

# Market Overview

as of: 30 March 2015






- Copper:** Copper price has been pretty volatile in the recent two weeks, from bottoming around 5,600 USD/mt till changing direction in order to reach 6,300 USD/mt peak. The increase was a result of eurodollar correction and short covering on the copper market due to recurring supply disruptions partially caused by torrential rains in Atacama desert in Chile (*page 2*).
- Molybdenum:** Supply glut on the molybdenum market predicted by some of the research institutions and investment banks looks more and more fragile as the amount of metal that comes as a by-product mostly from copper mines is being put off. At present, any further project delays are likely to create temporary tightness which would result in short term price increases, as we have seen in the recent weeks (*page 3*).
- Gold:** In recent two weeks prices of gold has rebounded slightly from this year lows, however volatility remains subdued as investors are focused on equity markets (*page 4*).
- US dollar:** A more dovish than expected FOMC has created doubts about the USD bull market in medium term. However, US concerns about a strong currency will most likely delay, but not cancel Fed's rates normalisation at the time when more than twenty non-US central banks remain in easing stance. In short term, stronger Eurozone data and positioning unwinds may extend EUR upside for a while, but a trend reversal is unlikely since the currency is critical to ECB plans to boost inflation. (*page 5*).

## Key market prices

	Close price	2w chng.
<b>LME (USD/t)</b>		
▲ Copper	6 146.00	4.9%
▼ Nickel	13 260.00	-4.3%
<b>LBMA (USD/troz)</b>		
▲ Silver	17.14	10.6%
▲ Gold (PM)	1 195.75	3.8%
<b>FX</b>		
▲ EUR/USD	1.0856	2.7%
▼ EUR/PLN	4.0993	-1.3%
▼ USD/PLN	3.7890	-3.2%
▼ USD/CAD	1.2580	-1.7%
▼ USD/CLP	620.68	-2.0%
<b>Stocks</b>		
▲ KGHM	120.00	5.3%

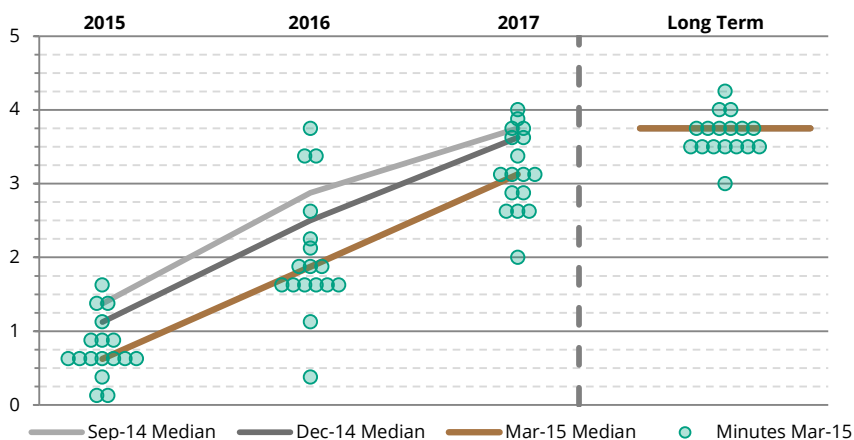
Source: Bloomberg, KGHM; (*more on page 9*)

## Important macroeconomic data

Release	For		
 Industrial prod. (yoy)	Feb	4.9%	▲
 HSBC's manuf. PMI	Mar	49.2	▼
 Composite PMI	Mar	54.1	▲
 Manufacturing PMI	Mar	52.4	▲
 ZEW survey expectations	Mar	62.4	▲

Source: Bloomberg, KGHM; (*more on page 7*)

## FOMC members revised their rates expectations downward once again



Source: Bloomberg, KGHM

## Market Risk Unit

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## Base and precious metals

### Copper

**Copper price has been pretty volatile in the recent two weeks, from bottoming around 5,600 USD/mt till changing direction in order to reach 6,300 USD/mt peak. The increase was a result of eurodollar correction and short covering on the copper market due to recurring supply disruptions partially caused by torrential rains in Atacama desert in Chile.**

#### The story of 14 years' worth of rain in just one day...

**Codelco lost 6,500 mt copper production as heavy rains shut mines**

Chilean state metals giant Codelco has lost around 6,500 mt of copper production as the result of torrential rain and flooding which hit northern Chile. Heavy rains have forced companies to suspend operations at several major mines, putting an estimated 1.6 mn mt of capacity of copper on hold (circa 8% of global output according to Reuters). Codelco shut five of its seven mining divisions on a preventative basis although many of the mines' processing plants continued to operate using stockpiled material. Operations have resumed at all mines except Salvador, where the mine suffered medium-sized damage. According to CEO Nelson Pizarro, Codelco has plans to recover the lost production by the end of the year. Regarding Salvador, it is estimated to take one month to repair damage at mine. The high altitude complex suffered "medium" damage to the line between the concentrator plant and filtration plant as well as the mine itself, other units and road access. The Salvador division, Codelco's smallest, produced 54,000 mt of copper last year.

**JX shuts Caserones copper ops in Chile due to bad weather**

Other Chilean copper miner, Antofagasta, restarted its operations in Centinela and Michilla mines. Caserones mine, owned by Japan's Pan Pacific Copper, remains shut due to more than a meter of snow covering the high altitude open pit. JX Nippon Mining announced last month that Caserones produced 19,000 mt of red metal concentrate in terms of copper content in 2014, far below its earlier target of 70,000 tonnes, due to a delay in setting up an automatic operation programme and building a tailing dam.

#### Other important information on copper market:

- Codelco, the world's biggest copper miner, produced 1.672 mn mt of copper in 2014, up 3.1% from 2013, reflecting increased output at its Chuquibambilla, El Teniente and Ministro Hales mines. Codelco earned 3 bn USD from its copper sales in 2014, down 22% from 3.9 bn USD in 2013, as lower prices ate into profit margins. Codelco also sold 26,670 mt of molybdenum last year, up 23% from 21,708 mt in 2013, it said. Molybdenum is a key by-product of the company's copper business.
- Freeport McMoRan, the world's largest publicly traded copper producer, cut its dividend by 84 percent due to the need of funding mining and energy

projects in the face of lower commodities prices. The quarterly payout was reduced to 5 cents a share from 31.25 cents. Freeport is going to evaluate funding opportunities for its oil and gas projects and consider measures including additional spending cuts and assets sales “as would be required”.

- Southern Copper Corp officially said that the company will not proceed with plans to build a copper mine in Peru. The decision was caused by renewed farmers’ protests who are concerned that the mine would pollute local waters. However, Peruvian government responded that the 1.4 bn USD mine will be built anyway. The mine was part of Southern Copper’s plan to almost double output to 1.2 million tons. Before the decision, the mine was intended to add 120,000 mt of copper capacity.
- Newmont Mining Corp's Indonesian copper export permit has been extended for another six months, according to Reuters. The permit was granted by the mining ministry on the company’s assurance over its commitment to build smelter with Freeport. Newmont's export quota is set at 477,000 mt until September. Apart from Newmont, eight other companies received export permits for 2015.

## Molybdenum

**Supply glut on the molybdenum market predicted by some of the research institutions and investment banks looks more and more fragile, as the amount of metal that comes as a by-product, mostly from copper mines, is being put off. At present, any further project delays are likely to create temporary tightness which would result in short term price jumps, as we have seen in the recent weeks.**

### China Molybdenum increases production by 7% yoy

The Chinese integrated molybdenum producer increased its moly output to 35.9Mlbs in 2014. All production comes from one of three China Molybdenum mines, Sandaozhuang. The other two, Xinjiang mine and Shangfanggou are not currently operational.

In 2015, second-largest moly producer in China, is intended to keep its production flat at 35.9 Mlbs. However the miner expects its cash costs to rise to RMB63,358/tonne (10,219 USD/tonne) of moly metal this year. This compares to RMB56,663/tonne (9,139 USD/tonne) of moly metal the company reported for 2014.

According to CRU, Chinese Molybdenum raised its moly output while a number of small-scale, high-cost primary molybdenum operations scaled back production and some even shut down completely due to rising cost pressures. The research company estimates that this accounts for 21% of total country production in 2014. However, in the first quarter of 2015 small-scale mines will likely cut back output and some will remain closed from last year which is expected to lower company’s output by 8% qoq. China Molybdenum’s net profit

**Moly output has been increased by 7% yoy**

**In 2015 the costs are expected to raise by nearly 12% in comparison to 2014**

**Small-scale high cost mine closures are coming; 2014 profits disturbed by one-offs**

was of RMB1.82 billion (\$0.3 billion) in 2014, up by 55.4% year-on-year. This was partly due to sales of copper units from its 80% share of Northparkes copper-gold mine in Australia. China Molybdenum sold 43.8Mlbs of molybdenum in 2014, an increase of 14.4% year-on-year.

## Gold

**In recent two weeks prices of gold has rebound slightly from this year lows, however volatility remains subdued as investors are focused at equity markets.**

### New gold fixing mechanism

After 96.5 years of the traditional Gold Fixing, market has launched the new price setting mechanism for the LBMA Gold Price, which will be administered by the ICE Benchmark Administration. Under the administration of IBA, the methodology underpinning the LBMA Gold Price is as follows:

- An independently administrated and tradable auction process.
- Electronic and physically settled auction.
- Aggregated and anonymous bids and offers published on-screen and in real-time.
- Auction conducted in US Dollars.

#### 10:30am and 3:00pm London time auction

The auction runs twice a day at 10:30am and 3:00pm London time. The process has an independent chairperson, appointed by IBA to determine the price for each round and ensure that the price responds appropriately to market conditions. The auction process provides a market-based platform for buyers and sellers to trade physical spot gold and the final auction price is used and published to the market as the LBMA Gold Price benchmark.

#### Seven direct participants

The seven direct participants as of March 27, 2015 are: Barclays, Goldman Sachs, HSBC Bank USA NA, JPMorgan Chase Bank N.A. London Branch, The Bank of Nova Scotia – ScotiaMocatta, Societe Generale and UBS.

## Global economies | Foreign exchange markets

### US dollar: Is March just a temporary rest point?

**A more dovish than expected FOMC has created doubts about the USD bull market in medium term. However, US concerns about a strong currency will most likely delay, but not cancel Fed's rates normalisation at the time when more than twenty non-US central banks remain in easing stance. In short term, stronger Eurozone data and positioning unwinds may extend EUR upside for a while, but a trend reversal is unlikely since the currency is critical to ECB plans to boost inflation.**

#### Fed's "patience" phrase removal may make USD more data-dependant

The bullish positioning and sentiment, and a more dovish than expected FOMC outcome combined to create significant short term volatility in the USD in March. The removal of time dependent guidance "patience" from Fed's statement means rates will react more freely to economic data.

#### US data has disappointed recently

The problem recently is that the economic or corporate earnings data has not been strong either in terms of actual numbers or relative to elevated expectations. This may prove to be temporary and caused by the special factors in the West Coast ports and in East Coast weather, but it is also possible that expectations for US activity have to yet again go through a correction. In addition, the Fed seems to be increasingly concerned about how the dollar's value affects world influence on the US, namely exports and inflation. This is all less positive for the USD than markets hoped.

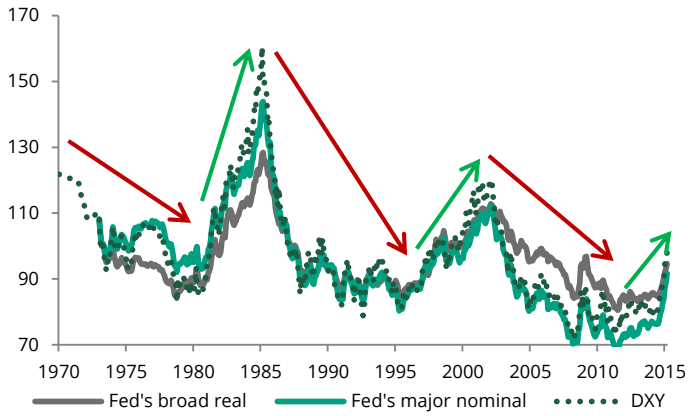
#### Monetary policies divergence still alive

On the other side, more than twenty central banks outside the US eased monetary policy this year, some of them more than once. As such, the widely expected policies divergence that should drive USD gains over coming months is still in power. In particular, both BoJ (Bank of Japan) and ECB (European Central Bank) seem specifically focused towards FX weakness as a tool to raise inflation and inflation expectations. While some improvement is evident in both the Japanese and EZ business cycle indicators, core inflation improvement is not especially evident implying that further easing is likely in both centres.

#### Looking at historical moves, USD could still gain

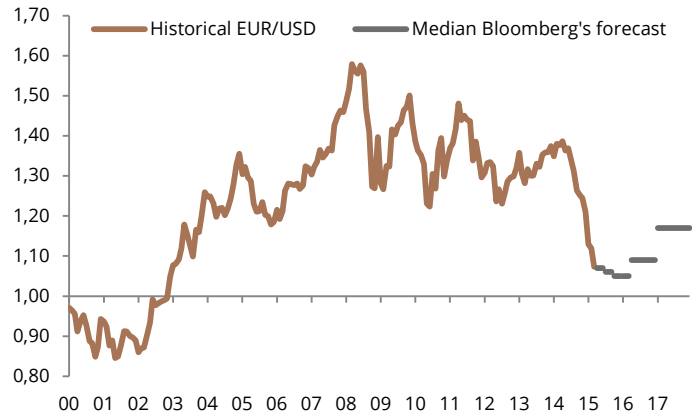
As a result, in the longer term, the USD could still gain. Dollar cycles tend to be quite long lasting, with rallies typically 5-6 years long. That would imply that the current trend, which began in 2011, could go through to the end of 2016. Regarding size of the move, the gain thus far in the G10 USD indices amounted to around 30-35% from the lows, which compares to a typical rise of about 40-50% historically. In the real broad indices, which include emerging markets, the gain is around 16-17% with 30% marking the typical historical move. Therefore, there is still some space for further dollar strengthening, although market consensus does not seem to believe that the move will be significant, as reflected in the latest EURUSD forecasts.

**Dollar cycles - 10 years down, 5-6 years up - imply further USD strengthening...**



Note: Chart shows Fed's broad real index, major currencies and ICE's DXY indices. Source: Bloomberg, KGHM

**... but the market does not expect it to go much further, at least versus EUR**









Note: Median of forecasts submitted to Bloomberg in March. Source: Bloomberg, KGHM

# Macroeconomic calendar

## Important macroeconomic data releases

Weight	Date	Event	For	Reading <sup>1</sup>	Previous	Consensus <sup>2</sup>	
<b>China</b>							
☆☆☆	24-Mar	HSBC's manufacturing PMI - preliminary data	Mar	49.2 ▼	50.7	50.5	
<b>Poland</b>							
☆☆☆☆	16-Mar	Core CPI (excluding food and energy, yoy)	Feb	0.4% ▼	0.6%	0.5%	
☆☆	16-Mar	Trade balance (EUR mn)‡	Jan	1 021 ▲	- 791	- 59.0	
☆☆	16-Mar	Exports (EUR mn)‡	Jan	13 472 ▲	11 708	12 755	
☆☆	16-Mar	Current account balance (EUR mn)‡	Jan	56.0 ▲	-1 414	- 920	
☆	16-Mar	Budget balance (ytd)	Feb	24.6% ▲	1.3%	--	
☆☆	17-Mar	Average gross salary (yoy)	Feb	3.2% ▼	3.6%	3.2%	
☆	17-Mar	Employment (yoy)	Feb	1.2% -	1.2%	1.3%	
☆☆☆☆	18-Mar	Sold industrial production (yoy)	Feb	4.9% ▲	1.7%	4.1%	
☆☆☆	18-Mar	Retail sales (yoy)	Feb	-1.3% ▼	0.1%	0.0%	
☆☆	18-Mar	Producer inflation PPI (yoy)‡	Feb	-2.7% ▲	-2.8%	-2.7%	
☆☆	24-Mar	Unemployment rate	Feb	12.0% -	12.0%	12.0%	
<b>US</b>							
☆☆☆☆	16-Mar	Industrial production (mom)‡	Feb	0.1% ▲	-0.3%	0.2%	
☆	16-Mar	Capacity utilization‡	Feb	78.9% ▼	79.1%	79.5%	
☆☆☆☆☆	18-Mar	FOMC base rate decision - upper bound (Fed)	Mar	0.25% -	0.25%	0.25%	
☆☆☆☆☆	18-Mar	FOMC base rate decision - lower bound (Fed)	Mar	0.00% -	0.00%	0.00%	
☆☆	19-Mar	Philadelphia Fed business outlook	Mar	5.0 ▼	5.2	7.0	
☆☆☆☆	24-Mar	Consumer inflation CPI (mom)	Feb	0.2% ▲	-0.7%	0.2%	
☆☆☆☆	24-Mar	Consumer inflation CPI (yoy)	Feb	0.0% ▲	-0.1%	-0.1%	
☆☆☆	24-Mar	Manufacturing PMI - preliminary data	Mar	55.3 ▲	55.1	54.6	
☆	24-Mar	Richmond Fed manufacturing index	Mar	- 8.0 ▼	0.0	3.0	
☆☆	25-Mar	Durable goods orders‡	Feb	-1.4% ▼	2.0%	0.2%	
☆☆☆	26-Mar	Composite PMI - preliminary data	Mar	58.5 ▲	57.2	--	
☆☆☆	26-Mar	PMI services - preliminary data	Mar	58.6 ▲	57.1	57.0	
☆☆☆☆☆	27-Mar	GDP (annualized, qoq)	4Q	2.2% -	2.2%	2.4%	
☆☆	27-Mar	University of Michigan confidence index - final data	Mar	93.0 ▲	91.2	92.0	
<b>Eurozone</b>							
☆☆☆☆	17-Mar	Consumer inflation CPI (yoy) - final data‡	Feb	-0.3% ▲	-0.6%	-0.3%	
☆☆☆☆	17-Mar	Core CPI (yoy) - final data‡	Feb	0.7% -	0.7%	0.6%	
☆	17-Mar	ZEW survey expectations	Mar	62.4 ▲	52.7	--	
☆	18-Mar	Trade balance (EUR mn)‡	Jan	7.9 ▼	24.0	15.0	
☆☆	19-Mar	Labour costs (yoy)‡	4Q	1.1% ▼	1.4%	--	
☆	23-Mar	Consumer confidence - estimation	Mar	- 3.7 ▲	- 6.7	- 6.0	
☆☆☆	24-Mar	Composite PMI - preliminary data	Mar	54.1 ▲	53.3	53.6	
☆☆☆	24-Mar	Manufacturing PMI - preliminary data	Mar	51.9 ▲	51.0	51.5	
☆☆☆	24-Mar	Services PMI - preliminary data	Mar	54.3 ▲	53.7	53.9	
☆	26-Mar	M3 money supply (yoy)‡	Feb	4.0% ▲	3.7%	4.3%	
<b>Germany</b>							
☆☆☆	24-Mar	Composite PMI - preliminary data	Mar	55.3 ▲	53.8	54.1	
☆☆☆	24-Mar	Manufacturing PMI - preliminary data	Mar	52.4 ▲	51.1	51.5	
☆☆	25-Mar	IFO business climate	Mar	108 ▲	107	107	
☆☆	26-Mar	GfK consumer confidence	Apr	10.0 ▲	9.7	9.8	

Weight	Date	Event	For	Reading <sup>1</sup>	Previous	Consensus <sup>2</sup>
<b>France</b> 						
☆☆☆	24-Mar	Composite PMI - preliminary data	Mar	51.7 ▼	52.2	51.9 ◡
☆☆☆	24-Mar	Manufacturing PMI - preliminary data	Mar	48.2 ▲	47.6	48.5 ◡
☆☆☆☆☆	26-Mar	GDP (yoy) - final data	4Q	0.2% -	0.2%	0.2% ○
☆☆☆☆☆	26-Mar	GDP (qoq) - final data	4Q	0.1% -	0.1%	0.1% ○
<b>Italy</b> 						
<i>No major data in the period</i>						
<b>UK</b> 						
☆☆	18-Mar	Unemployment rate (ILO, 3-months)	Jan	5.7% -	5.7%	5.6% ▲
☆☆☆☆	24-Mar	Consumer inflation CPI (yoy)	Feb	0.0% ▼	0.3%	0.1% ◡
<b>Japan</b> 						
☆☆☆	24-Mar	Manufacturing PMI - preliminary data	Mar	50.4 ▼	51.6	52.0 ◡
☆☆☆☆	27-Mar	Consumer inflation CPI (yoy)	Feb	2.2% ▼	2.4%	2.3% ◡
<b>Chile</b> 						
☆☆☆☆☆	18-Mar	GDP (yoy)‡	4Q	1.8% ▲	1.0%	1.9% ◡
☆☆☆☆☆	19-Mar	BCCCh overnight rate target	Mar	3.00% -	3.00%	3.00% ○
<b>Canada</b> 						
☆☆☆☆	20-Mar	Consumer inflation CPI (yoy)	Feb	1.0% -	1.0%	1.0% ○

<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



## Key market data

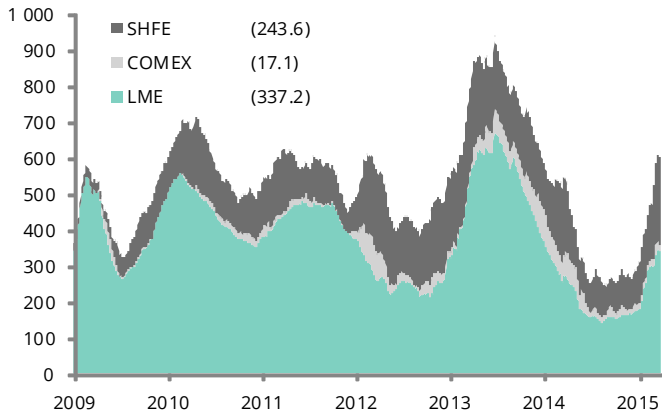
### Key base & precious metal prices, exchange rates and other important market factors

(as of: 27-Mar-15)

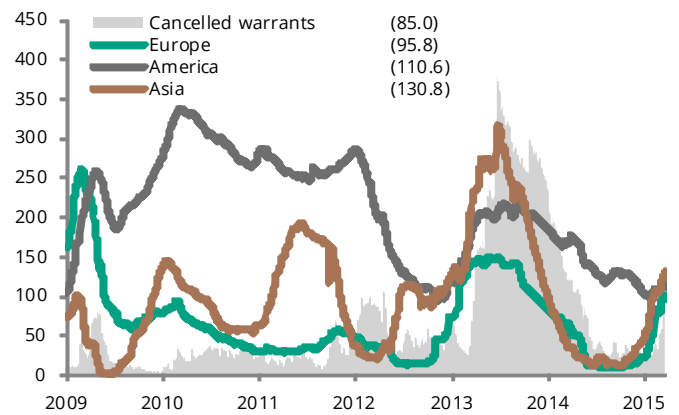
	Price	Price change <sup>4</sup>					From year beginning <sup>2</sup>		
		2W	QTD	YTD	1Y	Average	Min	Max	
<b>LME (USD/t)</b>									
Copper	6 146.00	▲ 4.9%	▼ -3.3%	▼ -3.3%	▼ -6.6%	5 809.54	5 390.50	6 309.00	
Molybdenum	18 500.00	▲ 5.7%	▼ -11.9%	▼ -11.9%	▼ -17.8%	18 718.03	16 350.00	21 500.00	
Nickel	13 260.00	▼ -4.3%	▼ -11.2%	▼ -11.2%	▼ -15.4%	14 389.84	13 260.00	15 455.00	
Aluminum	1 772.00	▲ 1.6%	▼ -3.2%	▼ -3.2%	▲ 5.3%	1 800.38	1 742.00	1 871.50	
Tin	17 300.00	▼ -0.6%	▼ -11.3%	▼ -11.3%	▼ -24.9%	18 440.41	16 805.00	19 750.00	
Zinc	2 069.00	▲ 3.4%	▼ -4.5%	▼ -4.5%	▲ 5.2%	2 079.85	1 985.00	2 183.50	
Lead	1 831.00	▲ 2.2%	▼ -1.2%	▼ -1.2%	▼ -10.4%	1 805.76	1 696.00	1 881.50	
<b>LBMA (USD/troz)</b>									
Silver	17.14	▲ 10.6%	▲ 7.3%	▲ 7.3%	▼ -12.9%	16.71	15.47	18.23	
Gold <sup>1</sup>	1 195.75	▲ 3.8%	▼ -0.3%	▼ -0.3%	▼ -7.7%	1 219.51	1 147.25	1 295.75	
<b>LPPM (USD/troz)</b>									
Platinum <sup>1</sup>	1 138.00	▲ 2.1%	▼ -6.0%	▼ -6.0%	▼ -18.9%	1 194.54	1 088.00	1 285.00	
Palladium <sup>1</sup>	748.00	▼ -5.4%	▼ -6.3%	▼ -6.3%	▼ -2.3%	787.39	748.00	831.00	
<b>FX <sup>3</sup></b>									
EUR/USD	1.0856	▲ 2.7%	▼ -10.6%	▼ -10.6%	▼ -21.1%	1.1276	1.0557	1.2043	
EUR/PLN	4.0993	▼ -1.3%	▼ -3.8%	▼ -3.8%	▼ -2.0%	4.1963	4.0886	4.3335	
USD/PLN	3.7890	▼ -3.2%	▲ 8.0%	▲ 8.0%	▲ 24.6%	3.7256	3.5725	3.9260	
USD/CAD	1.2580	▼ -1.7%	▲ 8.4%	▲ 8.4%	▲ 13.8%	1.2403	1.1728	1.2803	
USD/CNY	6.2157	▼ -0.7%	▲ 0.2%	▲ 0.2%	▲ 0.0%	6.2379	6.1883	6.2747	
USD/CLP	620.68	▼ -2.0%	▲ 2.2%	▲ 2.2%	▲ 11.7%	624.41	606.75	642.18	
<b>Money market</b>									
3m LIBOR USD	0.275	▲ 0.02	▲ 0.08	▲ 0.08	▲ 0.18	0.260	0.251	0.275	
3m EURIBOR	0.021	▼ -0.16	▼ -0.73	▼ -0.73	▼ -0.93	0.047	0.021	0.076	
3m WIBOR	1.650	- 0.00	▼ -0.20	▼ -0.20	▼ -0.39	1.874	1.650	2.060	
5y USD interest rate swap	1.580	▼ -0.10	▼ -0.11	▼ -0.11	▼ -0.12	1.605	1.313	1.849	
5y EUR interest rate swap	0.262	▼ -0.04	▼ -0.27	▼ -0.27	▼ -0.73	0.298	0.235	0.350	
5y PLN interest rate swap	1.868	▼ -0.09	▼ -0.04	▼ -0.04	▼ -0.48	1.808	1.563	2.100	
<b>Fuel</b>									
WTI Cushing	48.87	▲ 9.0%	▼ -8.3%	▼ -8.3%	▼ -51.7%	48.51	43.46	53.53	
Brent	54.36	▲ 1.0%	▼ -2.5%	▼ -2.5%	▼ -49.2%	53.89	45.25	61.81	
Diesel NY (ULSD)	173.00	▼ -1.3%	▼ -5.2%	▼ -5.2%	▼ -41.4%	183.70	161.84	233.64	
<b>Others</b>									
VIX	15.07	▼ -0.06	▼ -0.22	▼ -0.22	▲ 0.03	16.62	13.02	22.39	
BBG Commodity Index	99.37	▲ 1.8%	▼ -4.8%	▼ -4.8%	▼ -26.2%	101.50	96.96	104.47	
S&P500	2 061.02	▲ 0.4%	▲ 0.1%	▲ 0.1%	▲ 11.5%	2 063.24	1 992.67	2 117.39	
DAX	11 868.33	▼ -0.3%	▲ 21.0%	▲ 21.0%	▲ 25.6%	10 945.30	9 469.66	12 167.72	
Shanghai Composite	3 691.10	▲ 9.4%	▲ 14.1%	▲ 14.1%	▲ 80.4%	3 323.42	3 075.91	3 691.41	
WIG 20	2 373.18	▲ 3.0%	▲ 2.5%	▲ 2.5%	▼ -2.0%	2 337.18	2 242.42	2 414.39	
KGHM	120.00	▲ 5.3%	▲ 10.2%	▲ 10.2%	▲ 14.4%	113.25	100.95	122.70	

<sup>0</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>

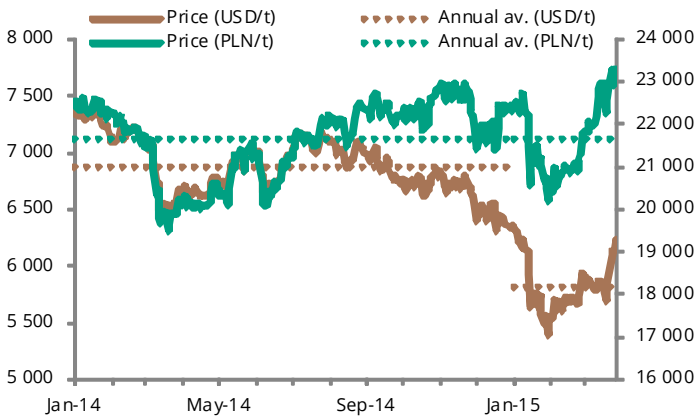
Source: Bloomberg, KGHM

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


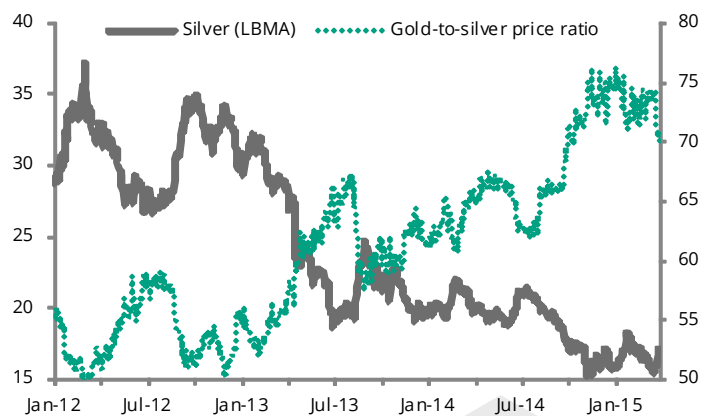
Note: Latest values in brackets. Source: Bloomberg, KGHM

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


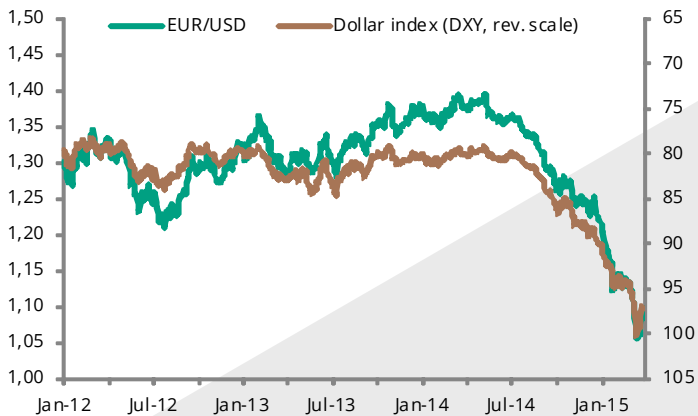
Note: Latest values in brackets. Source: Bloomberg, KGHM

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


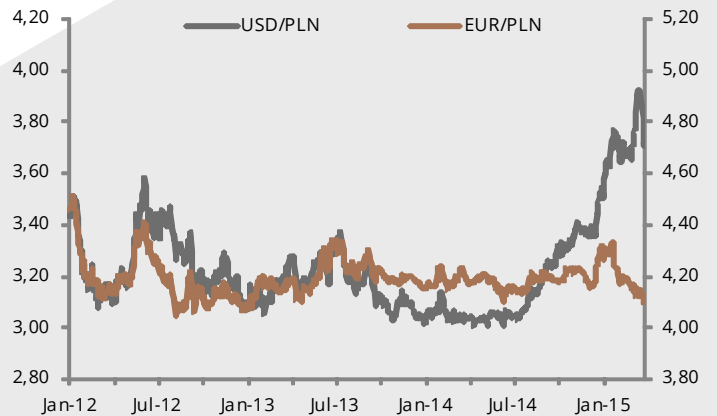
Source: Bloomberg, KGHM

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


Source: Bloomberg, KGHM

**USD: dollar index (lhs) and ECB-based EUR/USD (rhs)**


Source: Bloomberg, KGHM

**PLN: NBP-fixing based rate vs. USD (lhs) and EUR (rhs)**


Source: Bloomberg, KGHM

## Legal note

This document has been prepared based on the below listed reports, among others, published in the following period:  
**16 March – 29 March 2015.**

- “Commodities Comment” Macquarie Research Metals and Mining, ▪ “Commodities Daily” Standard Bank, ▪ “Commodities Weekly” Barclays Capital Research, ▪ “Metals Market Update” Morgan Stanley, ▪ “Daily Copper Wrap” Mitsui, ▪ “Base and Precious Metals Daily” JPMorgan, ▪ „Codziennik” BZ WBK, ▪ „Tygodnik Ekonomiczny” BZ WBK, ▪ „Raport dzienny” mBank, ▪ „Biuletyn Dzienny” Bank PEKAO S.A., ▪ „Dragonomics: China Research” Gavekal

Moreover, additional information published here was acquired in direct conversations with market dealers, from financial institution reports and from the following websites: ▪ lme.co.uk, ▪ lbma.org.uk, ▪ economy.com/dismal, ▪ thebulliondesk.com, ▪ lbma.org.uk/stats, ▪ crumonitor.com, ▪ metalbulletin.com, ▪ nbportal.pl, ▪ nbp.pl, as well as data providing systems: Thomson Reuters and Bloomberg.

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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