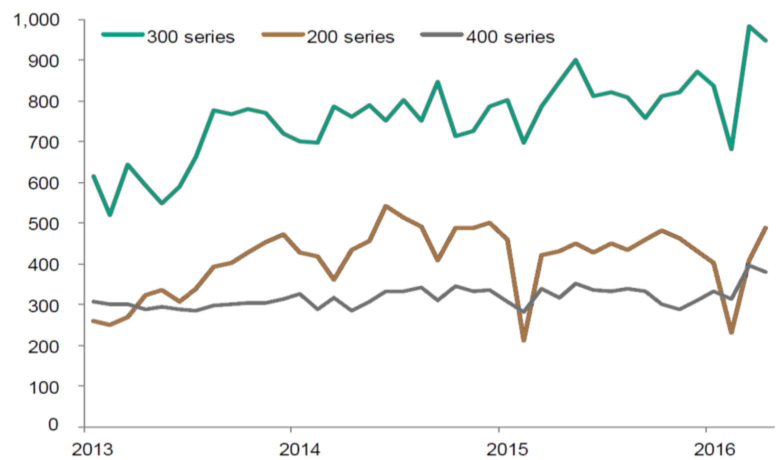
KGHM POLSKA MIEDŹ

Market Overview

as of: 30 May 2016

- **Commodities exchanges:** In spite of London Metal Exchange (LME) is the worldwide main base metals trading hub, its market share slipped to 76% last year from 83% in 2012. Nowadays, traders are buying and selling more metal than they have in years on Chinese and American exchanges *(page 3)*.
- **Nickel:** The big news in nickel in recent months is a strong improvement of sentiment in the physical market amid reports of extreme tightness in supplies of non-LME deliverable grades of nickel. This is due to few factors that combined caused the global market to swing from surplus to deficit in 2016 and prices appear to have bottomed out *(page 4)*.
- **China:** The latest monthly economic data was generally soft, but what was visible was an apparent sharp slowdown in broad credit growth. However, a more detailed interpretation by Gavekal Dragonomics shows that the pace of credit expansion remains robust and the real issue looking forward is whether policymakers respond by dialing back stimulus policies *(page 6)*.

A jump in March/April Chinese 300-series steel a good sign for nickel
(stainless steel production in China, kt; more on page 4)



Source: Macquarie Research, KGHM

Key market prices

		Close price	2w chng.
	LME (USD/t)		
▲	Copper	4 725.50	1.4%
▼	Nickel	8 375.00	-2.4%
	LBMA (USD/troz)		
▼	Silver	16.30	-4.6%
▼	Gold (PM)	1 216.25	-3.9%
	FX		
▼	EUR/USD	1.1168	-1.6%
▲	EUR/PLN	4.4063	0.1%
▲	USD/PLN	3.9393	1.6%
▲	USD/CAD	1.3003	0.5%
▲	USD/CLP	687.34	0.7%
	Stocks		
▼	KGHM	62.64	-0.6%

Source: Bloomberg, KGHM; *(more on page 10)*

Important macroeconomic data

	Release	For		
EU	Manufacturing PMI	May	51.5	▼
DE	Manufacturing PMI	May	52.4	▲
CL	GDP (yoy)	1Q	2.0%	▲
PL	Industrial prod. (yoy)	Apr	6.0%	▲
PL	Unemployment rate	Apr	9.5%	▼

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

Market Risk Unit

marketrisk@kghm.com

Grzegorz Laskowski
Łukasz Bielak
Marek Krochta
Wojciech Demski
Lech Chłopecki

Base and precious metals | Other commodities

Copper

Important information on copper market:

- According to market information, Vale is driving forward its aggressive debt-reduction strategy, holding early talks with bankers about selling stakes in some of its best assets. Brazilian company seeks to raise about USD 10 bn through next year to pay down debt, is evaluating the possible sale of a minority stake in its Brazilian copper operations, all or part of its fertilizer business, and putting more precious-metal streams on its mines. Vale is also considering the idea of selling a stake in its iron-ore business, although getting a fair deal might prove challenging given current weak prices of the commodity. Besides, the company is in talks to raise as much as USD 5 bn from non-core assets this year, including monetizing its coal joint venture in Mozambique, selling iron ore ships, energy assets, and a share issuance that it hopes to complete this year, according to a company presentation. Vale is among the club of high-levered companies such as Freeport-McMoRan Inc., Glencore Plc and Anglo American Plc who are also trying to pay down debt through asset sales. Widening the asset sale scope to include some of its prized assets comes as Vale's balance sheet is weakened further by the heavy capital expenditure burden of completing the iron ore industry's largest project, called S11D.
- According to the International Copper Study Group (ICSG), the global world refined copper market showed a 24,000 tonnes surplus in February, compared with a 51,000 tonnes surplus in January. For the first 2 months of the year, the market was in a 76,000 tonnes surplus compared with a 134,000 tonnes surplus in the same period a year earlier. World refined copper output in February was 1.80 million tonnes , while consumption was 1.78 million tonnes. Bonded stocks of copper in China showed a 89,000 tonnes surplus in February compared with a 64,000 tonnes surplus in January.
- The CME Group, the world's largest futures market operator, is talking to several warehouse companies to expand its metal storage network globally, three metal industry sources told Reuters, a move that could further challenge the London Metal Exchange's (LME) dominance. Partly due to the controversy surrounding the LME warehouse system, CME has been steadily building its storage network. The U.S. exchange has been negotiating with firms about joining its list of approved warehouses to hold metals such as copper, aluminium, zinc and lead, which on the CME are physically deliverable. CME has a network of 24 approved warehouses according to information in its website. Most of these are in the United States, but there are also three in Europe, added recently to store material for its new lead

contract. The LME has a network of more than 600 approved warehouses in 37 locations across the world, including Asia.

Commodities exchanges

In spite of London Metal Exchange (LME) is the worldwide main base metals trading hub, its market share slipped to 76% last year from 83% in 2012. Nowadays, traders are buying and selling more metal than they have in years on Chinese and American exchanges.

LME loses market share as trading grows in China and USA

While the LME remains the industry's primary hub, its share of the global market slipped to 76% last year from 83% in 2012.

Traders are buying and selling more metal than they have in years on Chinese and American exchanges. In London, the heart of the global market for more than century, it is just the opposite. During the first four months of the year, futures trading on the London Metal Exchange fell a combined 10% for its six main contracts, including copper and aluminum. That's the worst start to a year since the data begins in 2006. While the LME remains the industry's primary hub, its share of the global market slipped to 76% last year from 83% in 2012, according to the exchange. At a time when the commodity rout and regulatory hurdles have force banks and hedge funds to exit the market, the LME is seeing less trading after raising fees and tightening rules at more than 600 warehouses.

Chinese Shanghai and Dalian exchanges are gaining traders' interest.

On the contrary, business is booming in China, where the Shanghai and Dalian exchanges benefited from a speculative surge in raw materials, and in New York, as copper trading on the Comex reached a three-year high last month. Fewer transactions are a setback for the LME, which had sought to lure more business through high-frequency and algorithmic trading. Last year, the exchange proposed offering discounts for companies that trade a lot of contracts, expanded access to its electronic platform and relaxed application procedures for new members. LME copper trading in April slid 6.8% from a year earlier, compared with a 29% increase on the Comex and 25 percent in Shanghai, exchange data show.

Fees have been risen but as a consequence the volumes started to dry up

Since buying the LME in 2012, Hong Kong Exchanges & Clearing Ltd. has sought to boost profit from the 139-yearold bourse. Fees charged to members and users rose an average of 34 percent last year, the first increase since the takeover. That helped HKEx increase profit from commodities by 68 percent in 2015, even though volumes had started to dry up. This year, fees have stayed steady as trading shrinks even further. Higher fees discouraged some users, including for short- term spread trades that exploit price differences between two contracts. One such transaction, called tom-next, involves buying metal and selling it a day later. In copper, tom-next trading is down more than 15 percent in 2016 from a year ago. Reforms in the LME's network of warehouses also dented trading. The exchange has cut down on lengthy wait times to withdraw metal, but that's also led to smaller stockpiles because traders are removing more metal than what they are putting into warehouses. That, in turn, has curbed the trades that would accompany holding stockpiles.

Nickel

The big news in nickel in recent months is a strong improvement of sentiment in the physical market amid reports of extreme tightness in supplies of non-LME deliverable grades of nickel. This is due to few factors that combined caused the global market to swing from surplus to deficit in 2016 and prices appear to have bottomed out.

Is it really a breakthrough?

Despite fundamentals improvement, fears about China stopped price rally

The factors behind improvement include nickel production cuts (especially in Chinese nickel pig), a reduction in secondary nickel availability (accounting for 40% of nickel used in stainless production), an unexpected rise in Chinese use (especially in 300-series stainless steel production) and a huge increase in Chinese imports of nickel for stockpiling (partly by the government strategic stockpile). Despite materialising of these factors, however, a recent price rally was cut short due to renewed fears about Chinese economic growth and the sustainability of the recent tightness.

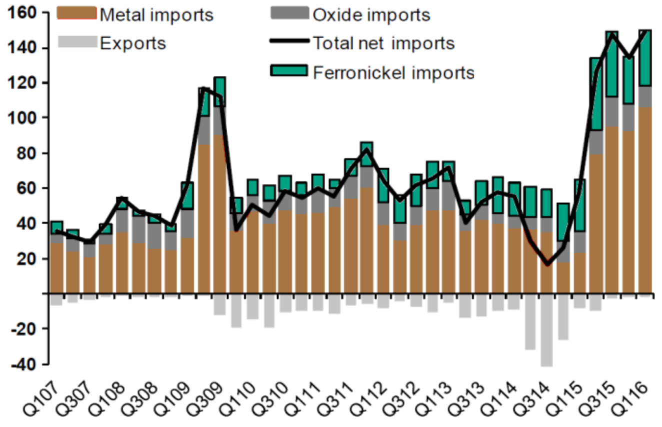
Stainless steel production in March grew 50% mom or 15-20% yoy, mostly due to fiscal and monetary stimulus

Nickel use has been more or less stagnant or declining since the end of 2013 apart from a brief spur in 1H14 when a sharp rise in nickel prices in the wake of the Indonesian nickel ore export ban led to a short-lived stainless steel restocking cycle. However, in recent months two factors have surprised the market. The first was the sudden rise in Chinese stainless steel production after Chinese New Year – March production rose around 50% mom and around 15-20% yoy, with a particularly strong surge in the high-nickel grade 300-series production. This surge, according to Macquarie Research, was a consequence of the massive fiscal and monetary stimulus enacted by the Chinese government since the end of last year, that resulted in both a real consumption impact (especially in construction and infrastructure) and also a restocking element. The second factor was a significant tightening in supplies of secondary nickel – some reports claim that collection and availability of scrap could be down 5% this year.

The key factor in 2016 and 2017 will be Philippian ore supply, which was down 35% yoy in the first four months

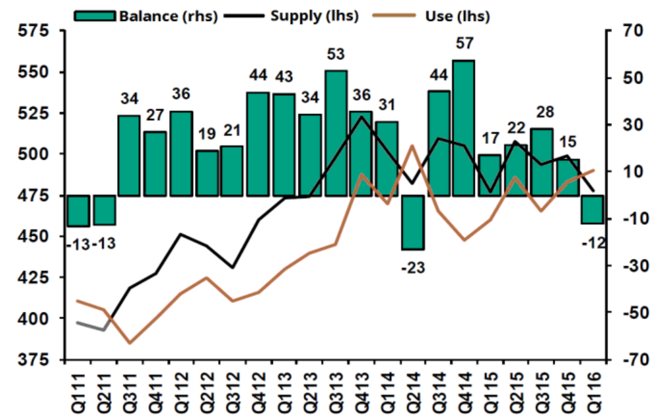
The key factor for the nickel market outlook in 2016 and 2017, according to Macquarie, is how much ore can be supplied to Chinese nickel pig iron (NPI) producers from the Philippines. The bank estimates that in the first four months of this year exports of recoverable nickel in ore from the Philippines was down a whopping 35% yoy due to the near exhaustion of reserves at the high-grade (1.8% Ni) Tawi Tawi mine (that supplied of 5mn tonnes of high-grade ore to China last year) and also due to production cuts at medium grade mines (1.4-1.5% Ni in ore). Mid-grade ore prices in China have risen from around 23-24 USD/t CFR China to 30-32 USD/t CFR, and this is enough to incentivise a rise in supply, according to Macquarie.

Chinese apparent demand up 35% yoy in 1Q pushing imports to all-time highs *(kt contained nickel)*



Source: Macquarie, KGHM

The market moved to deficit in 1Q, after surplus in 18 out of 19 previous quarters *(kt)*



Source: Macquarie, KGHM

Precious metals

Gold has been trading in 1200 – 1280 USD/troz consolidation range since the middle of February. Investors are still uncertain about further Fed moves on interest rates.

The segment is waiting for clearer Fed moves

Precious metals segment with its benchmark metal - gold, which has gained about 17% so far this year, has been under pressure over the past few weeks. The sentiment was mainly driven by comments from senior U.S. central bank officials, including chief Janet Yellen who boosted expectations of an imminent interest rate rise in the coming months. Nonetheless gold recently touched a two-week high following its biggest one-day gain in nearly four months after lower-than-expected U.S. employment data that cut the chance of a near-term U.S. rate hike.

According to recent Reuters poll Wall Street's top banks unanimously expect the Fed to leave interest rates unchanged during the nearest Committee meeting. Bank economists point to a weakening U.S. employment environment and Britain's pending vote on remaining in the European Union as main arguments for leaving rates unchanged. Such a scenario can be supportive for precious metals prices.

Global economies | Foreign exchange markets

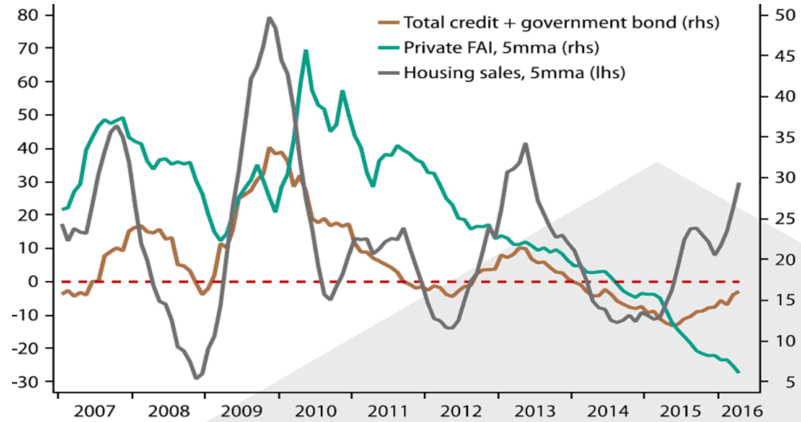
China: no more easing in near future?

The latest monthly economic data was generally soft, but what was visible was an apparent sharp slowdown in broad credit growth. However, a more detailed interpretation by Gavekal Dragonomics shows that the pace of credit expansion remains robust and the real issue looking forward is whether policymakers respond by dialing back stimulus policies.

TSF including government bonds remains robust

Total social financing (TSF) rose 12% yoy in April due to both weaker loan growth and less shadow lending, and decreased to only RMB 0.75trn from RMB 2.34trn in March. However, TSF measures only claims on companies and individuals, but not government entities and the financial sector. Therefore, if only local governments issuance (at RMB 2trn for the first four months, but RMB 1trn in April alone) was included in the TSF calculation, credit growth would have been 16% yoy. What is surprising in recent months is credit growth to non-bank financial institutions such as asset management firms and brokerages – 70% yoy growth rate obviously raises questions about the ultimate destination of these funds.

Credit growth has supported real estate boom (or bubble) but has not helped private investments *(% yoy growth)*



Source: Gavekal Dragonomics, KGHM

Apart from property market, the economy does not seem to benefit from credit growth

Credit continues to pour into real estate as shown by residential sales in April rising 44% yoy, the fastest expansion since early 2013. Strong unit sales are spurring developers to boost their land bank and start new projects, resulting in construction starts and land sales rising in April by 23% and 8%, respectively. Home prices are increasing nationwide, which has already sparked the adoption of renewed anti-speculation measures in tier-one cities. But the emergence of a new credit-fueled bubble is not giving the real economy much of a tailwind. Despite a rise in producer prices which helped lift industrial profits, industrial value-added only rose by 6% yoy, missing expectations, and retail sales growth slowed to 10.1%. Most tellingly, fixed-asset investment (FAI) also slowed to 10.1% despite a surge in investment spending by state-owned enterprises. Most worryingly, private entities, which account for two thirds of FAI, still refuse to invest.

The situation is similar to early 2013

In Gavekal Dragonomics' view the overall picture of a strong credit and property market yet mediocre economic performance reminds of early 2013. In that period property sales and prices both rose 40-50%, with credit growth supported by shadow bank activity such as trust loans and undiscounted bills. Ultimately, that mini boom was ended by the imposition of home-purchase restrictions, tighter bank regulation and a disruptive spike to interbank market rates which caused a funding crunch for banks in June 2013.

No more easing should be expected in next 3-6 months

Since GDP growth in 1Q16 remained above the 6.5% target , it seems likely that policymakers will now focus more on avoiding a major bubble, than adding fresh stimulus. The central bank will try to dodge interbank liquidity crunch, and most likely it will instead focus on keeping rates low and stable. Hence, Gavekal concludes not expect more easing policies in the next 3-6 months.

Macroeconomic calendar

Important macroeconomic data releases

Weight	Date	Event	For	Reading [1]	Previous	Consensus [2]
		China				
✪✪	27-May	Industrial profits (yoy)	Apr	4.2%	11.1%	--
		Poland				
✪✪	18-May	Average gross salary (yoy)	Apr	4.6%	3.3%	3.8%
✪	18-May	Employment (yoy)	Apr	2.8%	2.7%	2.8%
✪✪✪✪	19-May	Sold industrial production (yoy)‡	Apr	6.0%	0.7%	3.4%
✪✪✪	19-May	Retail sales (yoy)	Apr	3.2%	0.8%	3.0%
✪✪	19-May	Producer inflation PPI (yoy)‡	Apr	-1.2%	-1.9%	-1.3%
✪✪	25-May	Unemployment rate	Apr	9.5%	10.0%	9.6%
✪	25-May	Budget balance (ytd)	Apr	20.3%	17.5%	--
		US				
✪✪✪✪	17-May	Consumer inflation CPI (mom)	Apr	0.4%	0.1%	0.3%
✪✪✪✪	17-May	Consumer inflation CPI (yoy)	Apr	1.1%	0.9%	1.1%
✪✪✪✪	17-May	Industrial production (mom)‡	Apr	0.7%	-0.9%	0.3%
✪	17-May	Capacity utilization‡	Apr	75.4%	74.9%	75.0%
✪✪	19-May	Philadelphia Fed business outlook	May	- 1.8	- 1.6	3.0
✪✪✪	23-May	Manufacturing PMI - preliminary data	May	50.5	50.8	51.0
✪	24-May	Richmond Fed manufacturing index	May	- 1.0	14.0	8.0
✪✪✪	25-May	Composite PMI - preliminary data	May	50.8	52.4	--
✪✪✪	25-May	PMI services - preliminary data	May	51.2	52.8	53.0
✪✪	26-May	Durable goods orders - preliminary data‡	Apr	3.4%	1.9%	0.5%
✪✪✪✪✪	27-May	GDP (annualized, qoq) -	1Q	0.8%	0.5%	0.9%
✪✪	27-May	University of Michigan confidence index - final data	May	94.7	95.8	95.4
		Eurozone				
✪	17-May	Trade balance (EUR mn)	Mar	28.6	19.0	--
✪✪✪✪	18-May	Consumer inflation CPI (yoy) - final data	Apr	-0.2% -	-0.2%	-0.2%
✪✪✪✪	18-May	Core CPI (yoy) - final data	Apr	0.7% -	0.7%	0.7%
✪✪✪	23-May	Composite PMI - preliminary data	May	52.9	53.0	53.2
✪✪✪	23-May	Manufacturing PMI - preliminary data	May	51.5	51.7	51.9
✪✪✪	23-May	Services PMI - preliminary data	May	53.1 -	53.1	53.2
✪	23-May	Consumer confidence - estimation	May	- 7.0	- 9.3	- 9.0
✪	24-May	ZEW survey expectations	May	16.8	21.5	--
		Germany				
✪✪✪	23-May	Composite PMI - preliminary data	May	54.7	53.6	53.9
✪✪✪	23-May	Manufacturing PMI - preliminary data	May	52.4	51.8	52.0
✪✪✪✪✪	24-May	GDP (yoy) - final data	1Q	1.3% -	1.3%	1.3%
✪✪✪✪✪	24-May	GDP (sa, qoq) - final data	1Q	0.7% -	0.7%	0.7%
✪✪	24-May	Exports (qoq)	1Q	1.0%	-0.6%	0.5%
✪✪	25-May	GfK consumer confidence	Jun	9.8	9.7	9.7
✪✪	25-May	IFO business climate‡	May	108	107	107
		France				
✪✪✪	23-May	Composite PMI - preliminary data	May	51.1	50.2	50.4
✪✪✪	23-May	Manufacturing PMI - preliminary data	May	48.3	48.0	49.0
		Italy				

No major data in the period

Weight	Date	Event	For	Reading [1]		Previous	Consensus [2]	
		UK						
✪✪✪✪	17-May	Consumer inflation CPI (yoy)	Apr	0.3%	▼	0.5%	0.5%	◡
✪✪	18-May	Unemployment rate (ILO, 3-months)	Mar	5.1%	▪	5.1%	5.1%	○
✪✪✪✪✪	26-May	GDP (yoy) - preliminary data	1Q	2.0%	▼	2.1%	2.1%	◡
✪✪✪✪✪	26-May	GDP (qoq) - preliminary data	1Q	0.4%	▪	0.4%	0.4%	○
		Japan						
✪✪✪✪	17-May	Industrial production (yoy) - final data	Mar	0.2%	▲	0.1%	--	
✪✪✪✪✪	18-May	GDP (annualized, qoq) - preliminary data‡	1Q	1.7%	▲	-1.7%	0.3%	◠
✪✪✪✪✪	18-May	GDP (qoq, sa) - preliminary data‡	1Q	0.4%	▲	-0.4%	0.1%	◠
✪✪✪	23-May	Manufacturing PMI - preliminary data	May	47.6	▼	48.2	--	
✪✪✪✪	27-May	Consumer inflation CPI (yoy)	Apr	-0.3%	▼	-0.1%	-0.4%	◠
		Chile						
✪✪✪✪✪	18-May	BCCh overnight rate target	May	3.50%	▪	3.50%	3.50%	○
✪✪✪✪✪	18-May	GDP (yoy)	1Q	2.0%	▲	1.3%	1.8%	◠
		Canada						
✪✪✪✪	20-May	Consumer inflation CPI (yoy)	Apr	1.7%	▲	1.3%	1.7%	○
✪✪✪✪✪	25-May	BoC base rate decision	May	0.50%	▪	0.50%	0.50%	○

[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

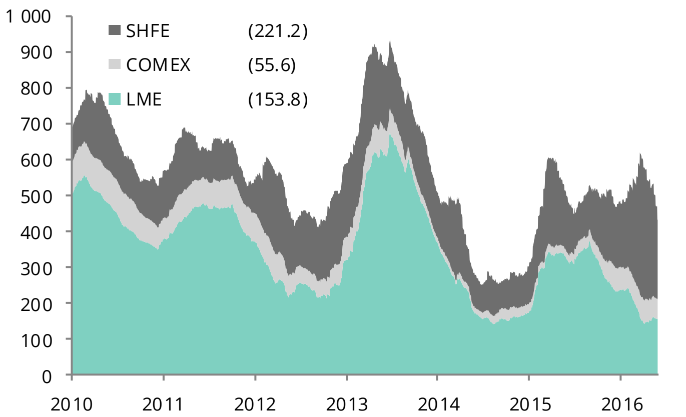
Key market data

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

(as of: 27-May-16)	Price	Price change °				From year beginning ²		
		2W	QTD	YTD	1Y	Average	Min	Max
LME (USD/t)								
Copper	4 725.50	▲ 1.4%	▼ -2.7%	▲ 0.5%	▼ -22.7%	4 715.68	4 310.50	5 103.00
Molybdenum	15 300.00	- 0.0%	▲ 25.4%	▲ 27.5%	▼ -11.6%	12 690.20	11 750.00	15 300.00
Nickel	8 375.00	▼ -2.4%	▲ 1.1%	▼ -3.3%	▼ -34.8%	8 609.51	7 710.00	9 555.00
Aluminum	1 552.00	▲ 1.5%	▲ 4.1%	▲ 3.0%	▼ -9.7%	1 533.41	1 453.00	1 673.00
Tin	16 250.00	▼ -3.3%	▼ -3.8%	▲ 11.3%	▲ 5.1%	16 062.11	13 235.00	17 625.00
Zinc	1 902.50	▲ 1.7%	▲ 6.6%	▲ 18.9%	▼ -14.3%	1 749.52	1 453.50	1 943.00
Lead	1 694.00	▼ -1.7%	▼ -0.6%	▼ -6.0%	▼ -13.9%	1 735.39	1 597.00	1 896.50
LBMA (USD/troz)								
Silver	16.30	▼ -4.6%	▲ 6.0%	▲ 17.9%	▼ -2.3%	15.53	13.58	17.86
Gold ¹	1 216.25	▼ -3.9%	▼ -1.7%	▲ 14.5%	▲ 2.6%	1 209.63	1 077.00	1 294.00
LPPM (USD/troz)								
Platinum ¹	984.00	▼ -5.6%	▲ 0.8%	▲ 12.8%	▼ -11.7%	954.17	814.00	1 081.00
Palladium ¹	546.00	▼ -7.8%	▼ -4.0%	▼ -0.2%	▼ -30.4%	544.88	470.00	628.00
FX ³								
EUR/USD	1.1168	▼ -1.6%	▼ -1.9%	▲ 2.6%	▲ 2.5%	1.1145	1.0742	1.1569
EUR/PLN	4.4063	▲ 0.1%	▲ 3.2%	▲ 3.4%	▲ 6.4%	4.3608	4.2355	4.4987
USD/PLN	3.9393	▲ 1.6%	▲ 4.8%	▲ 1.0%	▲ 4.1%	3.9135	3.7193	4.1475
USD/CAD	1.3003	▲ 0.5%	▲ 0.2%	▼ -6.0%	▲ 4.2%	1.3394	1.2544	1.4589
USD/CNY	6.5655	▲ 0.5%	▲ 1.7%	▲ 1.1%	▲ 5.9%	6.5243	6.4536	6.5948
USD/CLP	687.34	▲ 0.7%	▲ 1.8%	▼ -3.2%	▲ 11.6%	691.47	657.90	730.31
Money market								
3m LIBOR USD	0.673	▲ 0.05	▲ 0.04	▲ 0.06	▲ 0.39	0.630	0.612	0.674
3m EURIBOR	-0.260	▼ 0.00	▼ -0.02	▼ -0.13	▼ -0.25	-0.213	-0.260	-0.132
3m WIBOR	1.680	▲ 0.01	▲ 0.01	▼ -0.04	- 0.00	1.681	1.670	1.720
5y USD interest rate swap	1.343	▲ 0.18	▲ 0.17	▼ -0.39	▼ -0.31	1.275	1.045	1.709
5y EUR interest rate swap	0.007	▲ 0.01	▼ -0.02	▼ -0.32	▼ -0.37	0.063	-0.035	0.309
5y PLN interest rate swap	1.945	▲ 0.13	▲ 0.17	▼ -0.05	▼ -0.38	1.860	1.735	2.040
Fuel								
WTI Cushing	49.33	▲ 6.8%	▲ 28.7%	▲ 33.2%	▼ -14.5%	37.55	26.21	49.48
Brent	48.96	▲ 3.5%	▲ 26.4%	▲ 37.0%	▼ -20.1%	38.41	26.39	49.83
Diesel NY (ULSD)	149.40	▲ 6.7%	▲ 27.7%	▲ 38.9%	▼ -20.2%	117.49	86.44	151.07
Others								
VIX	13.12	▼ -1.92	▼ -0.83	▼ -5.09	▼ -0.19	18.11	13.10	28.14
BBG Commodity Index	85.47	▲ 1.2%	▲ 8.4%	▲ 8.8%	▼ -14.7%	79.15	72.88	85.72
S&P500	2 099.06	▲ 2.6%	▲ 1.9%	▲ 2.7%	▼ -1.0%	1 998.93	1 829.08	2 102.40
DAX	10 286.31	▲ 3.3%	▲ 3.2%	▼ -4.3%	▼ -11.9%	9 792.46	8 752.87	10 435.73
Shanghai Composite	2 821.05	▼ -0.2%	▼ -6.1%	▼ -20.3%	▼ -38.9%	2 916.69	2 655.66	3 361.84
WIG 20	1 839.22	▲ 1.3%	▼ -7.9%	▼ -1.1%	▼ -24.7%	1 846.43	1 674.57	1 999.93
KGHM	62.64	▼ -0.6%	▼ -17.7%	▼ -1.3%	▼ -46.6%	66.11	52.29	77.00

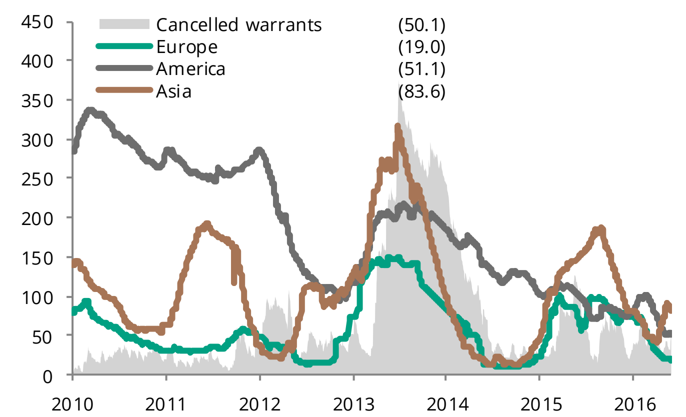
° change over: 2W = two weeks; QTD = quarter-to-day; YTD = year-to-date; 1Y = one year. [1] based on daily closing prices. [2] latest quoted price. [3] central banks' fixing rates (Bank of China HK for USD/CNY). [4].
Source: Bloomberg, KGHM

Copper: official exchange stocks (thousand tonnes)



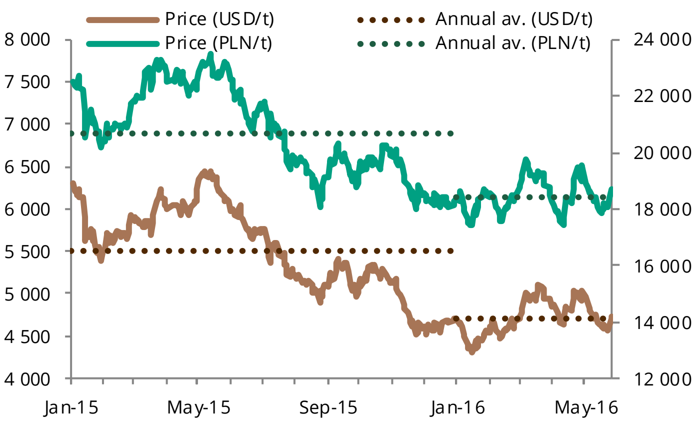
Note: Latest values in brackets. Source: Bloomberg, KGHM

Copper: official LME stocks (thousand tonnes)



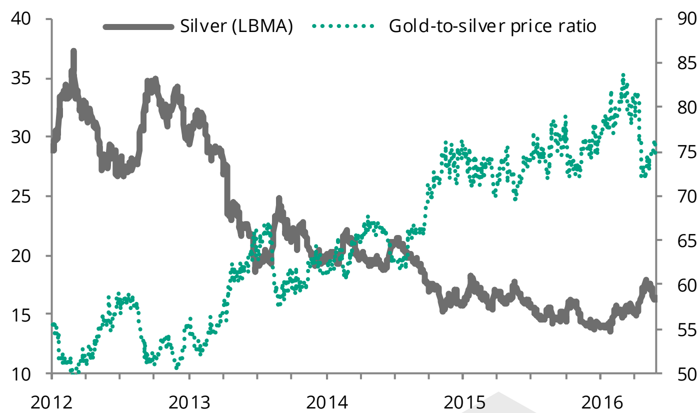
Note: Latest values in brackets. Source: Bloomberg, KGHM

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



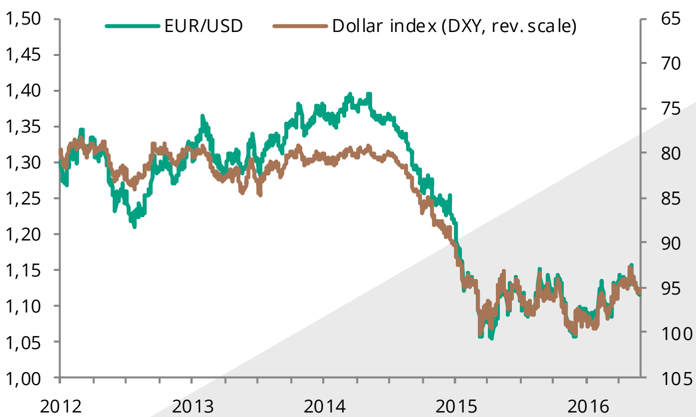
Source: Bloomberg, KGHM

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



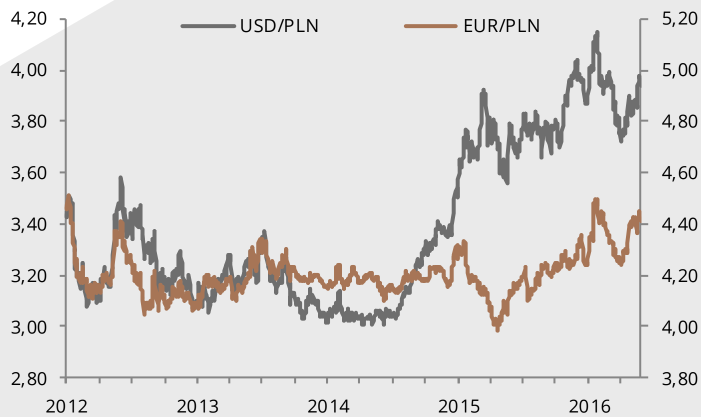
Source: Bloomberg, KGHM

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 – 29 May 2016.**

▪ Barclays Capital, ▪ BofA Merrill Lynch, ▪ Citi Research, ▪ CRU Group, ▪ Deustche 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, ▪ lbma.org.uk, ▪ lme.co.uk, ▪ metalbulletin.com, ▪ 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 (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 Zarządzania Ryzykiem Rynkowym i Kredytowym (Market and Credit Risk Management Department)
Wydzial Ryzyka Rynkowego (Market Risk Unit)
ul. M. Sklodowskiej-Curie 48
59-301 Lubin, Poland