

Tuesday, 20 October, 2020 | weekly publication

Tuesday Espresso

Weekly Commodity Roundup

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Utilities

Prices of emission allowances slumped by more than 10 euros to €25/t over the week amid second-wave fears, dragging year-ahead power contracts lower to €40/MWh.

In Poland, energy for 2021 delivery is also trading lower, and so there has been no rebound so far in the CDS profits of coal-fired generators.

Against this backdrop, utility indexes were mostly stable for the week after two weeks of upward movement.

Gas & Oil

Refining margins gave into lockdown fears and pulled back to about \$1/bbl from \$2 a week ago, led mainly by diesel cracks, which shrunk even as the ARA stockpile decreased. The Urals/Brent differential has turned negative again, due most likely to very high HSFO cracks and no word on whether Russia intends to increase November crude loadings. The week did not bring major developments in petrochemicals.

Metals

Escondida, Chile's biggest copper mine, has averted a strike by entering into a deal with workers. Meanwhile global copper stocks keep rising, with 4% added week on week, including 9% larger stockpiling in warehouses monitored by LME. Nevertheless speculative traders maintain large net long positions, which increased by 5,000 week on week to 59,000 contracts, encouraged by improved economic momentum in China.

Coking Coal

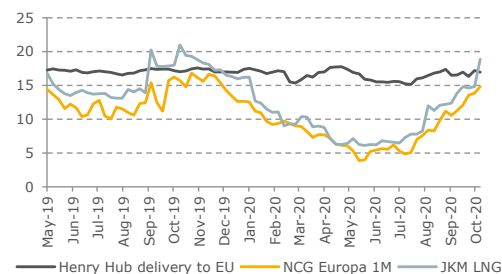
World prices of metallurgical coal have pulled back since reports of China's halted imports from Australia, trading at about \$120/t against \$140 two weeks ago. At this level, EAF steel producers like Poland's Cogen still retain their cost advantage over BOF mills.

With fast-rising prices of cold-rolled grain-oriented electrical steels in the Chinese market, as zinc also trades higher, Stalprodukt has a positive outlook ahead.

Soda Ash

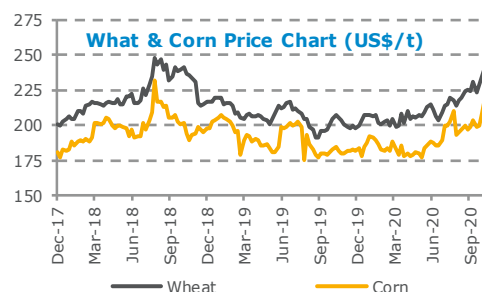
Chinese prices of soda ash have gone up to the same level as their European counterparts after seven months straight of uninterrupted upward movement. If we look at low costs of coking coal, this, paired with expectations of solid third-quarter profits, should add to the short-term upside potential of Ciech.

Charts of the Week



Gas Prices Maintain Upward Trajectory

European gas contracts for November delivery are currently trading close to €15/MWh, but they are still about 10% off the rates paid for imported US LNG. With Asian gas markets also in a sharp upward trend, competition for overseas orders could heat up in the winter. Meanwhile EU gas reserves are currently lower than this time last year, and LNG shipments from Australia are still disrupted.



A Rally in Crop Prices

Wheat and corn prices in European markets are through the roof the last several weeks, with prices in Ukraine hitting \$230/t. As sugar and milk also continue to gain in value, the Ukrainian producers, Astarta and Kernel, are enjoying supreme trading conditions. The drivers behind the crop rally include reduced production forecasts for France and Argentine amid strong demand from China.

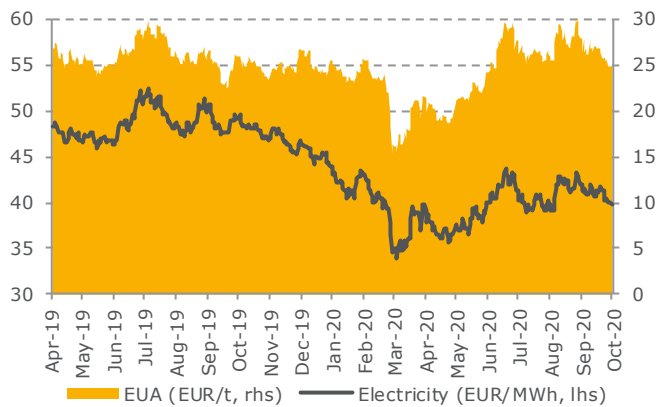
Source: Bloomberg, mBank

1-Week & YTD Performance

Company	1W	YTD
PGE	-15.0%	-27%
Tauron	-8.4%	26%
Enea	-6.9%	-31%
Grupa Azoty	-6.7%	-17%
JSW	-6.6%	16%
Lotos	-5.8%	-58%
Orzeł Biały	-4.9%	-3%
MOL	-4.2%	-45%
Ciech	-3.3%	-34%
PGNiG	-3.0%	16%
PKN Orlen	-2.8%	-47%
ZCh Police	-2.5%	13%
Kernel	-2.3%	-10%
Kęty	-2.0%	41%
Boryszew	-1.6%	-26%
Kruszwica	-1.1%	14%
Tarczyński	-0.6%	0%
CEZ	-0.3%	-9%
Alumetal	0.0%	-10%
Energa	0.1%	17%
LW Bogdanka	0.3%	-48%
ZE PAK	0.5%	39%
ZA Puławy	1.0%	-5%
Tupras	1.5%	-36%
Astarta	2.7%	19%
PCC Rokita	3.0%	-1%
KGHM	3.0%	28%
IMC	5.9%	1%
OMV	9.1%	-50%
WIG Indices	1W	YTD
WIG	-2.2%	-15%
Chemicals	-4.6%	-20%
Energy	-9.9%	-11%
Oil & Gas	-3.3%	-38%
Food Industry	-2.1%	-4%
Basic Material	2.2%	25%
Ukraine	0.2%	-4%
Sector Indices	1W	YTD
Mining	1.6%	5%
Oil & Gas E&P	4.1%	-48%
Refining EU	-1.9%	-39%
Refining US	2.1%	-50%
Agri & Food	0.1%	2%
Rubber	3.5%	-10%
Fertilizers	-2.5%	-6%
Chemicals EU	1.8%	15%
Industrials EU	2.0%	-4%
Petchem World	3.2%	-8%
Utilities EU	3.6%	8%
Utilities US	+4.5%	+0%

Utilities

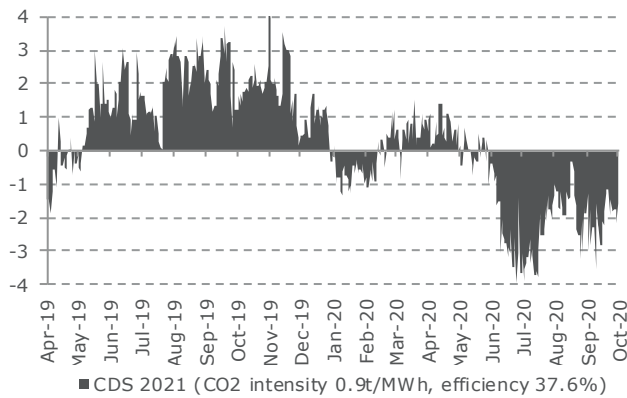
EU Prices of Electricity (EUR/MWh) & EUAs (EUR/t)



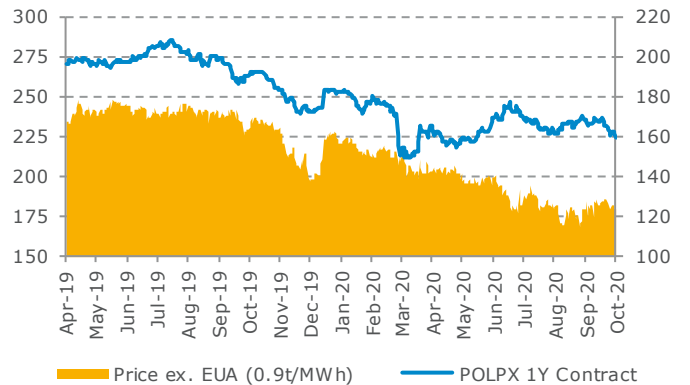
ARA Coal Spot and Forward Prices (EUR/t)



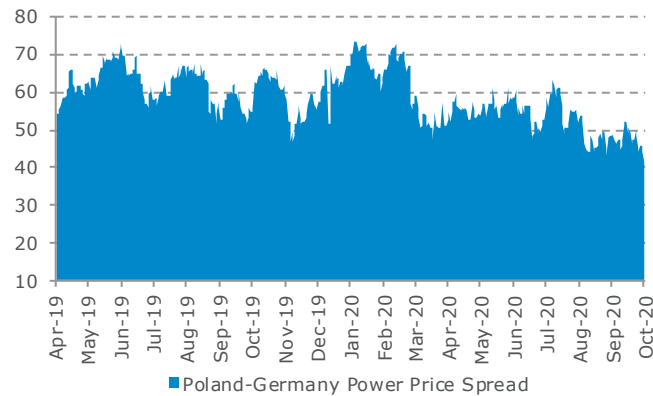
Clean-Dark Spread, Germany (EUR/MWh)



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



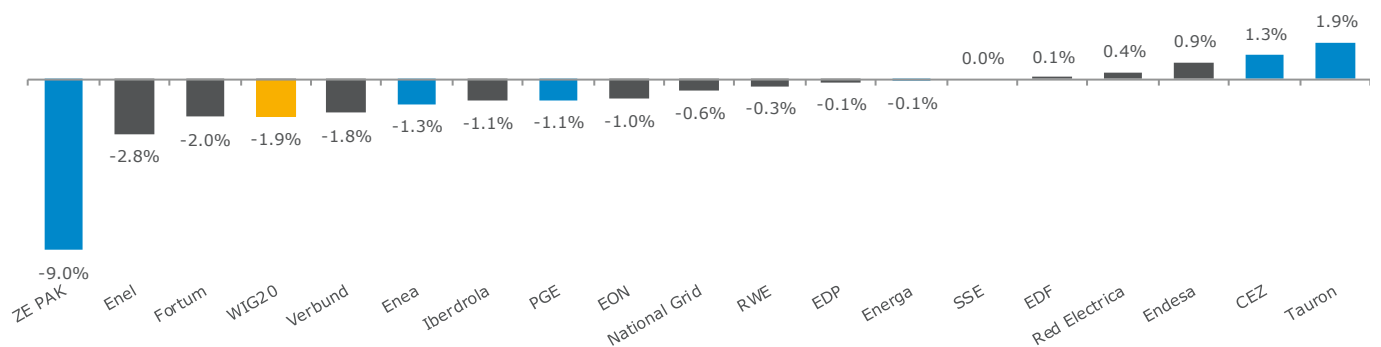
Poland-Germany Power Price Spread (PLN/MWh)



Polish Green Certificate Prices (PLN/MWh)



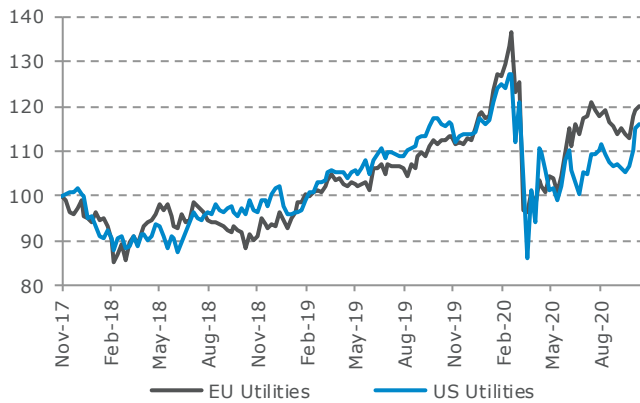
Weekly Returns of Utility Stocks



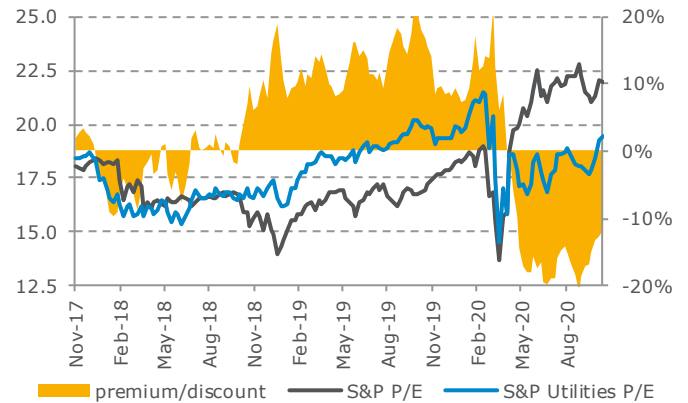
Source: Bloomberg, mBank

Utilities

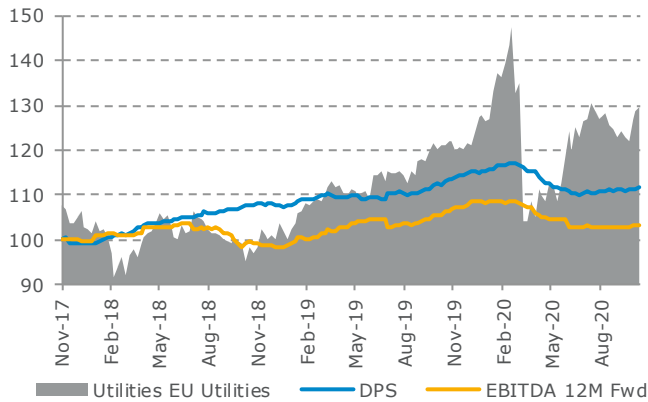
MSCI Utilities Europe vs. S&P Utilities



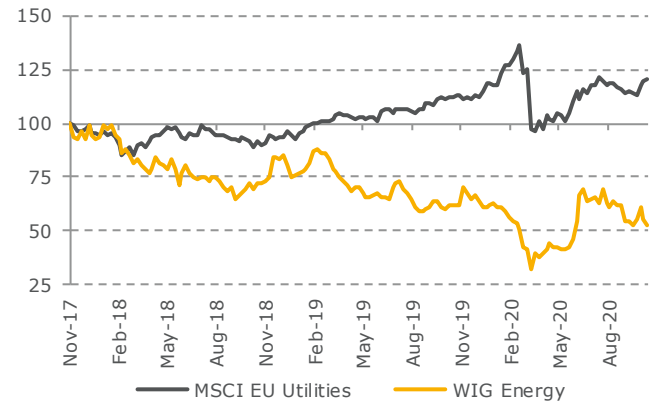
S&P Utilities vs. S&P 500 P/E



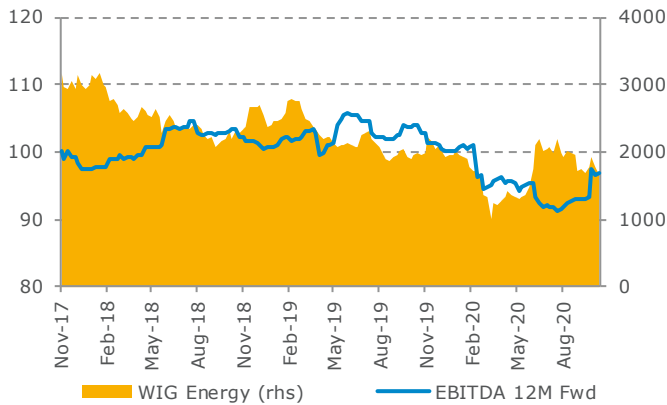
MSCI Utilities EU vs. DPS & EBITDA Expectations



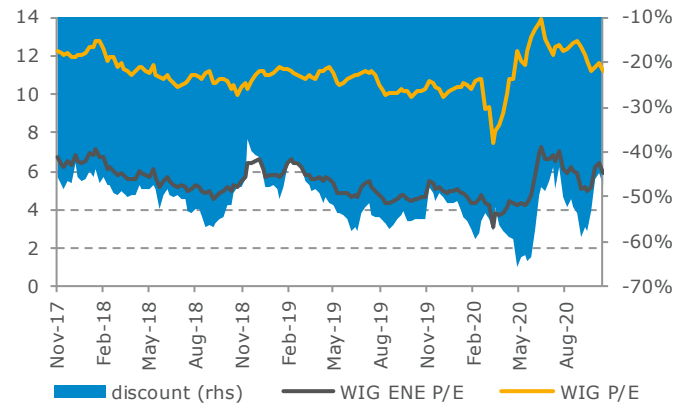
MSCI Utilities EU vs. WIG-ENERGY



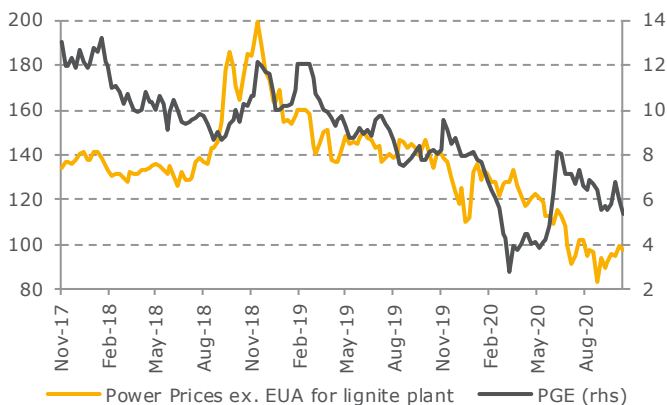
WIG-ENERGY vs. EBITDA Expectations



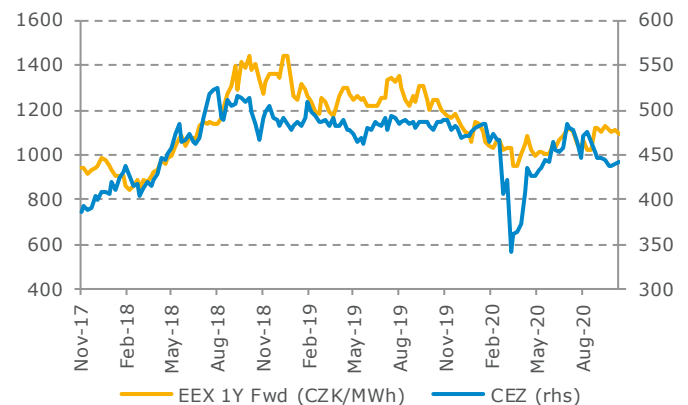
WIG-ENERGY vs. WIG P/E



PGE Performance vs. Power Prices ex. EUA



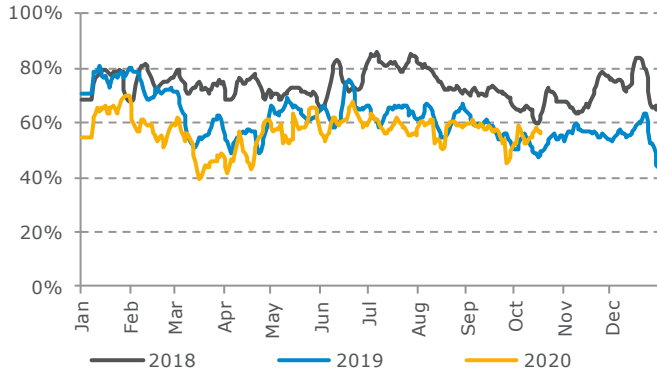
CEZ Performance vs. EEX Power Prices (CZK/MWh)



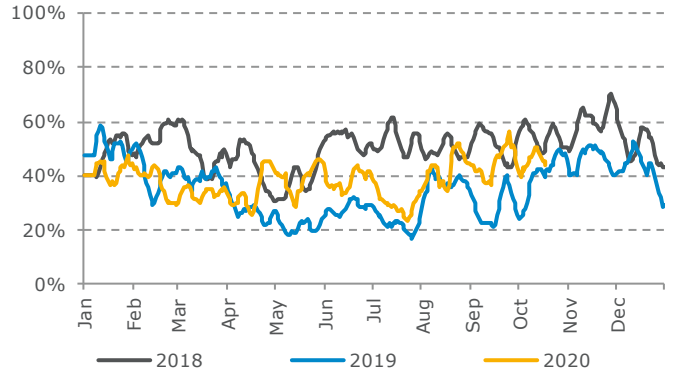
Source: Bloomberg, mBank

Utilities

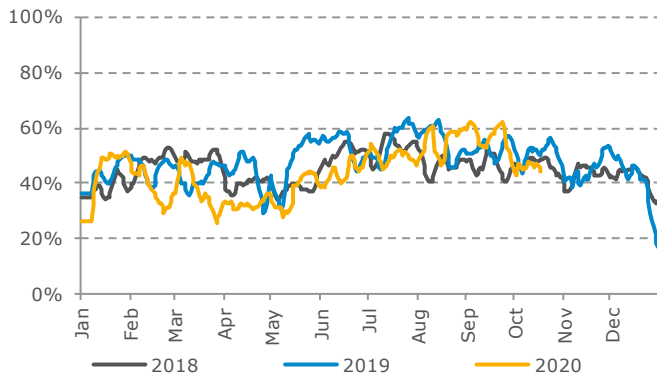
Load Factor, Bełchatów Power Station



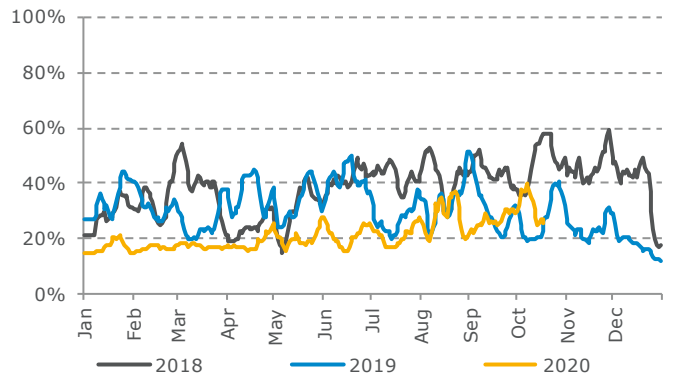
Load Factor, Turów Power Station



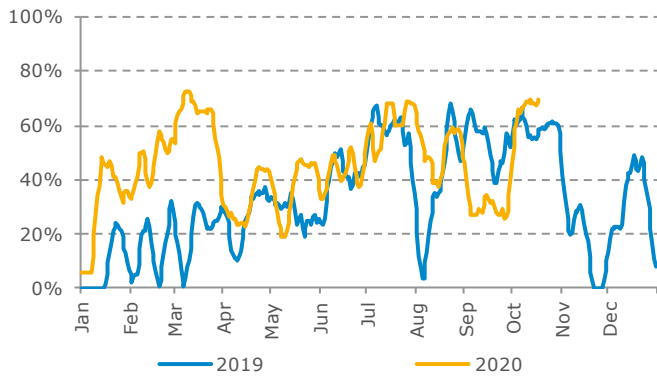
Load Factor, Koźmice Power Station



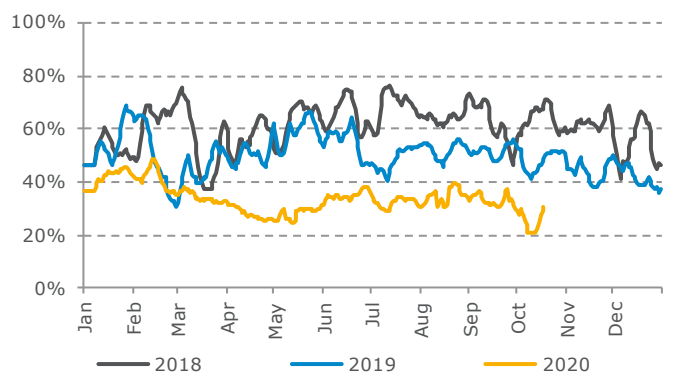
Load Factor, Jaworzno Power Station



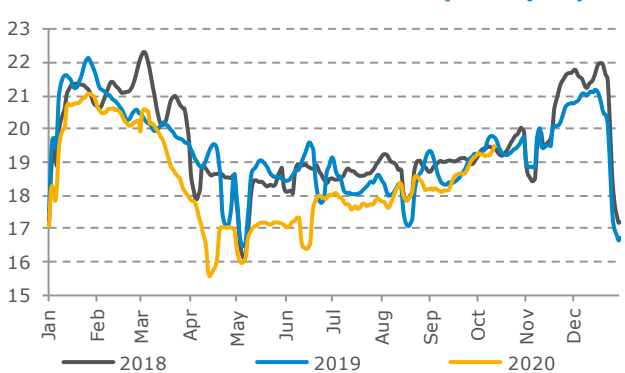
Load Factor, Opole Power Station, Blocks B5&B6



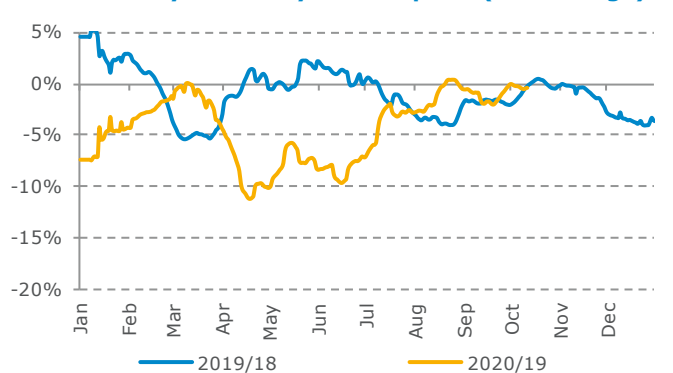
Load Factor, Połaniec Power Station



Actual Total Load of the Polish Power System (GW)



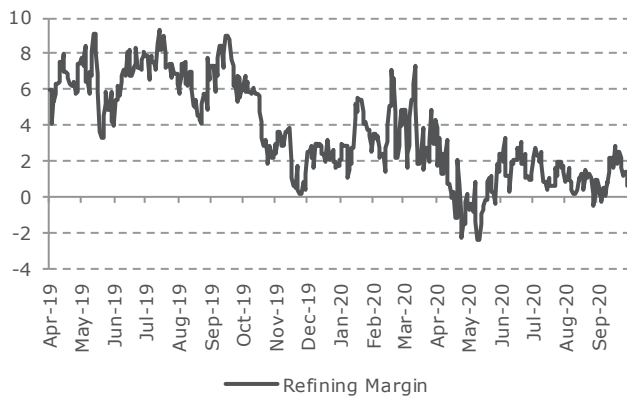
Polish Monthly Electricity Consumption (YoY Change)



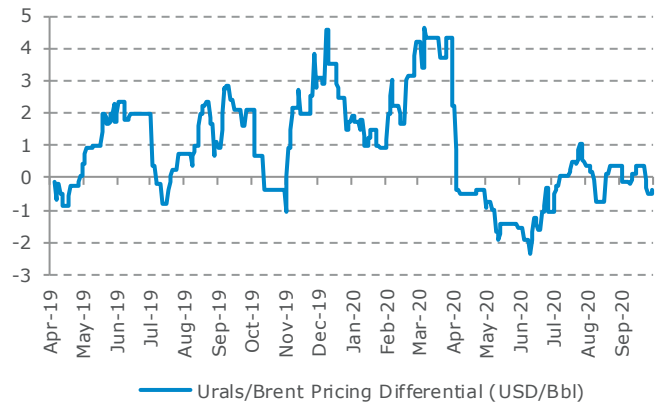
Source: PSE, mBank; Load factor = actual generation (7-day average) as a percentage of available capacity

Gas & Oil

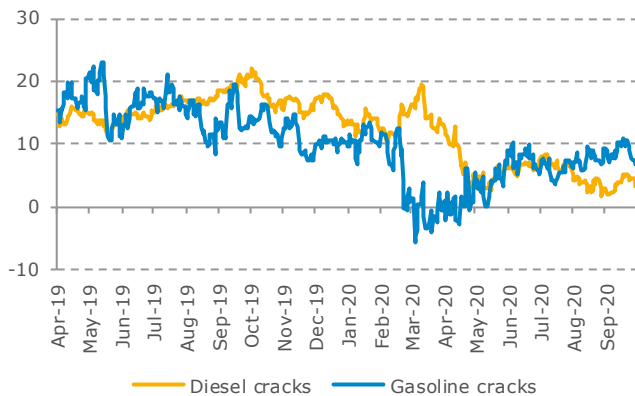
Refining Margins (US\$/bbl)



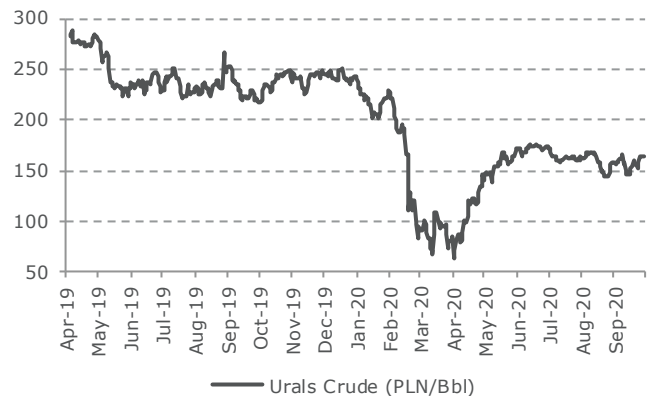
Urals/Brent Pricing Differential (US\$/bbl)



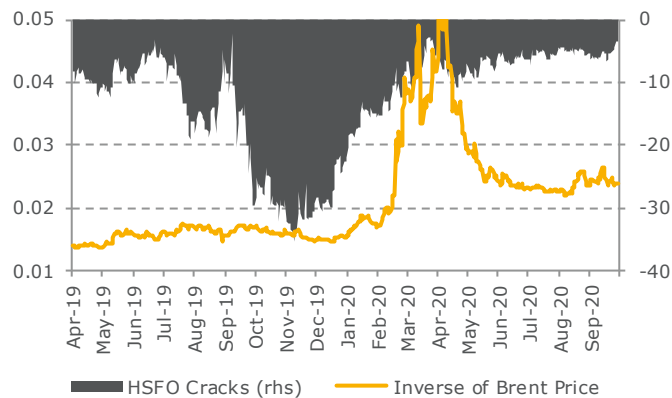
Cracking Margins on Diesel & Gasoline (US\$/bbl)



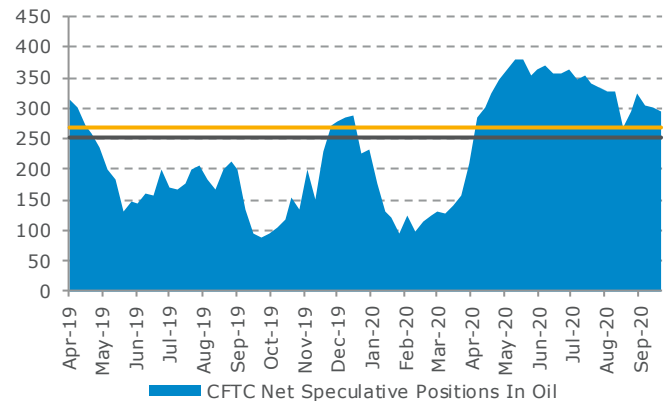
Price of Urals Crude (PLN/bbl)



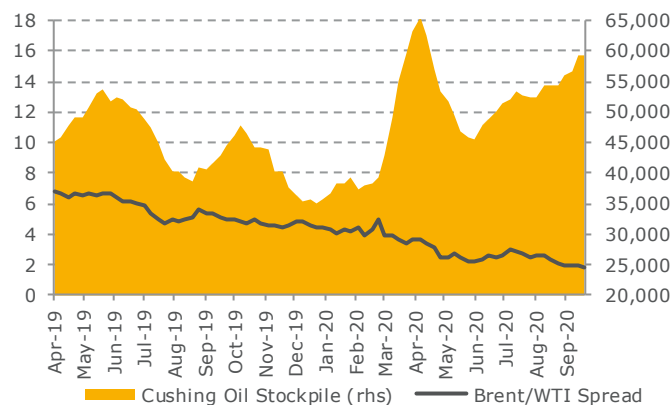
HSFO Cracks (US\$/bbl) vs. Inverse of Brent Price



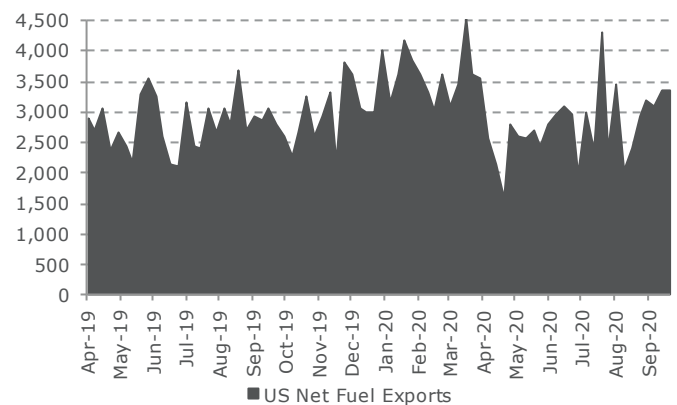
CFTC Net Speculative Positions In Oil



Brent/WTI Spread vs. Cushing Oil Stockpile



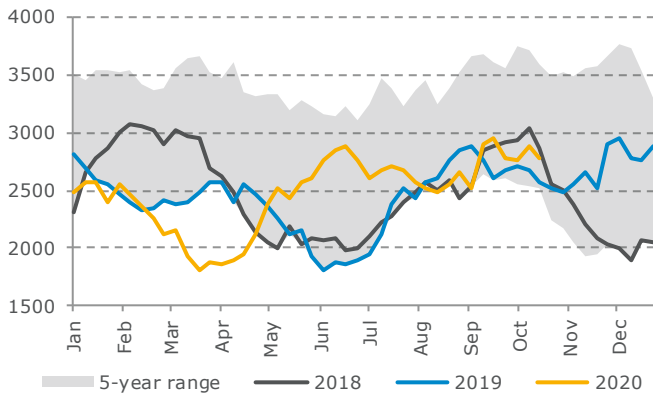
US Net Fuel Exports



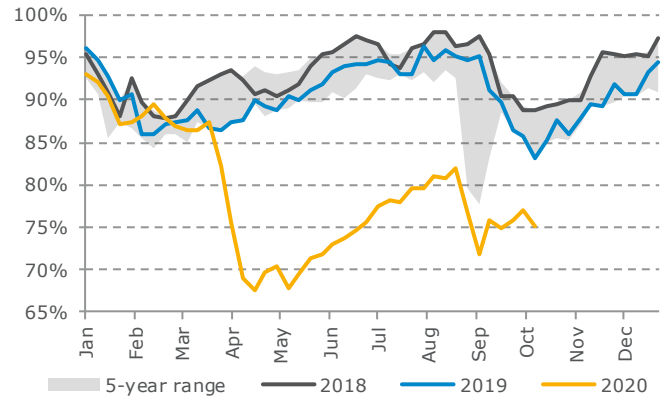
Source: Bloomberg, mBank

Gas & Oil

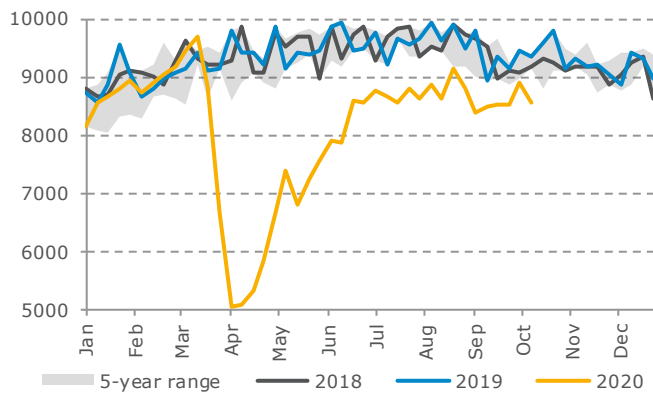
Diesel Inventories @ARA



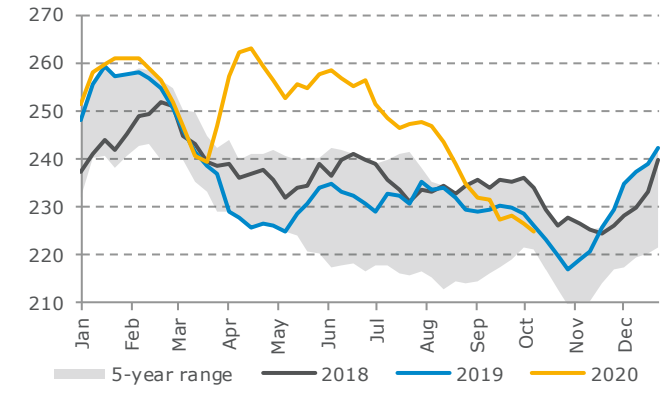
US Refinery Utilization Rates



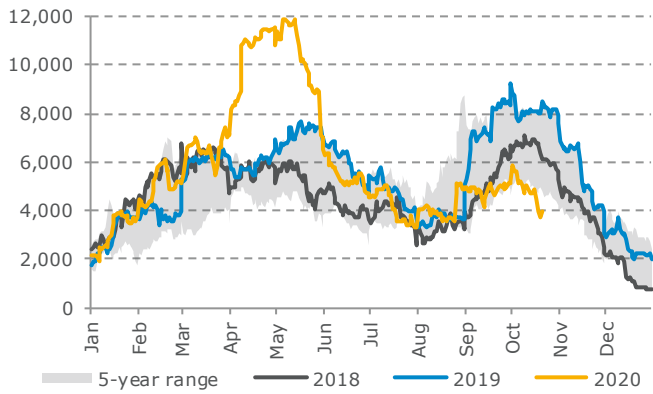
US Gasoline Demand



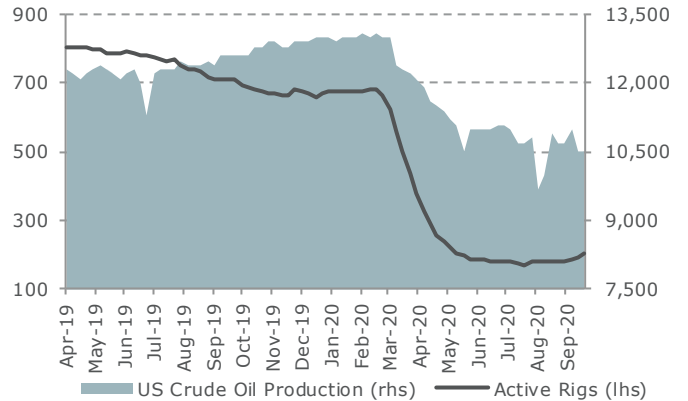
US Gasoline Inventories



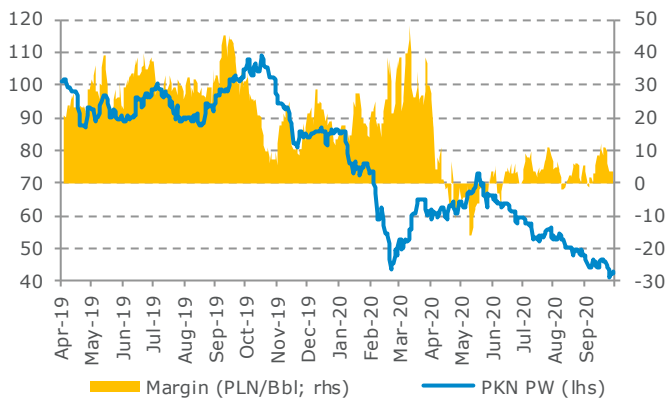
Global Refinery Outages (mmb/d)



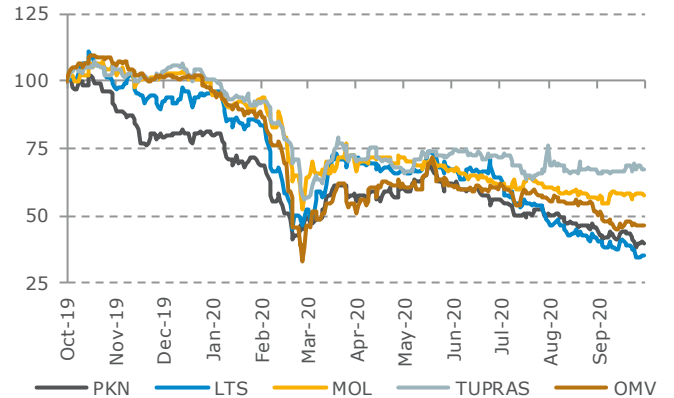
US Crude Oil Production (mboe/d) vs. Active Rigs



PKN Performance vs. Benchmark Margins



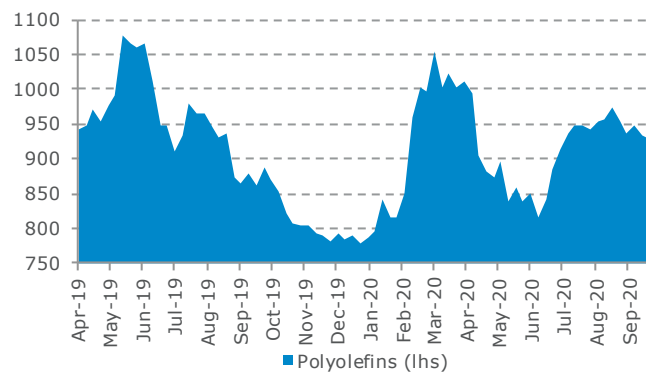
Normalized Oil Stock Chart



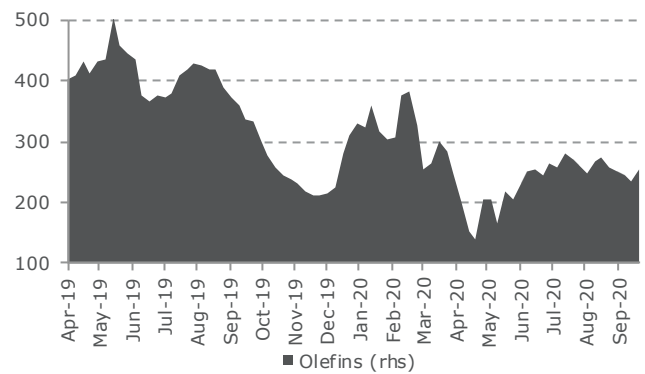
Source: Bloomberg, mBank

Petrochemicals & NatGas

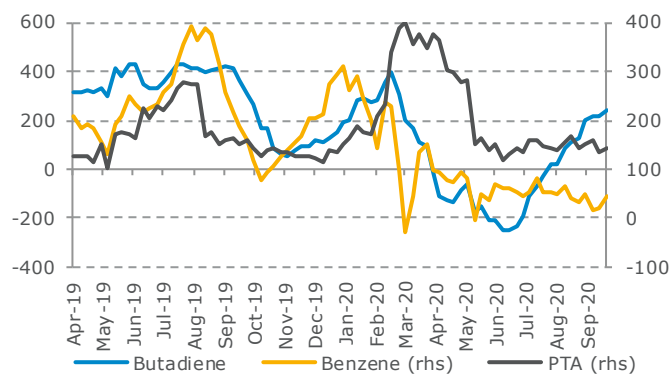
Margins on Polyolefins



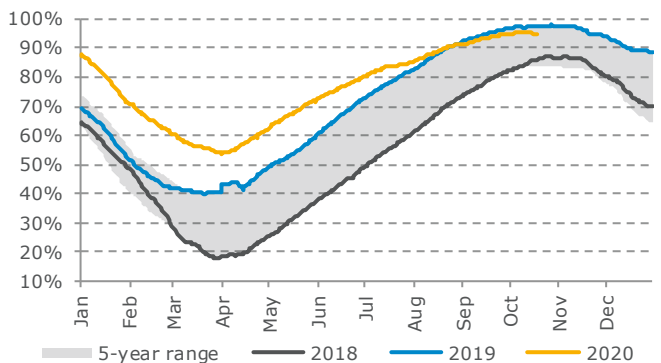
Margins on Olefins



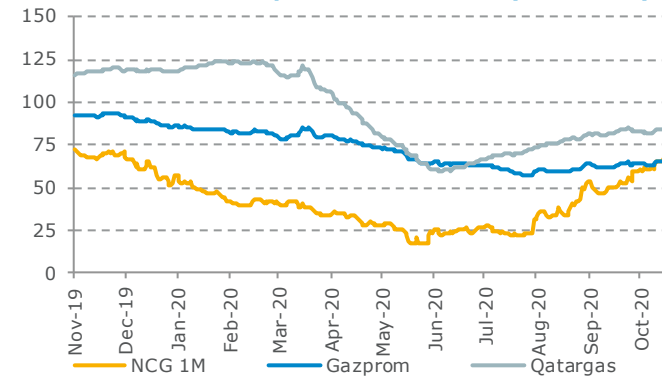
Margins on Butadiene, Benzene & PTA (US\$/t)



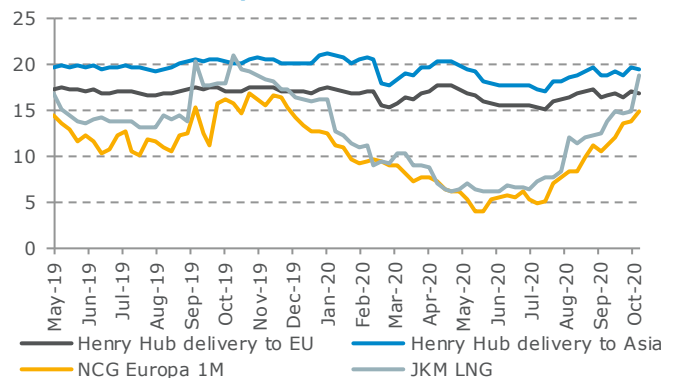
EU Gas Storage Levels (% Full)



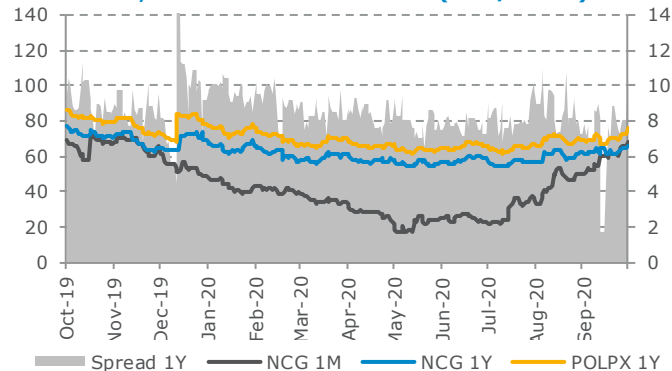
Estimated Costs of Imported Natural Gas (PLN/MWh)



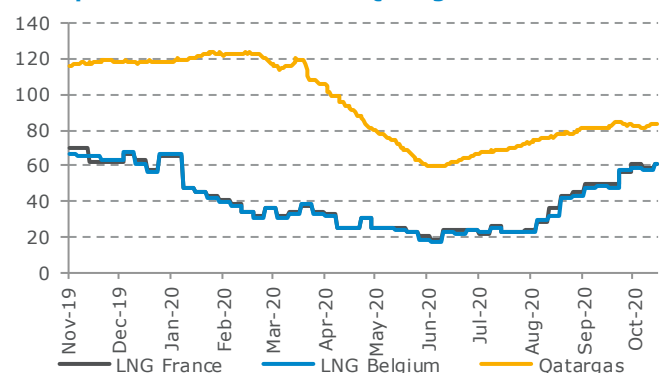
Prices of US LNG Exports to EU and Asia



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



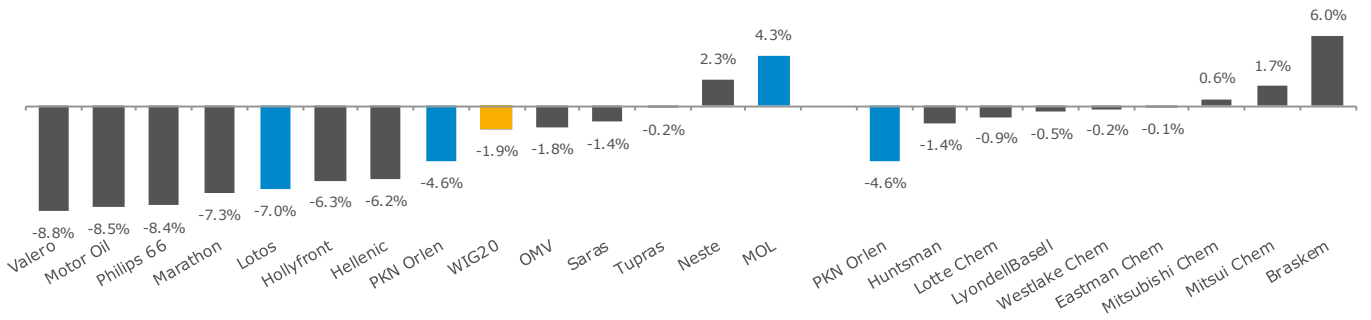
LNG Spot Rates vs. Estimated Qatargas rates



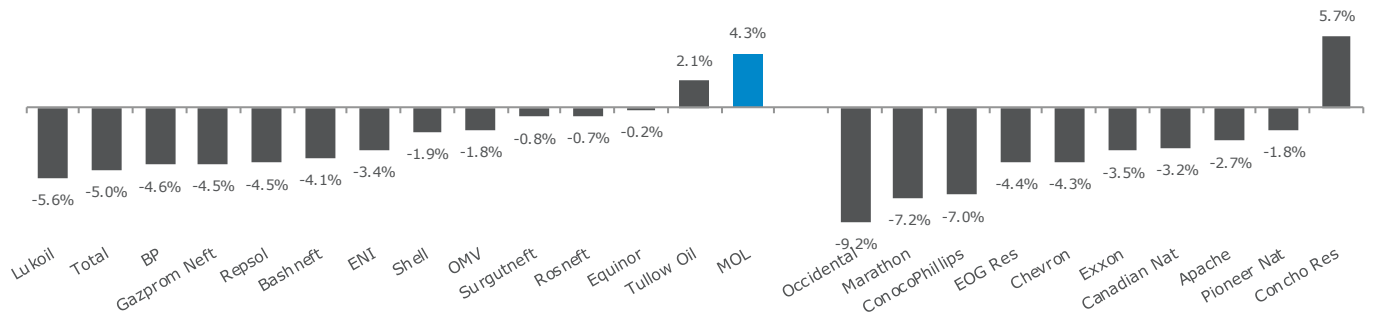
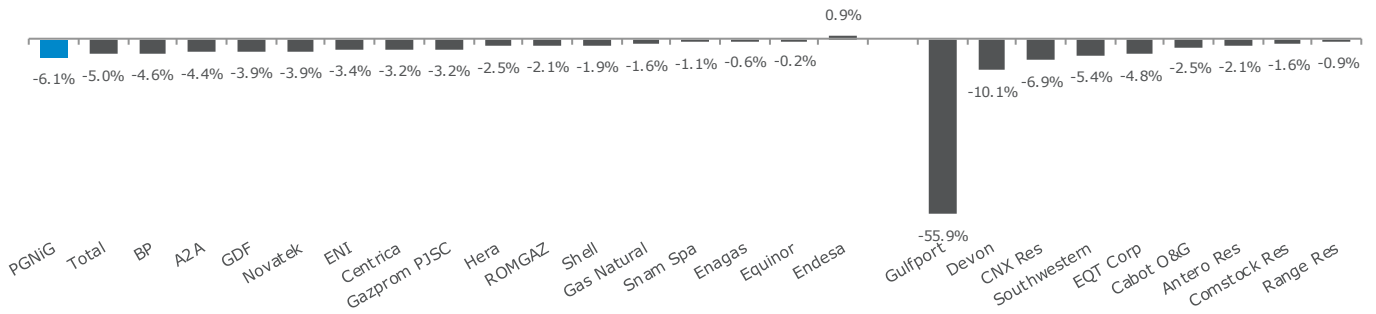
Source: Bloomberg, mBank

Weekly Performance Charts

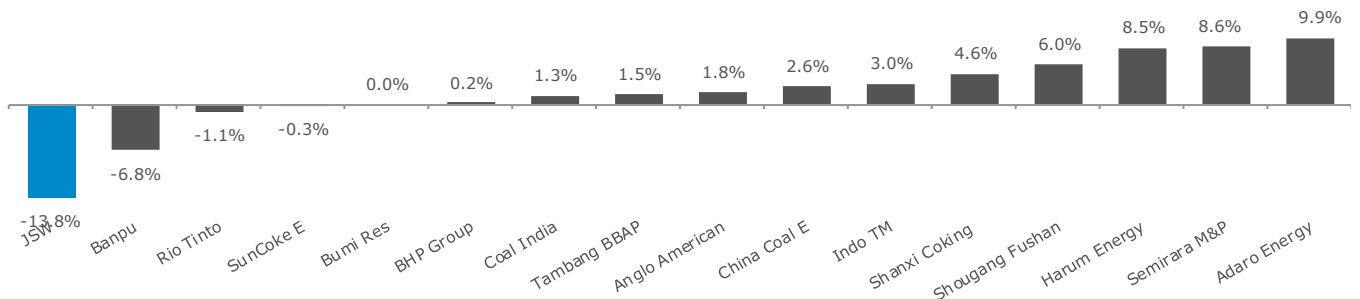
Oil Refiners (L) & Petrochemical Producers (R)



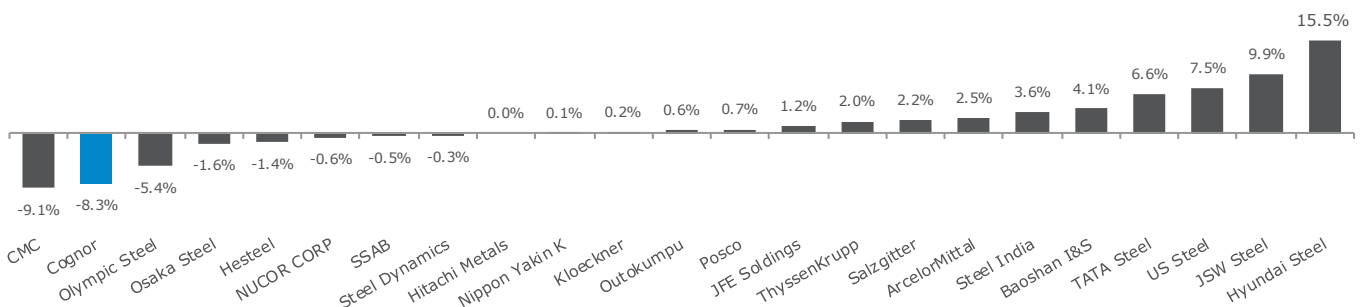
Natural Gas Companies



Coal Producers



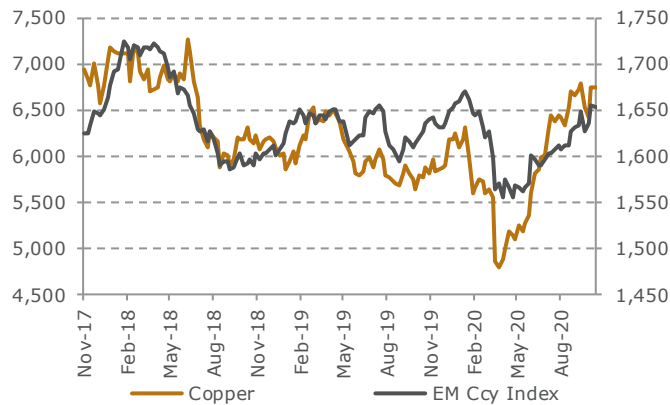
Steel Producers & Distributors



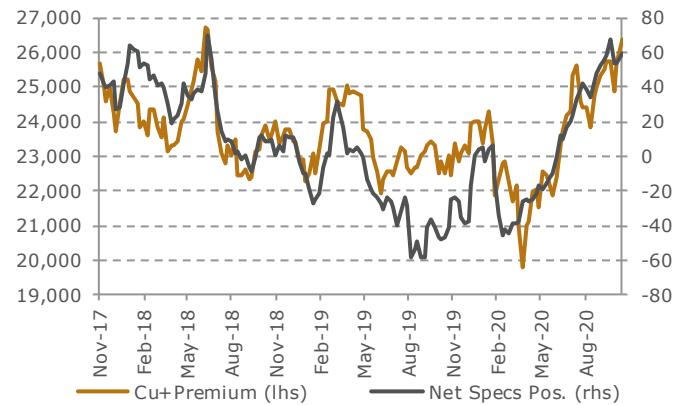
Source: Bloomberg, mBank

Copper Charts

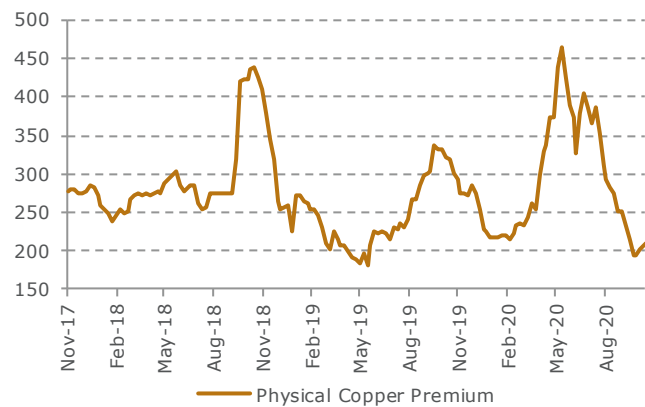
Cu Price (US\$/t) vs. EM Currencies (pts.; rhs)



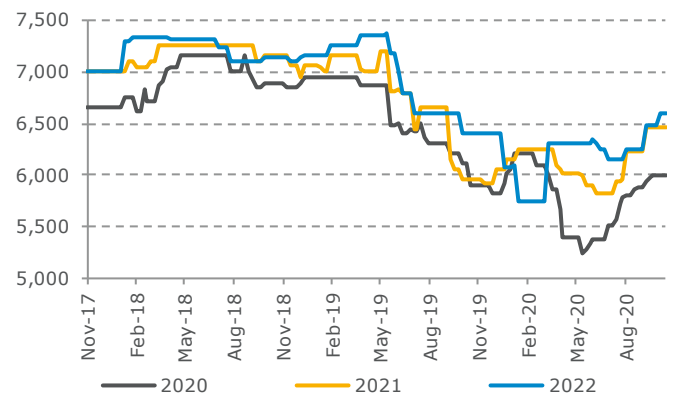
CU Price incl. Supplier Premium (PLN 1,000/t; lhs) vs. Net Speculative Positions (1,000, rhs)



Physical Copper Premiums (PLN/t)



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



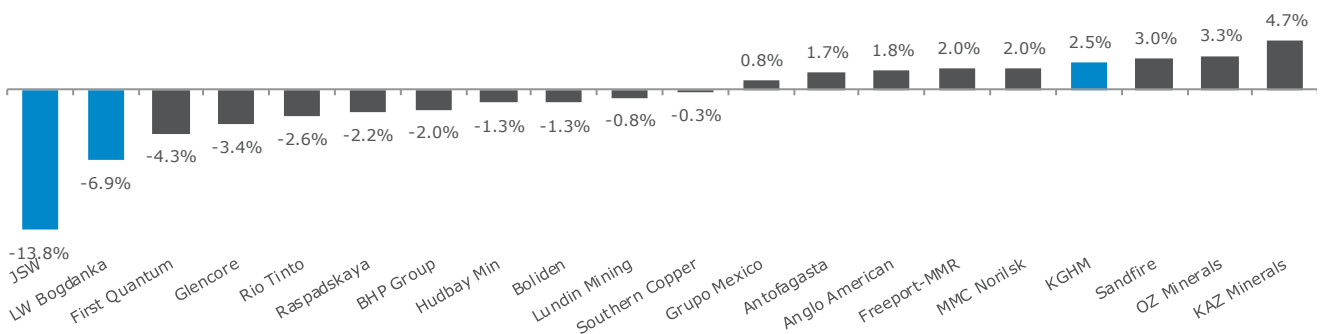
Silver prices (PLN/kg)



Prices of gold (PLN/oz)



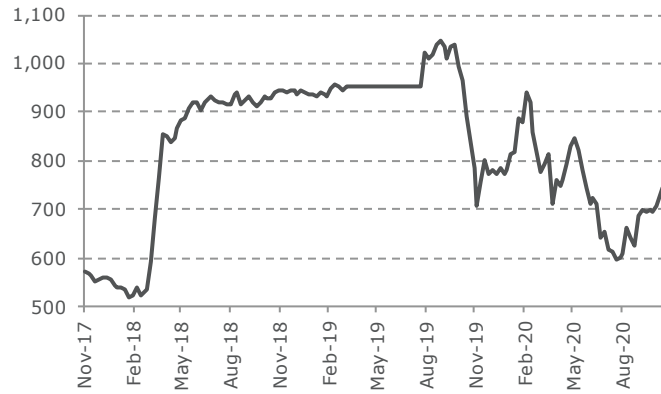
Weekly Returns of Metal & Mining Stocks



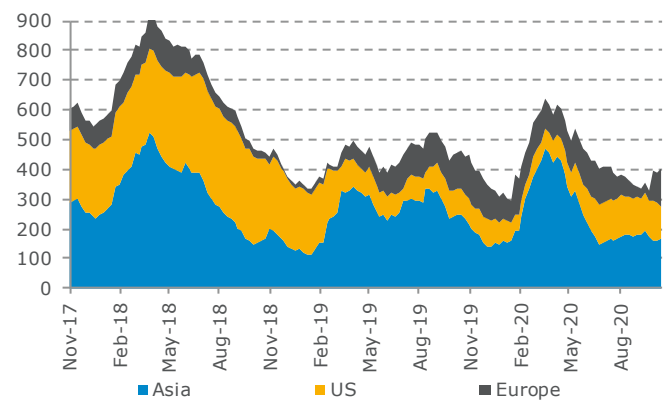
Source: Bloomberg, mBank

More Copper Charts

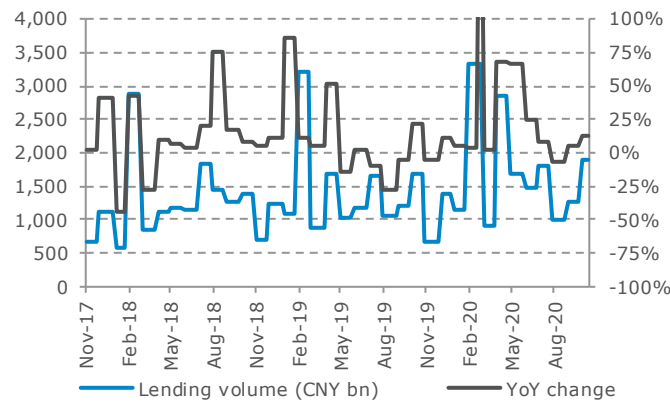
Prices of molybdenum (PLN/10 kg)



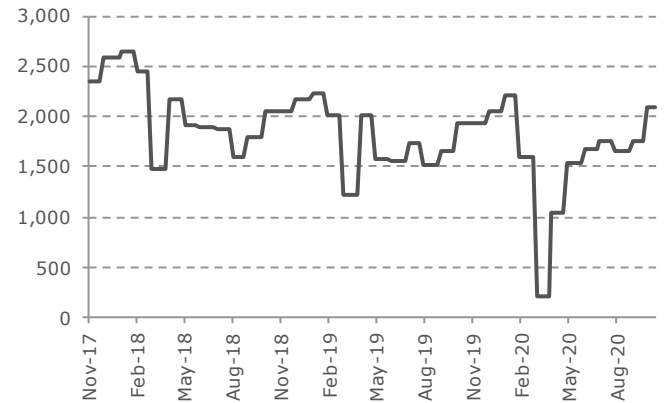
Global Copper Inventories (1,000t)



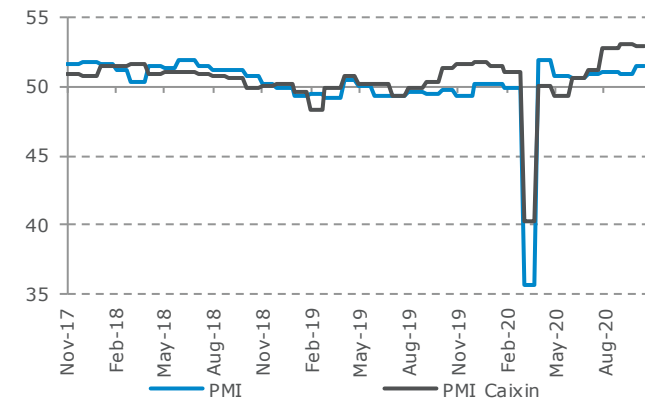
New Bank Lending in China (CNY bn)



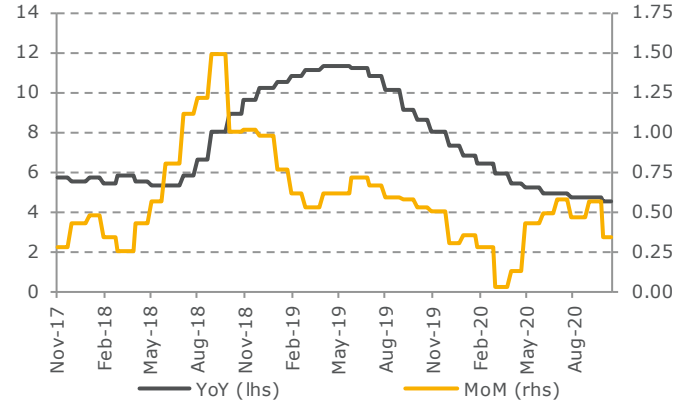
Car Sales in China (thousands)



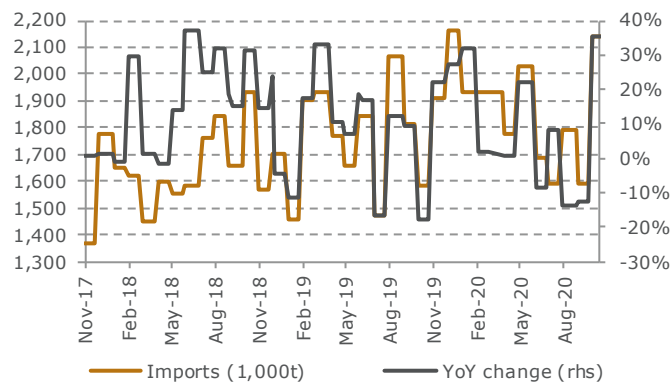
China PMI (points)



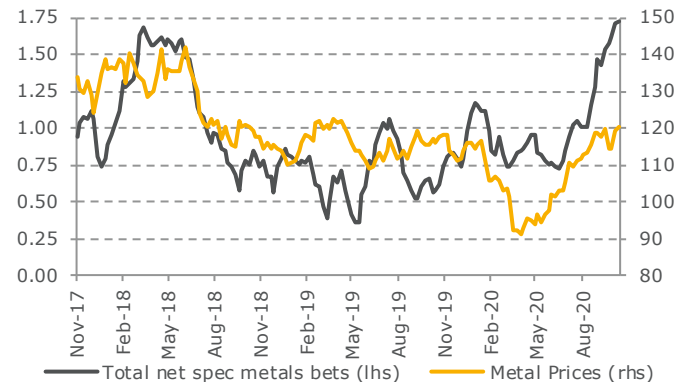
% Change In Avg. New Home Prices In 70 CN Cities



China Copper Concentrates Imports



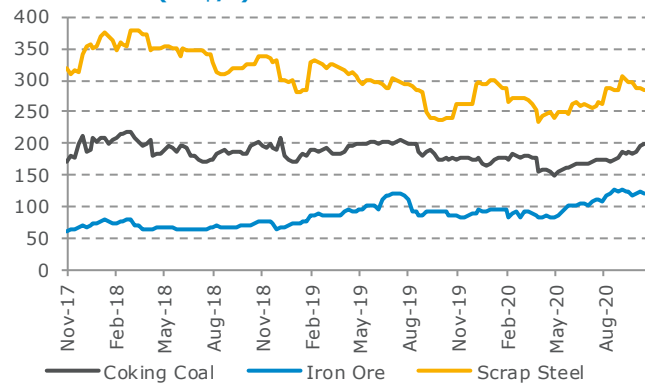
Metal Price Index (pts, rhs) vs. Net Speculative Positions (million contracts, lhs)



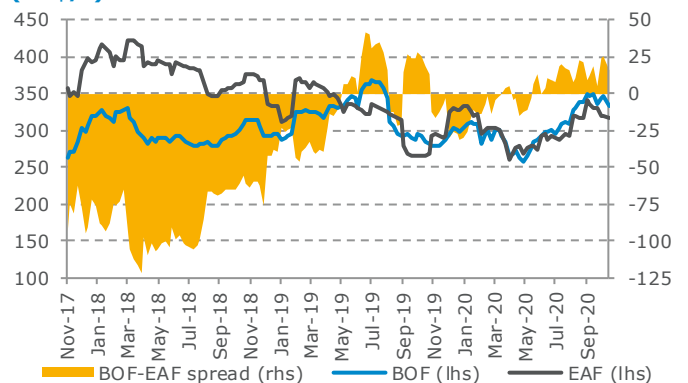
Source: Bloomberg, mBank

Steel Charts

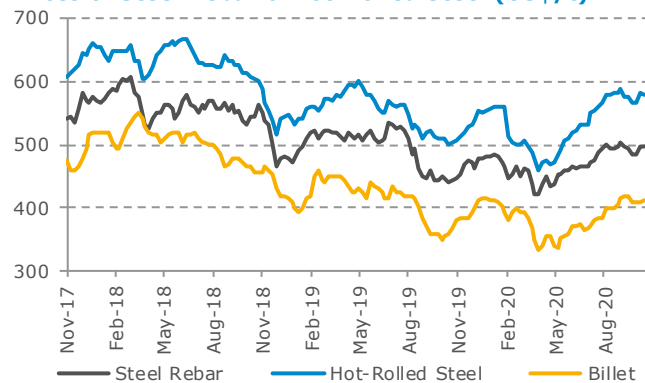
China Coking Coal & Iron Ore Prices, Rotterdam Scrap Steel Prices (US\$/t)



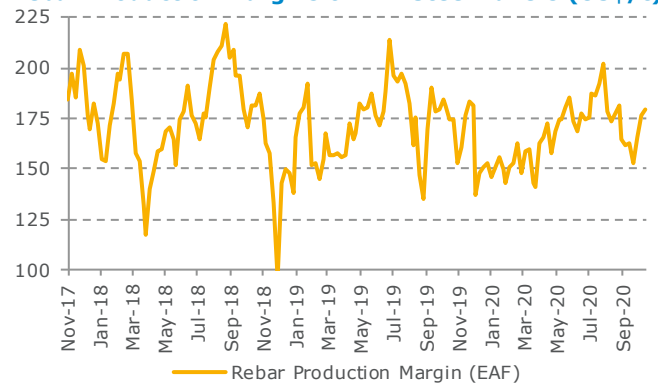
Production Costs of BOF vs. EAF Steel Producers (US\$/t)



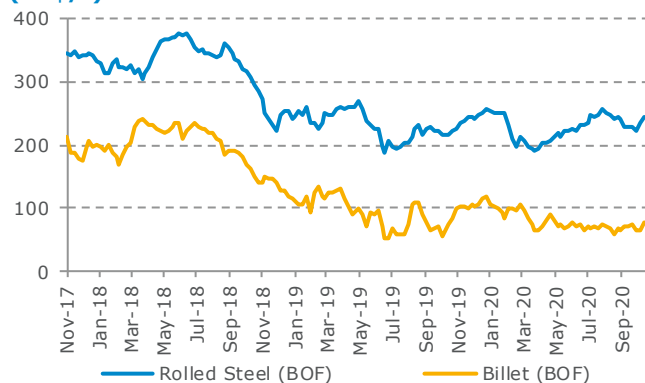
Prices of Steel Rebar & Hot-Rolled Steel (US\$/t)



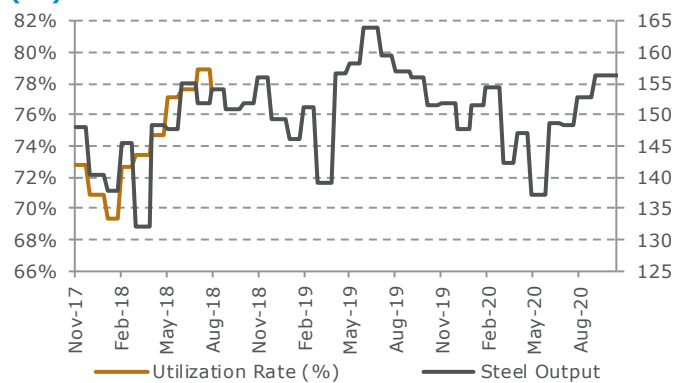
Rebar Production Margins of EAF Steelmakers (US\$/t)



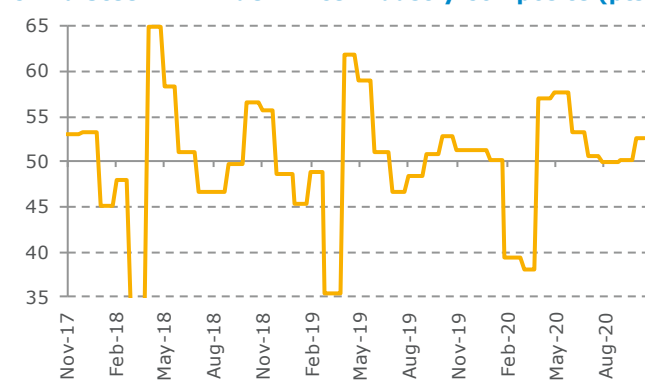
Rolled Steel & Billet Margins of BOF Steelmakers (US\$/t)



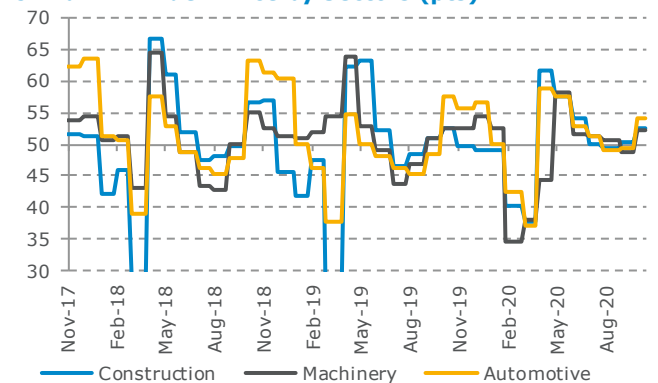
Global Steel Plant Capacity Utilization Rates & Output (Mt)



China Steel PMI Index Price Industry Composite (pts)



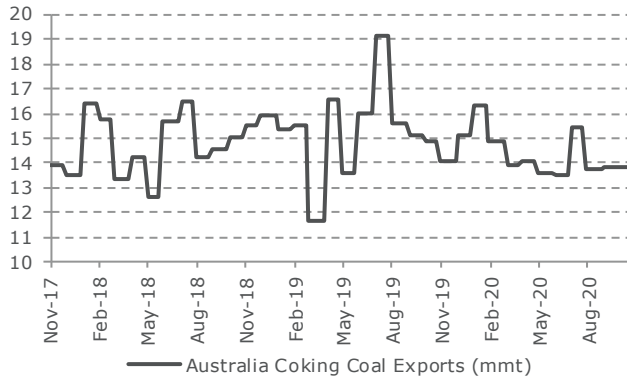
China PMI Index Price by Sectors (pts)



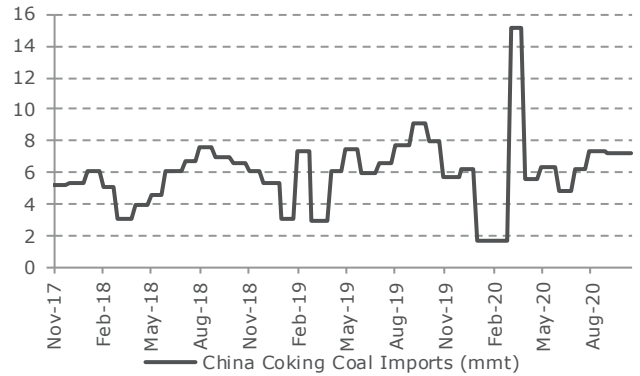
Source: Bloomberg, mBank

More Steel Charts

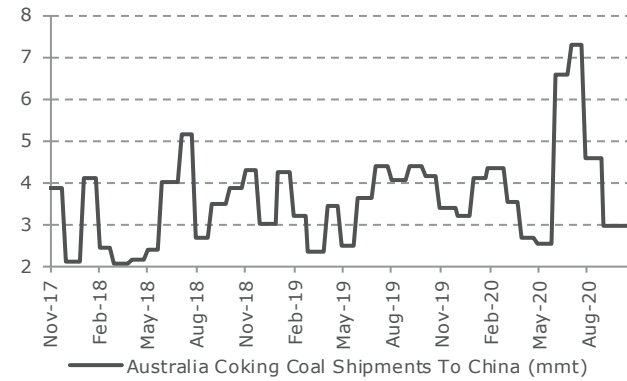
Australia Coking Coal Exports (mmt)



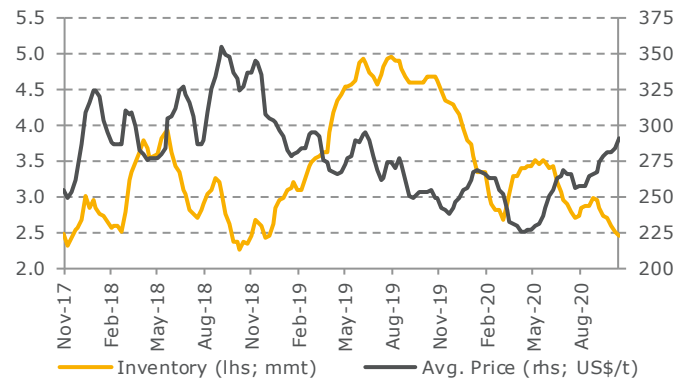
China Coking Coal Imports (mmt)



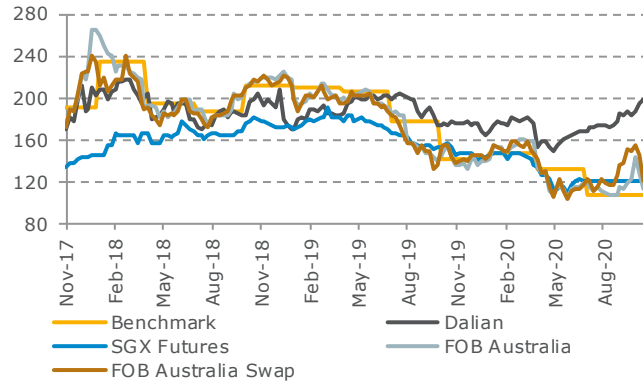
Australia Coking Coal Shipments To China (mmt)



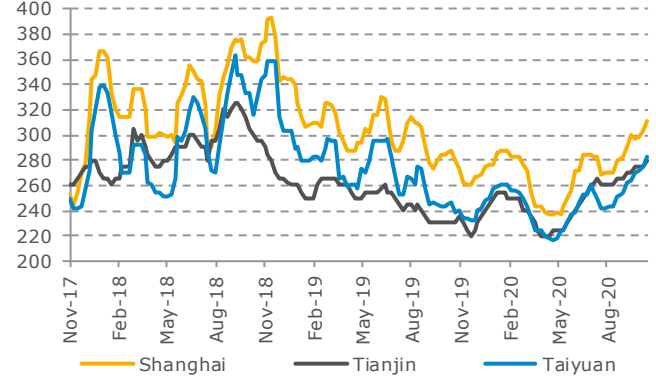
China Coke Inventories (lhs; mmt) & Average Prices (rhs; US\$/t)



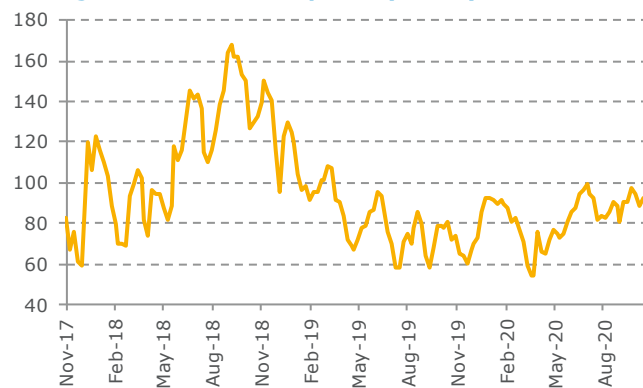
China Coking Coal Prices vs. Benchmark (US\$/t)



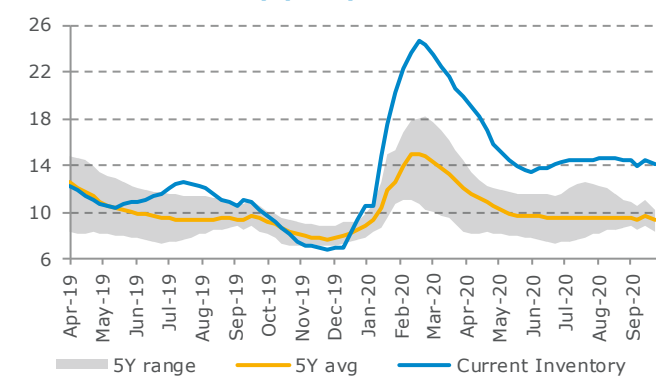
China Coke Prices (US\$/t)



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



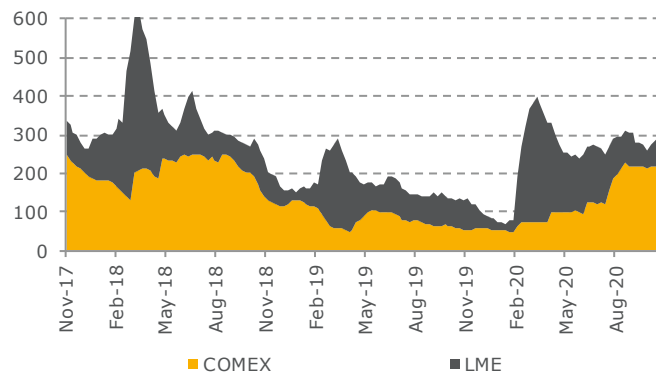
China Steel Inventory (mmt)



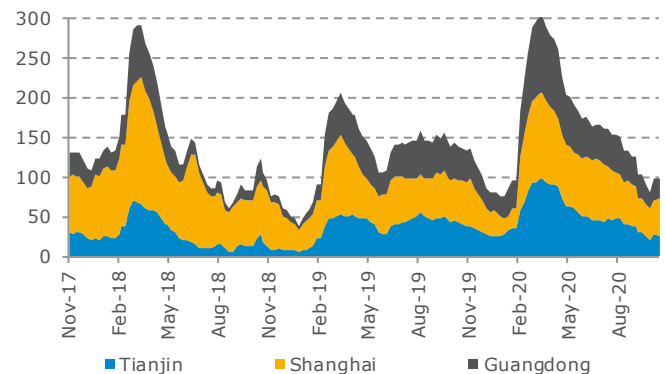
Source: Bloomberg, mBank

Zinc and Electrical Steel Charts

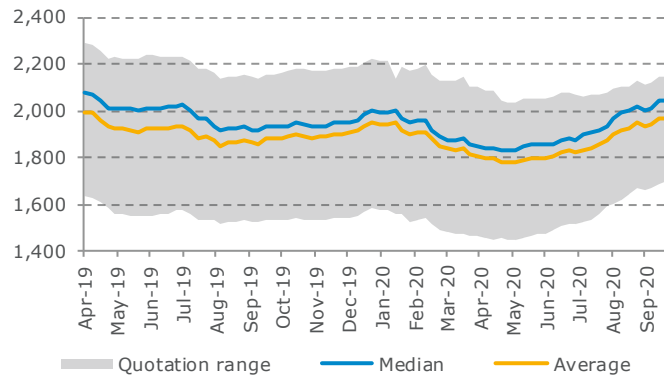
Exchange-Monitored Zinc Inventories (1,000t)



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



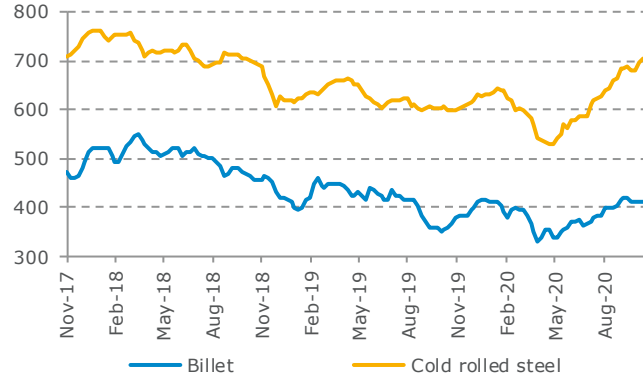
Zinc Prices vs. Stalprodukt Stock Performance (PLN)



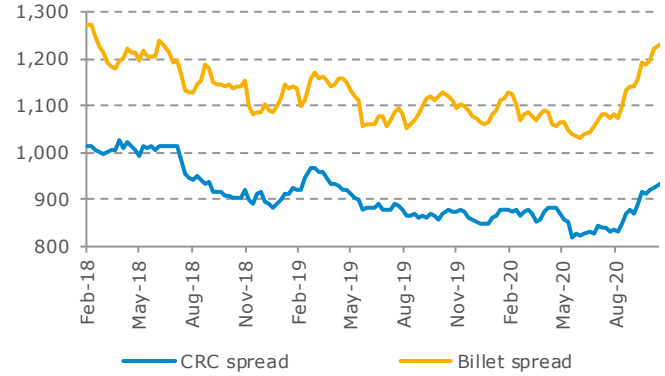
US Dollar Zinc Prices (US\$/t)



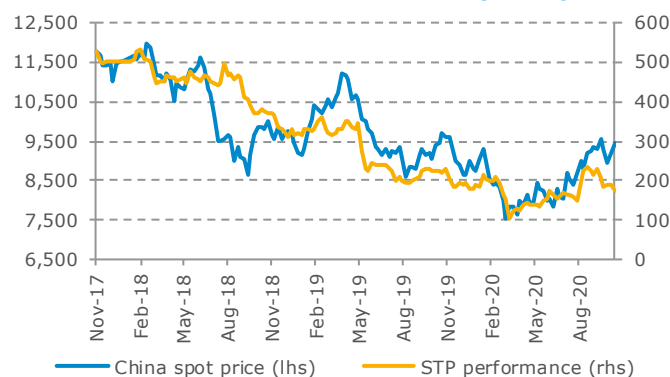
Polish Zloty Zinc Prices (PLN/t)



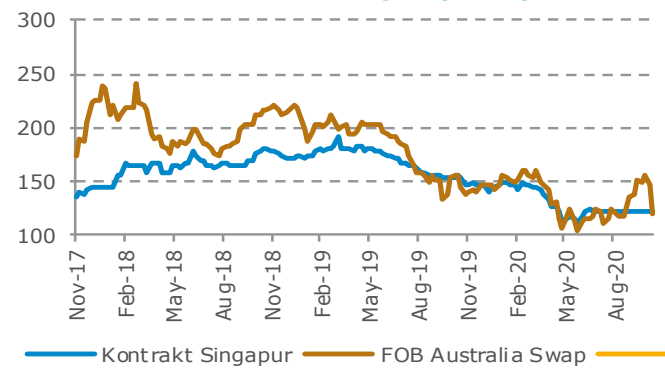
China Electrical Steel Prices (US\$/t)



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



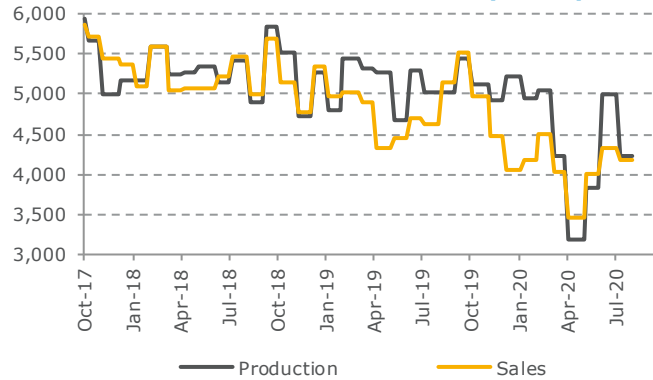
Electrical Steel Production Margins (US\$/t)



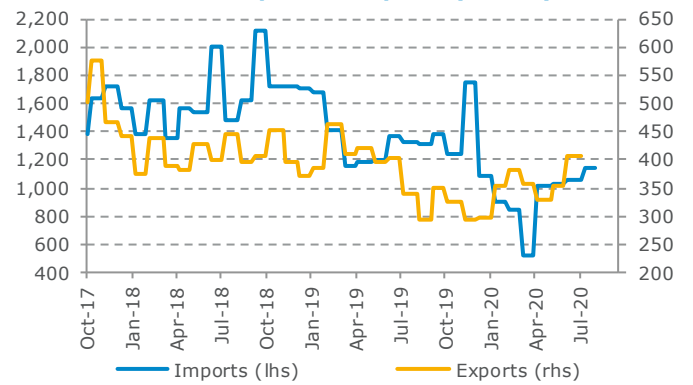
Source: Bloomberg, mBank

Thermal Coal Charts

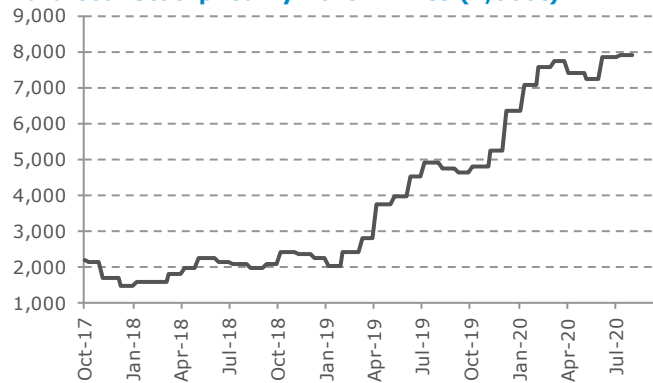
Hard Coal Production & Sales in Poland (1,000t)



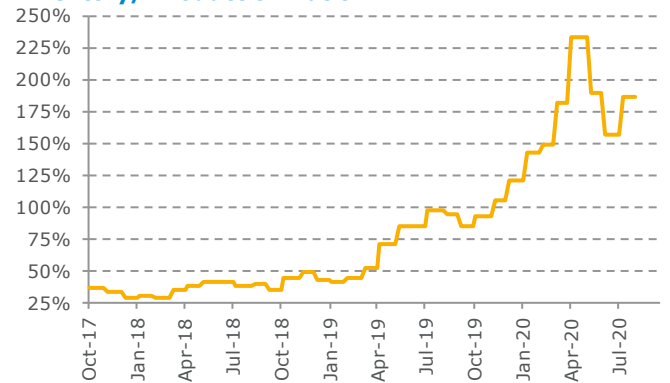
Poland Hard Coal Imports & Exports (1,000t)



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



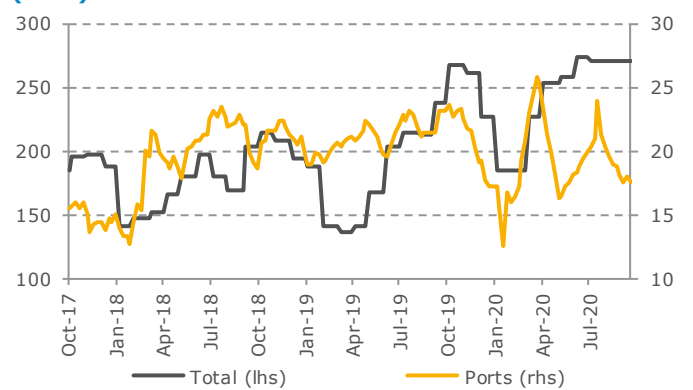
Inventory/ Production Ratio



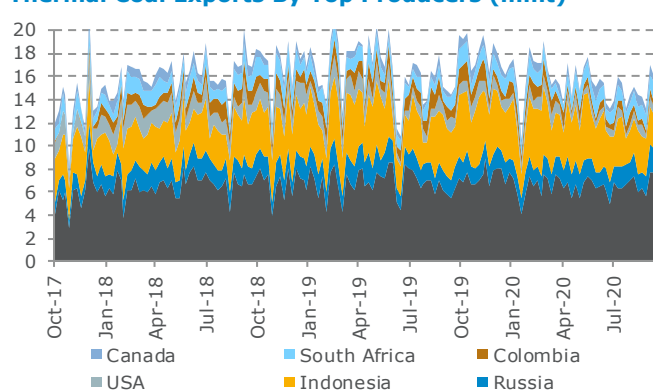
Thermal Coal Prices vs. Benchmarks (PLN/GJ)



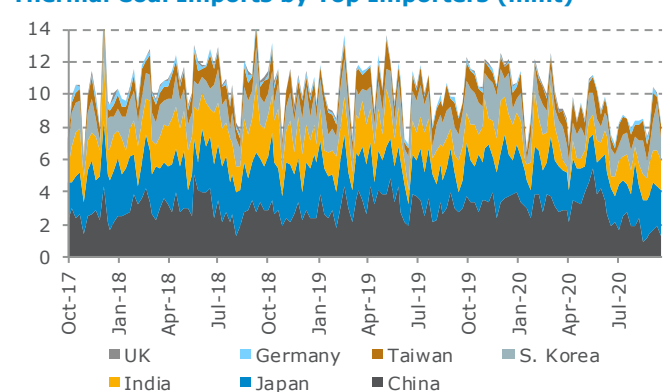
China Thermal Coal Inventories, Total & In Ports (mmt)



Thermal Coal Exports By Top Producers (mmt)



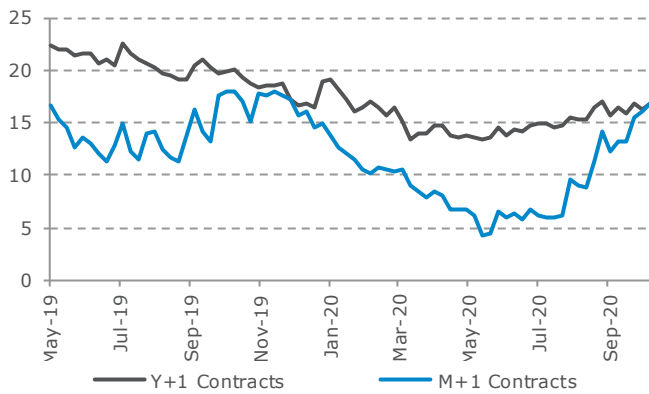
Thermal Coal Imports by Top Importers (mmt)



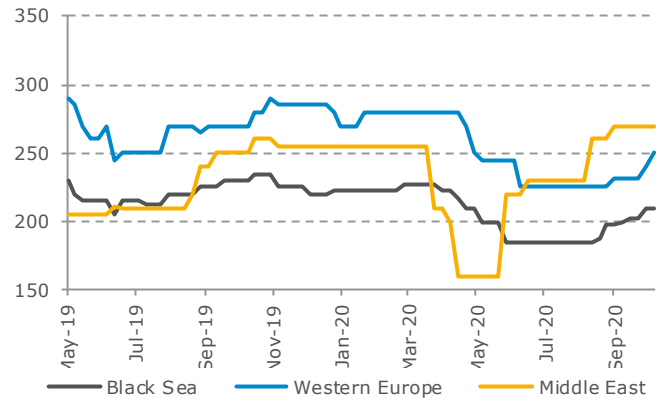
Source: Bloomberg, ARP, Eurostat, mBank *Upper Silesian Coal Basin

Fertilizer Charts

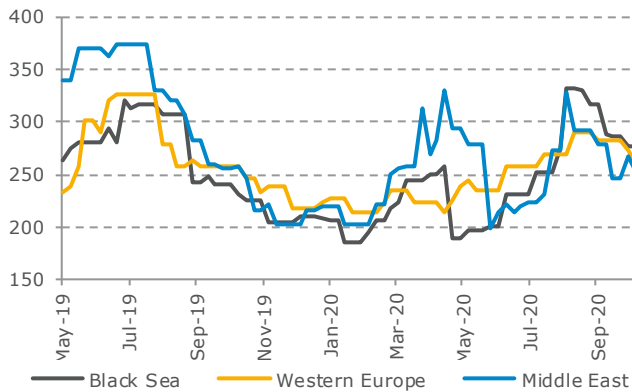
German NatGas Prices (US\$/MWh)



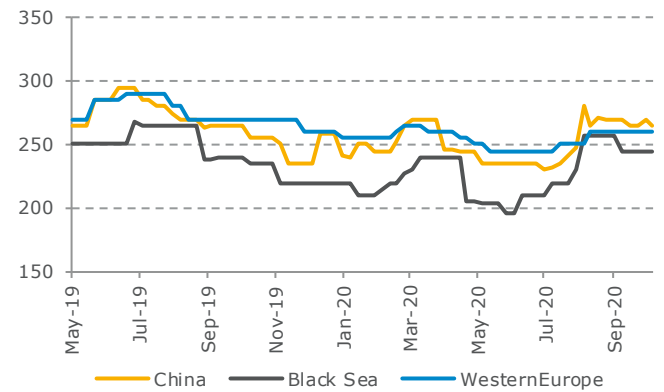
World Ammonia Prices (US\$/t)



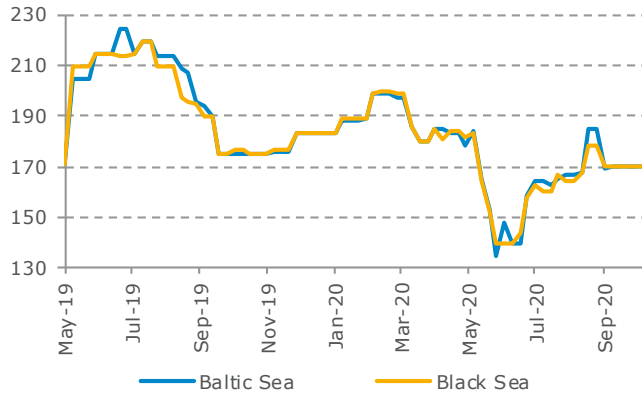
Urea-Ammonia Price Difference



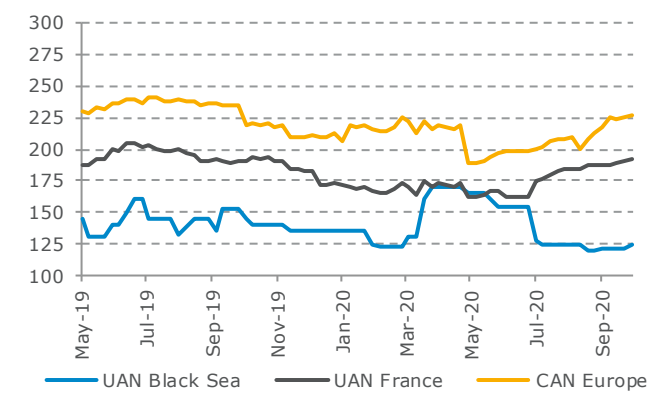
World Urea Prices (US\$/t)



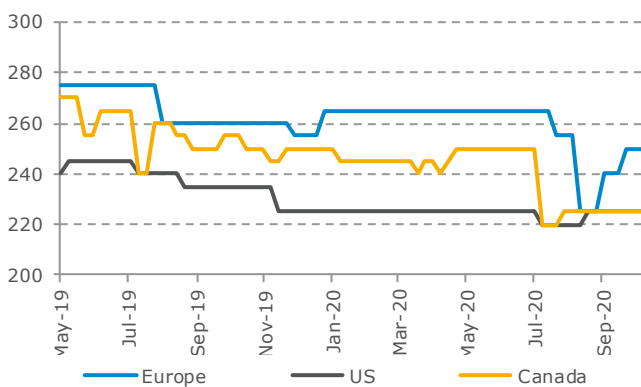
World Ammonium Nitrate Prices (US\$/t)



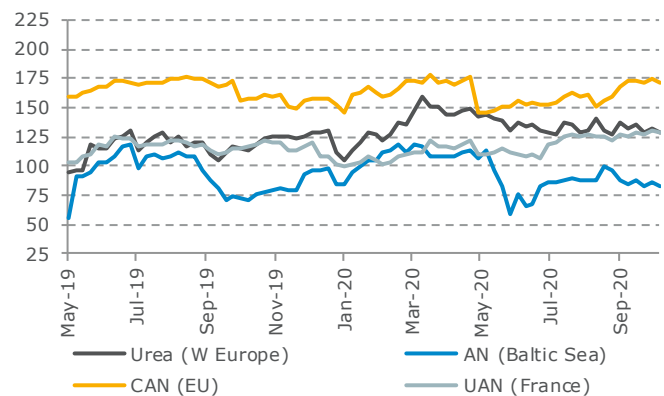
CAN & UAN prices (US\$/t)



World Ammonium Sulfate Prices (US\$/t)



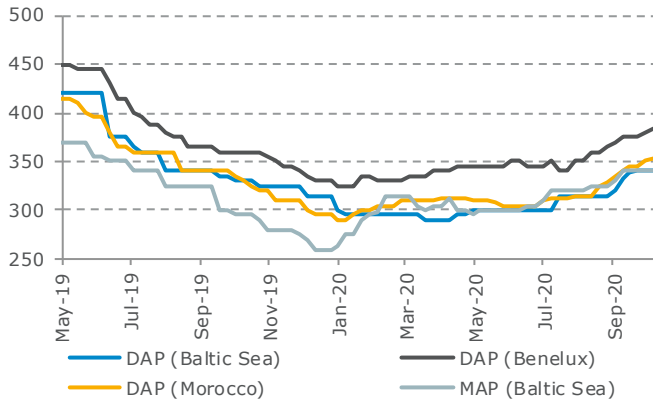
Production Margins On Nitrogen Fertilizers (US\$/t)



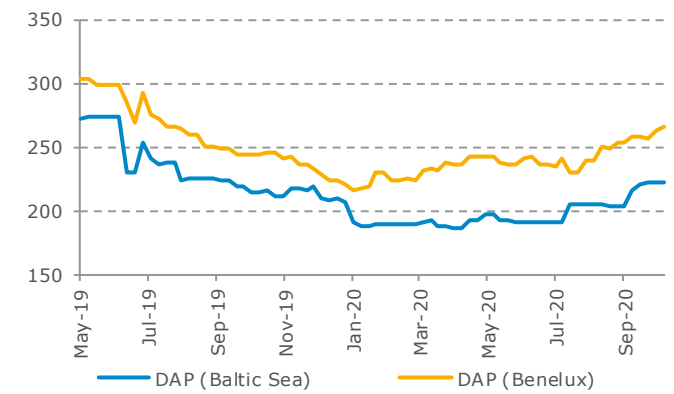
Source: Bloomberg, mBank

Fertilizer Charts

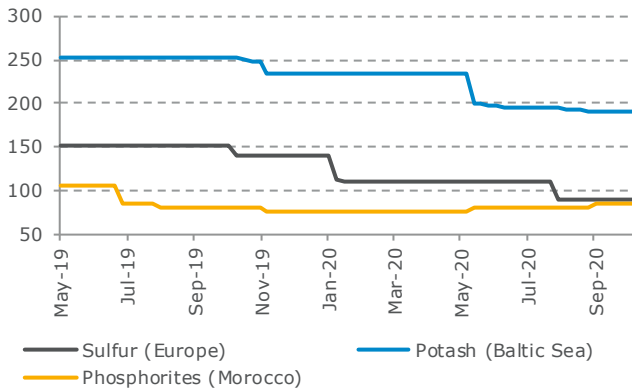
Prices of P & K Fertilizers (US\$/t)



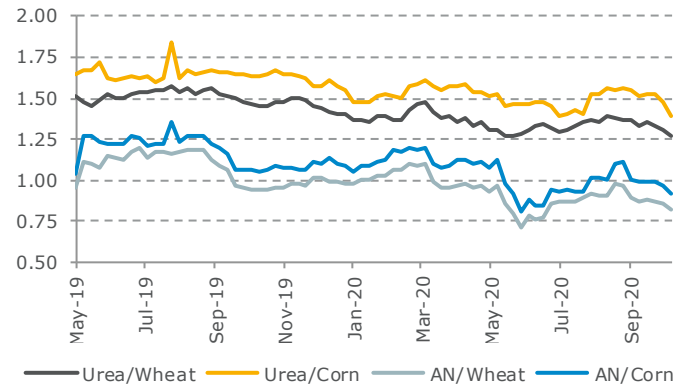
Production Margins on P & K Fertilizers (US\$/t)



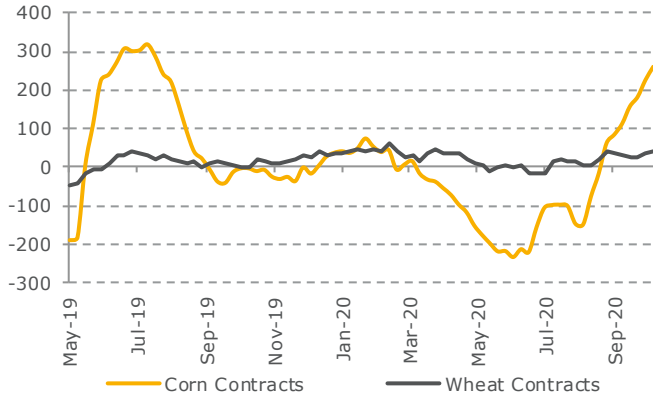
Prices of Sulfur, Potash & Phosphorites (US\$/t)



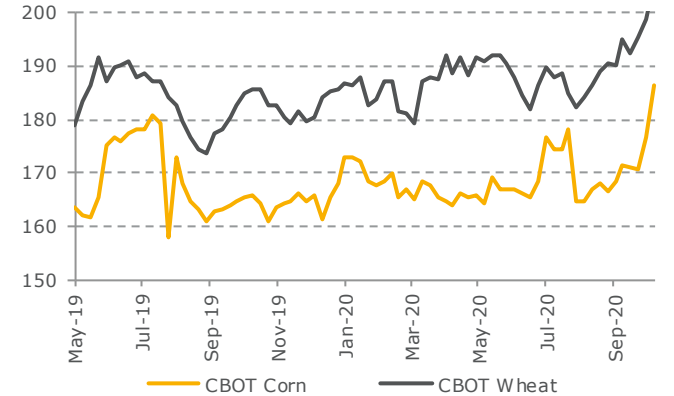
Fertilizer-to-Crop Price Ratios



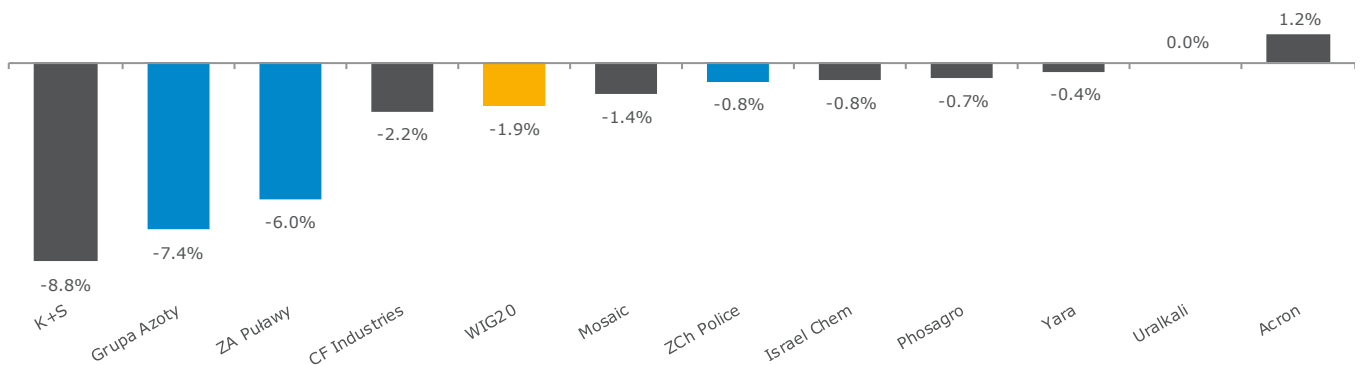
CBOT Open Positions In Corn and Wheat CBT



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



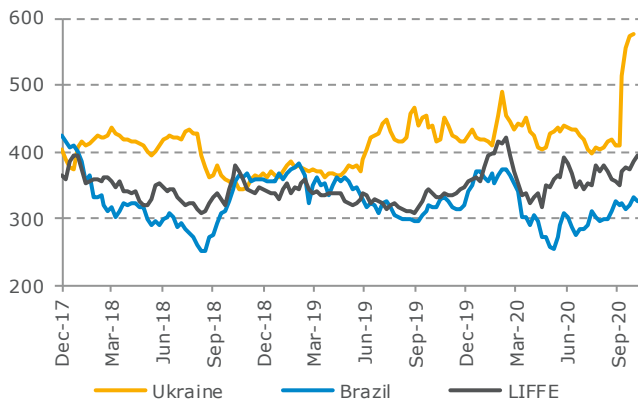
Weekly Returns of Fertilizer Stocks



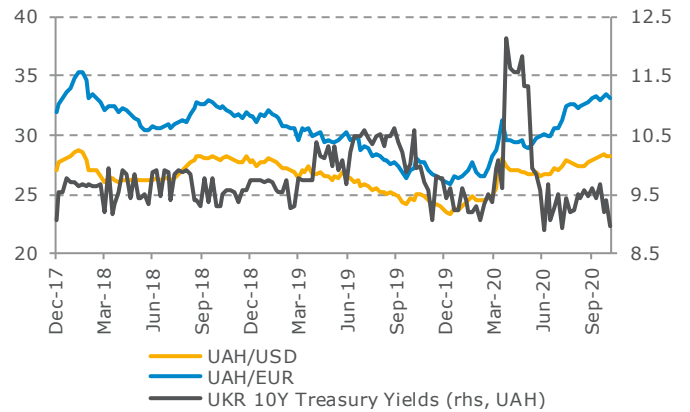
Source: Bloomberg, mBank

Agricultural Commodities

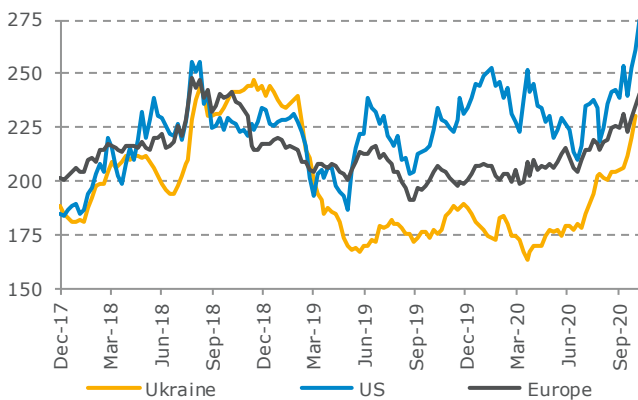
Sugar Prices (US\$/Mt)



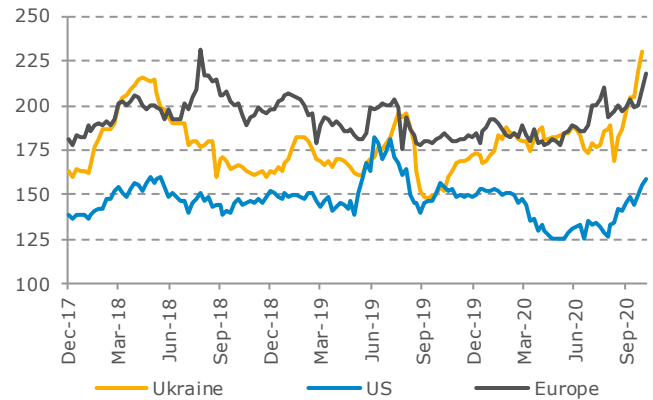
UAH Exchange Rates & Ukraine 10Y Treasury Yields



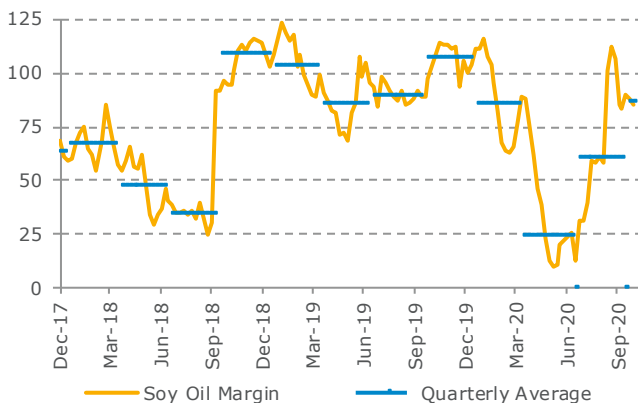
Wheat Prices (US\$/Mt)



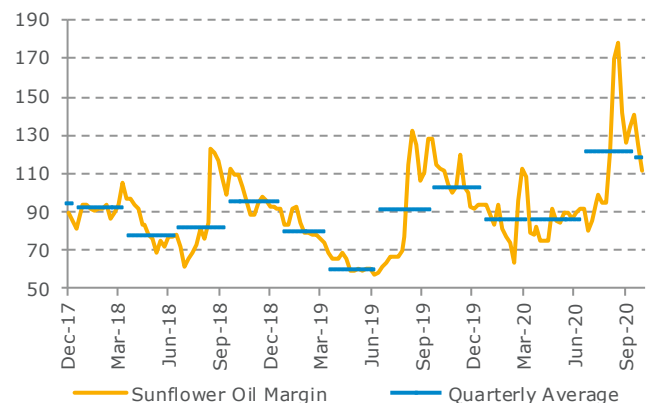
Corn Prices (US\$/Mt)



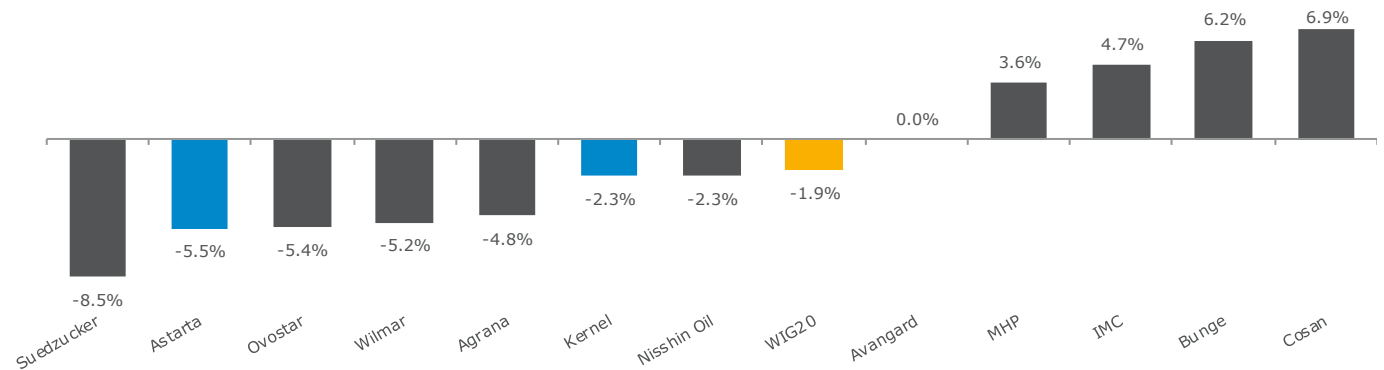
Model Margins on Soy Oil (US\$/Mt)



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



Weekly Returns of Agricultural Stocks



Source: Bloomberg, mBank

Comparison of Utility Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
UTILITIES																
CEZ	440.5	6.3	7.0	7.6	1.8	1.9	1.9	10.9	15.3	20.0	29%	27%	25%	7.7%	8.3%	5.9%
Enea	5.4	3.2	2.6	2.5	0.6	0.6	0.6	2.2	1.9	2.0	18%	22%	22%	0.0%	4.5%	10.7%
Energa	8.3	5.2	4.5	4.5	0.8	0.8	0.8	10.8	8.4	8.3	15%	18%	18%	0.0%	0.0%	1.8%
PGE	5.7	3.6	2.6	2.7	0.5	0.6	0.6	7.8	3.8	4.2	15%	21%	21%	0.0%	3.2%	6.7%
Tauron	2.1	5.3	4.6	4.2	0.9	0.9	0.9	5.6	3.1	3.1	17%	19%	21%	0.0%	0.0%	0.0%
ZE PAK*	9.7	3.8	2.5	3.1	0.2	0.2	0.2	-	14.5	30.4	5%	9%	7%	-	-	3.1%
EDF	10.4	5.4	5.0	4.8	1.2	1.2	1.1	21.0	18.9	16.5	22%	23%	24%	1.8%	2.3%	3.0%
EDP	4.5	10.5	10.3	10.0	2.6	2.5	2.5	21.1	19.5	18.8	24%	24%	25%	4.2%	4.3%	4.6%
Endesa	24.0	8.0	7.8	7.8	1.6	1.6	1.6	14.6	14.6	14.8	20%	20%	20%	6.6%	5.5%	4.8%
Enel	7.5	8.2	7.8	7.5	1.8	1.8	1.7	14.9	13.8	13.2	23%	23%	23%	4.8%	5.1%	5.4%
EON	9.7	8.6	8.2	7.7	0.9	0.9	0.8	15.8	13.8	11.0	10%	11%	11%	4.9%	5.1%	5.3%
Fortum	18.0	9.9	9.1	8.9	0.7	0.5	0.5	12.4	12.7	13.6	7%	6%	5%	6.1%	6.1%	6.1%
Iberdola	10.9	11.2	10.5	9.9	3.2	3.0	2.9	19.5	18.3	17.3	29%	29%	29%	3.8%	4.0%	4.2%
National Grid	9.4	14.0	12.1	11.1	4.2	4.1	3.9	25.7	17.8	16.6	30%	34%	36%	5.1%	5.3%	5.3%
Red Electrica	16.1	10.1	10.0	9.8	7.8	7.8	7.6	13.1	13.1	12.7	78%	78%	78%	6.3%	6.2%	6.2%
RWE	33.7	8.1	7.4	7.2	1.6	1.5	1.5	20.9	17.1	17.9	20%	20%	21%	2.5%	2.7%	2.8%
SSE	13.3	14.2	13.4	12.4	3.7	3.6	3.5	-	17.2	15.9	26%	27%	29%	6.0%	6.1%	6.3%
Verbund	52.4	16.5	15.6	14.4	5.2	5.2	4.9	33.2	31.4	28.2	31%	33%	34%	1.4%	1.5%	1.6%
Median		8.2	7.8	7.6	1.6	1.5	1.5	14.8	14.6	15.3	21%	23%	22%	4.2%	4.5%	5.0%

Comparison of Gas & Oil Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
OIL REFINERS																
Lotos	31.54	-	4.5	3.1	0.4	0.4	0.4	-	11.4	5.7		10%	12%	3.2%	9.5%	9.5%
MOL	1674.00	6.1	5.5	4.1	0.8	0.9	0.7	-	13.0	6.6	13%	16%	18%	0.0%	4.2%	4.4%
PKN Orlen	42.64	5.0	4.9	4.1	0.5	0.5	0.4	7.7	9.7	6.6	10%	10%	11%	2.3%	2.3%	6.2%
Hellenic Petroleum	4.48	9.3	5.8	5.2	0.6	0.5	0.5	55.9	7.4	5.5	7%	9%	9%	4.8%	8.2%	11.2%
HollyFrontier	19.47	12.5	6.9	4.4	0.5	0.4	0.4	-	31.9	6.6	4%	7%	8%	7.2%	7.2%	7.4%
Marathon Petroleum	28.25	19.3	10.2	7.8	0.8	0.8	0.7	-	-	11.7	4%	8%	9%	8.2%	7.6%	7.9%
Motor Oil	9.08	5.1	4.3	3.8	0.3	0.3	0.2	7.9	5.3	4.4	6%	6%	6%	5.3%	10.6%	13.6%
Neste Oil	48.49	21.5	17.7	15.7	3.2	2.9	2.7	32.2	27.6	24.0	15%	17%	17%	1.9%	2.0%	2.2%
OMV	23.02	5.0	3.6	3.0	1.0	0.8	0.7	10.1	6.8	4.8	20%	23%	25%	7.6%	7.8%	8.2%
Phillips 66	48.95	17.5	8.2	6.1	0.5	0.4	0.4	-	13.2	7.5	3%	5%	7%	7.4%	7.5%	7.7%
Saras	0.43	6.4	3.3	3.2	0.1	0.1	0.1	-	100+	14.0	2%	3%	3%	1.4%	3.7%	3.9%
Tupras	81.05	14.6	6.1	4.9	0.5	0.4	0.3	-	10.1	6.6	4%	6%	7%	4.4%	8.0%	12.0%
Valero Energy	39.29	21.3	7.5	5.0	0.4	0.4	0.3	-	37.5	8.5	2%	5%	6%	10.0%	10.1%	10.5%
Median		10.9	5.8	4.4	0.5	0.4	0.4	10.1	11.4	6.6	5%	8%	9%	4.8%	7.6%	7.9%

Comparison of Petrochemical Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
PETROCHEMICALS																
PKN Orlen	42.64	5.0	4.9	4.1	0.5	0.5	0.4	7.7	9.7	6.6	10%	10%	11%	2.3%	2.3%	6.2%
Axiall	69.53	10.4	9.1	8.3	1.7	1.5	1.5	38.0	26.0	20.5	16%	17%	18%	1.5%	1.6%	1.6%
Braskem	22.59	7.8	7.2	6.7	1.2	1.1	1.0	-	18.0	13.2	15%	15%	15%	0.0%	2.0%	4.1%
Eastman Chemical	85.78	10.2	9.1	8.6	2.1	2.0	1.9	15.1	12.3	10.9	20%	21%	22%	3.1%	3.3%	3.5%
Huntsman Corp	24.22	12.6	8.6	7.5	1.2	1.0	1.0	35.9	15.4	12.3	9%	12%	13%	2.7%	2.7%	2.9%
Lotte Chemicals	223,000	7.7	4.6	4.1	0.7	0.6	0.6	37.0	11.1	9.3	9%	13%	14%	1.8%	2.8%	3.1%
LyondellBasell	77.05	10.3	7.8	7.0	1.5	1.2	1.2	16.2	10.5	9.4	14%	16%	17%	5.4%	5.5%	5.8%
Mitsubishi Chemical	619.90	8.8	9.2	7.6	0.9	1.0	0.9	16.3	22.4	10.1	10%	11%	12%	5.2%	3.7%	4.1%
Mitsui Chemicals	2687.00	8.1	8.3	6.3	0.7	0.9	0.8	13.8	19.9	11.2	9%	10%	12%	3.7%	3.7%	3.6%
Westlake Chemical	69.53	10.4	9.1	8.3	1.7	1.5	1.5	38.0	26.0	20.5	16%	17%	18%	1.5%	1.6%	1.6%
Median		9.5	8.5	7.3	1.2	1.0	1.0	16.3	16.7	11.0	12%	14%	14%	2.5%	2.8%	3.5%

Source: mBank for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Comparison of NatGas Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
GAS COMPANIES																
PGNiG	4.63	1.9	3.4	3.2	0.7	0.7	0.7	3.7	9.1	8.2	37%	21%	21%	2.0%	4.1%	5.5%
A2A	1.16	6.5	6.3	5.8	1.1	1.1	1.0	12.3	11.9	10.5	17%	17%	17%	6.9%	7.0%	7.7%
BG Group	9.70	4.8	4.4	3.6	0.8	0.6	0.6	19.1	9.2	6.4	16%	14%	16%	6.0%	6.0%	6.6%
BP	2.08	6.7	4.6	3.9	0.6	0.5	0.5	-	10.2	6.5	10%	12%	13%	10.3%	7.8%	7.8%
Centrica	0.40	3.8	4.4	4.3	0.3	0.3	0.4	8.3	8.5	7.0	7%	8%	8%	3.5%	7.0%	7.5%
Enagas	19.41	9.9	10.1	10.6	8.6	9.0	9.4	11.4	11.4	11.8	87%	89%	89%	8.7%	8.8%	8.8%
Endesa	23.97	8.0	7.8	7.8	1.6	1.6	1.6	14.6	14.6	14.8	20%	20%	20%	6.6%	5.5%	4.8%
Engie	11.71	6.4	5.6	5.5	1.0	1.0	0.9	16.3	11.1	10.1	16%	17%	17%	4.7%	6.5%	6.9%
Eni	6.59	4.7	3.6	3.0	0.8	0.7	0.6	-	16.2	8.4	18%	20%	22%	6.5%	7.0%	8.4%
Equinor	133.55	4.4	3.2	2.7	1.4	1.2	1.0	25.9	13.8	10.0	31%	36%	39%	3.2%	4.3%	5.3%
Gas Natural SDG	17.57	8.8	8.0	8.0	1.7	1.6	1.5	16.9	13.4	13.3	19%	20%	19%	8.2%	8.5%	9.0%
Gazprom	163.60	5.7	4.2	3.4	1.1	1.0	0.9	10.3	4.8	3.4	20%	24%	27%	5.1%	9.7%	13.9%
Hera	2.94	6.9	6.6	6.4	1.0	1.0	1.0	14.1	13.2	12.6	15%	15%	15%	3.7%	3.8%	4.1%
NovaTek	137.50	13.6	10.8	9.0	4.6	3.8	3.3	22.1	13.7	11.3	33%	35%	36%	2.2%	3.0%	3.9%
Shell	10.87	4.8	4.4	3.6	0.8	0.6	0.6	19.4	9.4	6.5	16%	14%	16%	5.9%	5.9%	6.5%
Snam	4.35	12.6	12.2	12.0	10.1	9.8	9.7	13.3	12.4	12.3	80%	80%	81%	5.7%	6.0%	6.5%
Total	28.36	6.9	5.2	4.4	1.0	0.9	0.8	25.0	11.8	8.1	14%	16%	18%	8.9%	9.1%	9.4%
Median		6.5	5.2	4.4	1.0	1.0	0.9	14.6	11.8	10.0	18%	20%	19%	5.9%	6.5%	6.9%

Comparison of E&P Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
E&P COMPANIES																
MOL	1674.00	5.4	4.4	3.8	0.7	0.6	0.6	34.4	6.6	4.7	13%	14%	15%	4.9%	6.4%	7.0%
Bashneft	1568.00	1.4	1.4	-	0.4	0.3	-	2.1	1.7	-	25%	25%	-	16.7%	18.1%	-
BP	2.08	6.7	4.6	3.9	0.6	0.5	0.5	-	10.2	6.5	10%	12%	13%	10.3%	7.8%	7.8%
Eni	6.59	4.7	3.6	3.0	0.8	0.7	0.6	-	16.2	8.4	18%	20%	22%	6.5%	7.0%	8.4%
Equinor	133.55	4.4	3.2	2.7	1.4	1.2	1.0	25.9	13.8	10.0	31%	36%	39%	3.2%	4.3%	5.3%
Gazprom Neft	273.50	5.5	4.2	4.0	1.1	1.0	0.9	9.7	5.7	5.8	20%	23%	22%	100%+	100%+	8.6%
Gulf Keystone	0.75	4.1	1.6	0.7	1.6	0.9	0.5	-	100+	2.3	38%	54%	66%	-	2.4%	3.1%
Lukoil	4194.00	4.3	3.3	2.9	0.6	0.5	0.4	28.0	7.7	6.0	13%	14%	15%	7.2%	7.8%	11.3%
Occidental Petroleum	9.82	9.2	7.7	6.8	3.2	3.3	3.2	-	-	-	35%	43%	47%	11.2%	1.3%	4.1%
Repsol	5.93	5.5	4.0	3.4	0.7	0.6	0.5	21.6	6.9	4.9	12%	14%	15%	15.7%	13.9%	14.3%
Rosneft Oil	381.55	6.9	5.0	4.1	1.4	1.2	1.0	24.7	6.7	4.8	20%	24%	25%	3.0%	6.7%	9.7%
Shell	10.87	4.8	4.4	3.6	0.8	0.6	0.6	19.4	9.4	6.5	16%	14%	16%	5.9%	5.9%	6.5%
Surgutneftegas	37.80	-	-	-	-	-	-	4.0	6.4	6.1	-	-	-	11.9%	4.0%	5.8%
Total	28.36	6.9	5.2	4.4	1.0	0.9	0.8	25.0	11.8	8.1	14%	16%	18%	8.9%	9.1%	9.4%
Tullow Oil	0.18	6.1	6.4	5.8	3.8	4.1	3.8	-	-	-	62%	63%	65%	-	-	-
Median		5.5	4.3	3.8	0.9	0.8	0.6	23.2	7.3	6.0	19%	21%	22%	8.1%	6.7%	7.8%

Comparison of Mining Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
MINING COMPANIES																
JSW	21.40	3.6	2.0	2.3	0.4	0.3	0.4	-	20.2	-	12%	17%	16%	0.0%	0.0%	0.0%
KGHM	125.00	5.2	5.9	5.8	1.3	1.3	1.3	9.9	13.8	14.0	24%	22%	22%	0.0%	1.6%	2.9%
LW Bogdanka*	17.00	0.7	0.7	0.8	0.2	0.2	0.2	13.1	6.3	8.9	27%	26%	24%	-	-	-
Anglo American	19.65	5.3	4.5	4.8	1.7	1.5	1.5	12.0	8.8	9.9	32%	34%	32%	3.4%	4.8%	4.1%
Antofagasta	10.42	7.2	5.9	5.9	3.6	3.1	3.1	29.6	19.8	20.4	49%	53%	53%	1.6%	2.6%	2.7%
BHP Group	16.14	6.6	5.8	6.2	3.1	3.2	3.3	12.9	10.7	11.7	48%	54%	53%	7.0%	6.5%	6.1%
Freeport-McMoRan	17.14	12.5	6.3	6.0	3.1	2.4	2.3	53.4	11.7	10.7	25%	37%	37%	0.3%	1.1%	1.2%
Glencore	1.65	6.4	5.4	5.3	0.4	0.4	0.3	30.1	11.3	10.0	6%	6%	6%	2.4%	5.7%	7.5%
Grupo Mexico	58.46	6.4	5.6	5.6	2.9	2.6	2.5	16.2	10.4	10.7	45%	46%	45%	4.6%	5.8%	6.6%
Kazakhmys	5.76	5.6	5.0	4.6	3.1	2.9	2.6	7.1	6.2	5.6	56%	58%	56%	1.2%	1.4%	1.4%
Rio Tinto	46.07	5.1	5.3	6.2	2.6	2.6	2.8	9.0	9.6	11.9	50%	49%	45%	7.1%	7.1%	5.7%
Southern CC	47.80	12.7	11.0	11.5	5.8	5.4	5.4	29.2	20.7	21.8	46%	49%	47%	2.8%	3.5%	3.6%
Median		6.0	5.5	5.7	2.7	2.5	2.4	13.1	11.0	10.7	39%	42%	41%	2.4%	3.5%	3.6%
ALUMINUM PRODUCERS																
Grupa Kęty	457.50	8.4	9.6	9.6	1.6	1.6	1.5	11.6	14.1	14.0	19%	16%	16%	7.7%	6.9%	5.7%
Alcoa	12.63	4.4	3.6	3.4	0.5	0.5	0.5	-	-	28.3	12%	14%	14%	-	-	-
Constellium	9.26	7.4	6.1	5.0	0.7	0.6	0.6	-	12.4	5.9	9%	10%	11%	-	-	-
Kaiser Aluminum	65.43	8.8	6.9	6.1	1.0	1.0	0.9	29.5	13.8	10.3	12%	14%	14%	4.1%	4.4%	4.7%
Norsk Hydro	26.20	5.6	4.6	4.1	0.5	0.5	0.5	34.3	13.6	10.6	9%	10%	11%	4.8%	4.8%	5.2%
Rusal	3.07	18.4	12.4	10.5	1.4	1.3	1.2	8.1	4.2	3.9	8%	11%	12%	0.7%	3.3%	5.0%
Median		7.9	6.5	5.5	0.8	0.8	0.7	20.5	13.6	10.5	10%	12%	13%	4.4%	4.6%	5.1%

Source: mBank 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		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
FERTILIZER PRODUCERS																
Grupa Azoty	22.55	6.0	7.5	7.9	0.7	0.8	0.8	16.6	37.6	28.4	12%	10%	11%	0.0%	0.0%	0.0%
Acron	6160.00	10.0	8.2	8.3	3.0	2.7	2.5	15.7	10.6	11.0	31%	33%	31%	6.0%	5.9%	5.8%
CF Industries	28.88	9.0	8.9	8.4	3.1	2.9	2.8	19.2	19.0	14.3	34%	33%	34%	4.2%	4.3%	4.2%
Israel Chemicals	12.66	8.4	7.0	6.6	1.5	1.4	1.4	20.4	12.6	11.4	18%	20%	21%	2.6%	3.9%	4.2%
K+S	6.26	9.4	7.4	7.2	1.2	1.2	1.3	-	33.5	13.9	13%	17%	17%	0.9%	1.5%	2.7%
Phosagro	2806.00	6.2	5.9	5.6	2.0	1.9	1.8	12.8	11.1	9.2	32%	32%	32%	5.2%	4.2%	5.9%
The Mosaic Company	19.07	8.8	6.8	6.0	1.4	1.3	1.3	61.7	17.0	11.9	16%	19%	21%	1.1%	1.1%	1.4%
Yara International	344.80	6.5	6.1	5.7	1.2	1.1	1.1	11.6	10.2	9.3	18%	18%	18%	4.8%	5.4%	5.9%
Median		8.6	7.2	6.9	1.5	1.4	1.3	16.6	14.8	11.7	18%	20%	21%	3.4%	4.1%	4.2%

Comparison of Agricultural Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
AGRI PRODUCERS																
Kemel	38.80	5.8	5.0	4.6	0.5	0.5	0.5	8.4	4.4	4.3	9%	11%	11%	2.5%	2.6%	2.3%
Agrana Beteiligungs	16.00	8.4	7.3	6.6	0.6	0.6	0.6	20.8	15.3	14.5	7%	8%	9%	4.8%	6.3%	6.3%
Bunge Limited	54.60	10.9	9.9	9.8	0.4	0.4	0.4	15.0	12.3	11.1	4%	4%	4%	3.8%	3.8%	4.6%
Cosan	70.84	7.1	6.2	5.8	0.6	0.5	0.5	24.6	13.8	13.1	9%	8%	9%	2.2%	2.5%	3.2%
MHP	5.80	5.0	4.6	4.3	1.1	1.0	1.0	-	11.0	6.1	21%	22%	24%	4.8%	4.8%	12.9%
Nisshin Oillio	3030.00	7.6	7.5	7.3	0.5	0.5	0.5	12.4	11.8	11.4	6%	7%	7%	2.6%	2.6%	2.6%
Suedzucker	13.08	10.7	7.2	6.5	0.7	0.7	0.7	-	19.4	12.4	7%	10%	11%	1.5%	1.9%	2.7%
Wilmar Int.	4.41	14.3	13.4	12.6	0.9	0.8	0.8	16.3	15.0	13.7	6%	6%	6%	2.8%	3.0%	3.2%
Median		8.0	7.2	6.5	0.6	0.6	0.5	15.7	13.1	11.9	7%	8%	9%	2.7%	2.8%	3.2%

Source: mBank for Polish companies, Bloomberg for foreign firms and companies marked with an asterisk

Selected Commodity ETFs Available to Retail Investors with mBank Brokerage Accounts

	Name of Instrument on mdm.pl Website	Market	ISIN	Ticker
Agri Commodities				
Sugar	WISDOMTREE SUGAR (OD7R GR ETF)	DEU-XETRA	DE000A0KRJ85	OD7R:GR
Cocoa	WISDOMTREE 2X DAILY LONG COCOA (4RUP GR ETF)	DEU-XETRA	DE000A0V9ZE9	4RUP:GR
Coffee	WISDOMTREE COFFEE (OD7B GR ETF)	DEU-XETRA	DE000A0KRJT2	OD7B:GR
Wheat	WISDOMTREE WHEAT (OD7S GR ETF)	DEU-XETRA	DE000A0KRJ93	OD7S:GR
Metals				
Copper	WISDOMTREE COPPER (OD7C GR ETF)	DEU-XETRA	DE000A0KRJU0	OD7C:GR
Nickel	WISDOMTREE NICKEL (OD7M GR ETF)	DEU-XETRA	DE000A0KRJ44	OD7M:GR
Platinum	WISDOMTREE PHYSICAL PLATINUM	DEU-XETRA	DE000A0N62D7	VZLA:GR
Silver	WISDOMTREE PHYSICAL SILVER (VZLC GR ETF)	DEU-XETRA	DE000A0N62F2	VZLC:GR
	WISDOMTREE 2X DAILY LONG SILVER (4RUE GR ETF)	DEU-XETRA	DE000A0V9Y57	4RUE:GR
Gold	XETRA GOLD (4GLD GR ETF)	DEU-XETRA	DE000A0S9GB0	4GLD:GR
	WISDOMTREE PHYSICAL GOLD (VZLD GR ETF)	DEU-XETRA	DE000A0N62G0	VZLD:GR
	XTRACKERS PHYSICAL GOLD ETC EUR (XAD5 GR ETF)	DEU-XETRA	DE000A1E0HR8	XAD5:GR
	DB-X PHYSICAL GOLD EURO HEDGED ETC (XAD1 GR ETF)	DEU-XETRA	DE000A1EK0G3	XAD1:GR
	WISDOMTREE 2X DAILY LONG GOLD (4RT8 GR ETF)	DEU-XETRA	DE000A0V9YZ7	4RT8:GR
	ISHARES PHYSICAL GOLD (SGLN LN ETF)	GBR-LSE	IE00B4ND3602	SGLN:LN
Energy				
Brent Crude	WISDOMTREE BRENT CRUDE (OOEA GR ETF)	DEU-XETRA	DE000A1N49P6	OOEA:GR
WTI Crude	WISDOMTREE WTI CRUDE OIL (OD7F GR ETF)	DEU-XETRA	DE000A0KRJX4	OD7F:GR
	WISDOMTREE 1X DAILY SHORT WTI CRUDE OIL (9GA7 GR ETF)	DEU-XETRA	DE000A0V9XY2	9GA7:GR
	WISDOMTREE 2X DAILY LONG WTI CRUDE OIL (4RT6 GR ETF)	DEU-XETRA	DE000A2BDEB6	4RT6:GR

Source: mBank

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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A recommendation is valid for a period of 9 months, unless a subsequent recommendation is issued within this period. Expected returns from individual recommendations are as follows:

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%
SELL – we expect that an investment will bear a loss greater than 15%
 Recommendations are updated at least once every nine months.

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

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