

Tuesday, October 29, 2019 | weekly publication

Tuesday Espresso

Weekly Commodity Roundup

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Utilities

EEX power contracts have extended their declines to below EUR 47/MWh week on week, led mainly by lower ARA coal prices amid stable prices of emission allowances (EUR 25/t). In Poland, the TGE year-ahead contracts are holding at PLN 265/MWh, suggesting small weekly expansion in the model margin of a vertically-integrated power generator.

Gas & Oil

Average profit margins on oil refining continue to hold close to \$6/bbl, owing to higher cracking spreads on diesel and gasoline which offset tightening HSFO cracks. On the other hand, the Urals-Brent pricing differential has been squeezed to \$0.65/bbl from over \$2 last week. Petrochemical margins are still shrinking, and as for gas the anticipated rebound in prices has yet to materialize.

Metals

Copper speculators have cut their bearish positions to about -42,000 contracts net from -47,000 a week ago, prompted by weakening EM currencies (see chart on p. 8), combined with falling world inventories (-4.4% w/w) and supply disruptions in Chile in the wake of civil unrest. Last week we saw 1-2-day stoppages at Chilean shipping terminals and copper mines, including the world's largest, Escondida, and this week a repeat of strike action at these facilities is planned on Tuesday and Wednesday. All this is having a positive effect on copper prices, and hence on KGHM.

Prices of zinc have crossed the \$2,500/t mark, indicating upside potential for the Polish zinc and alloys producer, Stalprodukt based on their historical correlation (see chart on p. 12).

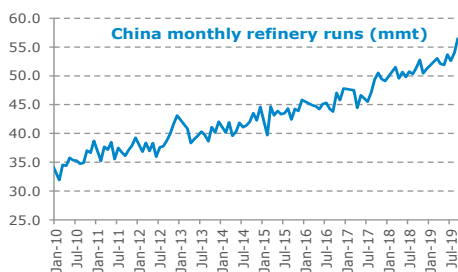
Agricultural Commodities

The crush margins on sunflower seeds are seen to be tightening with improving seed supply. In addition, sunflower oil is the worst-performing kind of vegetable oil price-wise in Ukraine at the moment (see charts on p. 16), indicating a squeeze on the profits of Kernel. On the other hand, local rival Astarta is seen to be benefitting from high margins on soybean crushing.

Coking Coal

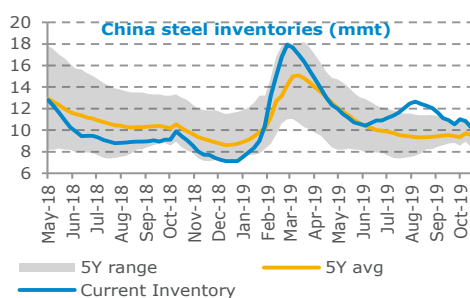
Coking coal is trading slightly lower than last week (currently in the \$145-149/t range). Looking at increasing imports by China (+29% and +21% y/y respectively in August and September), while local steel inventories continue to decrease (see out Chart of the Week below), we see a forthcoming rebound in coking coal demand.

Charts of the Week



China refinery runs at all-time highs

Chinese refineries increased their monthly throughput in September, led by a capacity ramp-up at a rate of 5.2mmt relative to September 2018. The increasing supply from China is exacerbating global pressures with diesel and gasoline shipments last month up 44% and 129%, respectively, on the year-ago volumes.



China steel inventories continue to shrink

China has reduced its steel inventory for 11 weeks straight, with stocks down to 9.7mmt from 10.3mmt last week and a 12.7mmt high recorded 12 weeks ago. Considering that local steel production is on the rise, this indicates a revival in infrastructure investment driven by successful fiscal stimulus.

Source: Bloomberg, Dom Maklerski mBanku

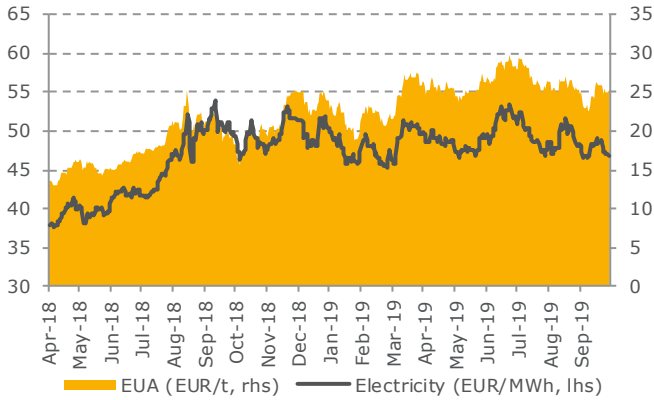
1-Week & YTD Performance

Company	1W	YTD
JSW	-9.1%	-68%
Ciech	-6.4%	-28%
ZA Puławy	-5.9%	+34%
PGE	-4.9%	-20%
Grupa Azoty	-3.0%	+6%
Energa	-3.0%	-31%
PCC Rokita	-2.4%	-33%
Tauron	-2.2%	-23%
Enea	-2.0%	-15%
Boryszew	-1.4%	-9%
Orzeł Biały	-0.9%	-1%
ZCh Police	-0.7%	-1%
PKN Orlen	-0.7%	+1%
IMC	-0.3%	+23%
Impexmetal	-0.2%	+35%
MOL	-0.1%	-3%
CEZ	-0.1%	+2%
Tarczyński	+0.0%	-12%
LW Bogdanka	+0.7%	-27%
Astarta	+0.9%	-27%
Kernel	+1.1%	-11%
ZE PAK	+1.5%	-9%
Tupras	+1.8%	+21%
Lotos	+2.6%	+7%
KGHM	+4.2%	-5%
Kruszwica	+5.0%	+20%
PGNiG	+5.7%	-28%
OMV	+6.7%	+44%
Kęty	+9.4%	+3%
WIG Indices	1W	YTD
WIG	+1.2%	+1%
Chemicals	-3.8%	-10%
Energy	-3.3%	-19%
Oil & Gas	+0.8%	-4%
Food Industry	+0.8%	-10%
Basic Material	+2.9%	-19%
Ukraine	+0.7%	-13%
Sector Indices	1W	YTD
Mining	+4.0%	+15%
Oil & Gas E&P	+1.9%	-2%
Refining EU	+2.7%	+13%
Refining US	+6.7%	+30%
Agri & Food	+1.9%	+30%
Rubber	+2.9%	+20%
Fertilizers	+0.2%	+2%
Chemicals EU	+1.4%	+20%
Industrials EU	+2.4%	+29%
Petchem World	+2.3%	+4%
Utilities EU	+0.5%	+27%
Utilities US	-1.2%	+22%

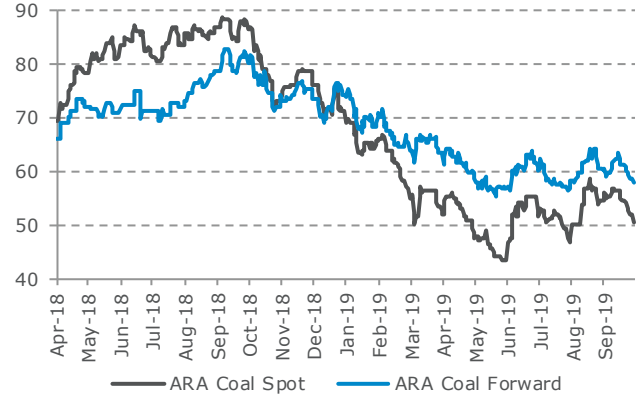


Utilities

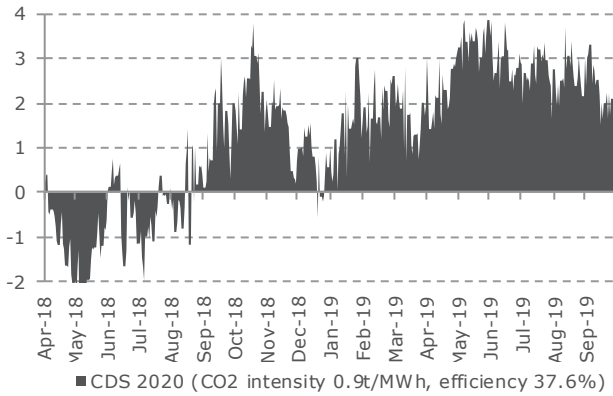
EU Prices of Electricity (EUR/MWh) & EUAs (EUR/t)



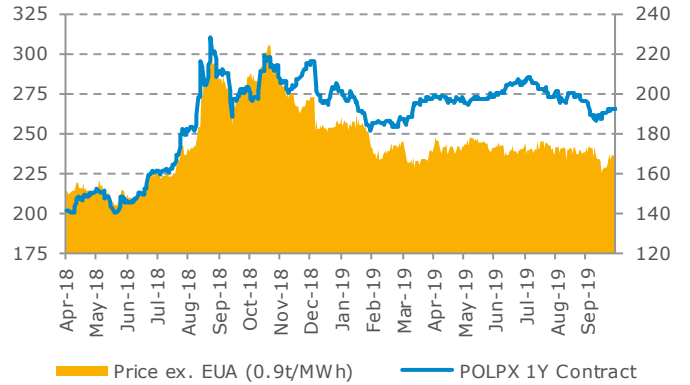
ARA Coal Spot and Forward Prices (EUR/t)



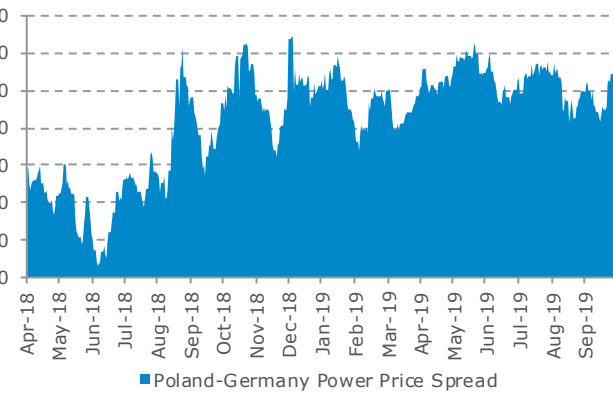
Clean-Dark Spread, Germany (EUR/MWh)



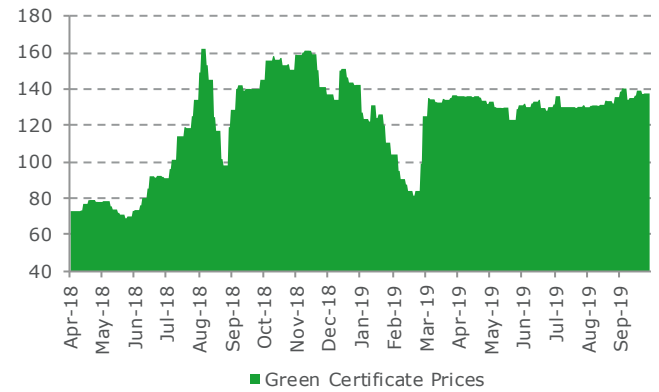
Polish Electricity Prices (1Y) (PLN/MWh)



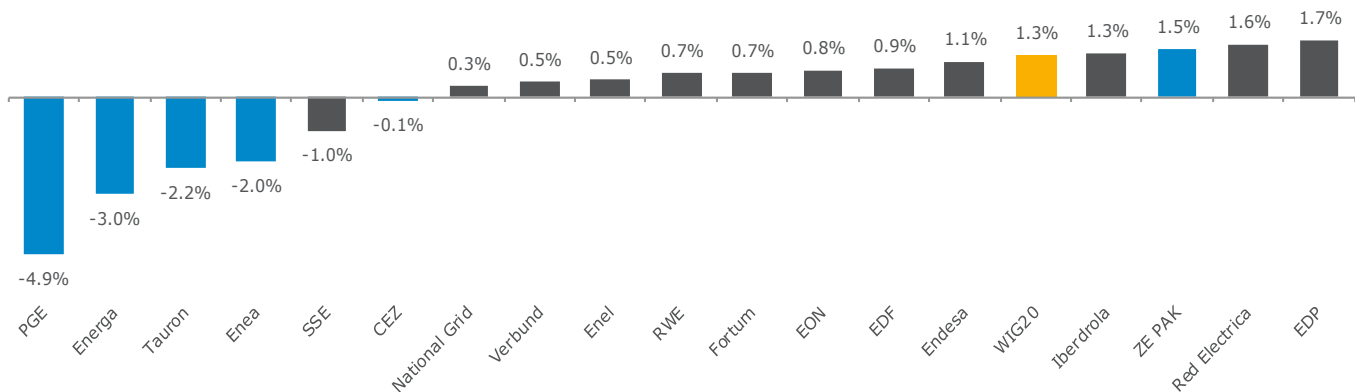
Poland-Germany Power Price Spread (PLN/MWh)



Polish Green Certificate Prices (PLN/MWh)



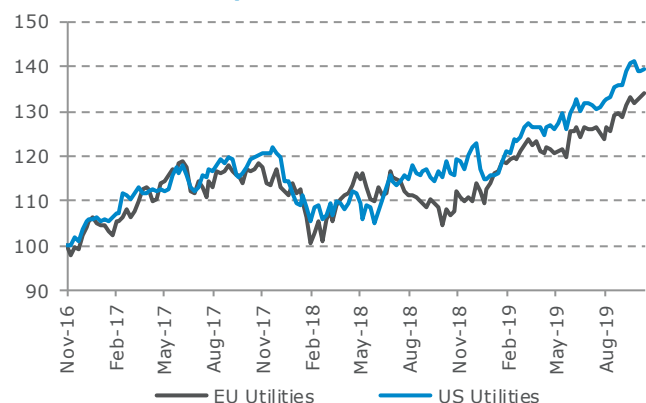
Weekly Returns of Utility Stocks



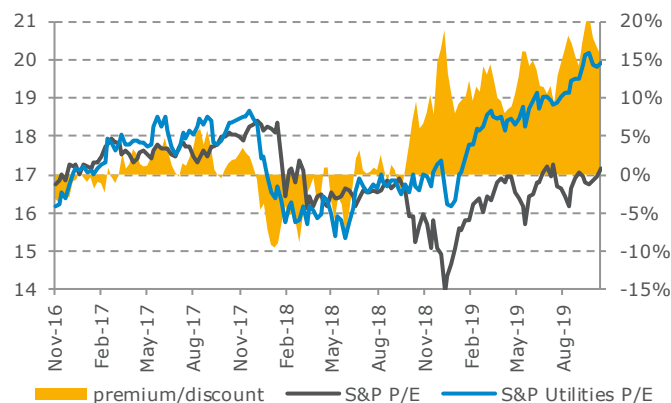
Source: Bloomberg, Dom Maklerski mBanku

Utilities

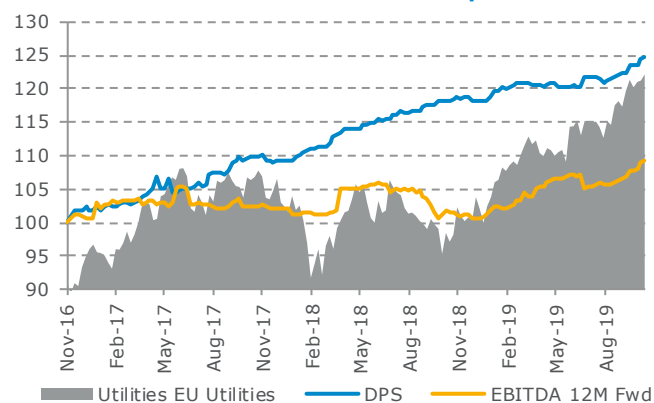
MSCI Utilities Europe vs. S&P Utilities



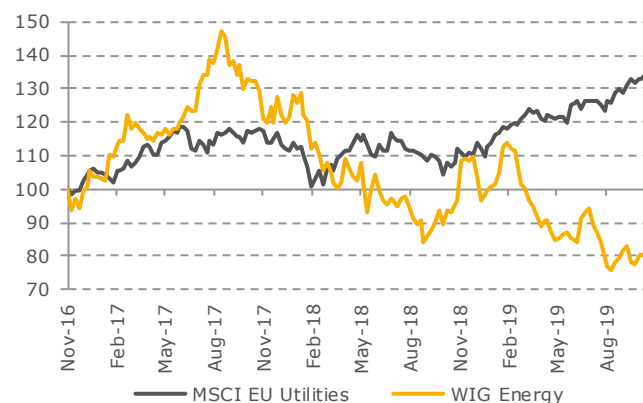
S&P Utilities vs. S&P 500 P/E



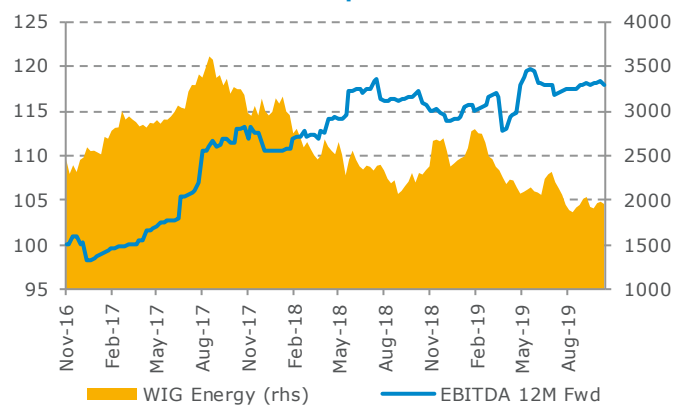
MSCI Utilities EU vs. DPS & EBITDA Expectations



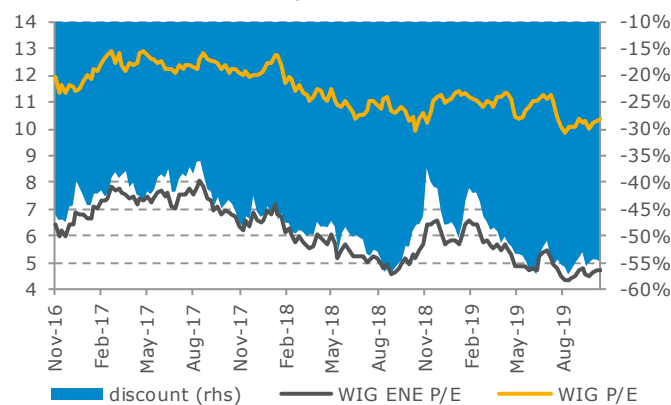
MSCI Utilities EU vs. WIG-ENERGY



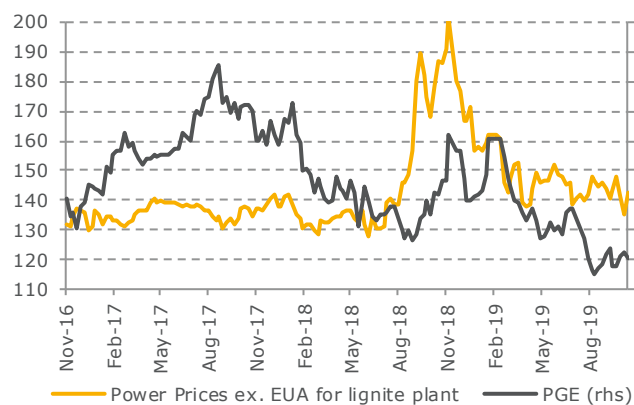
WIG-ENERGY vs. EBITDA Expectations



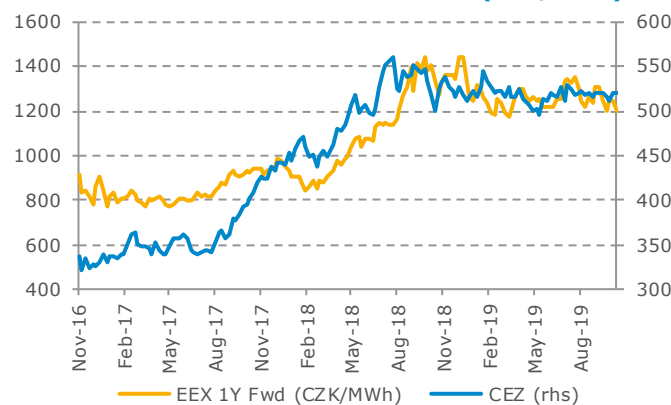
WIG-ENERGY vs. WIG P/E



PGE Performance vs. Power Prices ex. EUA



CEZ Performance vs. EEX Power Prices (CZK/MWh)

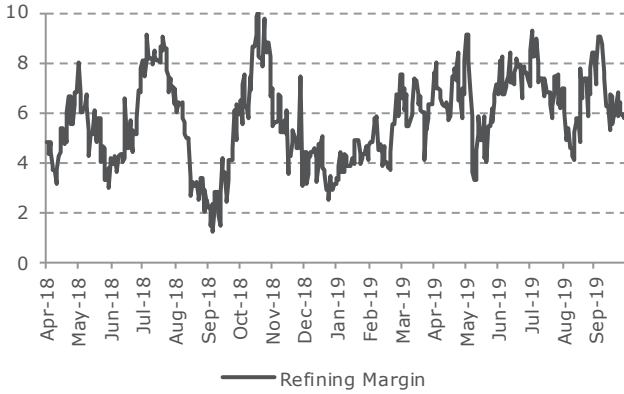


Source: Bloomberg, Dom Maklerski mBanku

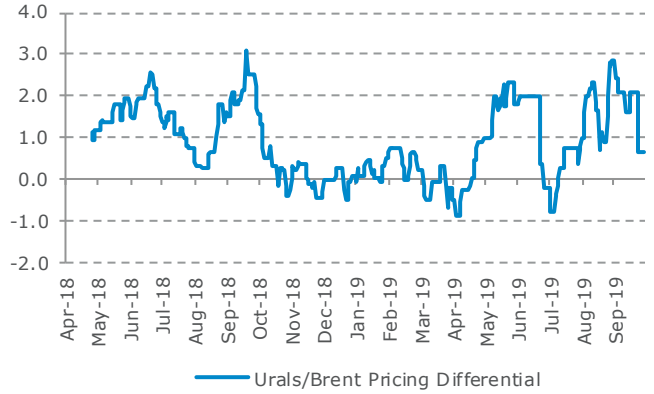


Gas & Oil

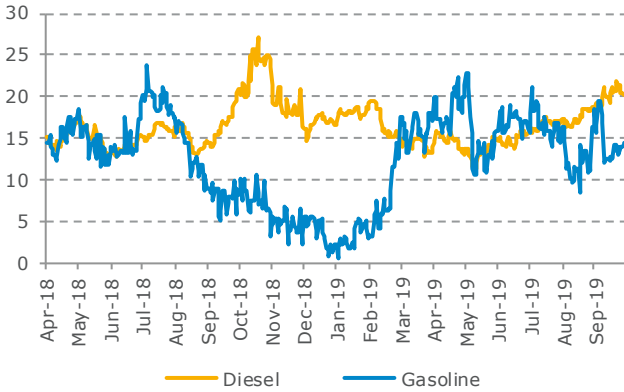
Refining Margins (US\$/bbl)



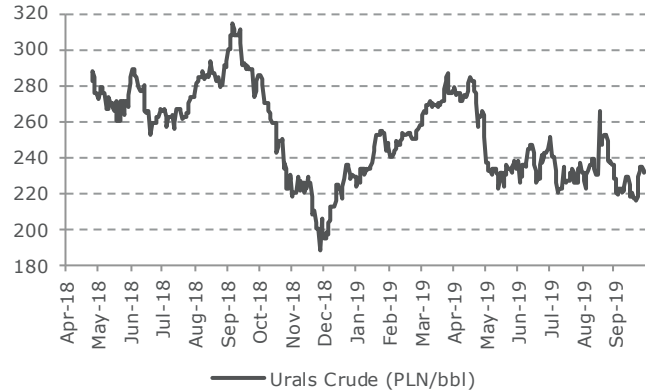
Urals/Brent Pricing Differential (US\$/bbl)



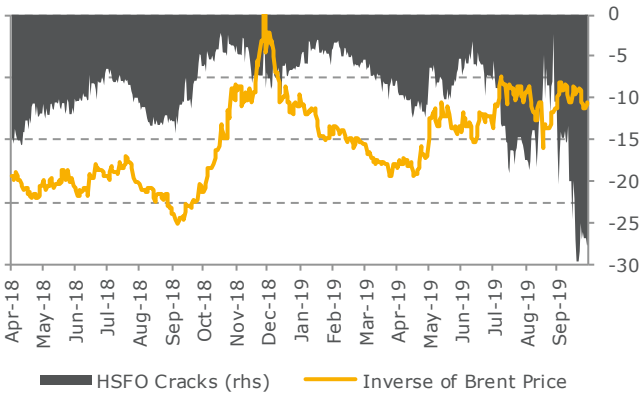
Cracking Margins on Diesel & Gasoline (US\$/bbl)



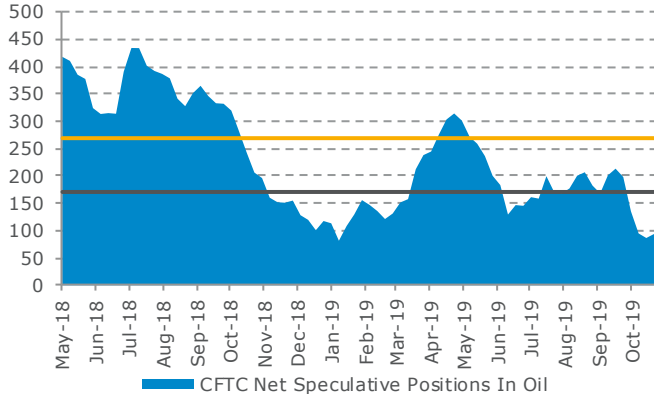
Price of Urals Crude (PLN/bbl)



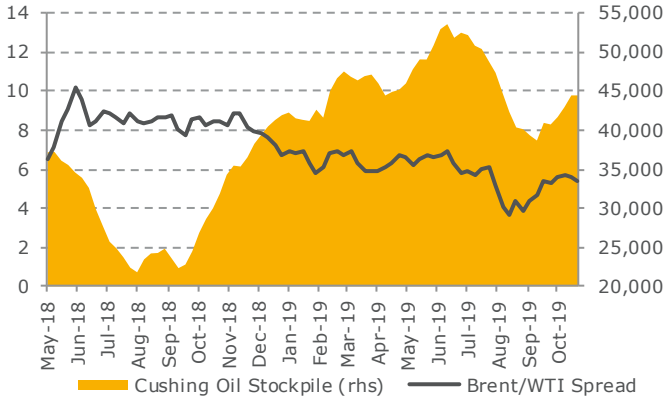
HSFO Cracks (US\$/bbl) vs. Inverse of Brent Price



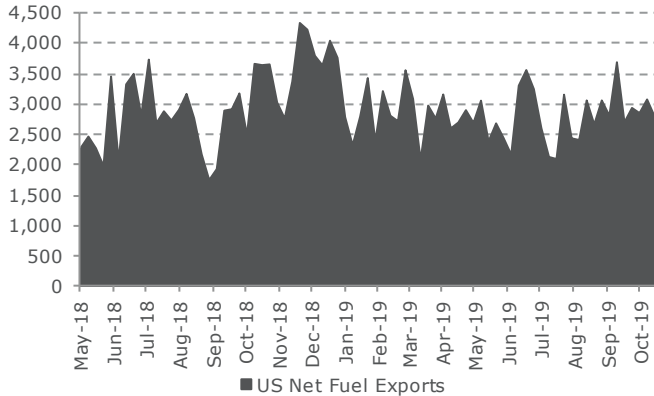
CFTC Net Speculative Positions In Oil



Brent/WTI Spread vs. Cushing Oil Stockpile



US Net Fuel Exports



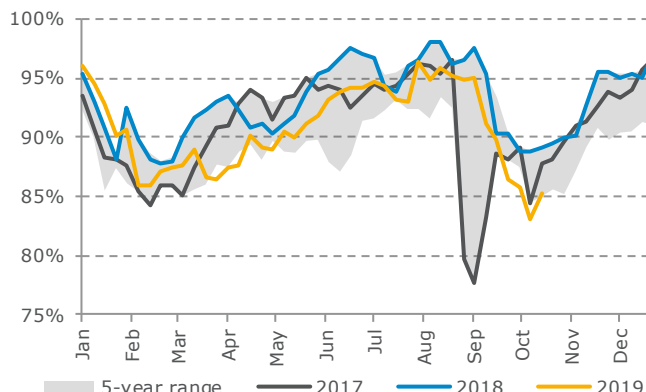
Source: Bloomberg, Dom Maklerski mBanku

Gas & Oil

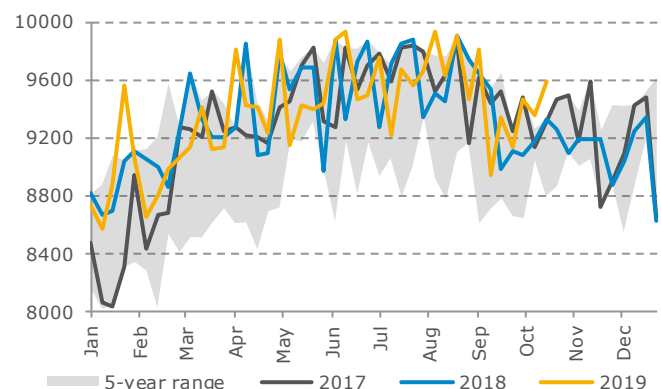
Diesel Inventories @ARA



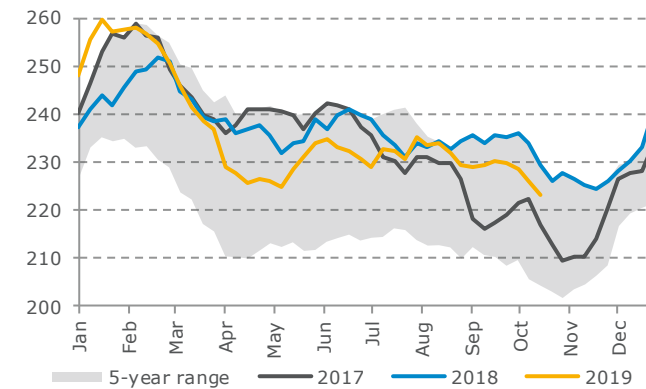
US Refinery Utilization Rates



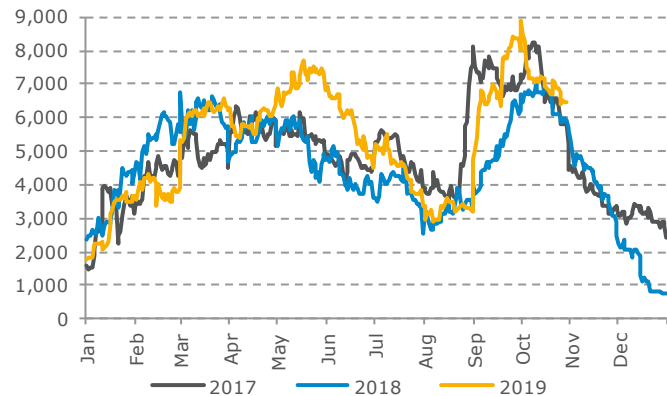
US Gasoline Demand



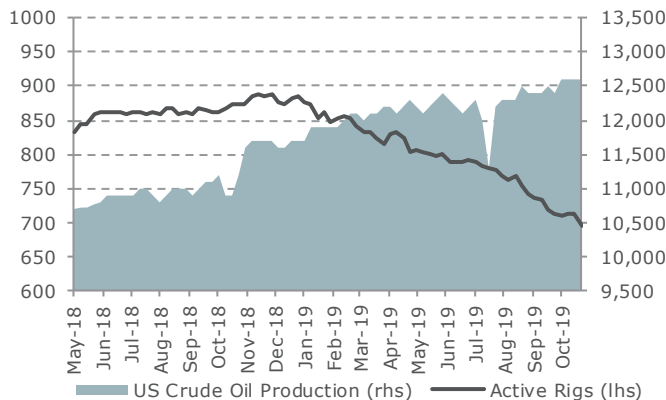
US Gasoline Inventories



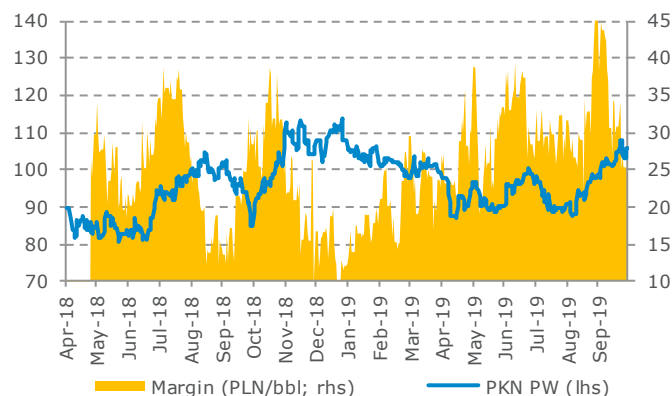
Global Refinery Outages (mmbbl/d)



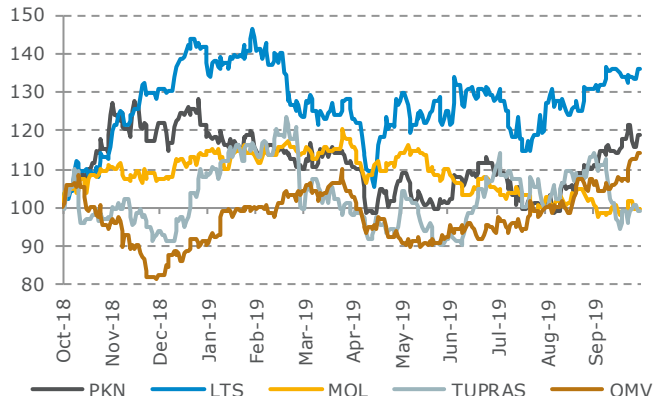
US Crude Oil Production (mboe/d) vs. Active Rigs



PKN Performance vs. Benchmark Margins



Normalized Oil Stock Chart

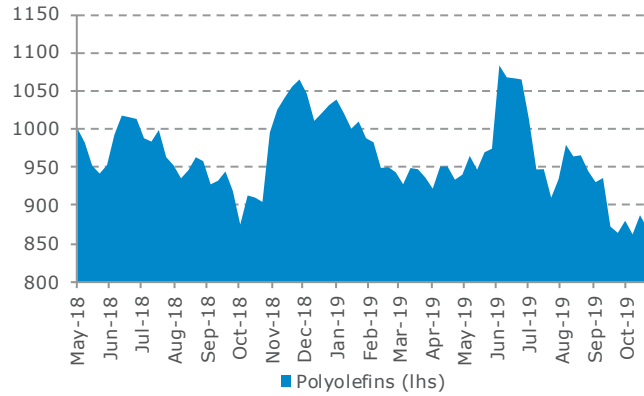


Source: Bloomberg, Dom Maklerski mBanku

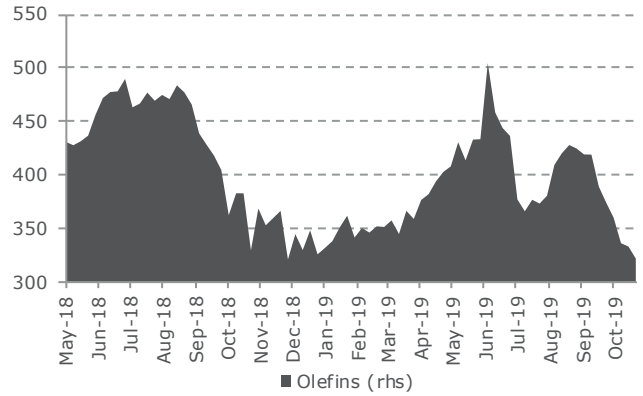


Petrochemicals & NatGas

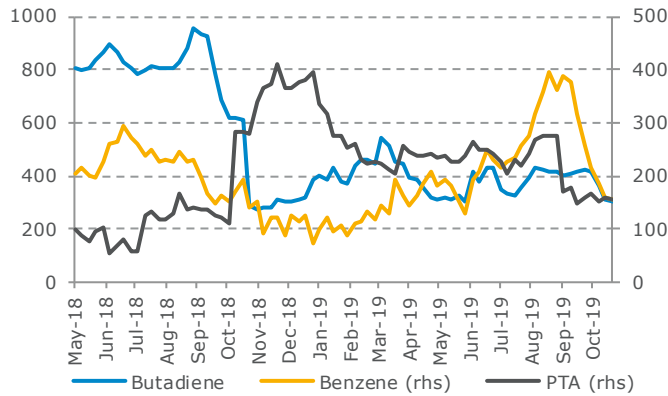
Margins on Polyolefins



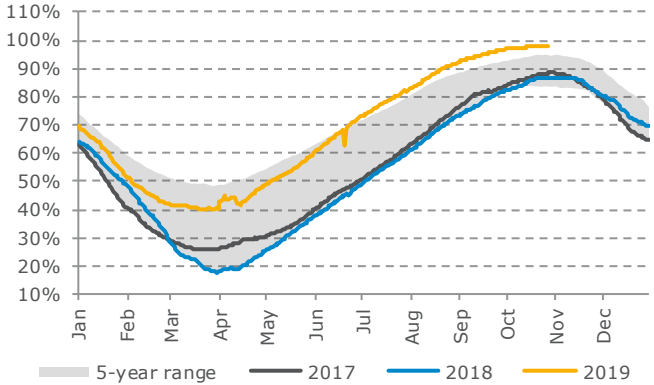
Margins on Olefins



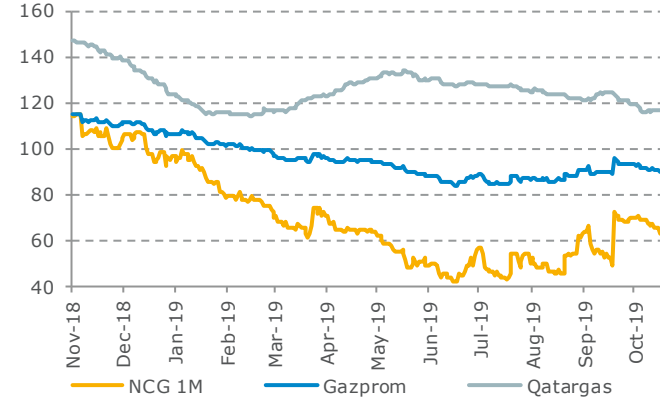
Margins on Butadiene, Benzene & PTA (US\$/t)



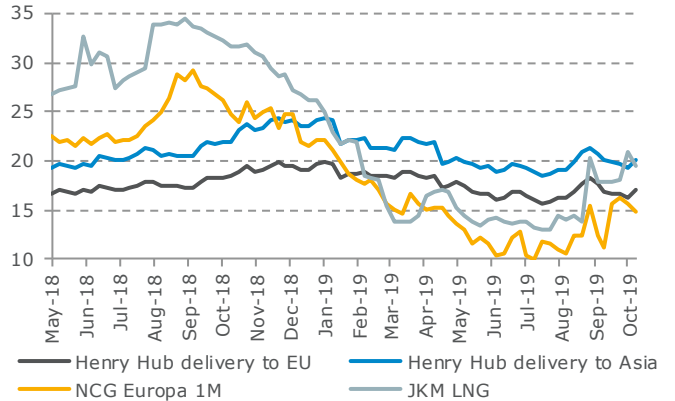
EU Gas Storage Levels (% Full)



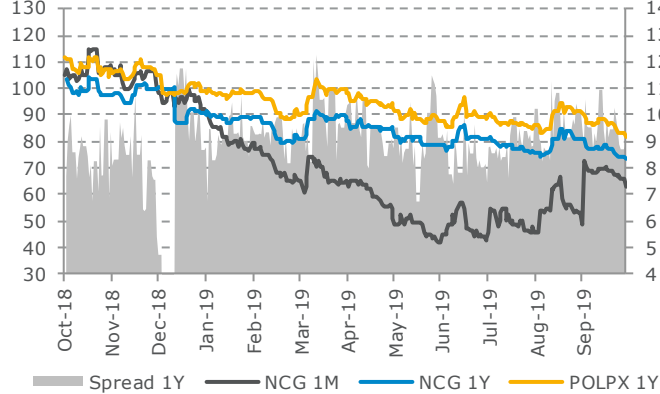
Estimated Costs of Imported Natural Gas (PLN/MWh)



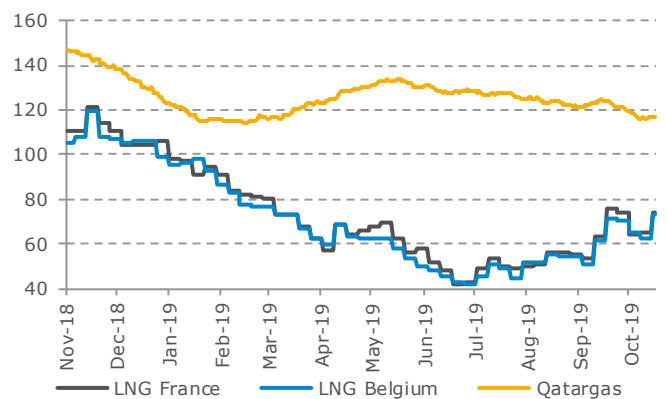
Prices of US LNG Exports to EU and Asia



NCG Prices, POLPX vs. Benchmarks (PLN/MWh)



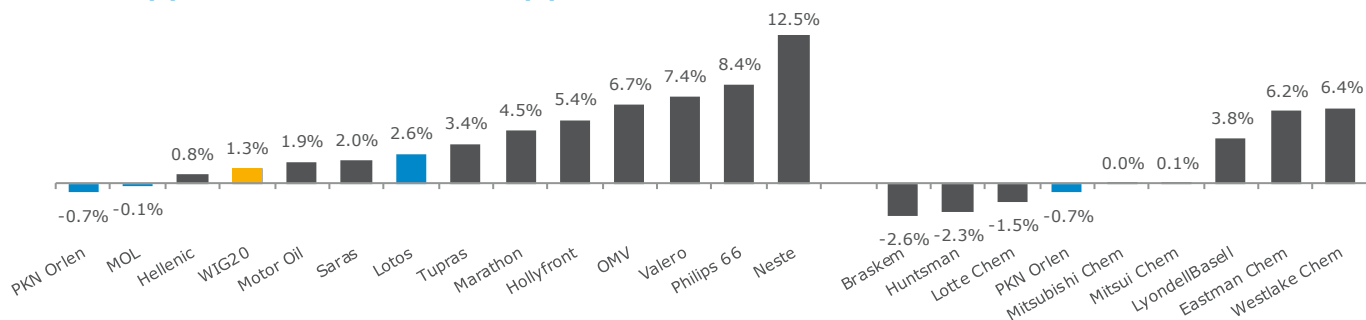
LNG Spot Rates vs. Estimated Qatargas rates



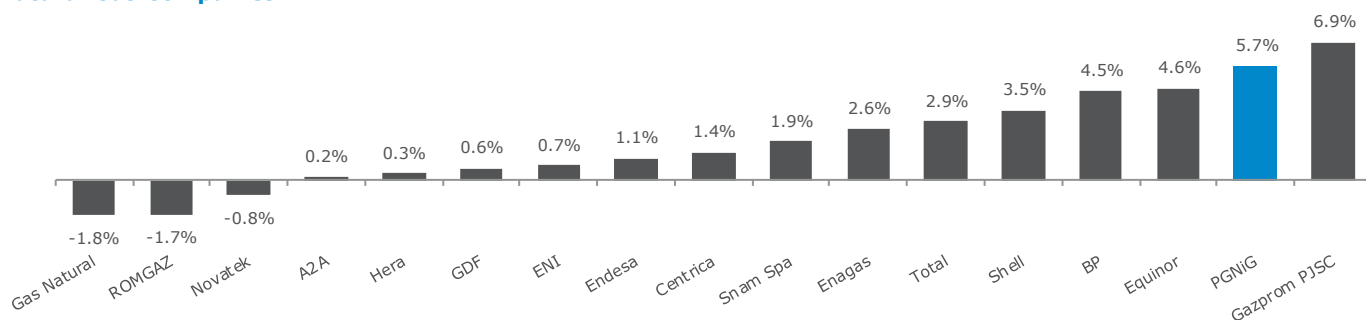
Source: Bloomberg, Dom Maklerski mBanku

Weekly Performance Charts

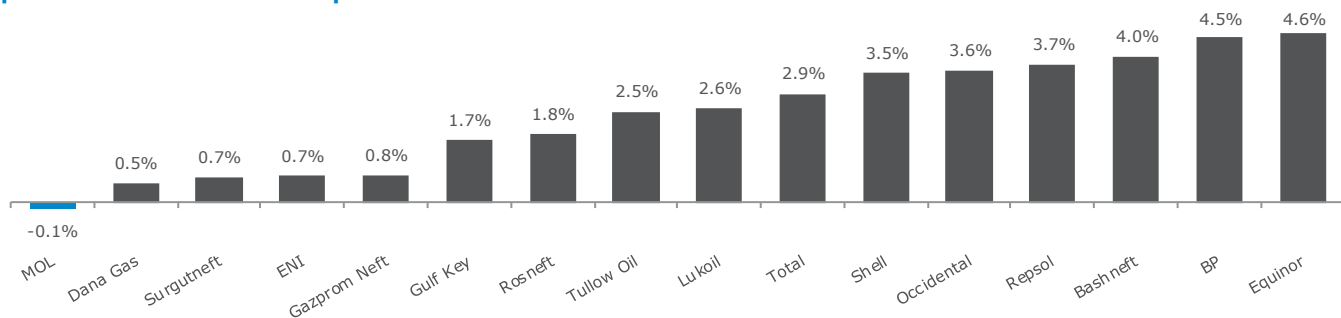
Oil Refiners (L) & Petrochemical Producers (R)



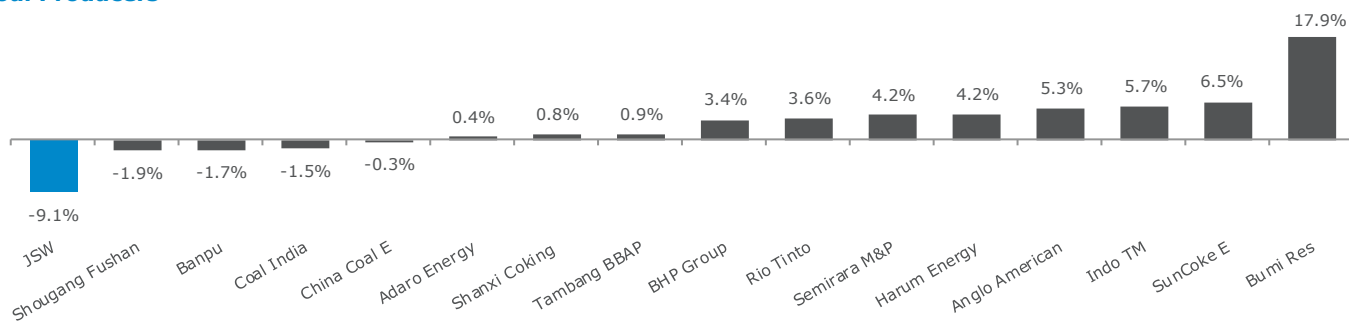
Natural Gas Companies



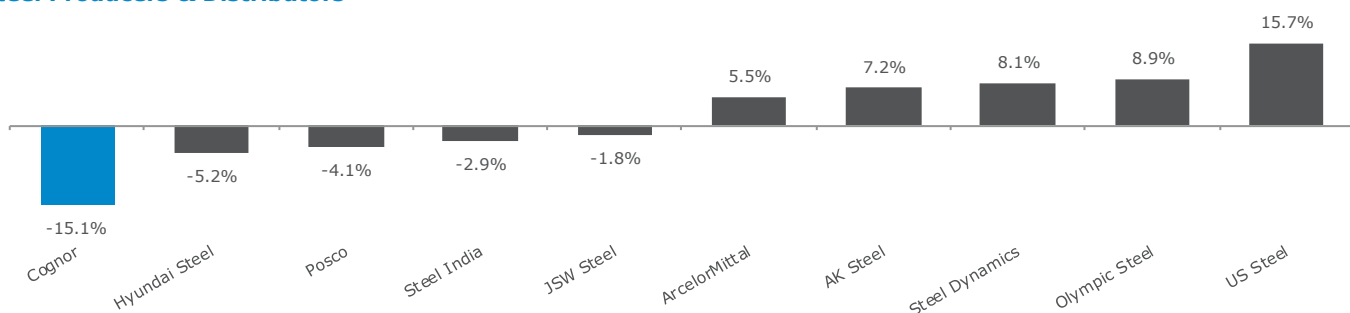
Exploration & Production Companies



Coal Producers



Steel Producers & Distributors

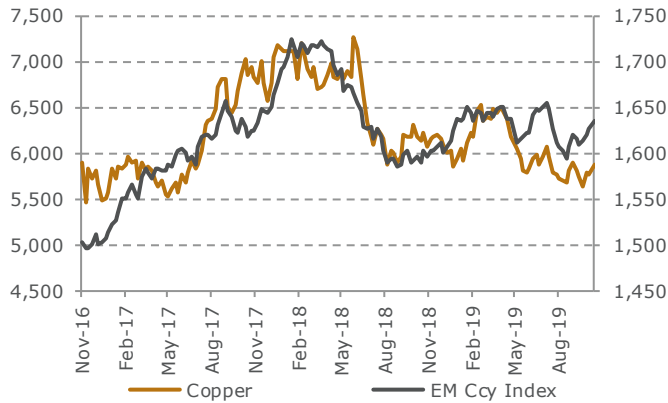


Source: Bloomberg, Dom Maklerski mBanku

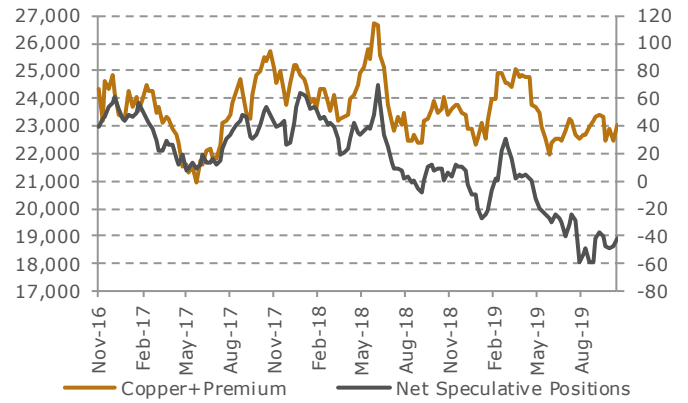


Copper Charts

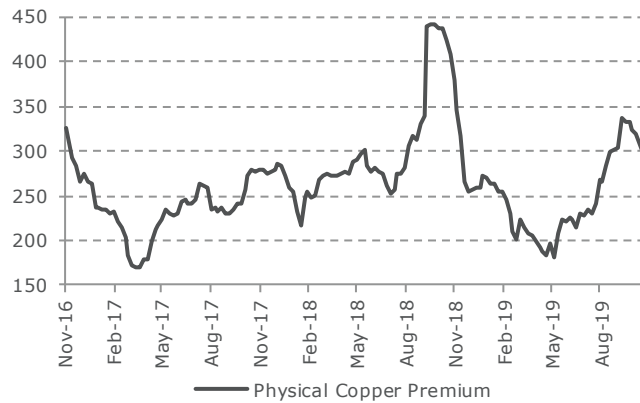
Cu Price (US\$/t) vs. EM Currencies (pts.; rhs)



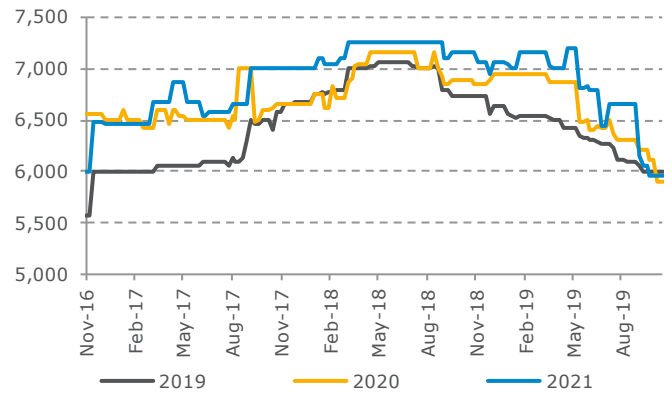
CU Price incl. Supplier Premium (PLN 1,000/t; lhs) vs. Net Speculative Positions (1,000, rhs)



Physical Copper Premiums (PLN/t)



Copper Price Forecasts (median; US\$/t)



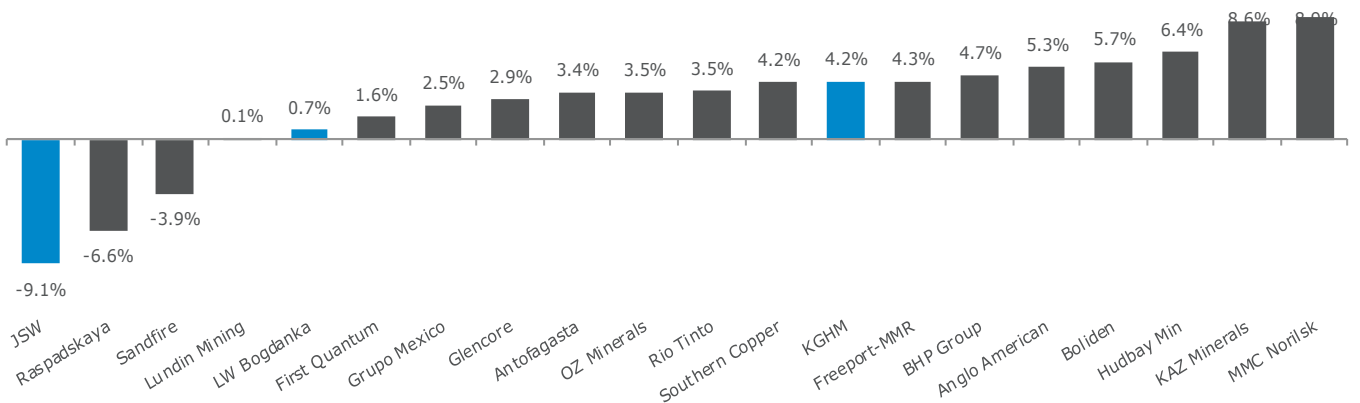
Silver prices (PLN/kg)



Prices of gold (PLN/oz)



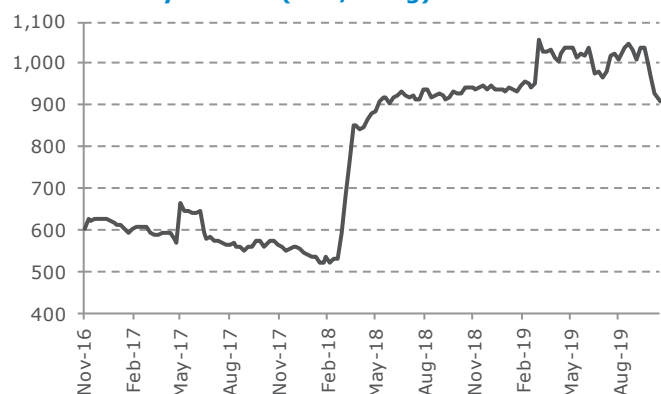
Weekly Returns of Metal & Mining Stocks



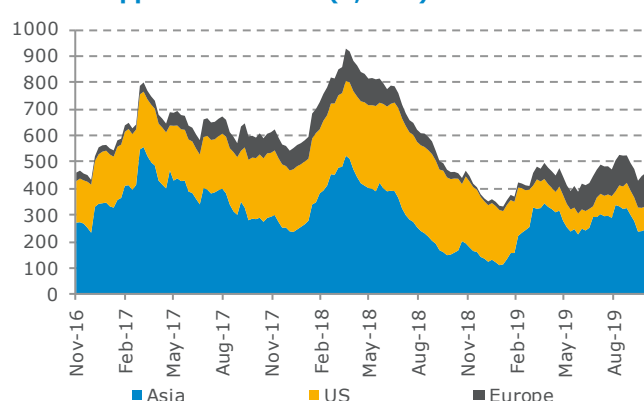
Source: Bloomberg, Dom Maklerski mBanku

More Copper Charts

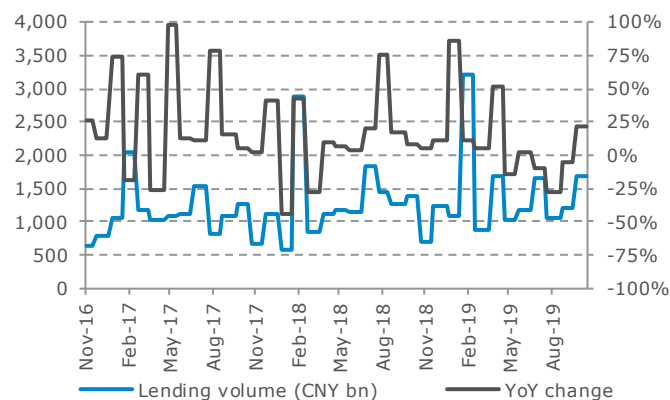
Prices of molybdenum (PLN/10 kg)



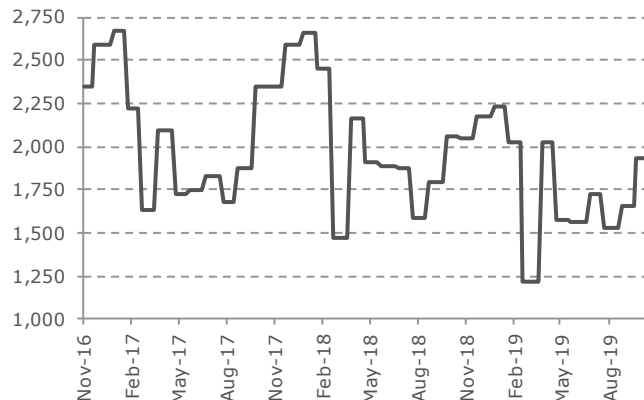
Global Copper Inventories (1,000t)



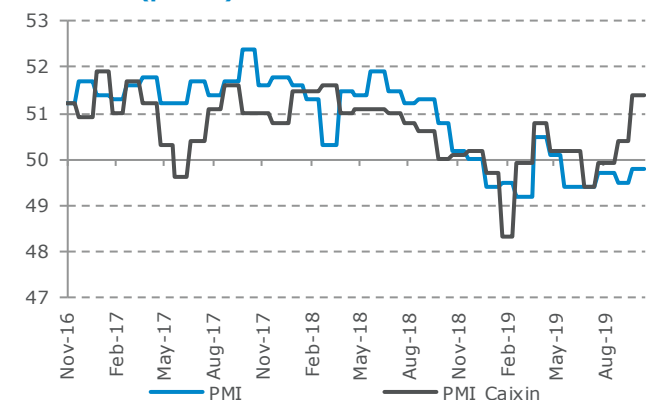
New Bank Lending in China (CNY bn)



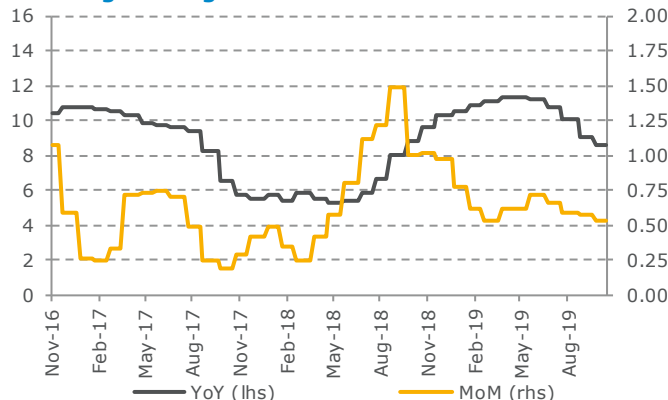
Car Sales in China (thousands)



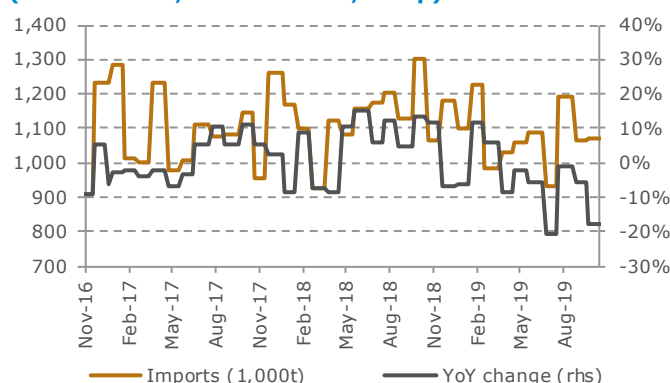
China PMI (points)



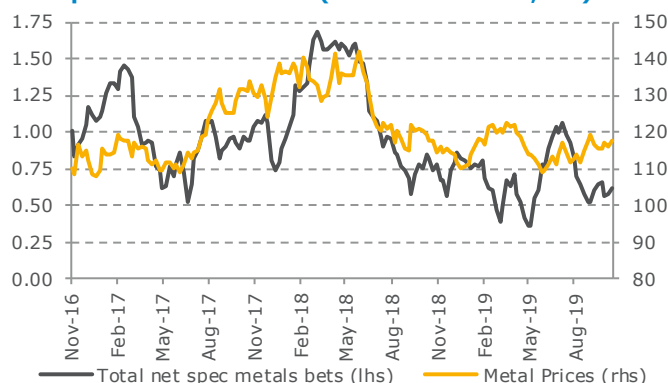
% Change In Avg. New Home Prices In 70 CN Cities



China Copper Imports (concentrates, refined metal, scrap)



Metal Price Index (pts, rhs) vs. Net Speculative Positions (million contracts, lhs)

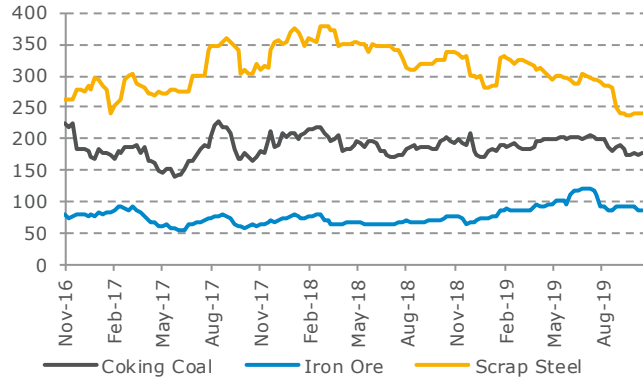


Source: Bloomberg, Dom Maklerski mBanku

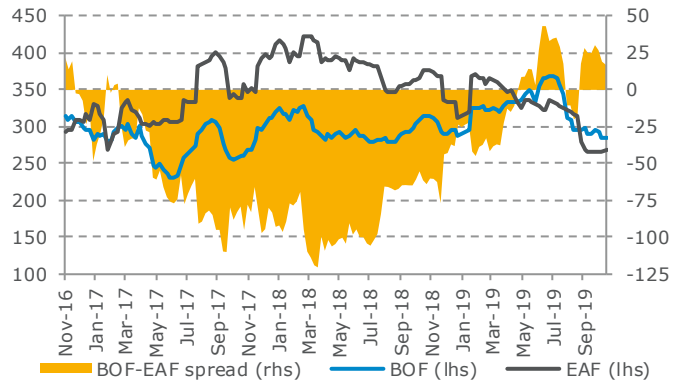


Steel Charts

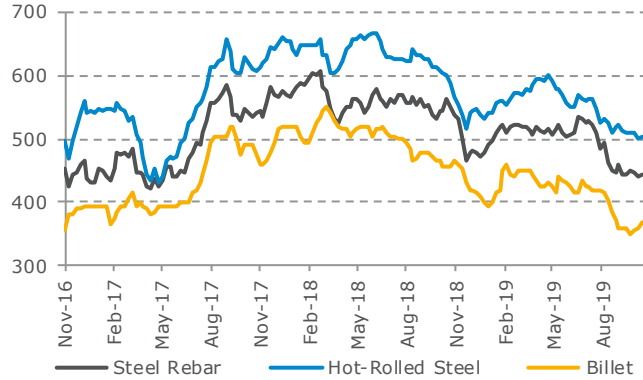
China Coking Coal & Iron Ore Prices, Rotterdam Scrap Steel Prices (US\$/t)



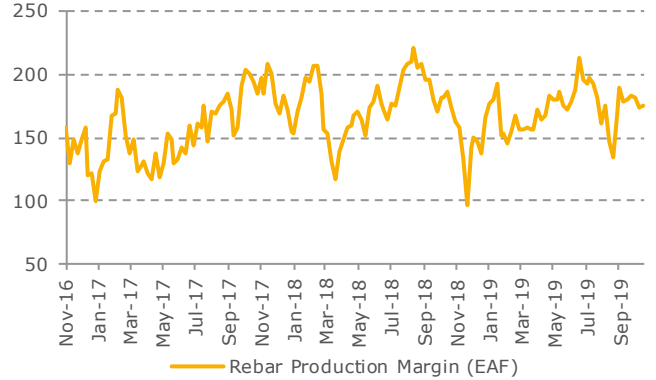
Production Costs of BOF vs. EAF Steel Producers (US\$/t)



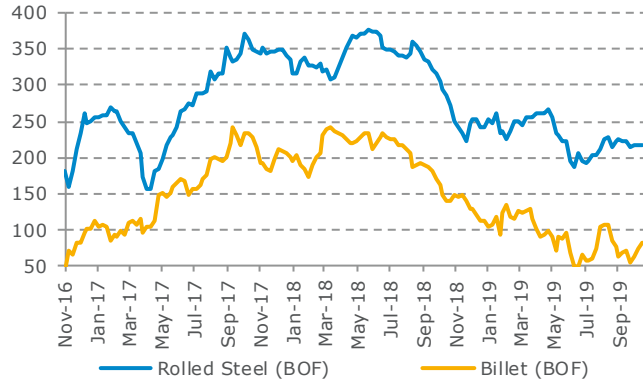
Prices of Steel Rebar & Hot-Rolled Steel (US\$/t)



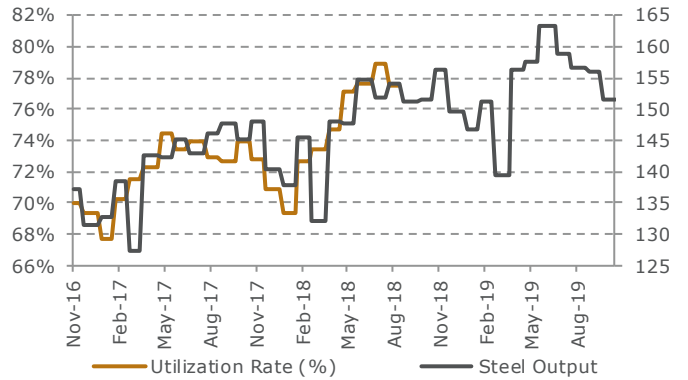
Rebar Production Margins of EAF Steelmakers (US\$/t)



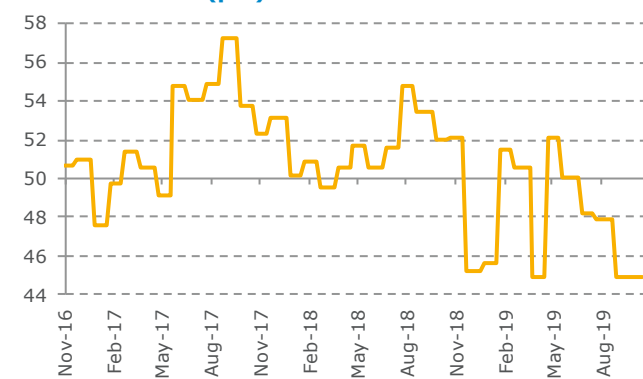
Rolled Steel & Billet Margins of BOF Steelmakers (US\$/t)



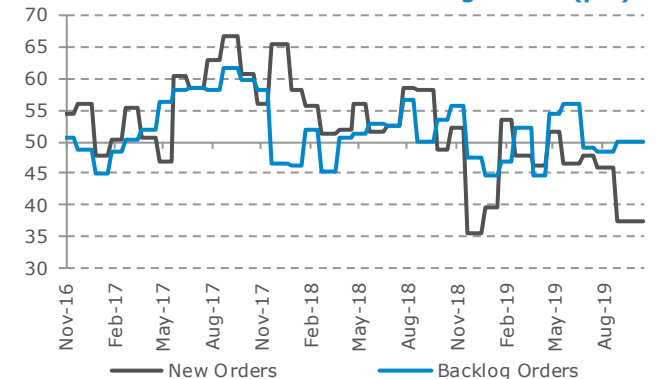
Global Steel Plant Capacity Utilization Rates & Output (Mt)



China Steel PMI (pts)



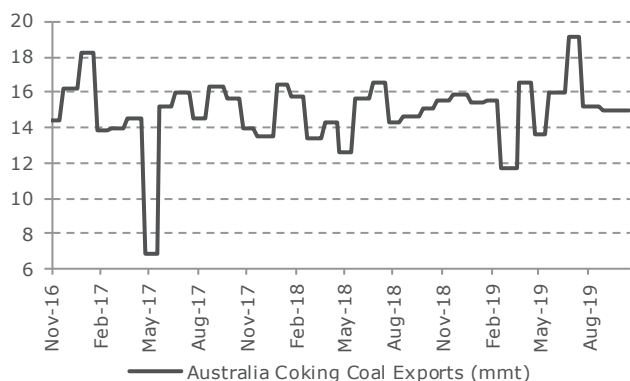
China Steel PMI New Orders & Backlog Orders (pts)



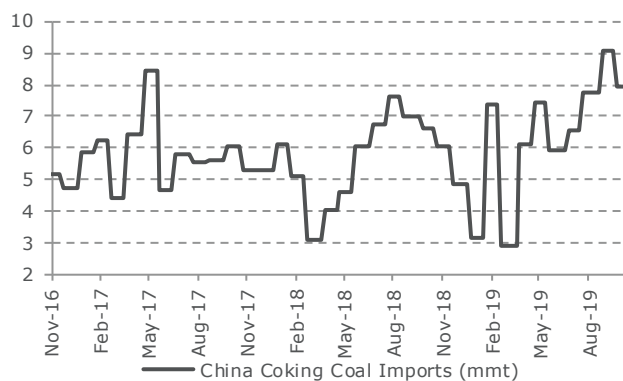
Source: Bloomberg, Dom Maklerski mBanku

More Steel Charts

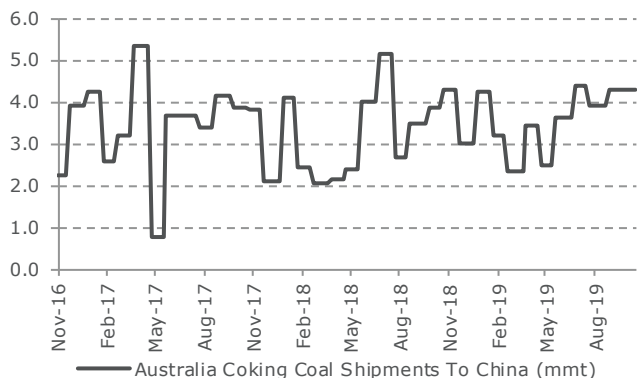
Australia Coking Coal Exports (mmt)



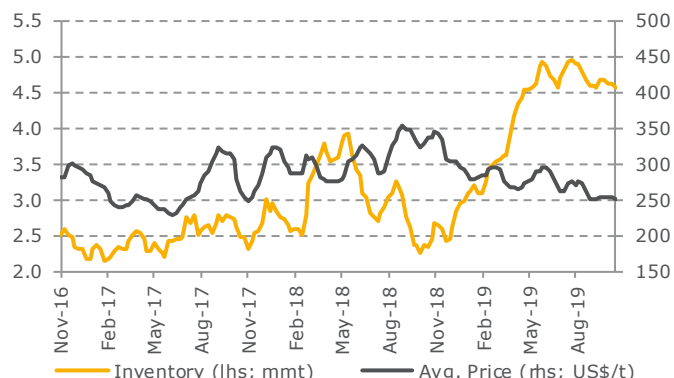
China Coking Coal Imports (mmt)



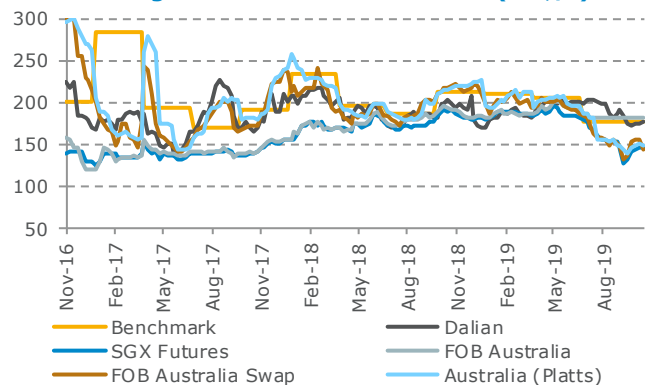
Australia Coking Coal Shipments To China (mmt)



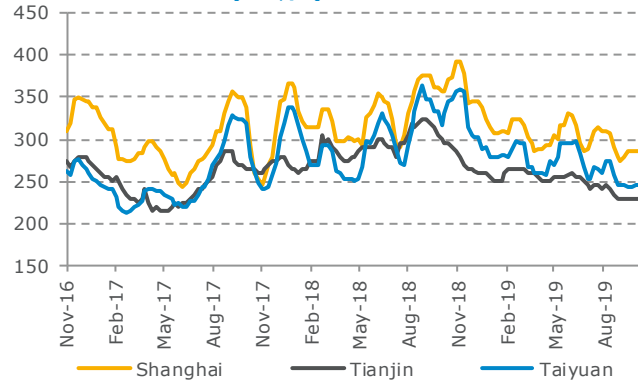
China Coke Inventories (lhs; mmt) & Average Prices (rhs; US\$/t)



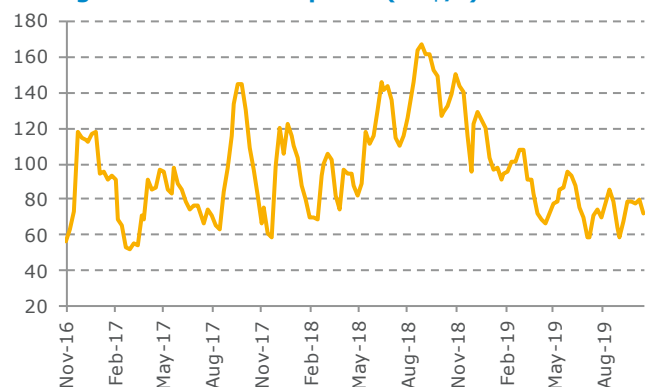
China Coking Coal Prices vs. Benchmark (US\$/t)



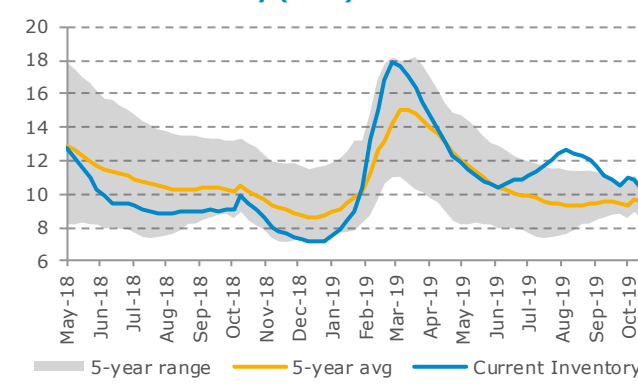
China Coke Prices (US\$/t)



Coking Coal-Coke Price Spread (US\$/t)



China Steel Inventory (mmt)

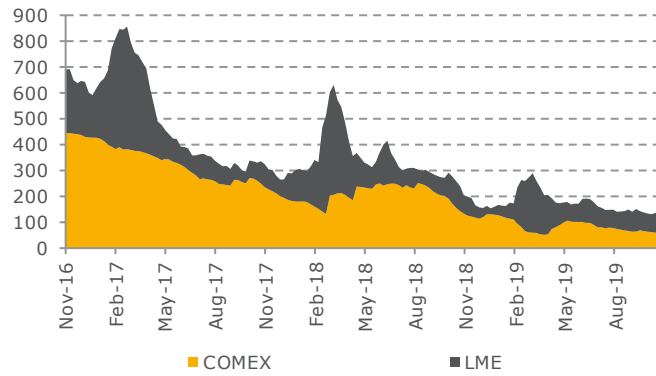


Source: Bloomberg, Dom Maklerski mBanku

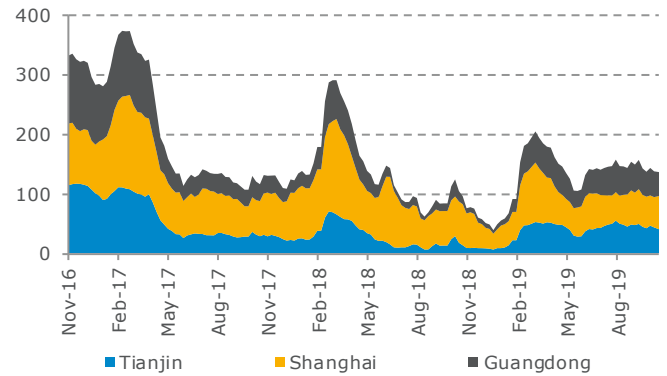


Zinc and Electrical Steel Charts

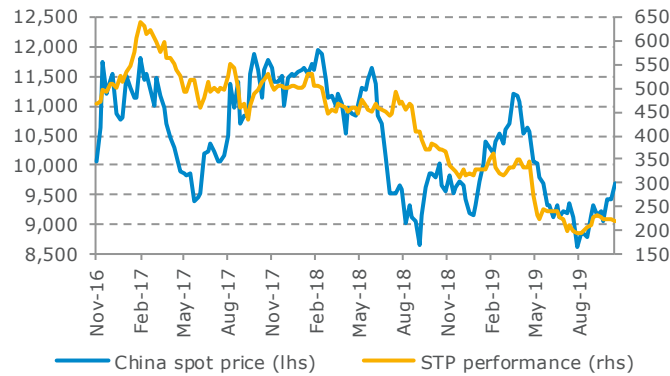
Exchange-Monitored Zinc Inventories (1,000t)



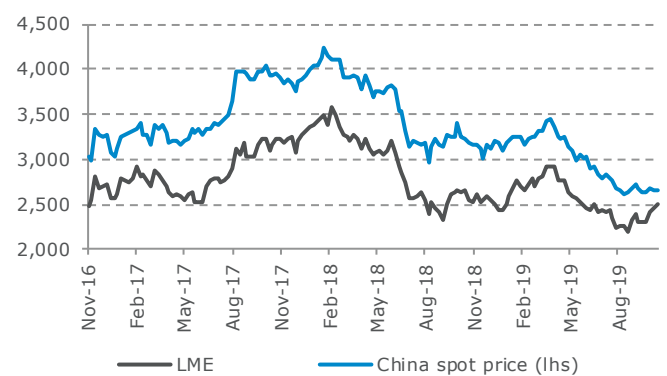
Zinc Inventories in Three Chinese Regions (1,000t)



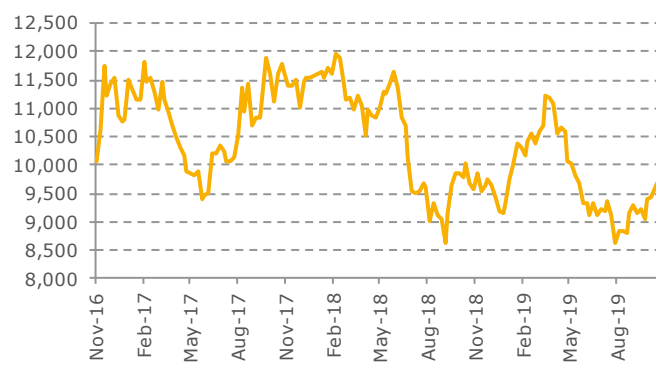
Zinc Prices vs. Stalprodukt Stock Performance (PLN)



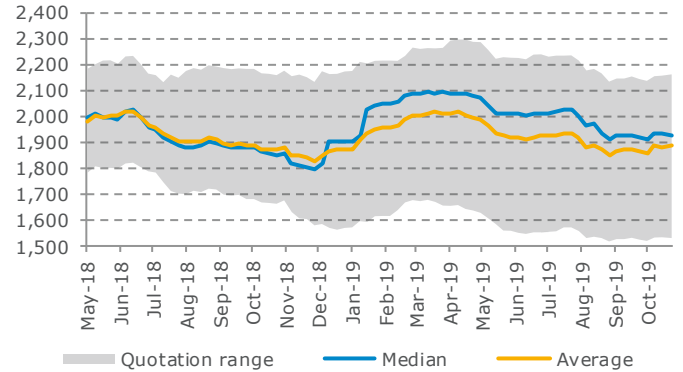
US Dollar Zinc Prices (US\$/t)



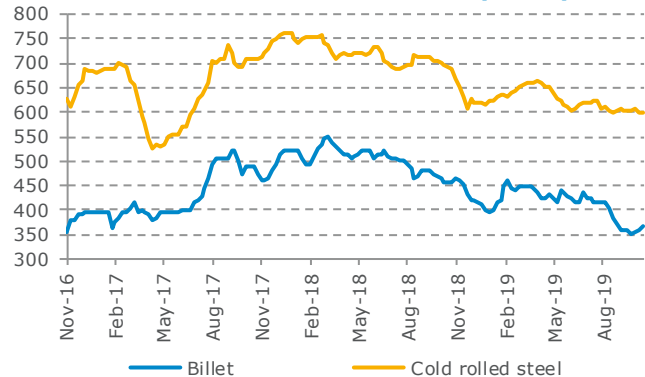
Polish Zloty Zinc Prices (PLN/t)



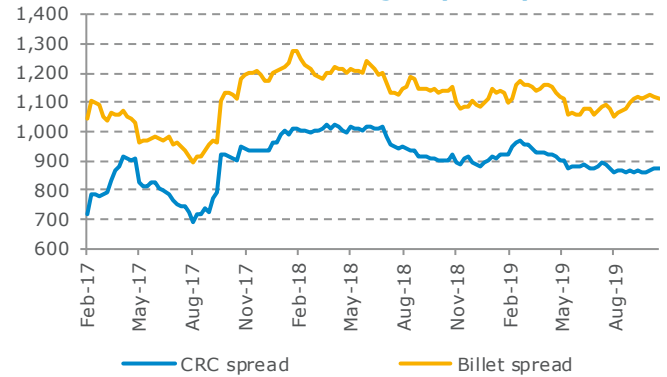
China Electrical Steel Prices (US\$/t)



Prices of Steel Billet & Cold Rolled Coil (US\$/t)



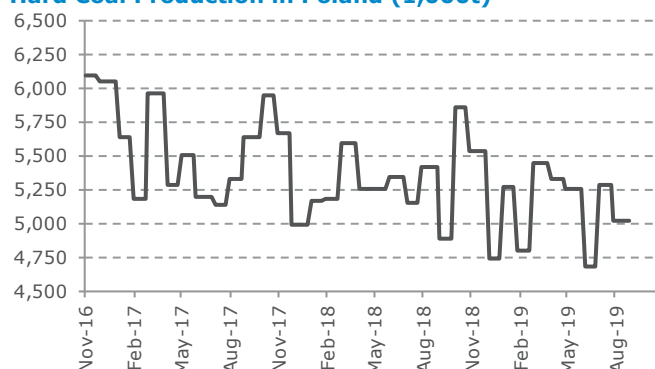
Electrical Steel Production Margins (US\$/t)



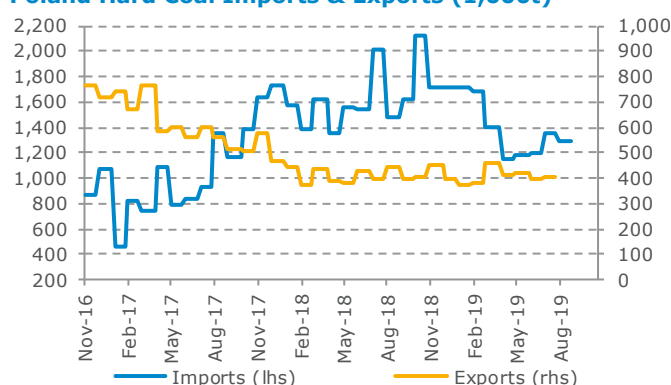
Source: Bloomberg, Dom Maklerski mBanku

Thermal Coal Charts

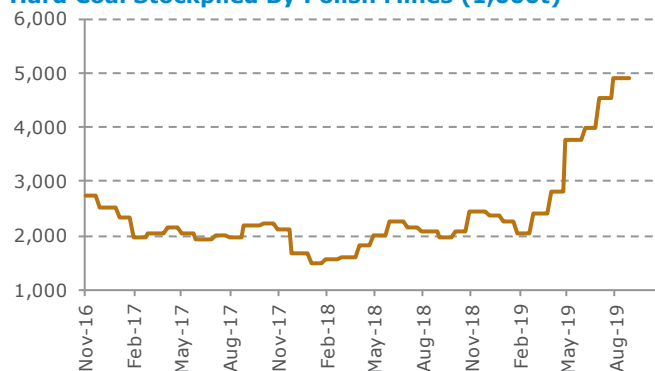
Hard Coal Production in Poland (1,000t)



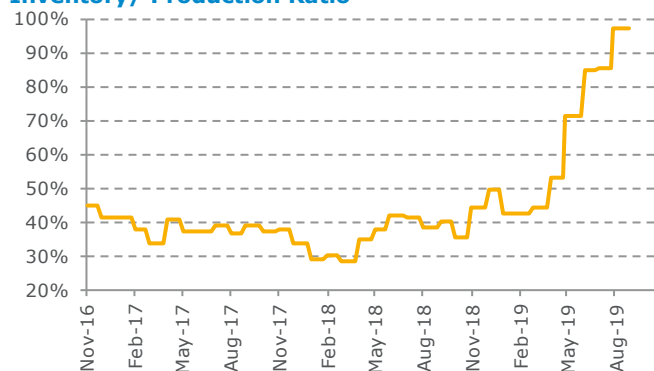
Poland Hard Coal Imports & Exports (1,000t)



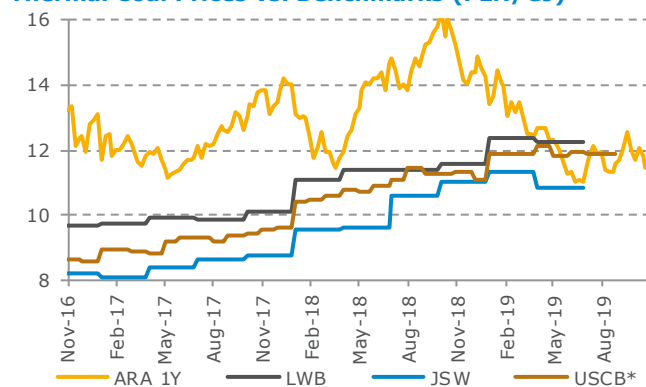
Hard Coal Stockpiled By Polish Mines (1,000t)



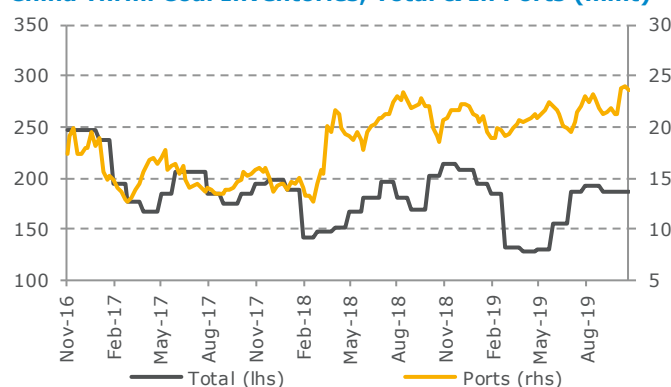
Inventory/ Production Ratio



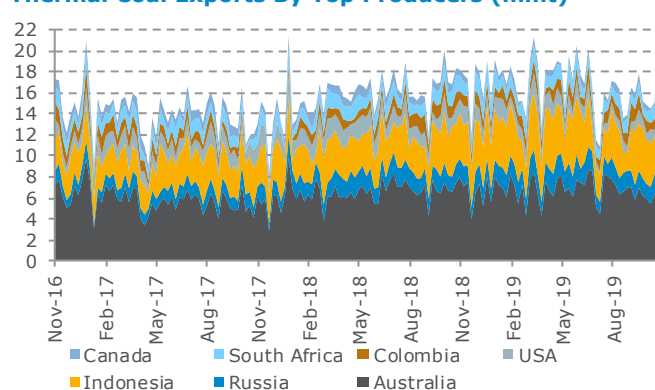
Thermal Coal Prices vs. Benchmarks (PLN/GJ)



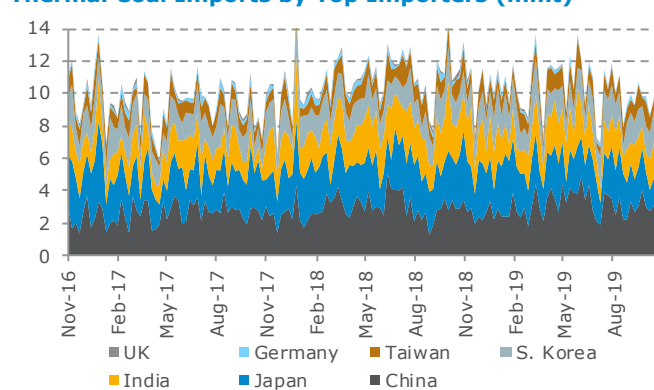
China Thrml Coal Inventories, Total & In Ports (mmt)



Thermal Coal Exports By Top Producers (mmt)



Thermal Coal Imports by Top Importers (mmt)

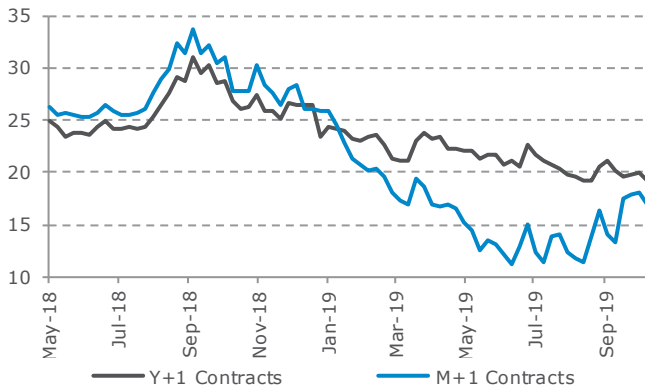


Source: Bloomberg, ARP, Eurostat, Dom Maklerski mBanku *Upper Silesian Coal Basin

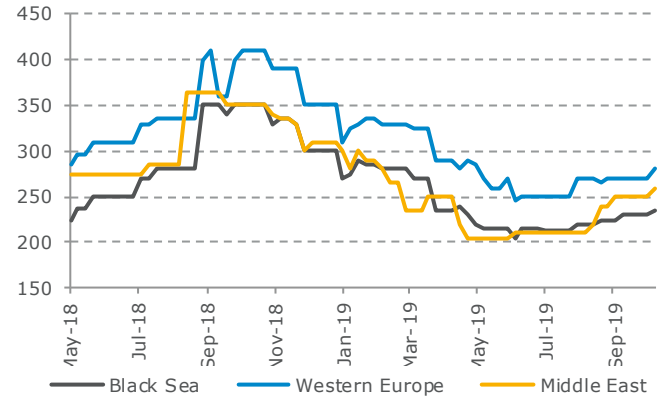


Fertilizer Charts

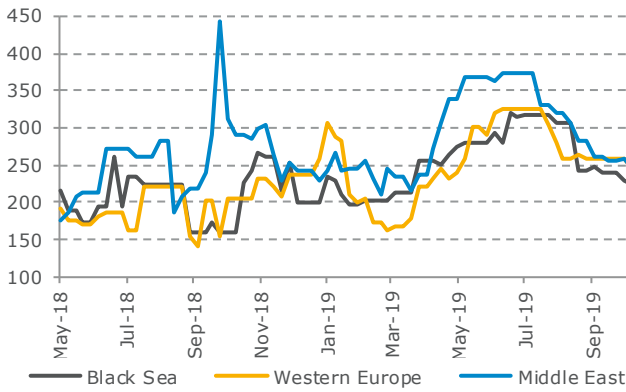
German NatGas Prices (US\$/MWh)



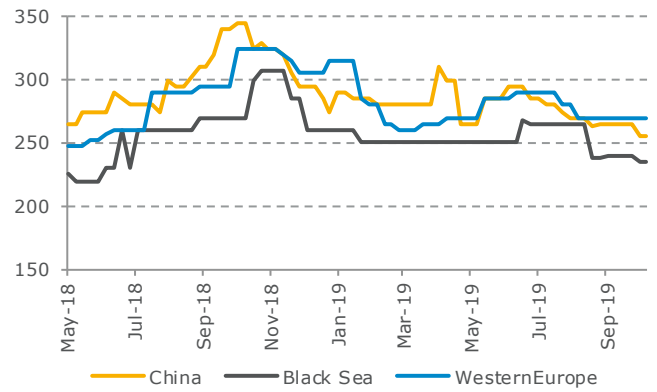
World Ammonia Prices (US\$/t)



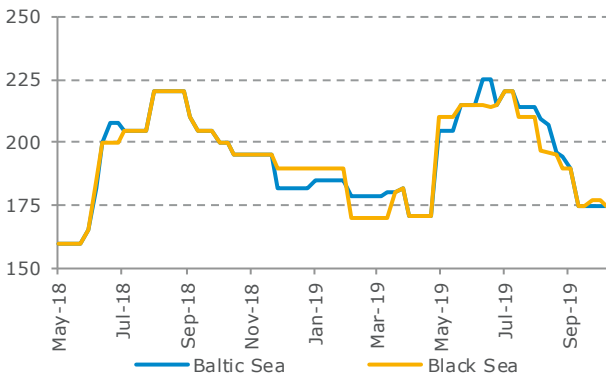
Urea-Ammonia Price Difference



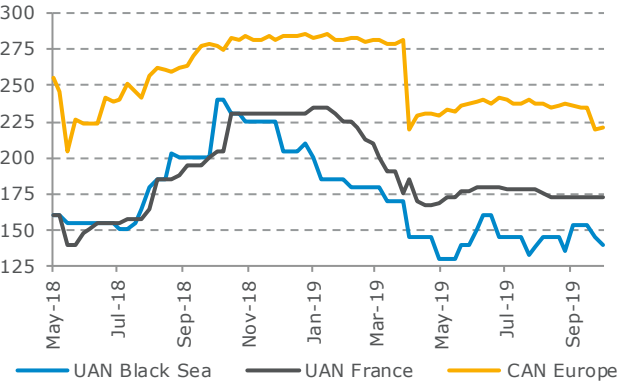
World Urea Prices (US\$/t)



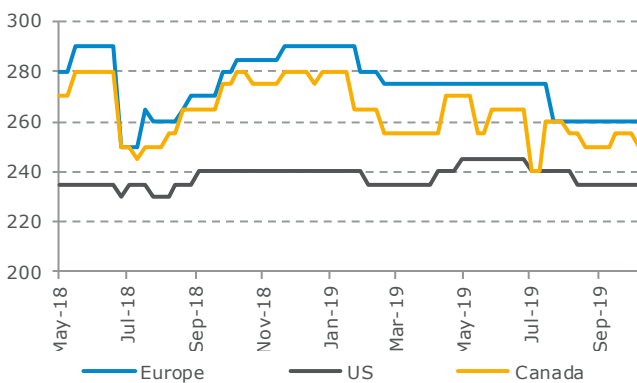
World Ammonium Nitrate Prices (US\$/t)



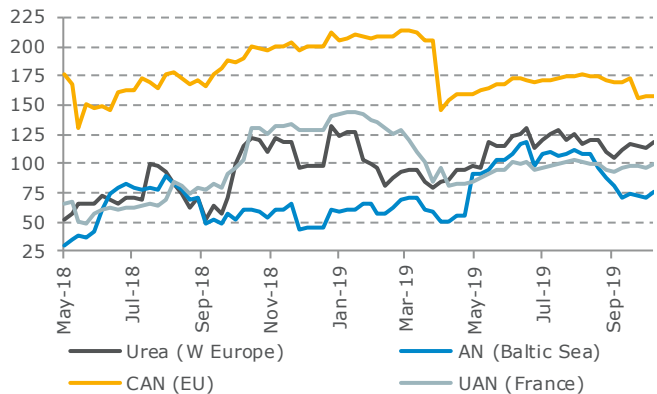
CAN & UAN prices (US\$/t)



World Ammonium Sulfate Prices (US\$/t)



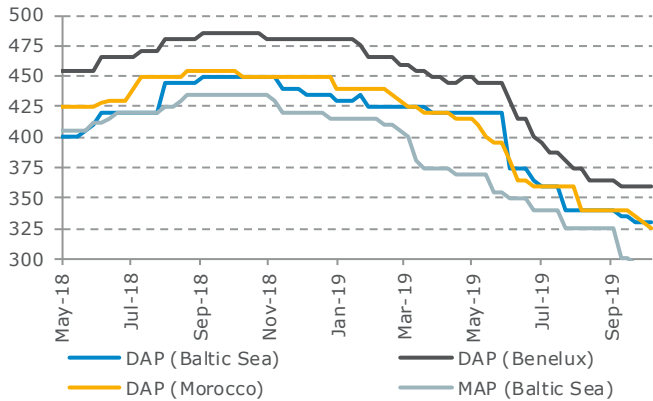
Production Margins On Nitrogen Fertilizers (US\$/t)



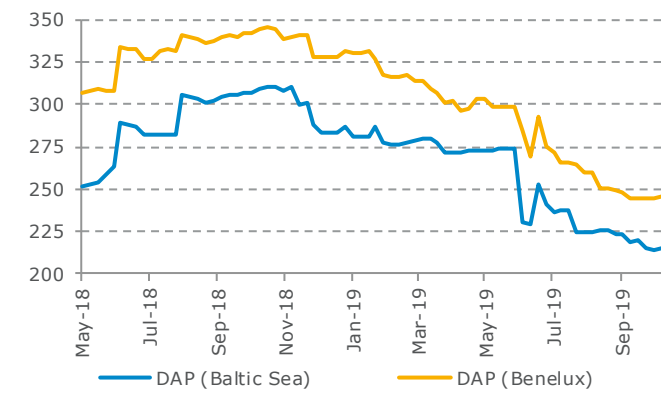
Source: Bloomberg, Dom Maklerski mBanku

Fertilizer Charts

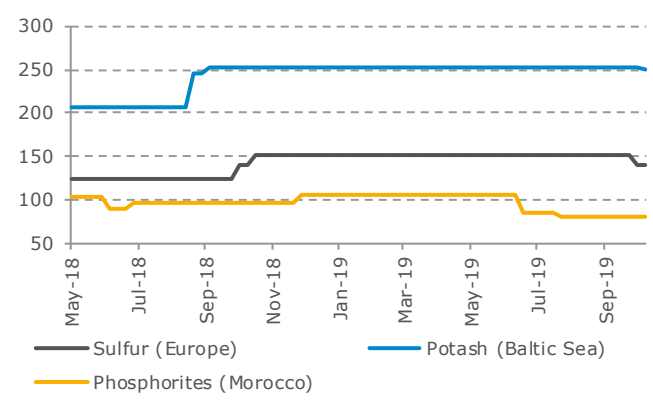
Prices of P & K Fertilizers (US\$/t)



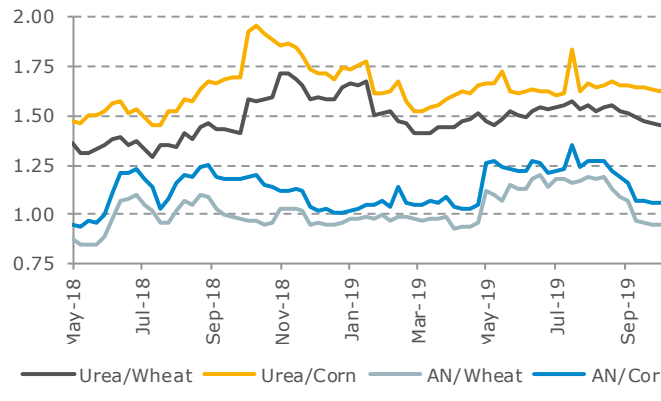
Production Margins on P & K Fertilizers (US\$/t)



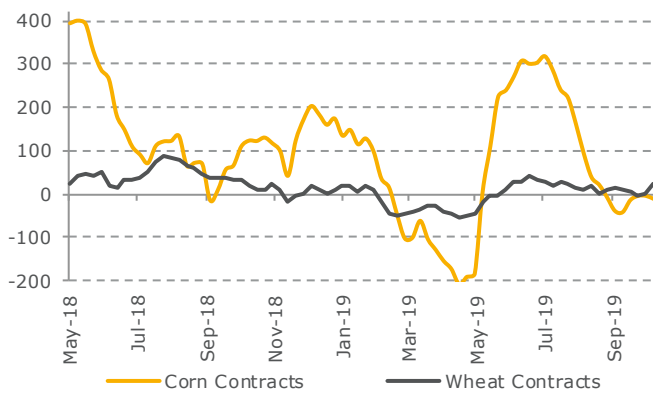
Prices of Sulfur, Potash & Phosphorites (US\$/t)



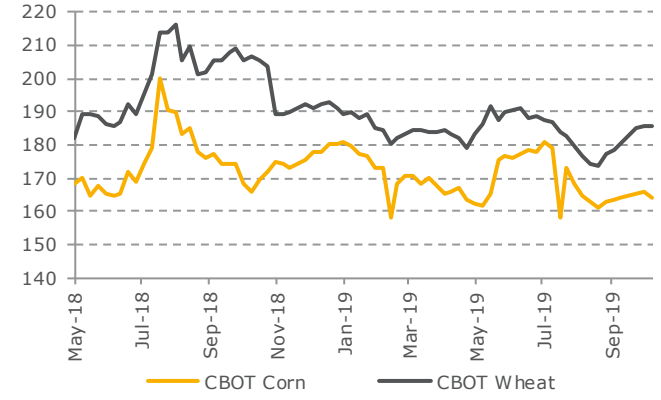
Fertilizer-to-Crop Price Ratios



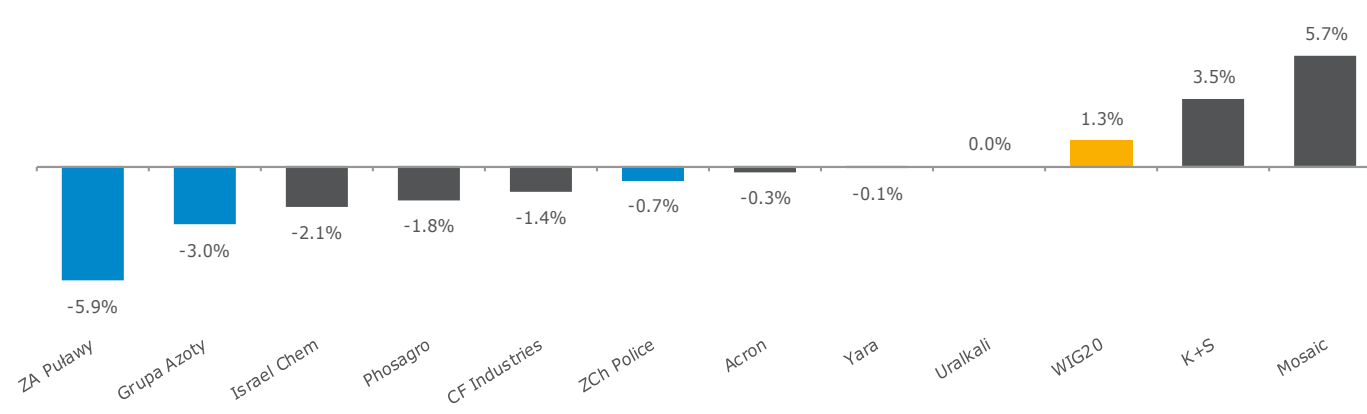
CBOT Open Positions In Corn and Wheat CBT



CBOT Corn and Wheat Prices (US\$/t)



Weekly Returns of Fertilizer Stocks

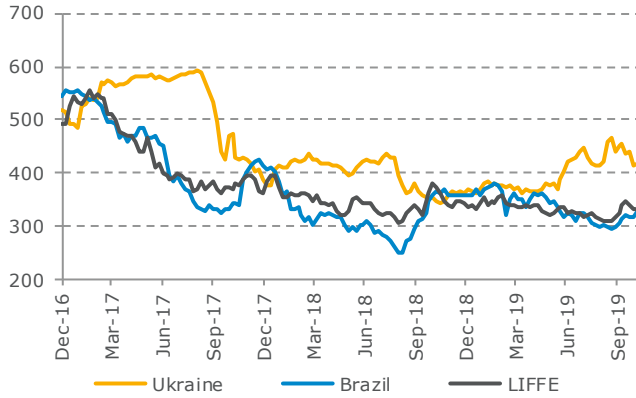


Source: Bloomberg, Dom Maklerski mBanku

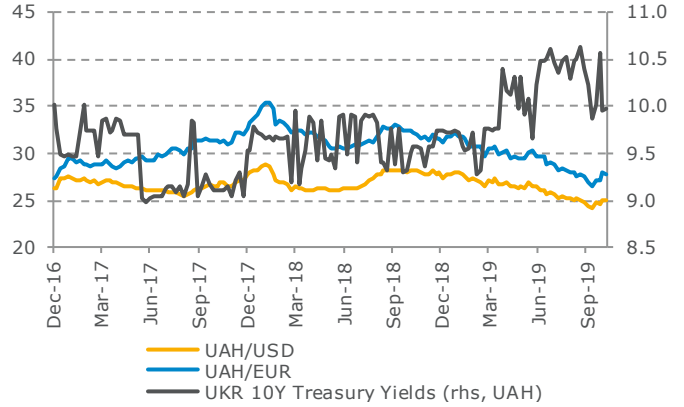


Agricultural Commodities

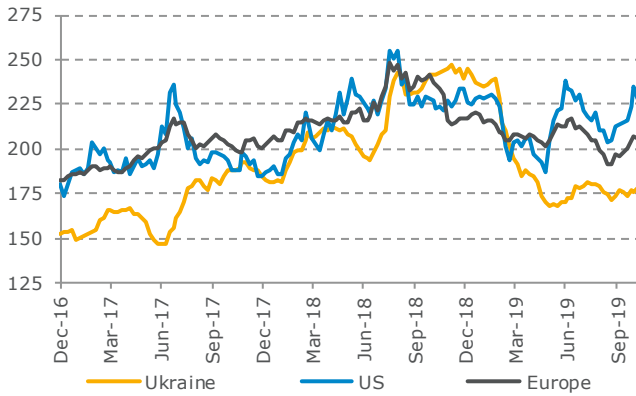
Sugar Prices (US\$/Mt)



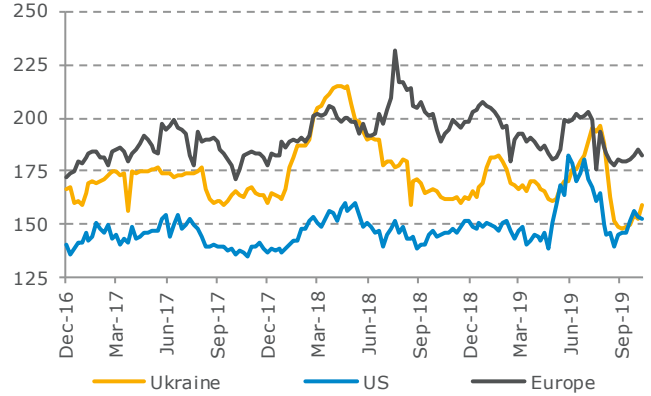
UAH Exchange Rates & Ukraine 10Y Treasury Yields



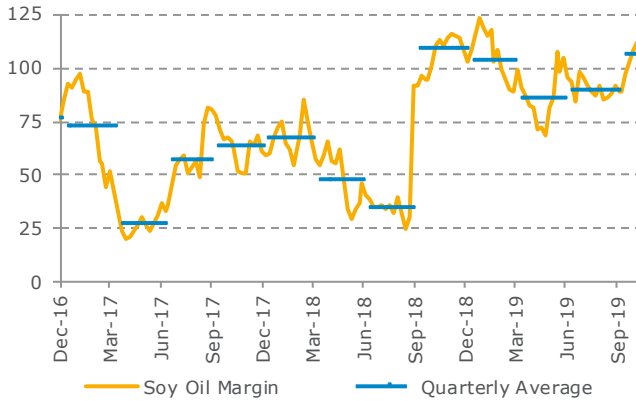
Wheat Prices (US\$/Mt)



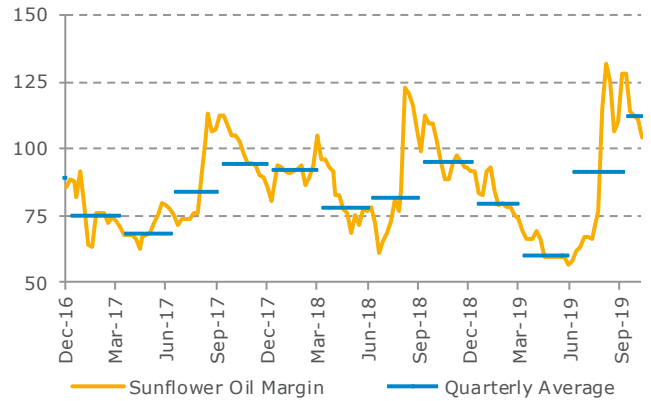
Corn Prices (US\$/Mt)



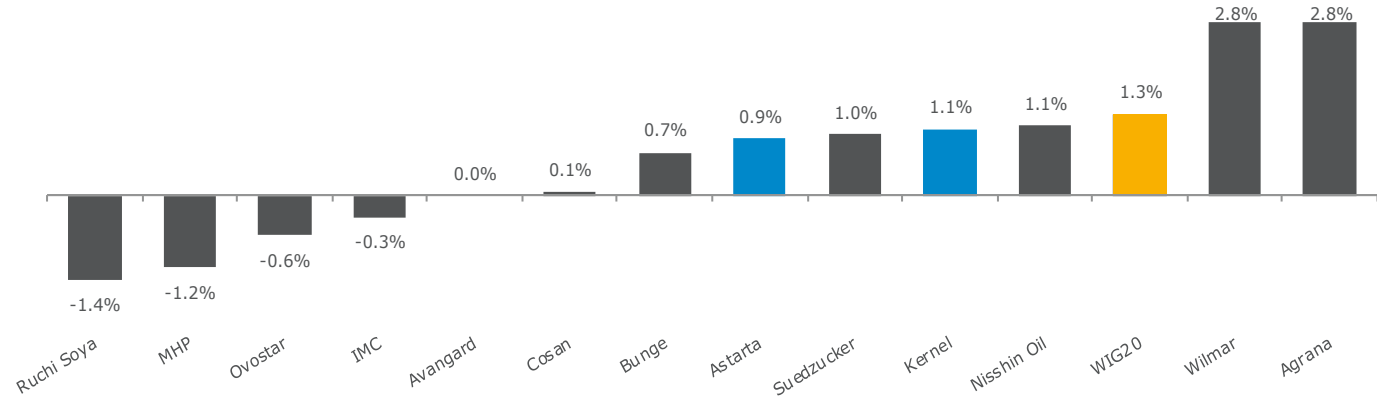
Model Margins on Soy Oil (US\$/Mt)



Model Margins on Sunflower Oil (US\$/Mt)



Weekly Returns of Agricultural Stocks



Source: Bloomberg, Dom Maklerski mBanku

Comparison of Utility Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
UTILITIES																
CEZ	520.5	7.4	6.9	6.8	2.1	1.9	1.8	15.5	13.5	13.6	29%	28%	27%	4.6%	5.8%	6.7%
Enea	8.4	3.2	3.0	2.7	0.7	0.6	0.6	3.1	2.9	2.4	20%	19%	22%	0.0%	0.0%	3.4%
Energa	6.2	3.6	4.0	4.2	0.7	0.7	0.8	3.5	3.9	3.9	18%	17%	18%	0.0%	0.0%	0.0%
PGE	8.0	3.3	3.7	2.9	0.7	0.6	0.6	5.4	6.9	4.6	21%	17%	21%	0.0%	4.7%	3.6%
Tauron	1.7	4.1	3.7	3.2	0.7	0.6	0.6	2.7	2.5	2.1	17%	17%	19%	0.0%	0.0%	0.0%
ZE PAK*	6.8	1.7	1.8	1.3	0.2	0.2	0.2	3.8	4.5	1.7	11%	11%	16%	5.9%	9.5%	11.8%
EDF	9.2	4.1	3.8	3.7	0.9	0.9	0.9	13.4	11.2	10.8	23%	24%	24%	3.5%	4.2%	4.4%
EDP	3.6	9.1	8.8	8.4	2.0	2.0	2.0	16.5	15.1	13.9	22%	23%	23%	5.3%	5.4%	5.6%
Endesa	23.8	8.3	8.3	8.1	1.5	1.5	1.5	16.5	16.3	15.9	18%	18%	18%	6.0%	6.1%	5.1%
Enel	6.9	7.9	7.6	7.3	1.8	1.7	1.7	14.6	13.4	12.6	22%	23%	23%	4.8%	5.2%	5.6%
EON	8.9	6.3	4.6	4.6	1.0	0.5	0.5	13.3	14.4	13.0	16%	11%	10%	5.2%	5.4%	5.5%
Fortum	21.6	14.3	11.6	10.5	4.4	4.3	2.3	14.9	14.2	12.8	31%	37%	22%	5.1%	5.1%	5.2%
Iberdola	9.2	9.7	9.1	8.6	2.6	2.5	2.4	17.4	16.3	15.5	27%	27%	28%	4.1%	4.4%	4.6%
National Grid	9.0	13.0	10.9	10.3	3.9	3.7	3.6	20.2	15.4	14.6	30%	34%	35%	5.2%	5.4%	5.6%
Red Electrica	18.3	9.4	9.5	9.6	7.3	7.3	7.3	13.9	14.8	15.2	78%	77%	77%	5.8%	5.5%	5.4%
RWE	27.4	11.8	6.6	5.6	1.5	1.0	0.9	23.4	15.5	11.6	13%	15%	16%	2.9%	3.5%	4.1%
SSE	13.0	10.2	11.5	10.6	0.9	3.1	3.0	9.4	14.8	12.9	9%	27%	29%	7.5%	6.2%	6.3%
Verbund	48.5	15.9	13.3	12.6	5.8	5.2	5.0	29.7	23.1	21.7	36%	39%	40%	1.5%	2.0%	2.5%
Median		8.1	7.2	7.0	1.5	1.6	1.6	14.2	14.3	12.8	22%	23%	23%	4.7%	5.2%	5.2%

Comparison of Gas & Oil Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
OIL REFINERS																
Lotos	91.90	7.1	6.0	5.2	0.7	0.7	0.6	14.0	12.9	11.8	10%	11%	12%	3.3%	2.1%	2.3%
MOL	2856.00	4.3	4.1	3.7	0.6	0.6	0.5	10.3	9.1	7.9	15%	15%	15%	5.0%	5.3%	5.5%
PKN Orlen	105.60	5.8	6.2	6.0	0.5	0.5	0.4	10.0	11.8	12.1	9%	8%	7%	3.3%	2.8%	2.8%
Hellenic Petroleum	8.39	6.4	4.9	5.3	0.5	0.5	0.4	11.1	6.4	6.7	7%	9%	8%	6.0%	6.8%	6.6%
HollyFrontier	58.25	6.8	6.9	7.4	0.7	0.7	0.7	11.7	11.2	12.5	10%	10%	10%	2.3%	2.4%	2.4%
Marathon Petroleum	67.58	8.9	6.8	6.9	0.7	0.6	0.6	16.3	9.1	10.3	7%	9%	9%	3.2%	3.5%	3.9%
Motor Oil	21.74	5.2	4.4	4.8	0.3	0.3	0.3	8.6	6.9	7.7	6%	7%	7%	6.1%	6.4%	6.6%
Neste Oil	32.80	12.3	11.7	11.0	1.6	1.7	1.6	20.5	17.9	16.5	13%	15%	15%	2.6%	2.9%	3.2%
OMV	52.92	4.5	4.2	4.1	1.1	1.1	1.1	10.0	9.3	8.7	25%	26%	27%	3.7%	4.1%	4.5%
Phillips 66	117.25	9.0	7.7	7.9	0.6	0.6	0.6	13.8	11.1	11.3	7%	8%	7%	3.0%	3.2%	3.5%
Saras	1.77	4.3	2.7	3.9	0.2	0.2	0.2	15.8	5.8	9.7	4%	6%	4%	4.0%	8.1%	5.2%
Tupras	124.50	7.0	4.6	4.8	0.4	0.4	0.4	12.2	5.6	5.4	6%	8%	8%	8.1%	15.1%	15.8%
Valero Energy	100.07	9.1	6.2	6.8	0.5	0.4	0.4	20.1	10.2	11.3	5%	7%	6%	3.6%	3.9%	4.2%
Median		6.8	6.0	5.3	0.6	0.6	0.5	12.2	9.3	10.3	7%	9%	8%	3.6%	3.9%	4.2%

Comparison of Petrochemical Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
PETROCHEMICALS																
PKN Orlen	105.60	5.8	6.2	6.0	0.5	0.5	0.4	10.0	11.8	12.1	9%	8%	7%	3.3%	2.8%	2.8%
Axiall	65.31	7.8	7.0	6.8	1.4	1.3	1.3	18.0	13.4	12.6	18%	19%	19%	1.5%	1.6%	1.7%
Braskem	27.93	6.1	5.7	5.0	1.0	0.9	0.9	21.7	22.2	17.5	16%	16%	17%	1.9%	0.9%	1.7%
Eastman Chemical	78.15	8.2	7.8	7.5	1.8	1.8	1.7	10.9	9.7	8.6	22%	22%	23%	3.1%	3.4%	3.7%
Huntsman Corp	22.71	8.4	8.4	7.7	1.0	1.1	1.0	13.1	11.4	9.8	12%	13%	14%	2.9%	3.0%	3.2%
Lotte Chemicals	234,000	4.7	4.2	3.9	0.6	0.6	0.6	7.6	6.5	6.0	13%	14%	14%	4.2%	4.5%	4.7%
LyondellBasell	91.34	6.8	6.3	6.2	1.2	1.1	1.1	8.9	7.7	7.3	17%	18%	18%	4.7%	5.0%	5.2%
Mitsubishi Chemical	823.90	7.6	7.1	6.8	0.9	0.9	0.9	6.9	8.1	7.9	12%	13%	13%	4.9%	4.8%	4.8%
Mitsui Chemicals	2581.00	7.0	7.0	6.6	0.7	0.7	0.7	6.7	8.0	7.4	10%	10%	10%	3.9%	3.9%	4.1%
Westlake Chemical	65.31	7.8	7.0	6.8	1.4	1.3	1.3	18.0	13.4	12.6	18%	19%	19%	1.5%	1.6%	1.7%
Median		7.3	7.0	6.7	1.0	1.0	1.0	10.5	10.6	9.2	14%	15%	16%	3.2%	3.2%	3.4%

Source: Dom Maklerski mBanku for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Comparison of NatGas Company Valuations

GAS COMPANIES	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
PGNiG	4.88	4.6	3.5	2.9	0.8	0.8	0.6	11.8	8.1	6.7	18%	22%	22%	2.3%	3.4%	4.9%
A2A	1.68	7.4	6.9	6.6	1.4	1.3	1.3	16.3	13.9	13.2	18%	19%	19%	4.6%	4.8%	4.9%
BG Group	23.30	5.8	5.3	5.0	0.9	0.9	0.8	13.4	10.7	9.8	16%	17%	17%	6.3%	6.3%	6.5%
BP	5.12	5.2	4.9	4.9	0.7	0.7	0.7	13.6	11.7	11.2	13%	14%	14%	6.2%	6.4%	6.5%
Centrica	0.73	4.5	4.3	4.7	0.3	0.3	0.3	10.6	7.7	7.5	7%	7%	7%	6.8%	7.0%	7.0%
Enagas	20.99	9.5	9.4	10.4	7.7	7.8	8.7	11.7	10.9	12.2	82%	84%	83%	7.6%	7.8%	7.8%
Endesa	23.83	8.3	8.3	8.1	1.5	1.5	1.5	16.5	16.3	15.9	18%	18%	18%	6.0%	6.1%	5.1%
Engie	14.86	6.8	6.5	6.1	1.1	1.0	1.0	14.4	12.9	11.7	16%	16%	16%	5.2%	5.6%	6.1%
Eni	13.94	3.9	3.8	3.6	0.9	0.9	1.0	13.9	11.3	10.4	24%	25%	28%	6.1%	6.3%	6.4%
Equinor	174.75	3.2	2.8	2.6	1.1	1.0	1.0	12.6	10.8	9.7	35%	36%	37%	5.5%	5.8%	6.1%
Gas Natural SDG	23.56	9.1	8.8	8.6	1.6	1.5	1.6	17.0	15.6	14.9	17%	17%	18%	5.8%	6.1%	6.4%
Gazprom	244.40	3.7	3.6	3.4	1.0	1.0	0.9	3.8	4.2	4.0	28%	28%	28%	6.8%	7.4%	9.5%
Hera	3.77	8.1	7.7	7.5	1.4	1.3	1.2	18.5	18.0	17.9	17%	17%	17%	2.7%	2.9%	3.0%
NovaTek	209.00	12.4	12.6	13.0	4.7	4.6	4.2	9.9	13.4	12.1	38%	37%	32%	2.2%	2.6%	2.8%
ROMGAZ	37.40	5.6	5.6	5.3	2.7	2.6	2.6	9.8	9.8	9.2	49%	47%	48%	8.9%	8.9%	10.2%
Shell	27.00	5.7	5.3	5.0	0.9	0.9	0.8	13.4	10.7	9.8	16%	17%	17%	6.3%	6.3%	6.5%
Snam	4.60	12.6	12.4	12.0	10.2	10.0	9.7	14.4	14.2	13.6	81%	81%	81%	5.3%	5.5%	5.7%
Total	47.85	5.2	4.8	4.5	0.9	0.9	0.9	11.5	10.0	9.6	17%	18%	19%	5.5%	5.8%	6.1%
Median		5.7	5.5	5.2	1.1	1.0	1.0	13.4	11.1	10.8	18%	19%	19%	5.9%	6.1%	6.3%

Comparison of E&P Company Valuations

E&P COMPANIES	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
MOL	2856.00	4.8	4.4	4.5	0.7	0.7	0.6	7.7	6.8	7.2	14%	15%	14%	4.5%	4.8%	5.2%
Bashneft	1876.50	2.0	1.9	1.7	0.5	0.5	0.4	2.9	2.8	2.3	24%	24%	25%	13.7%	12.1%	13.1%
BP	5.12	5.2	4.9	4.9	0.7	0.7	0.7	13.6	11.7	11.2	13%	14%	14%	6.2%	6.4%	6.5%
Dana Gas	0.94	7.2	6.6	-	3.5	3.3	3.1	25.3	12.8	12.8	49%	49%	-	6.3%	6.3%	7.5%
Eni	13.94	3.9	3.8	3.6	0.9	0.9	1.0	13.9	11.3	10.4	24%	25%	28%	6.1%	6.3%	6.4%
Equinor	174.75	3.2	2.8	2.6	1.1	1.0	1.0	12.6	10.8	9.7	35%	36%	37%	5.5%	5.8%	6.1%
Gazprom Neft	417.45	4.1	4.1	3.9	1.0	1.0	1.0	4.8	5.0	4.7	25%	24%	25%	8.3%	9.3%	10.7%
Gulf Keystone	2.09	2.9	1.9	1.5	1.7	1.3	1.0	11.5	6.7	5.5	59%	66%	68%	7.5%	5.0%	5.8%
Lukoil	5916.00	3.7	3.8	3.7	0.6	0.6	0.6	6.7	6.7	6.8	15%	16%	16%	5.2%	7.4%	7.9%
Occidental Petroleum	42.28	4.9	3.5	3.3	2.4	1.9	1.7	17.6	27.1	17.2	50%	54%	52%	7.4%	7.5%	7.6%
Repsol	15.12	4.7	4.2	4.2	0.7	0.7	0.7	9.8	8.1	8.1	15%	16%	16%	6.4%	6.7%	6.8%
Rosneft Oil	421.40	4.0	3.9	3.6	1.0	1.0	0.9	6.5	5.4	5.1	24%	25%	25%	6.8%	8.7%	9.8%
Shell	27.00	5.7	5.3	5.0	0.9	0.9	0.8	13.4	10.7	9.8	16%	17%	17%	6.3%	6.3%	6.5%
Surgutneftgas	38.42	-	-	-	-	-	-	5.2	4.5	3.9	-	-	-	9.7%	6.0%	3.1%
Total	47.85	5.2	4.8	4.5	0.9	0.9	0.9	11.5	10.0	9.6	17%	18%	19%	5.5%	5.8%	6.1%
Tullow Oil	2.10	5.6	5.6	5.5	4.2	4.0	4.0	15.3	13.1	12.9	75%	71%	72%	2.8%	2.8%	2.9%
Median		4.7	4.1	3.8	0.9	0.9	0.9	11.5	9.0	8.8	24%	24%	25%	6.3%	6.3%	6.5%

Comparison of Mining Company Valuations

MINING COMPANIES	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
JSW	20.12	0.2	1.3	1.0	0.0	0.2	0.2	3.4	-	17.5	19%	12%	16%	8.5%	0.0%	0.0%
KGHM	84.42	4.0	4.3	3.9	0.9	0.9	0.8	7.0	8.9	8.2	23%	21%	22%	0.0%	1.8%	3.4%
LW Bogdanka*	36.70	1.4	1.4	1.6	0.5	0.5	0.5	4.3	5.3	6.3	35%	33%	31%	3.0%	5.1%	5.4%
Anglo American	20.43	4.3	4.6	4.8	1.5	1.5	1.5	8.9	9.8	10.6	35%	33%	31%	4.4%	4.1%	4.0%
Antofagasta	9.05	5.8	6.1	5.4	2.8	2.9	2.7	19.8	21.4	17.3	49%	47%	50%	2.4%	2.1%	2.9%
BHP Group	16.78	6.0	5.6	6.1	3.0	3.0	3.1	13.5	10.8	12.1	50%	53%	51%	6.1%	6.7%	6.2%
Freeport-McMoRan	10.24	12.4	8.5	4.9	2.1	2.0	1.7	100+	21.6	8.0	17%	24%	34%	2.0%	2.9%	3.6%
Glencore	2.40	6.5	5.7	5.3	0.4	0.4	0.3	16.0	11.7	9.4	5%	6%	7%	5.8%	5.4%	6.1%
Grupo Mexico	50.15	5.9	5.6	5.1	2.7	2.5	2.4	11.7	10.9	10.4	45%	45%	46%	5.3%	5.0%	7.8%
Kazakhmys	4.87	4.8	4.9	4.6	2.6	2.6	2.5	6.4	6.5	5.9	54%	52%	53%	1.5%	1.6%	1.3%
Rio Tinto	41.40	4.8	5.4	6.0	2.3	2.5	2.6	8.4	9.8	11.7	48%	46%	43%	8.1%	6.7%	5.6%
Southern CC	36.41	9.7	9.6	8.8	4.8	4.6	4.3	18.4	18.0	16.6	49%	48%	49%	4.1%	3.8%	3.8%
Median		5.3	5.5	5.0	2.2	2.2	2.0	8.9	10.8	10.5	40%	39%	39%	4.3%	3.9%	3.9%
ALUMINUM PRODUCERS																
Grupa Kęty	313.00	8.0	8.7	8.8	1.2	1.3	1.3	11.2	13.1	13.4	16%	15%	15%	7.7%	6.7%	5.7%
Alcoa	21.52	4.2	4.1	3.7	0.6	0.6	0.6	-	20.4	15.5	16%	16%	17%	-	0.1%	0.2%
Constellium	13.76	6.9	6.4	5.9	0.7	0.7	0.7	29.9	12.5	9.2	10%	10%	11%	-	-	-
Kaiser Aluminum	108.63	8.9	8.0	8.0	1.3	1.2	1.2	16.5	13.8	12.9	14%	15%	15%	2.2%	2.3%	2.3%
Norsk Hydro	33.34	7.7	5.4	4.7	0.6	0.6	0.5	38.3	14.8	10.9	8%	10%	11%	3.8%	3.8%	4.2%
Rusal	3.38	12.9	9.8	8.2	1.4	1.4	1.3	5.0	4.1	3.7	11%	14%	16%	2.1%	4.5%	5.7%
Median		7.9	7.2	6.9	1.0	0.9	0.9	16.5	13.5	11.9	13%	15%	15%	3.0%	3.8%	4.2%

Source: Dom Maklerski mBanku for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Comparison of Fertilizer Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
FERTILIZER PRODUCERS																
Grupa Azoty	33.16	4.3	8.0	9.2	0.5	0.7	0.8	6.6	34.7	32.6	12%	8%	8%	0.0%	0.0%	0.9%
ZA Police*	13.40	4.7	3.8	3.8	1.0	0.9	0.9	1.6	1.1	1.2	21%	24%	24%	62.0%	67.2%	74.6%
Acron	4986.00	8.0	7.3	7.3	2.6	2.4	2.2	10.4	9.4	9.7	32%	33%	30%	6.5%	6.6%	7.1%
CF Industries	45.83	9.8	9.1	8.7	3.6	3.4	3.4	19.4	16.0	14.1	37%	38%	39%	2.6%	2.6%	2.7%
Israel Chemicals	16.20	6.8	6.6	6.4	1.5	1.5	1.4	11.2	10.3	9.8	23%	22%	22%	4.6%	4.8%	5.0%
K+S	13.28	8.0	7.0	6.4	1.4	1.3	1.3	15.9	11.5	9.2	17%	19%	20%	2.6%	3.5%	4.2%
Phosagro	2418.00	5.6	5.5	5.2	1.7	1.7	1.6	8.3	8.8	8.6	31%	31%	31%	7.3%	5.6%	5.9%
The Mosaic Company	20.58	7.9	6.5	5.7	1.4	1.3	1.3	21.5	12.3	9.2	18%	20%	22%	0.9%	1.0%	1.4%
Yara International	360.60	6.8	6.0	5.7	1.1	1.0	1.0	12.4	10.2	9.2	16%	17%	18%	3.2%	6.6%	5.5%
Median		6.8	6.6	6.4	1.4	1.3	1.3	11.2	10.3	9.2	21%	22%	22%	3.2%	4.8%	5.0%

Comparison of Agricultural Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
AGRI PRODUCERS																
Astarta*	16.85	4.5	3.2	3.2	0.8	0.7	0.7	-	3.2	2.0	17%	23%	21%	-	-	4.7%
Kemel	42.60	4.6	5.7	5.1	0.4	0.4	0.4	5.2	8.0	7.2	9%	7%	7%	2.1%	2.2%	3.0%
Agrana Beteiligungs	17.00	10.3	8.5	8.0	0.6	0.6	0.6	41.5	22.7	18.1	6%	7%	8%	5.9%	5.9%	5.9%
Bunge Limited	55.53	10.3	9.6	8.9	0.4	0.3	0.3	20.3	14.9	12.6	3%	4%	4%	3.6%	3.9%	4.3%
Cosan	57.13	5.4	5.1	4.7	0.5	0.4	0.4	13.7	12.1	11.7	8%	8%	9%	2.8%	3.3%	3.3%
MHP	8.52	5.2	4.9	4.5	1.2	1.1	1.1	5.9	6.3	4.7	23%	23%	24%	8.8%	8.8%	8.8%
Nisshin Oillio	3635.00	8.7	8.2	7.8	0.5	0.5	0.5	13.7	14.1	13.5	6%	6%	6%	2.2%	2.2%	2.2%
Suedzucker	12.51	-	10.7	6.6	0.7	0.7	0.7	-	-	14.6	-	6%	10%	1.6%	1.6%	2.2%
Wilmar Int.	3.71	14.3	13.0	12.3	0.8	0.7	0.7	15.0	13.1	12.2	6%	6%	6%	2.7%	2.9%	3.1%
Median		7.0	8.2	6.6	0.6	0.6	0.6	13.7	12.6	12.2	7%	7%	8%	2.7%	3.1%	3.3%

Source: Dom Maklerski mBanku for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

List of abbreviations and ratios contained in the report:

EV – net debt + market value (EV – economic value)
EBIT – Earnings Before Interest and Taxes
EBITDA – EBIT + Depreciation and Amortisation
PBA – Profit on Banking Activity
P/CE – price to earnings with amortisation
MC/S – market capitalisation to sales
EBIT/EV – operating profit to economic value
P/E – (Price/Earnings) – price divided by annual net profit per share
ROE – (Return on Equity) – annual net profit divided by average equity
P/BV – (Price/Book Value) – price divided by book value per share
Net debt – credits + debt papers + interest bearing loans – cash and cash equivalents
EBITDA margin – EBITDA/Sales

OVERWEIGHT (OW) – a rating which indicates that we expect a stock to outperform the broad market
NEUTRAL (N) – a rating which indicates that we expect the stock to perform in line with the broad market
UNDERWEIGHT (UW) – a rating which indicates that we expect the stock to underperform the broad market

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BUY – we expect that the rate of return from an investment will be at least 15%
ACCUMULATE – we expect that the rate of return from an investment will range from 5% to 15%
HOLD – we expect that the rate of return from an investment will range from -5% to +5%
REDUCE – we expect that the rate of return from an investment will range from -5% to -15%
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Strong and weak points of valuation methods used in recommendations:

DCF – acknowledged as the most methodologically correct method of valuation; it consists in discounting financial flows generated by a company; its weak point is the significant susceptibility to a change of forecast assumptions in the model.

Relative – based on a comparison of valuation multipliers of companies from a given sector; simple in construction, reflects the current state of the market better than DCF; weak points include substantial variability (fluctuations together with market indices) as well as difficulty in the selection of the group of comparable companies.

Economic profits – discounting of future economic profits; the weak point is high sensitivity to changes in the assumptions made in the valuation model.

Discounted Dividends (DDM) – discounting of future dividends; the weak point is high sensitivity to changes in the assumptions as to future dividends made in the valuation model.

NAV – valuation based on equity value, one of the most frequently used method in case of developing companies; the weak point of the method is that it does not factor in future changes in revenue/profits of a company.

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