KGHM POLSKA MIEDŹ

Market Overview

as of: 20th January 2020

- **Copper:** Copper output dropped at Codelco and BHP's sprawling Escondida mine in November. In contrary the Collahuasi mine, a joint-venture between Anglo American Plc and Glencore Plc, saw its November production jump. Analysts say the varying output from Chile's top mines reflects a range of factors affecting the normally volatile sector, from general social unrest to factors affecting individual mines *(page 2)*.
- **Precious metals:** Spot palladium jumped to $2,539 an ounce. While palladium's rally has been driven by supply deficits and surging demand, the increases have exceeded market forecasts *(page 4)*.
- **China - USA:** The first phase of the US-China agreement was signed in mid-January in Washington. Donald Trump announced a huge success and historical agreement to the world whereas the Chinese do not comment on their moods. As always, the devil is in the details and this is why more and more doubts are found out as to whether it is doable to meet the conditions provided in the contract *(page 5)*.

Key market prices

		Close price	3w chng.
	LME (USD/t)		
▲	Copper	6 276.50	2.9%
▲	Nickel	13 840.00	0.3%
	LBMA (USD/troz)		
▼	Silver	18.06	-2.1%
▼	Gold (PM)	1 557.60	-1.0%
	FX		
▼	EURUSD	1.1108	-0.8%
▼	EURPLN	4.2344	-0.5%
▼	USDPLN	3.8053	-0.4%
▲	USDCAD	1.3062	0.7%
▲	USDCLP	773.36	2.0%
	Stocks		
▲	KGHM	101.00	5.1%

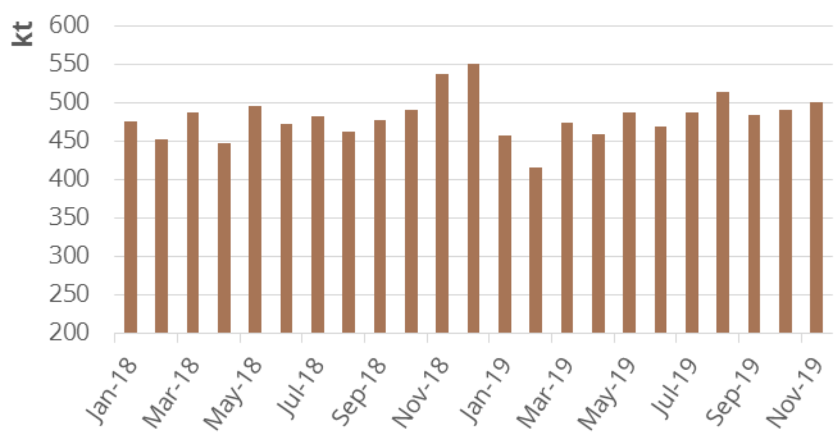
Source: Bloomberg, KGHM Polska Miedź S.A.; *(more on page 9)*

Important macroeconomic data

Release	For		
GDP (yoy)	4Q	6.0%	-
CPI (yoy)	Dec	3.4%	-
Industrial prod. (yoy)	Dec	6.9%	▲
Non-farm payrolls chng.	Dec	145	▼
Composite PMI	Dec	50.9	▲

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

Chilean copper production in 2018 – 2019



Source: Cochilco, KGHM Polska Miedź S.A.

Market Risk Unit

marketrisk@kghm.com

Base and precious metals | Other commodities

Copper

Copper output dropped at Codelco and BHP's sprawling Escondida mine in November. In contrary the Collahuasi mine, a joint-venture between Anglo American Plc and Glencore Plc, saw its November production jump. Analysts say the varying output from Chile's top mines reflects a range of factors affecting the normally volatile sector, from general social unrest to factors affecting individual mines.

Copper Output Slumps At Codelco, BHP's Escondida In November

"Those involved in mining haven't been as affected as the rest of the country" said the head of Chilean mining trade union

According Reuters, copper output slumped at Chile's state miner Codelco and BHP's sprawling Escondida mine in November, according to Chile state copper agency Cochilco. Cochilco said output at Codelco, plummeted 11% in November over the same month in 2018 to 155,200 tonnes. Production at BHP's Escondida, the globe's largest copper mine, fell 1.5% to 103,200 tonnes. The Collahuasi copper mine in northern Chile, a joint-venture between Anglo American Plc and Glencore Plc, nonetheless saw its November production jump 9.7%, to 56,700 tonnes, the agency said. Cochilco, which tabulates the monthly production data, did not comment on the reasons behind the mixed results. But analysts say the varying output from Chile's top mines reflects a range of factors affecting the normally volatile sector, from the recent social unrest to small-scale labor disruptions and internal upgrades and maintenance at individual mines. Chile's vast copper mines - the country produces nearly a third of the world's copper - said they had largely maintained production through early November, though some mining companies have warned that protests, strikes and road blockades had taken a toll. As the protests subside, market watchers are looking further into the future to gauge potential impacts on investment decisions by the many large mining companies operating in Chile. In April, Chileans will vote on whether to draft a new constitution, sowing uncertainty among investors both foreign and domestic. Diego Hernandez, head of Chilean mining trade union SONAMI, said in an interview that miners were watching carefully and that some of them could put off making investment decisions. But he acknowledged the short-term impacts had been minimal and doubted there would be major changes to rules or royalties in the mid-term. "Those involved in mining haven't been as affected as the rest of the country," he said. Santander's Cestau took an equally optimistic view. "We see mining as one of the things that will pull the economy up in 2020," Cestau said.

Russia May Generate Up To 11% Of World's Extra Copper Output By Mid-Decade

If demand exceeds 25 million mt by 2029, there will be a need for 1,7-1,8 million mt/year supply from probable projects plus 4.6 million mt/year from possible projects

According to Platts, Russia could contribute up to 11% of the world's extra copper supply by the middle of the 2020s, S&P Global Platts estimates based on an analysis of projects in the final stages of construction. Platts estimates that new supply from Russia's most probable copper projects could come to 200,000 mt/year of pure copper by 2023, accounting for 11% of the world's probable output from new projects. Despite global copper demand likely to plateau in the second half of the coming decade, there is a need for new mines to avoid supply deficit past 2024. If primary demand exceeds 25 million mt by 2029, there will be a need for 4.6 million mt/year supply from possible projects by 2029, and this is on top of the 1.7-1.8 million mt/year to be provided in 2024-30 by projects seen as probable, according to consultancy group Wood Mackenzie. The number of possible copper mine projects conceived globally in 2016-19 gives the impression the industry is on the cusp of significant supply growth. In reality, many projects face challenges related to low grade, remote locations and social and environmental risk factors.

Other important information on copper market:

- As Reuters informs, China's unwrought copper imports rose 9.1% in December from the previous month to their highest since March 2016, as industrial activity improved and scrap metal supply dropped. In December it stood at 527,000 tonnes, and was up 22.8% yoy. That compared with 483,000 tonnes in November, itself a 13-month high. The bumper December number was partly due to a price arbitrage between Chinese and international copper prices, allowing to rise profit by shipping metal into China, Argonaut Securities said. The second reason is the increased activity of the Chinese economy, visible on both the production and orders sides, which is the result of progress in talks between the US and China. The third reason is the decrease in copper scrap imports, which causes the need to import red metal in another form.

- According to Bloomberg Codelco, took advantage of the international bond markets to refinance its debt and finance its expansion plans, after the Chilean government said it was not considering capital investments. The copper giant sold US$1 billion in 10-year bonds that will yield 1.35 percentage points above U.S. It also sold US$1 billion through the reopening of the 2050 bond issued last year. Codelco needs to invest more than US$20 billion to keep production levels stable, even if the company has a debt of US$18.4 billion. Finance Minister Ignacio Briones said the Chilean government would provide support to the company, but not capital injections. The backing of the Chilean government helps investors look beyond high levels of debt.

- Bloomberg Peruvian energy and mining minister Juan Carlos Liu said copper production rose by 4% to 2.5 million tonnes in 2019 from 2.4 million tonnes in 2018. This year copper output is expected to rise too, partly as a result of Minsur starting production at its Mina Justa mine, Juan Carlos Liu added. Mining investment reached $6.1b last year surpassing govt. target of $6b. Investment target for this year is $6.3b.

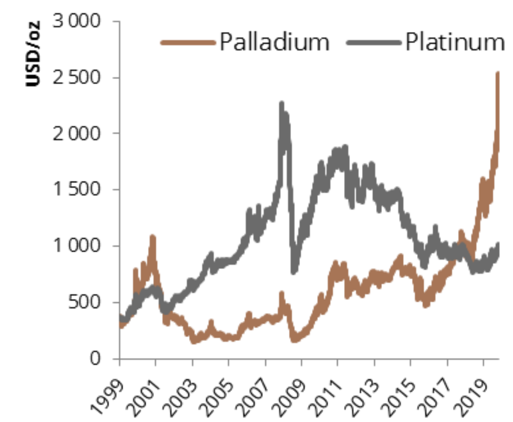
Precious Metals

Spot palladium jumped to $2,539 an ounce. While palladium's rally has been driven by supply deficits and surging demand, the increases have exceeded market forecasts.

Palladium Tops $2,500 an Ounce

Palladium is trading at more than twice the price of platinum, which may motivate to use it as a substitute

Palladium price vs platinum price



Source: Reuters, KGHM Polska Miedź S.A

As Blomberg informs, spot palladium jumped to $2,539 an ounce. While palladium's rally has been driven by supply deficits and surging demand, the increases have exceeded market forecasts, said Rene Hochreiter, an analyst at Noah Capital Markets Ltd. who expects prices could retreat to average $2,250 an ounce for the rest of the year. "Prices do not go up forever and the recent run should see a correction, though the fundamental shortfalls will not go away anytime soon," Hochreiter said. Palladium is trading at more than twice the price of platinum, which may motivate carmakers to use it as a substitute, according to Australia & New Zealand Banking Group Ltd. "A modest recovery in the auto sector along with tighter emissions regulations should lend support," ANZ said in a report. Still, a "price setback is possible for palladium following its impressive rally this year." Palladium's surge has been a boon for platinum miners in South Africa, which accounts for about 38% of global palladium supply. The FTSE/JSE Africa Platinum Mining Index is at the highest since 2011, and the shares of top producer Sibanye Gold Ltd. have risen nearly fourfold in the past 12 months. "Further weakness in mining production can't be ruled out," Warren Pattersonand Wenyu Yao, commodities strategists at ING Bank, said in a note to clients. "While higher prices should be encouraging miners to look to boost output, palladium is largely produced as a by-product, making supply more inelastic." Supply constraints in South Africa, where producers are grappling with an uncertain electricity system, have been one the main drivers for the price rally, said ABN Amro Bank NV strategist Georgette Boele.

Global economies | Foreign exchange markets

U.S., China Sign Phase One of Trade Deal 3 Years in Making

The first phase of the US-China agreement was signed in mid-January in Washington. Donald Trump announced a huge success and historical agreement to the world whereas the Chinese do not comment on their moods. As always, the devil is in the details and this is why more and more doubts are found out as to whether it is doable to meet the conditions provided in the contract.

The U.S. and China signed what they billed as the first phase of a broader trade pact on Wednesday. The deal commits China to do more to crack down on the theft of American technology and corporate secrets by its companies and state entities, while outlining a $200 billion spending spree to try to close its trade imbalance with the U.S. It also binds Beijing to avoiding currency manipulation to gain an advantage and includes an enforcement system to ensure promises are kept. "This is a very important and remarkable occasion," Trump said. In a letter to Trump read out at the ceremony, Chinese leader Xi Jinping said the deal proved the two sides could work together to bridge their differences and declared it "good for China, the U.S. and the whole world." But the new pact has already been criticized for what is missing. It does nothing to address areas like what U.S. authorities have long claimed is China's state-backed hacking of American companies and government institutions. Nor does it require the Asian power to reform the vast web of state subsidies that form the spine of its model of state capitalism and have helped fuel the rapid growth of Chinese companies internationally. The administration says many of those issues will be covered in a second phase of a deal, though when those talks will begin and how long they will take remains uncertain. In the meantime, the U.S. is also set to maintain tariffs on roughly two-thirds of imports from China, something that Trump on Wednesday said was essential as leverage over the country until it agreed to further reforms. "I will agree to take those tariffs off if we're able to do phase two, otherwise we don't have any cards to negotiate with." Business groups broadly welcomed the agreement. Democrats in Congress, meanwhile, blasted the agreement, saying Trump -- in agreeing to the limited pact -- gave away vital leverage he might have used to resolve tougher issues in the trade relationship, including China's "massive subsidies" to some key industries. "The administration, in order to get a deal at all costs before the 2020 election, has thrown the American worker and American business overboard," Senate Minority Leader Chuck Schumer said. Chinese state media greeted the deal with cautious optimism but also fear it could fall apart. The deal states China must apply criminal penalties on anyone caught stealing commercial secrets and do more to stop the sale of pirated goods online, as well as fake pharmaceutical products. It also requires Beijing to deliver an action plan within 30 days of the deal taking effect on how it intends to meet its commitments on intellectual property. Separately, it includes a broad commitment for China to stop pressuring American companies investing in the country to share technology with local joint-venture partners and for the government to stop supporting or directing Chinese firms to buy up strategic technologies by acquiring foreign companies. In the letter to Trump, read out by Chinese Vice Premier Liu He at the ceremony, Xi Jinping cited the "spirit" of the deal and urged Trump to allow investment by Chinese firms and said he hoped that "the U.S. side will treat fairly Chinese companies". He also urged the U.S. to allow continuing collaboration by universities and other institutions "to promote the mutual trust and cooperation between the two countries." Both Chinese investment and research exchanges as well as the thousands of Chinese students in the U.S. have been a target for national security hawks in Washington who argue they are part of a broader technology cold war playing out. Officials insist that they are harvesting significant commitments from Beijing that mean the first phase of the agreement will benefit U.S. businesses and workers even if discussions never go any further. Many of the IP commitments in the deal, however, appear to be ones that China had either made already or was moving to address. A new foreign-investment law that took effect on Jan. 1 bans administrative agencies from forcing companies to transfer technological knowhow as a cost of entry to the Chinese market. It exposes officials who disclose or leak trade secrets gleaned from regulatory approvals to potential criminal penalties. The Trump administration says what separates its deal most from others is the enforcement mechanism it establishes. Rather than rely on a slow-moving World Trade Organization dispute system that Trump in any case has already hobbled by blocking the appointment of top judges, the new agreement with China would allow the administration to move to punish Beijing with tariffs or other measures within 90 days if officials decided it was breaking its promises. The deal is also unique in the breadth of specific Chinese purchase commitments it contains. Even those purchase promises face questions. The text of the pact specifies $77.7 billion in additional Chinese purchases of manufactured goods including aircraft, $32 billion in new purchases of agricultural products, $52.4 billion in energy and $37.9 billion in services in the two years through December 2021. But it also left significant questions over whether U.S. farm exports to China to reach the $40 billion to $50 billion annual level that Trump has promised, which would mean doubling the $24 billion in agriculture and related products it imported from the U.S. in 2017, before the trade war began. "Signing the deal is the easy part," Ken Morrison, a St. Louis-based independent trader, said by phone. "I have yet to hear a sound argument on how China will execute this deal."

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading [1]		Previous	Consensus [2]	
		China						
✪	07-Jan	Foreign reserves (USD bn)	Dec	3 108	▲	3 096	3 110	◡
✪✪✪✪	09-Jan	Consumer inflation CPI (yoy)	Dec	4.5%	▪	4.5%	4.7%	◡
✪✪	09-Jan	Producer inflation PPI (yoy)	Dec	-0.5%	▲	-1.4%	-0.4%	◡
✪✪	14-Jan	Trade balance (USD bn)‡	Dec	46.8	▲	37.6	45.7	◠
✪✪	14-Jan	Exports (yoy)	Dec	7.6%	▲	-1.3%	2.9%	◠
✪	16-Jan	New yuan loans (CNY bn)‡	Dec	1 140	▼	1 388	1 200	◡
✪✪✪✪✪	17-Jan	GDP (yoy)	4Q	6.0%	▪	6.0%	6.0%	○
✪✪✪✪✪	17-Jan	GDP (sa, qoq)	4Q	1.5%	▪	1.5%	1.4%	◠
✪✪✪✪	17-Jan	Industrial production (yoy)	Dec	6.9%	▲	6.2%	5.9%	◠
✪✪	17-Jan	Fixed assets investments (ytd, yoy)	Dec	5.4%	▲	5.2%	5.2%	◠
✪	17-Jan	Retail sales (yoy)	Dec	8.0%	▪	8.0%	7.9%	◠
		Poland						
✪✪✪✪	07-Jan	Consumer inflation CPI (yoy) - preliminary data	Dec	3.4%	▲	2.6%	2.8%	◠
✪✪✪✪✪	08-Jan	NBP base rate decision	Jan	1.50%	▪	1.50%	1.50%	○
✪✪	13-Jan	Trade balance (EUR mn)‡	Nov	829	▲	427	356	◠
✪✪	13-Jan	Exports (EUR mn)‡	Nov	20 238	▼	21 757	20 653	◡
✪✪	13-Jan	Current account balance (EUR mn)‡	Nov	1 457	▲	573	451	◠
✪✪✪✪	15-Jan	Consumer inflation CPI (yoy) - final data	Dec	3.4%	▪	3.4%	--	
✪✪✪✪	16-Jan	Core CPI (excluding food and energy, yoy)	Dec	3.1%	▲	2.6%	3.2%	◡
		US						
✪✪✪	06-Jan	Composite PMI - final data	Dec	52.7	▲	52.2	--	
✪✪✪	06-Jan	PMI services - final data	Dec	52.8	▲	52.2	52.2	◠
✪✪	07-Jan	Durable goods orders - final data	Nov	-2.1%	▼	-2.0%	-2.0%	◡
✪✪	10-Jan	Change in non-farm payrolls (ths)‡	Dec	145	▼	256	160	◡
✪✪	10-Jan	Underemployment rate (U6)	Dec	6.7%	▼	6.9%	--	
✪✪	10-Jan	Unemployment rate	Dec	3.5%	▪	3.5%	3.5%	○
✪	10-Jan	Average hourly earnings (yoy)	Dec	2.9%	▼	3.1%	3.1%	◡
✪✪✪✪	14-Jan	Consumer inflation CPI (mom)	Dec	0.2%	▼	0.3%	0.3%	◡
✪✪✪✪	14-Jan	Consumer inflation CPI (yoy)	Dec	2.3%	▲	2.1%	2.4%	◡
✪✪	16-Jan	Philadelphia Fed business outlook‡	Jan	17.0	▲	2.4	3.8	◠
✪✪	16-Jan	Retail sales (excluding autos, mom)‡	Dec	0.7%	▲	0.0%	0.5%	◠
✪✪✪✪	17-Jan	Industrial production (mom)‡	Dec	-0.3%	▼	0.8%	-0.2%	◡
✪✪	17-Jan	University of Michigan confidence index - preliminary data	Jan	99.1	▼	99.3	99.3	◡
✪	17-Jan	Capacity utilization‡	Dec	77.0%	▼	77.4%	77.0%	○

Weight	Date	Event	For	Reading [1]		Previous	Consensus [2]	
		Eurozone						
✪✪✪	06-Jan	Composite PMI - final data	Dec	50.9	▲	50.6	50.6	◓
✪✪✪	06-Jan	Services PMI - final data	Dec	52.8	▲	52.4	52.4	◓
✪✪	06-Jan	Producer inflation PPI (yoy)	Nov	-1.4%	▲	-1.9%	-1.5%	◓
✪✪✪✪	07-Jan	Core CPI (yoy) - preliminary data	Dec	1.3%	-	1.3%	1.3%	○
✪✪✪✪	07-Jan	CPI estimate (yoy)	Dec	1.3%	▲	1.0%	1.3%	○
✪✪	07-Jan	Retail sales (yoy)‡	Nov	2.2%	▲	1.7%	1.5%	◓
✪	08-Jan	Economic confidence‡	Dec	102	▲	101	101	◓
✪	08-Jan	Industrial confidence‡	Dec	- 9.3	▼	- 9.1	- 9.0	◒
✪	08-Jan	Consumer confidence - final data	Dec	- 8.1	-	- 8.1	--	
✪	08-Jan	Business climate indicator‡	Dec	- 0.3	▼	- 0.2	- 0.2	◒
✪✪	09-Jan	Unemployment rate	Nov	7.5%	-	7.5%	7.5%	○
✪✪✪✪	15-Jan	Industrial production (sa, mom)‡	Nov	0.2%	▲	-0.9%	0.3%	◒
✪✪✪✪	15-Jan	Industrial production (wda, yoy)‡	Nov	-1.5%	▲	-2.6%	-1.0%	◒
✪	15-Jan	Trade balance (EUR mn)	Nov	20.7	▼	28.0	--	
✪✪✪✪	17-Jan	Consumer inflation CPI (yoy)	Dec	1.3%	-	1.3%	1.3%	○
✪✪✪✪	17-Jan	Core CPI (yoy) - final data	Dec	1.3%	-	1.3%	1.3%	○
		Germany						
✪✪✪	06-Jan	Composite PMI - final data	Dec	50.2	▲	49.4	49.5	◓
✪✪✪	06-Jan	Retail sales (yoy)‡	Nov	2.8%	▲	1.7%	1.0%	◓
✪✪✪	08-Jan	Factory orders (wda, yoy)‡	Nov	-6.5%	▼	-5.6%	-4.7%	◒
✪✪✪✪	09-Jan	Industrial production (wda, yoy)‡	Nov	-2.6%	▲	-4.6%	-3.7%	◓
✪✪✪✪	16-Jan	Harmonized consumer inflation HICP (yoy) - final data	Dec	1.5%	-	1.5%	1.5%	○
✪✪✪✪	16-Jan	Consumer inflation CPI (yoy) - final data	Dec	1.5%	-	1.5%	1.5%	○
		France						
✪✪✪	06-Jan	Composite PMI - final data	Dec	52.0	-	52.0	52.0	○
✪✪✪✪	10-Jan	Industrial production (yoy)‡	Nov	1.3%	▲	-0.1%	0.4%	◓
✪✪✪✪	15-Jan	Harmonized consumer inflation HICP (yoy) - final data	Dec	1.6%	-	1.6%	1.6%	○
✪✪✪✪	15-Jan	Consumer inflation CPI (yoy) - final data	Dec	1.5%	▲	1.4%	1.4%	◓
		Italy						
✪✪✪	06-Jan	Composite PMI	Dec	49.3	▼	49.6	49.7	◒
✪✪✪✪	07-Jan	Harmonized consumer inflation HICP (yoy) - preliminary data	Dec	0.5%	▲	0.2%	0.5%	○
✪✪	09-Jan	Unemployment rate - preliminary data	Nov	9.7%	-	9.7%	9.7%	○
✪✪✪✪	10-Jan	Industrial production (wda, yoy)	Nov	-0.6%	▲	-2.4%	-0.6%	○
✪✪✪✪	17-Jan	Harmonized consumer inflation HICP (yoy) - final data	Dec	0.5%	-	0.5%	0.5%	○
		UK						
✪✪✪	06-Jan	Composite PMI - final data	Dec	49.3	▲	48.5	48.5	◓
✪✪✪✪	13-Jan	Industrial production (yoy)‡	Nov	-1.6%	▼	-0.6%	-1.3%	◒
✪✪✪✪	15-Jan	Consumer inflation CPI (yoy)	Dec	1.3%	▼	1.5%	1.5%	◒
		Japan						
✪✪✪	06-Jan	Manufacturing PMI - final data	Dec	48.4	▼	48.8	--	
✪✪✪	07-Jan	Composite PMI - final data	Dec	48.6	▼	49.8	--	
		Chile						
✪✪✪	07-Jan	Copper exports (USD mn)	Dec	3 450	▲	2 772	--	
✪✪	07-Jan	Nominal wages (yoy)	Nov	4.1%	▼	4.5%	--	
		Canada						
✪✪✪	10-Jan	Net change in employment (ths)	Dec	35.2	▲	- 71.2	25.0	◓

[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

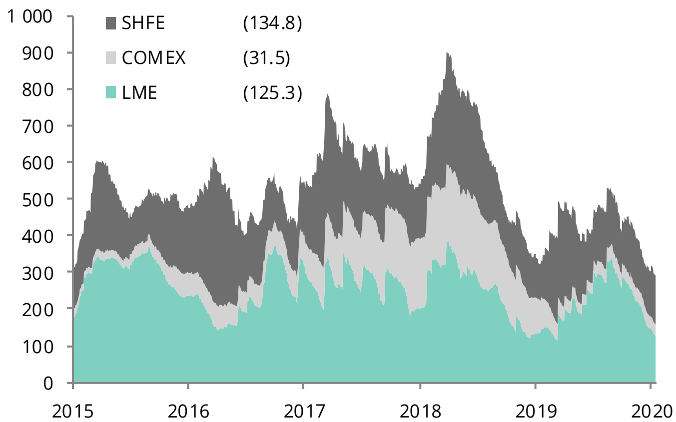
Key market data

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

(as of: 17-Jan-20)		Price change[1]				From year beginning[2]		
	Price	3W	QTD	YTD	1Y	Average	Min	Max
LME (USD/t; Mo in USD/lbs)								
Copper	6 276.50	▲ 2.9%	▲ 2.0%	▲ 2.0%	▲ 5.8%	6 181.21	6 077.00	6 300.50
Molybdenum	9.60	▲ 2.0%	▲ 4.3%	▲ 4.3%	-	9.50	9.20	9.63
Nickel	13 840.00	▲ 0.3%	▼ -1.1%	▼ -1.1%	▲ 20.9%	13 950.42	13 680.00	14 290.00
Aluminum	1 796.00	▲ 0.3%	▼ -0.2%	▼ -0.2%	▼ -0.4%	1 777.63	1 758.00	1 796.00
Tin	17 775.00	▲ 5.3%	▲ 5.5%	▲ 5.5%	▼ -14.3%	17 226.67	16 750.00	17 775.00
Zinc	2 434.00	▲ 4.2%	▲ 6.1%	▲ 6.1%	▼ -2.7%	2 371.96	2 284.00	2 438.00
Lead	1 977.00	▲ 4.1%	▲ 2.8%	▲ 2.8%	▲ 1.5%	1 923.67	1 889.50	2 027.00
LBMA (USD/troz)								
Silver	18.06	▼ -2.1%	▲ 0.1%	▲ 0.1%	▲ 16.0%	18.05	17.77	18.44
Gold[2]	1 557.60	▼ -1.0%	▲ 2.3%	▲ 2.3%	▲ 20.7%	1 554.10	1 527.10	1 573.10
LPPM (USD/troz)								
Platinum[2]	1 016.00	▲ 3.4%	▲ 4.6%	▲ 4.6%	▲ 26.2%	984.00	958.00	1 017.00
Palladium[2]	2 465.00	▲ 22.3%	▲ 28.4%	▲ 28.4%	▲ 77.1%	2 133.83	1 946.00	2 465.00
FX [3]								
EURUSD	1.1108	▼ -0.8%	▼ -1.1%	▼ -1.1%	▼ -2.5%	1.1140	1.1091	1.1194
EURPLN	4.2344	▼ -0.5%	▼ -0.6%	▼ -0.6%	▼ -1.2%	4.2411	4.2279	4.2571
USDPLN	3.8053	▼ -0.4%	▲ 0.2%	▲ 0.2%	▲ 1.2%	3.8078	3.7861	3.8272
USDCAD	1.3062	▲ 0.7%	▲ 0.6%	▲ 0.6%	▼ -1.7%	1.3032	1.2970	1.3079
USDCNY	6.8598	▼ -1.6%	▼ -1.5%	▼ -1.5%	▲ 1.2%	6.9216	6.8598	6.9747
USDCLP	773.36	▲ 2.0%	▲ 3.3%	▲ 3.3%	▲ 15.0%	766.98	748.74	777.66
Money market								
3m LIBOR USD	1.819	▼ -0.05	▼ -0.09	▼ -0.09	▼ -0.96	1.850	1.819	1.900
3m EURIBOR	-0.391	▼ -0.01	▼ -0.01	▼ -0.01	▼ -0.08	-0.389	-0.395	-0.379
3m WIBOR	1.710	- 0.00	- 0.00	- 0.00	▼ -0.01	1.710	1.710	1.710
5y USD interest rate swap	1.636	▲ 0.03	▼ -0.09	▼ -0.09	▼ -1.03	1.634	1.602	1.693
5y EUR interest rate swap	-0.158	▲ 0.03	▼ -0.05	▼ -0.05	▼ -0.35	-0.158	-0.197	-0.129
5y PLN interest rate swap	2.025	▲ 0.28	▲ 0.25	▲ 0.25	▼ -0.05	1.910	1.748	2.030
Fuel								
WTI Cushing	58.54	▼ -7.5%	▼ -4.1%	▼ -4.1%	▲ 12.4%	59.97	57.81	63.27
Brent	65.18	▼ -5.6%	▼ -1.9%	▼ -1.9%	▲ 7.7%	66.13	64.40	69.02
Diesel NY (ULSD)	185.42	▼ -8.6%	▼ -8.5%	▼ -8.5%	▼ -1.4%	194.42	184.75	206.01
Others								
VIX	12.10	▼ -1.75	▼ -1.68	▼ -1.68	▼ -5.96	12.85	12.10	14.02
BBG Commodity Index	79.82	▼ -2.2%	▼ -1.3%	▼ -1.3%	▼ -0.8%	80.62	79.61	81.64
S&P500	3 329.62	▲ 2.6%	▲ 3.1%	▲ 3.1%	▲ 26.3%	3 273.02	3 234.85	3 329.62
DAX	13 526.13	▲ 3.0%	▲ 2.1%	▲ 2.1%	▲ 23.9%	13 379.44	13 126.99	13 526.13
Shanghai Composite	3 075.50	▼ -0.3%	▲ 0.8%	▲ 0.8%	▲ 20.2%	3 089.44	3 066.89	3 115.57
WIG 20	2 175.95	▲ 0.1%	▲ 1.2%	▲ 1.2%	▼ -7.8%	2 168.43	2 115.99	2 200.10
KGHM	101.00	▲ 5.1%	▲ 5.7%	▲ 5.7%	▲ 10.4%	98.17	94.96	101.00

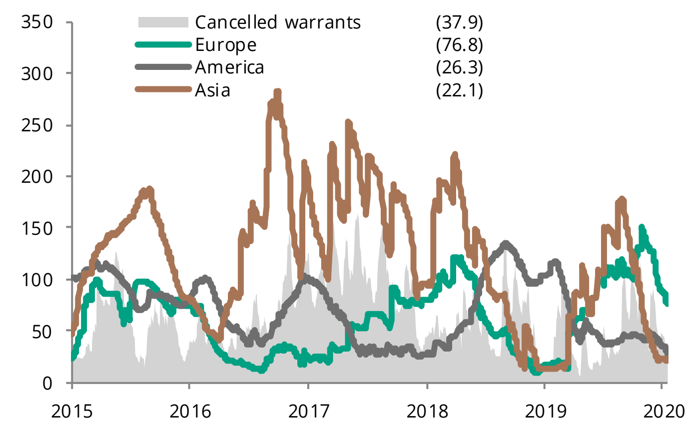
° change over: 2W = two weeks; QTD = quarter-to-day; YTD = year-to-date; 1Y = one year. [1] based on daily closing prices. [2] latest quoted price. [3] central banks' fixing rates (Bank of China HK for USD/CNY). [4].
Source: Bloomberg, KGHM Polska Miedź

Copper: official exchange stocks (thousand tonnes)



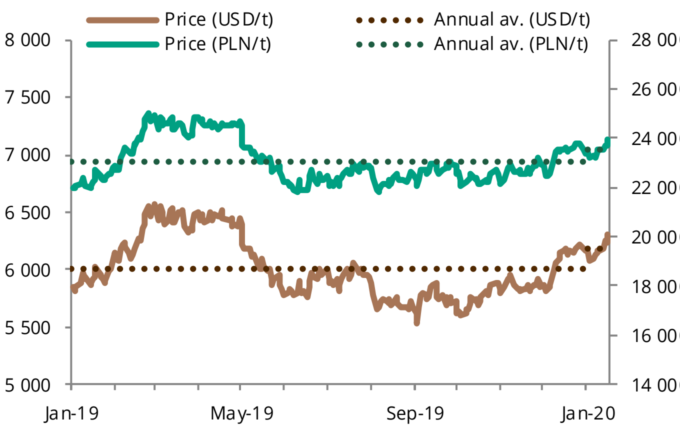
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



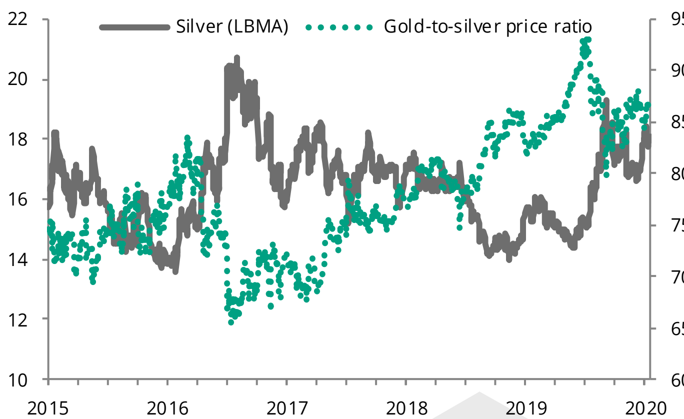
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



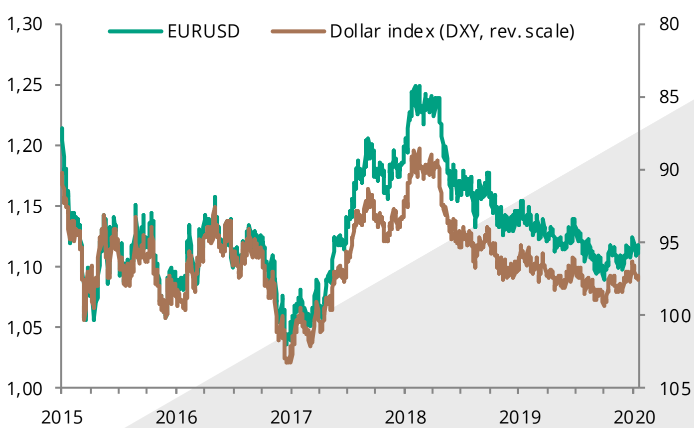
Source: Bloomberg, KGHM Polska Miedź

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



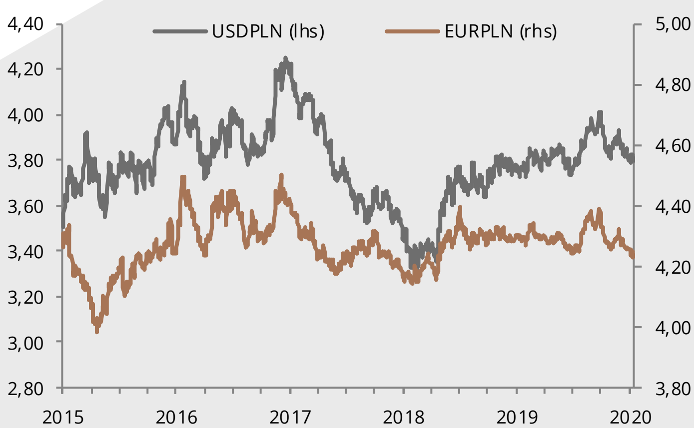
Source: Bloomberg, KGHM Polska Miedź

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: **6th- 19th January 2020.**

▪ 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

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)
Wydzial Ryzyka Rynkowego (Market Risk Unit)
ul. M. Sklodowskiej-Curie 48
59-301 Lubin, Poland