

# Market Overview

as of: 5th September 2016






- Copper:** Copper price have been under pressure in the recent weeks diving to 4600 USD/t. Price fall could be explained by strong physical deliveries in the Asian warehouses probably as a consequence of excess of material in the Chinese market. Further fall was likely offset by information from Latin America where miners rejected the wage deal with Codelco's Salvador mine as well as Los Bronces, owned by Anglo American (*page 2*).
- Precious metals:** Investors are expecting prices to be volatile especially with the Fed meeting in the end of September. The chances of an interest rate hike dropped after recent reports that showed U.S. retail sales fell more than expected in August and manufacturing output declined as well as rising jobless claims (*page 2*).
- Jackson Hole:** As expected by the economists, Janet Yellen left the door open to rise Fed Funds rate before year-end. Fed's Chair has speech has been followed by Stanley Fischer who highlighted a strengthening US economy and jobs market (*page 2*).

## Key market prices

	Close price	2w chng.
<b>LME (USD/t)</b>		
▼ Copper	4 607.00	-3.5%
▼ Nickel	9 880.00	-3.6%
<b>LBMA (USD/troz)</b>		
▼ Silver	18.75	-3.4%
▼ Gold (PM)	1 324.70	-1.6%
<b>FX</b>		
▼ EUR/USD	1.1193	-1.2%
▲ EUR/PLN	4.3796	2.1%
▲ USD/PLN	3.9164	3.3%
▲ USD/CAD	1.2999	0.9%
▲ USD/CLP	680.28	3.7%
<b>Stocks</b>		
▼ KGHM	73.10	-6.2%

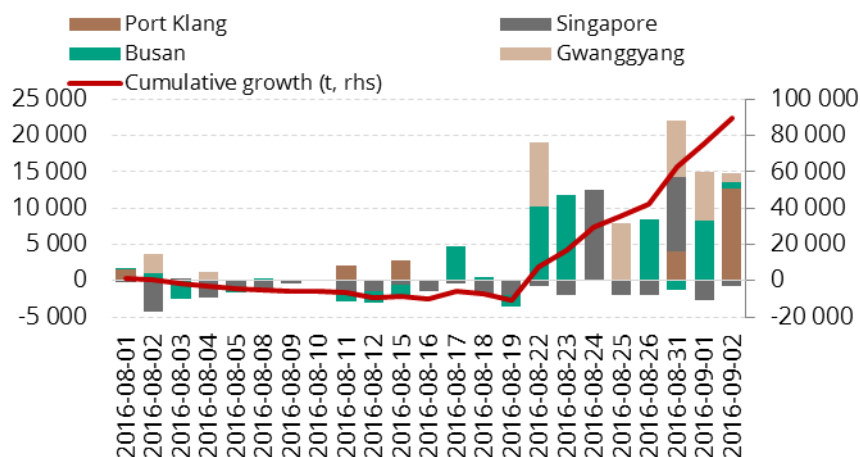
 Source: Bloomberg, KGHM Polska Miedź; (*more on page 8*)

## Important macroeconomic data

Release	For		
 Official manuf. PMI	Aug	50.4	▲
 Caixin's manuf. PMI	Aug	50.0	▼
 PCE inflation (yoy)	Jul	1.6%	-
 Industrial prod. (yoy)	Jul	-3.8%	▼
 GDP (yoy)	Jun	1.1%	▲

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

In the last two weeks inventories in Asian warehouses have gained nearly 90k tonnes of fresh copper



Source: Bloomberg, KGHM Polska Miedź

## Market Risk Unit

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## Base and precious metals | Other commodities

### Copper

**Copper price have been under pressure in the recent weeks diving to 4600 USD/t. Price fall could be explained by strong physical deliveries in the Asian warehouses probably as a consequence of excess of material in the Chinese market. Further fall was likely offset by information from Latin America where miners rejected the wage deal with Codelco's Salvador mine as well as Los Bronces, owned by Anglo American.**

#### Important information on copper market:

- The global world refined copper market showed a 65k tonnes deficit in May, compared with a 144k tonnes deficit in April, according to International Copper Study Group's (ICSG) latest monthly bulletin. For the first 5 months of the year, the market was in a 222k tonnes deficit compared with a 39k tonnes deficit in the same period a year earlier. World refined copper output in May was 1.93 million tonnes, while consumption was 1.99 million tonnes. Bonded stocks of copper in China showed a 68k tonnes deficit in May compared with a 126,000 tonnes deficit in April.
- Spot treatment and refining charges (TC/RCs) for imported copper concentrate in the current third quarter are expected not to fall below \$100/mt, while the fees in the fourth quarter are likely to rise, according to Platts. It is expected that Chinese copper smelters' short-term copper concentrate purchases are going to arrive mainly during 4Q, as they had taken into consideration the long-term TC/RCs contract talks later on this year. The China Smelters Purchase Team, or CSPT, set the minimum spot treatment and refining charges for clean, imported copper concentrate at 103 USD/mt, 10.3 cents/lb for the third quarter of this year. In early June, spot TC/RCs for clean ore were in excess of 100 USD/mt (and 10 cents/lb), compared with around 95 USD/mt (and 9.5 cents/lb) in May and in excess of 80 USD/mt (and 8 cents/lb) in April.
- Platts informed that workers at two copper mines in Chile voted to strike amid pay talks. Around 85% of union members at Anglo American's Los Bronces mine in central Chile voted to reject an offer from management, which included a signing bonus worth Chilean Peso 9 million (\$13,216). Meanwhile, members of the No. 2 Potrerillos union at Codelco's Salvador division, in the north of the country, voted by 57% in favor of rejecting the final offer from state mining company. However, under Chile's highly regulated negotiation process, the two sides must now submit to five days of mediated talks after which workers must vote on a further offer before they walk out. A second union at Salvador agreed to accept the two-year deal offered by Codelco. Salvador, which is the Chile's giant smallest division, has been the subject of management efforts to cut costs, which fell

20% to around 1.86 USD/lb during the first six months of the year. Salvador produced 48,600 mt last year. The contract signed include incentives associated with a division target to reduce direct costs to 1.85 USD/lb this year and below 1.80 USD/lb in 2017.

- Chile's Codelco CEO Nelson Pizarro said that the Chilean copper giant is putting off development of sulfide resources at its Radomiro Tomic copper mine in order to focus limited funds on more profitable projects. The state-owned mining company is advancing a series of major investment projects at its divisions to ensure its place as the world's largest copper producer for decades to come, including an underground operation at Chuquicamata, a new mine level at El Teniente and a crushing line at its Andina mine. The company produced a record 843k mt of copper during the first half of the year. A sharp drop in the copper price since last year has limited funds available for investment despite a government commitment to reinvest 4 USD bn through 2018. Codelco is currently redesigning the project at Radomiro Tomic, which received environmental approval in January, to improve returns, but noted that the ore grades were lower than at the nearby Chuquicamata deposit. It is a less competitive project than the other three, so according to Pizarro, the financial resources are focused on the most profitable projects.

## Precious metals

**Investors are expecting prices to be volatile especially with the Fed meeting in the end of September. The chances of an interest rate hike dropped after recent reports that showed U.S. retail sales fell more than expected in August and manufacturing output declined as well as rising jobless claims.**

### New instruments available for Comex investors

CME Group, announced recently the launch of the first-ever, exchange-traded precious metals spread and ratio futures contracts. The three new contracts include Gold/Silver Ratio futures, Gold/Platinum Spread futures and Platinum/Palladium Spread futures and will begin trading on October 24, 2016, pending regulatory review. These three new contracts will provide market participants with an innovative way to manage precious metals price relationships, while accessing the deep liquidity offered by COMEX Gold and Silver, and NYMEX Platinum and Palladium futures. These three new futures contracts will eliminate a great deal of complexity involved in price ratio and spread trading of precious metals and provide a broader subset of market participants the tools to offset macroeconomic risk.

These contracts will be financially settled and build on CME Group's existing suite of precious benchmark precious metals products. Gold/Silver Ratio futures will be 500 index points in size and reference the ratio of the COMEX Gold and Silver futures price for each day of the contract month. Gold/Platinum Spread futures will be 100 troy ounces in size and reference the difference between the COMEX Gold and NYMEX Platinum futures price for each business day of the contract month. Platinum/Palladium Spread futures will be 100 troy ounces in size and reference the difference between the NYMEX Platinum and Palladium futures price for each business day of the contract month. Gold/Silver Ratio futures and Gold/Platinum Spread futures contracts will be listed by and subject to the rules of COMEX. Platinum/Palladium Spread futures will be listed by and subject to the rules of NYMEX.

### Norilsk makes palladium market

A fund set up by Russia's Norilsk Nickel bought about 90,000 troy ounces of palladium in the first half of 2016, Norilsk said in a statement on Thursday. The fund may purchase a similar amount of palladium in the second half of the year, subject to market conditions.

Norilsk, the world's largest palladium producer, created the Global Palladium Fund earlier this year to develop relations with holders of existing metal stockpiles, with a commitment for potential transactions of up to \$200 million. Since 2014, Norilsk has been offering to acquire some of the palladium from the Russian central bank's stocks, but talks were put on hold due to weak global prices. The central bank, which holds one of the world's biggest gold and foreign exchange reserves, did not provide an immediate comment. The size of its palladium stock is a state secret.

**An innovative way to manage precious metals price relationships**

**Instruments will be settled on both COMEX and NYMEX**

**Unfortunately Russian palladium stockpiles are secret**

## Global economies | Foreign exchange markets

### Jackson Hole: Yellen leaves door open to rate rise before year-end

As expected by the economists, Janet Yellen left the door open to rise Fed Funds rate before year-end. Fed's Chair has speech has been followed by Stanley Fischer who highlighted a strengthening US economy and jobs market.

**Yellen says the case for rate rise has strengthened**

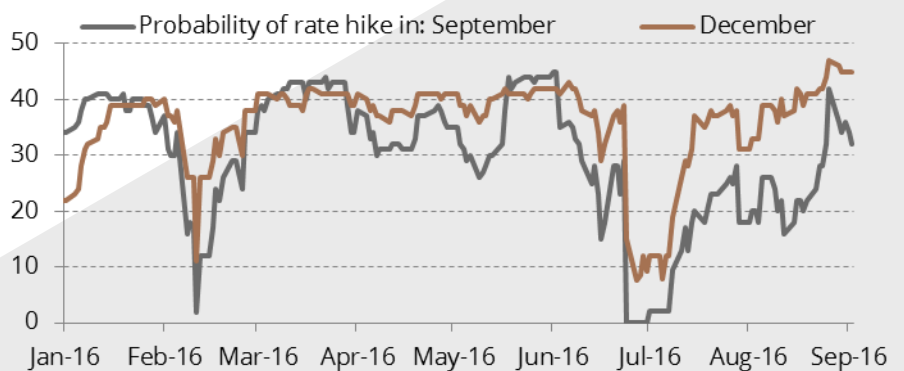
Fed chair Janet Yellen has told the Jackson Hole meeting of central bankers that the case for rate rises has "strengthened", however she gave markets little guidance on timing, saying they would be "gradual" and happen "over time".

**Stanley Fischer says the economy is doing well**

Federal Reserve Vice Chairman Stanley Fischer told CNBC the decision on whether to hike interest rates should be looking forward, not backward — and the next jobs report will figure into the process. According to Fischer, the economy is doing well and the big numbers Fed policymakers consider are looking better. He said that the U.S. economy is reasonably close to what is thought of as full employment. The inflation rate is higher than last year and it has been still growing despite the fact that it is still not up to 2%.

Stanley Fischer has also mentioned that The Federal Open Market Committee meets September 20-21 to consider an interest rate increase. The number of hikes this year depends on the data which reiterates the Fed's standard line. But he did say Yellen's comments were consistent with the possibility of as many as two rate hikes this year. Going into 2016, before the meltdown in the markets, the Fed was forecasting as many as four rate increases this year. Even with as little as one move expected now, Fischer argued policymakers are not behind the curve.






**Probability of Fed Funds hike in September has significantly increased in the recent weeks and peaked after Jackson Hole speech**



Source: Bloomberg, KGHM Polska Miedź

## Macroeconomic calendar

### Important macroeconomic data releases

Weight	Date	Event	For	Reading <sup>1</sup>	Previous	Consensus <sup>2</sup>
<b>China</b> 						
☆☆☆	01-Sep	Official manufacturing PMI	Aug	50.4 ▲	49.9	49.8 ▲
☆☆☆	01-Sep	Caixin's manufacturing PMI	Aug	50.0 ▼	50.6	50.1 ▼
<b>Poland</b> 						
☆☆☆☆☆	30-Aug	GDP (yoy) - final data	2Q	3.1% -	3.1%	--
☆☆☆☆☆	30-Aug	GDP (qoq) - final data	2Q	0.9% -	0.9%	--
☆☆☆☆	31-Aug	Consumer inflation CPI (yoy) - preliminary data	Aug	-0.8% ▲	-0.9%	-0.9% ▲
☆☆☆	01-Sep	Manufacturing PMI	Aug	51.5 ▲	50.3	50.6 ▲
<b>US</b> 						
☆☆☆☆	29-Aug	Consumer spending inflation PCE (mom)	Jul	0.1% -	0.1%	0.1% ○
☆☆☆☆	29-Aug	Consumer spending inflation PCE (yoy)	Jul	1.6% -	1.6%	1.5% ▲
☆☆	29-Aug	Personal income (sa, mom)‡	Jul	0.4% ▲	0.3%	0.4% ○
☆☆	29-Aug	Personal spending (sa, mom)‡	Jul	0.3% ▼	0.5%	0.3% ○
☆	29-Aug	Dallas Fed manufacturing activity	Aug	-6.2 ▼	-1.3	-3.9 ▼
☆	30-Aug	S&P/CaseShiller home price index‡	Jun	190 ▲	188	--
☆☆☆	01-Sep	Manufacturing PMI - final data	Aug	52.0 ▼	52.1	52.1 ▼
☆☆	01-Sep	ISM Manufacturing	Aug	49.4 ▼	52.6	52.0 ▼
☆☆☆	02-Sep	Composite PMI - final data	Aug	51.5 -	51.5	--
☆☆☆	02-Sep	PMI services - final data	Aug	51.0 ▲	50.9	51.0 ○
☆☆	02-Sep	Change in non-farm payrolls (ths)‡	Aug	151 ▼	275	180 ▼
☆☆	02-Sep	Durable goods orders - final data	Jul	4.4% -	4.4%	4.4% ○
☆☆	02-Sep	Underemployment rate (U6)	Aug	9.7% -	9.7%	--
☆☆	02-Sep	Unemployment rate	Aug	4.9% -	4.9%	4.8% ▲
☆	02-Sep	Average hourly earnings (yoy)‡	Aug	2.4% ▼	2.7%	2.5% ▼
<b>Eurozone</b> 						
☆	30-Aug	Economic confidence‡	Aug	104 ▼	105	104 ▼
☆	30-Aug	Industrial confidence‡	Aug	-4.4 ▼	-2.6	-2.7 ▼
☆	30-Aug	Consumer confidence - final data	Aug	-8.5 -	-8.5	-8.5 ○
☆	30-Aug	Business climate indicator‡	Aug	0.0 ▼	0.4	0.4 ▼
☆☆☆☆	31-Aug	Core CPI (yoy) - estimation	Aug	0.8% ▼	0.9%	0.9% ▼
☆☆☆☆	31-Aug	CPI estimate (yoy)	Aug	0.2% -	0.2%	0.3% ▼
☆☆	31-Aug	Unemployment rate	Jul	10.1% -	10.1%	10.0% ▲
☆☆☆	01-Sep	Manufacturing PMI - final data	Aug	51.7 ▼	51.8	51.8 ▼
☆☆	02-Sep	Producer inflation PPI (yoy)	Jul	-2.8% ▲	-3.1%	-2.9% ▲
<b>Germany</b> 						
☆☆☆☆	30-Aug	Harmonized consumer inflation HICP (yoy) - preliminary data	Aug	0.3% ▼	0.4%	0.5% ▼
☆☆☆☆	30-Aug	Consumer inflation CPI (yoy) - preliminary data	Aug	0.4% -	0.4%	0.5% ▼
☆☆☆	31-Aug	Retail sales (yoy)‡	Jul	-1.5% ▼	2.3%	0.3% ▼
☆☆	31-Aug	Unemployment rate	Aug	6.1% -	6.1%	6.1% ○
☆☆☆	01-Sep	Manufacturing PMI - final data	Aug	53.6 -	53.6	53.6 ○
<b>France</b> 						
☆☆☆☆	31-Aug	Harmonized consumer inflation HICP (yoy) - preliminary data	Aug	0.4% -	0.4%	0.4% ○
☆☆☆☆	31-Aug	Consumer inflation CPI (yoy) - preliminary data	Aug	0.2% -	0.2%	0.3% ▼
☆☆☆	01-Sep	Manufacturing PMI - final data	Aug	48.3 ▼	48.5	48.5 ▼

Weight	Date	Event	For	Reading <sup>1</sup>	Previous	Consensus <sup>2</sup>
<b>Italy</b>						
★★★★	31-Aug	Harmonized consumer inflation HICP (yoy) - preliminary data	Aug	0.0% ▲	-0.2%	-0.1% ▲
★★	31-Aug	Unemployment rate - preliminary data	Jul	11.4% ▼	11.6%	11.6% ●
★★★	01-Sep	Manufacturing PMI	Aug	49.8 ▼	51.2	51.2 ●
★★★★★	02-Sep	GDP (wda, yoy) - final data‡	2Q	0.8% =	0.8%	0.7% ▲
★★★★★	02-Sep	GDP (wda, qoq) - final data	2Q	0.0% =	0.0%	0.0% ●
<b>UK</b>						
★★★	01-Sep	Manufacturing PMI (sa)‡	Aug	53.3 ▲	48.3	49.0 ▲
<b>Japan</b>						
★★★★	31-Aug	Industrial production (yoy) - preliminary data	Jul	-3.8% ▼	-1.5%	-3.0% ●
★★★	01-Sep	Manufacturing PMI - final data	Aug	49.5 ▼	49.6	--
<b>Chile</b>						
★★★	30-Aug	Total copper production (metric tons)	Jul	447 558 ▼	473 608	--
★★★	30-Aug	Manufacturing (yoy)‡	Jul	-4.4% ▼	-2.2%	-2.6% ●
<b>Canada</b>						
★★★★★	31-Aug	GDP (yoy)	Jun	1.1% ▲	1.0%	1.0% ▲
★★★★★	31-Aug	GDP (annualized, qoq)‡	2Q	-1.6% ▼	2.5%	-1.5% ●

<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

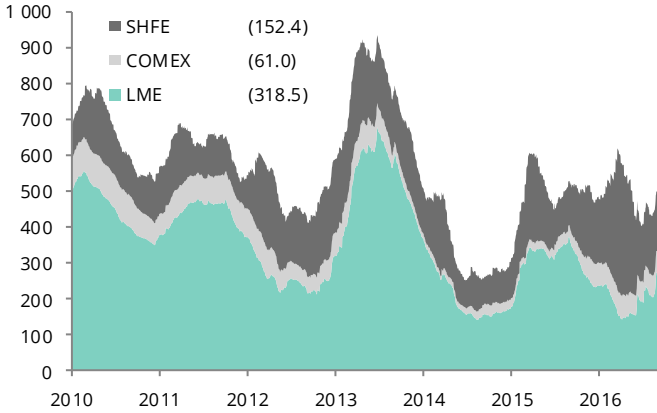
<i>(as of: 02-Sep-16)</i>		Price change °					From year beginning ²		
	Price	2W	QTD	YTD	1Y	Average	Min	Max	
<b>LME (USD/t)</b>									
Copper	4 607.00	▼ -3.5%	▼ -4.6%	▼ -2.0%	▼ -12.2%	4 726.19	4 310.50	5 103.00	
Molybdenum	16 500.00	▲ 3.1%	▼ -2.9%	▲ 37.5%	▲ 24.1%	13 982.65	11 750.00	17 000.00	
Nickel	9 880.00	▼ -3.6%	▲ 4.9%	▲ 14.0%	▼ -1.4%	9 091.06	7 710.00	10 900.00	
Aluminum	1 592.00	▼ -3.4%	▼ -2.6%	▲ 5.6%	▼ -0.9%	1 567.66	1 453.00	1 690.50	
Tin	19 300.00	▲ 4.5%	▲ 13.2%	▲ 32.2%	▲ 23.7%	16 742.62	13 235.00	19 300.00	
Zinc	2 348.50	▲ 2.7%	▲ 11.7%	▲ 46.8%	▲ 29.6%	1 915.66	1 453.50	2 348.50	
Lead	1 940.00	▲ 3.0%	▲ 9.0%	▲ 7.7%	▲ 13.1%	1 760.29	1 597.00	1 940.00	
<b>LBMA (USD/troz)</b>									
Silver	18.75	▼ -3.4%	▲ 2.1%	▲ 35.7%	▲ 27.5%	16.86	13.58	20.71	
Gold ¹	1 324.70	▼ -1.6%	▲ 0.3%	▲ 24.7%	▲ 17.4%	1 252.34	1 077.00	1 366.25	
<b>LPPM (USD/troz)</b>									
Platinum ¹	1 052.00	▼ -4.9%	▲ 5.3%	▲ 20.6%	▲ 5.0%	997.54	814.00	1 182.00	
Palladium ¹	670.00	▼ -5.8%	▲ 13.8%	▲ 22.5%	▲ 14.5%	579.94	470.00	730.00	
<b>FX ³</b>									
EUR/USD	1.1193	▼ -1.2%	▲ 0.8%	▲ 2.8%	▼ -0.3%	1.1155	1.0742	1.1569	
EUR/PLN	4.3796	▲ 2.1%	▼ -1.0%	▲ 2.8%	▲ 3.5%	4.3636	4.2355	4.4987	
USD/PLN	3.9164	▲ 3.3%	▼ -1.6%	▲ 0.4%	▲ 4.0%	3.9122	3.7193	4.1475	
USD/CAD	1.2999	▲ 0.9%	▼ -0.1%	▼ -6.1%	▼ -1.5%	1.3230	1.2544	1.4589	
USD/CNY	6.6805	▲ 0.4%	▲ 0.5%	▲ 2.9%	▲ 5.1%	6.5723	6.4536	6.7045	
USD/CLP	680.28	▲ 3.7%	▲ 2.8%	▼ -4.2%	▼ -1.2%	681.78	645.22	730.31	
<b>Money market</b>									
3m LIBOR USD	0.835	▲ 0.02	▲ 0.18	▲ 0.22	▲ 0.50	0.667	0.612	0.842	
3m EURIBOR	-0.301	▼ 0.00	▼ -0.02	▼ -0.17	▼ -0.27	-0.243	-0.301	-0.132	
3m WIBOR	1.710	- 0.00	- 0.00	▼ -0.01	▼ -0.01	1.690	1.670	1.720	
5y USD interest rate swap	1.208	▲ 0.03	▲ 0.23	▼ -0.53	▼ -0.37	1.217	0.928	1.709	
5y EUR interest rate swap	-0.127	▼ -0.01	▼ -0.07	▼ -0.46	▼ -0.53	-0.002	-0.183	0.309	
5y PLN interest rate swap	1.860	▲ 0.12	▲ 0.07	▼ -0.13	▼ -0.35	1.865	1.735	2.118	
<b>Fuel</b>									
WTI Cushing	44.44	▼ -8.4%	▼ -8.0%	▲ 20.0%	▼ -4.9%	40.96	26.21	51.23	
Brent	45.85	▼ -8.1%	▼ -5.3%	▲ 28.3%	▼ -8.2%	41.69	26.39	51.33	
Diesel NY (ULSD)	139.34	▼ -7.6%	▼ -5.5%	▲ 29.5%	▼ -12.3%	127.28	86.44	156.18	
<b>Others</b>									
VIX	11.98	▲ 0.64	▼ -3.65	▼ -6.23	▼ -13.63	16.63	11.34	28.14	
BBG Commodity Index	82.99	▼ -3.8%	▼ -6.6%	▲ 5.6%	▼ -7.2%	81.91	72.88	89.94	
S&P500	2 179.98	▼ -0.2%	▲ 3.9%	▲ 6.7%	▲ 11.7%	2 054.38	1 829.08	2 190.15	
DAX	10 683.82	▲ 1.3%	▲ 10.4%	▼ -0.6%	▲ 3.5%	9 935.54	8 752.87	10 742.84	
Shanghai Composite	3 067.35	▼ -1.3%	▲ 4.7%	▼ -13.3%	▼ -2.9%	2 946.96	2 655.66	3 361.84	
WIG 20	1 767.55	▼ -1.8%	▲ 1.0%	▼ -4.9%	▼ -18.0%	1 821.81	1 674.57	1 999.93	
KGHM	73.10	▼ -6.2%	▲ 10.8%	▲ 15.1%	▼ -9.2%	67.89	52.29	80.20	

° 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

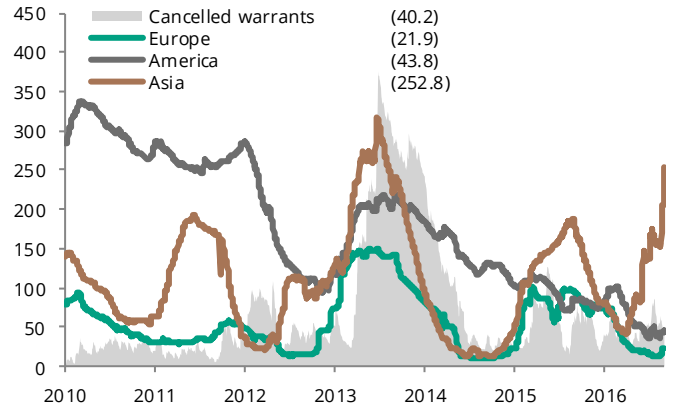


**Copper: official exchange stocks (thousand tonnes)**



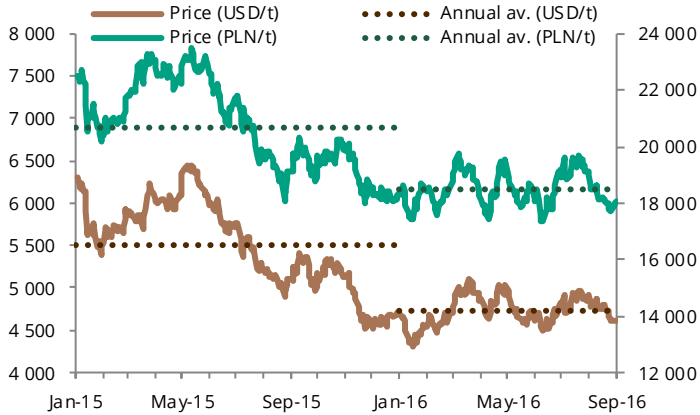
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



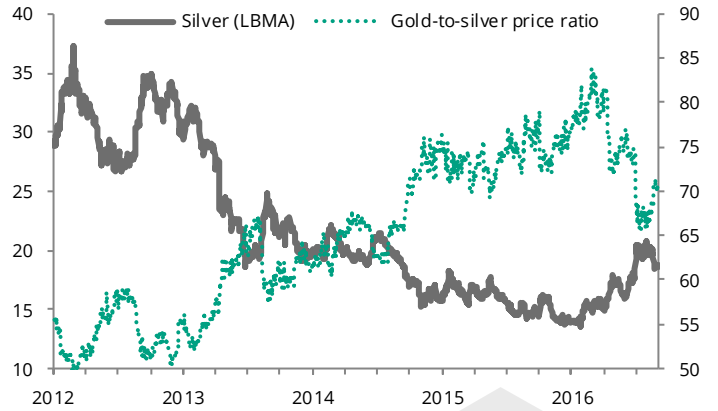
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



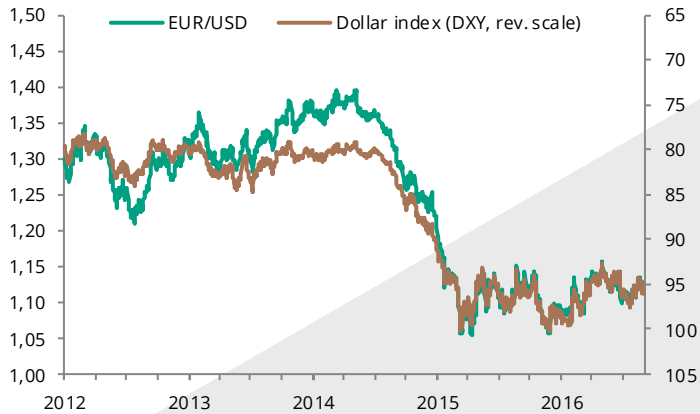
Source: Bloomberg, KGHM

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



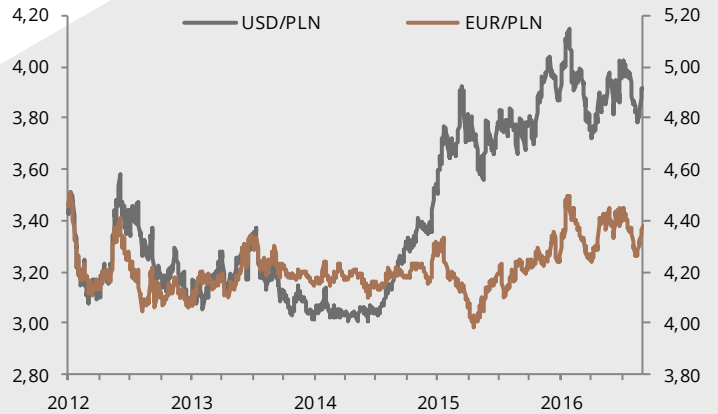
Source: Bloomberg, KGHM

**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: **22<sup>th</sup> August – 4<sup>th</sup> September 2016.**

- 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, ▪ SNL Metals & Mining.

Moreover, additional information published here was acquired in direct conversations with market dealers, from financial institution reports and from the following websites: ▪ [thebulliondesk.com](http://thebulliondesk.com), ▪ [lbma.org.uk](http://lbma.org.uk), ▪ [lme.co.uk](http://lme.co.uk), ▪ [metalbulletin.com](http://metalbulletin.com), ▪ [nbp.pl](http://nbp.pl), a także systemów: Bloomberg oraz 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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