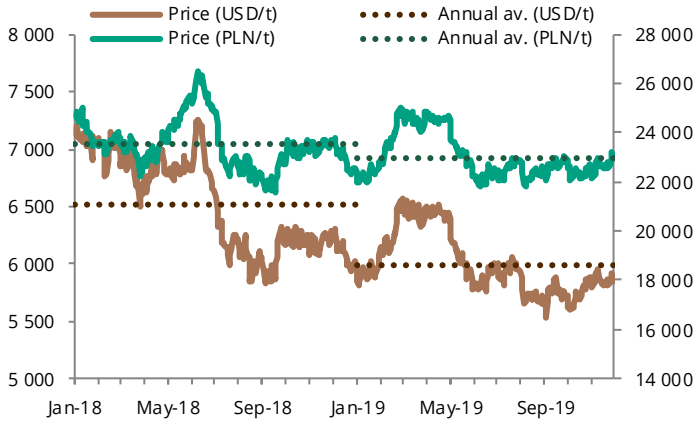
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



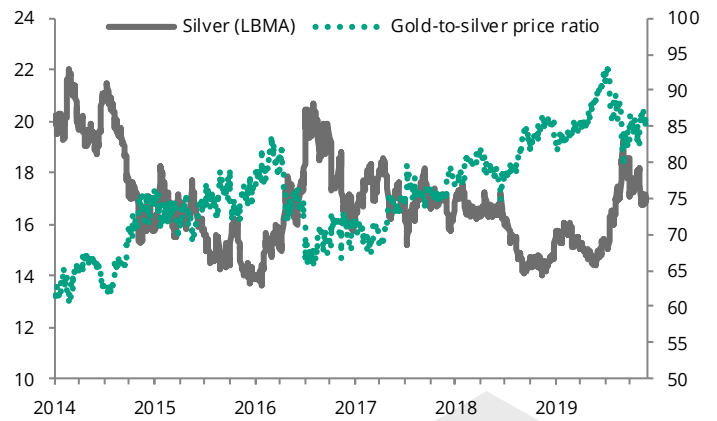
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



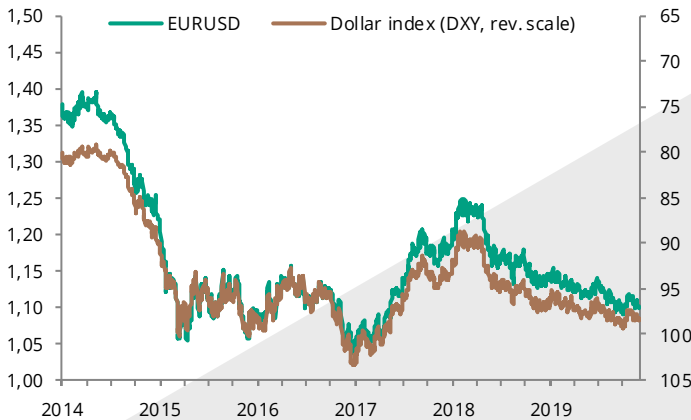
Source: Bloomberg, KGHM Polska Miedź

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



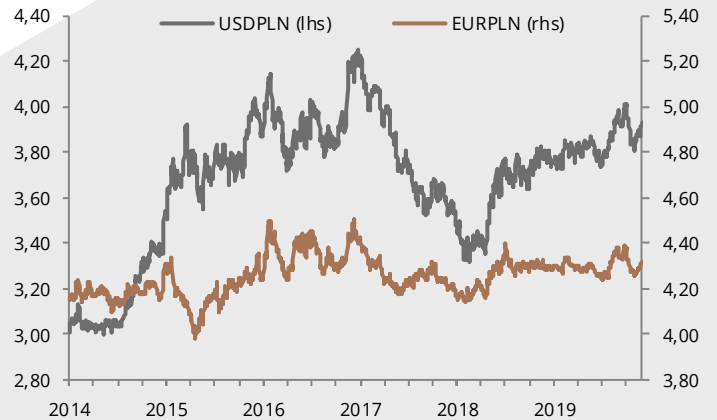
Source: Bloomberg, KGHM Polska Miedź

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:
18th November – 1st December 2019.

- 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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