

Tuesday, June 23, 2020 | weekly publication

## Tuesday Espresso

### Weekly Commodity Roundup

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#### Utilities

German electricity prices are up by about 2 euros to EUR 40/MWh after rising in line with emission allowances, which have gained approximately as much at EUR 24/t in a surprising twist considering persistently low demand for energy. The increase in emission costs also pushed higher Polish power deliveries for 2021, but clean-dark spreads so far are holding at unchanged levels. Energy consumption in Poland is down by 7.8% (moving average) in the last 30 days compared to the same year-ago period, indicating an improvement from a week ago. On the stock market, EU utilities continue their upward climb, and Poland's WIG-Energy is making a rapid ascent (you can read more on the background behind the rally in our Tuesday special comment on utilities).

#### Gas & Oil

Refining margins have improved over the past week (see Chart of the Week below), but refinery profits remain squeezed with the Urals/Brent differential still negative at -\$1.6. We are starting to think that our \$5.5-a-barrel complex margin forecast for 2020 is too optimistic. Petrochemical margins remain low across the whole mix, underpinned by large inventories in Asia. EU spot and forward gas prices have edged slightly higher from last week.

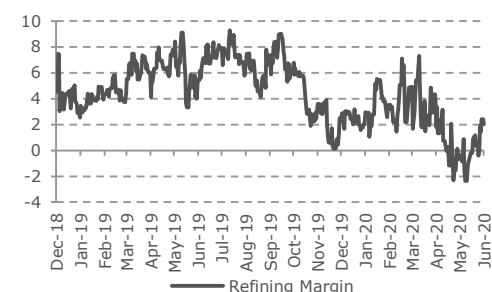
#### Metals & Mining

Exchange-monitored copper inventories are experiencing the fourth straight week of declines thanks to increased draws on stocks held in Shanghai warehouses. Global stocks are down 5% week on week, with Shanghai stocks reduced by 8%. Traders have turned more bullish as a result, as reflected in speculative positions which have increased by 13,000 to 12,000 contracts in a week – the highest level since March 2019. At the same time, we are noticing a tightening of Chinese producer premiums which could be a sign of better availability of concentrates. In Poland, mining and metals companies (JSW, KGH, STP) are seeing their profits pressured by the zloty's appreciation versus the dollar. KGHM is due to release its May 2020 production and sales update this week, and we expect to see lower volumes for the second month in a row due to the COVID-19 pandemic.

#### Agricultural Commodities

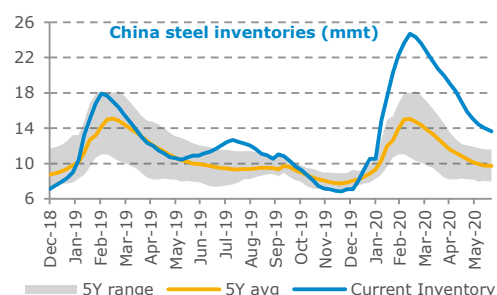
A rebound observed in the prices of vegetable oils, specifically from rapeseed and sunflowers, is a good sign from an earnings standpoint for Kruszwica and Kernel, respectively. A similar trend in sugar prices boosts the prospects of Astarta and Sudzucker. On the other hand, producers of plant nutrients (Grupa Azoty, Yara) are having their margins squeezed by falling fertilizer markets.

#### Charts of the Week



#### Refining margins finally turn positive

The benchmark refining margin has turned positive (currently at \$1-2/bbl) after two months of hovering in the negative territory. Diesel is the main driver behind the recovery as the US market comes back from lockdown, however we would not expect prices to increase much longer amid a global overcapacity.



#### China steel inventories decrease but met coal still weak

China's steel inventories have been on a decline since mid-March, but at the current level they are still very high compared to the 5-year average for this time of the year at 14mmt vs. 11.6mmt at most in comparable periods. As a result, prices of coking coal remain under pressure (negative for JSW) at \$110-115/t.

Source: Bloomberg, mBank

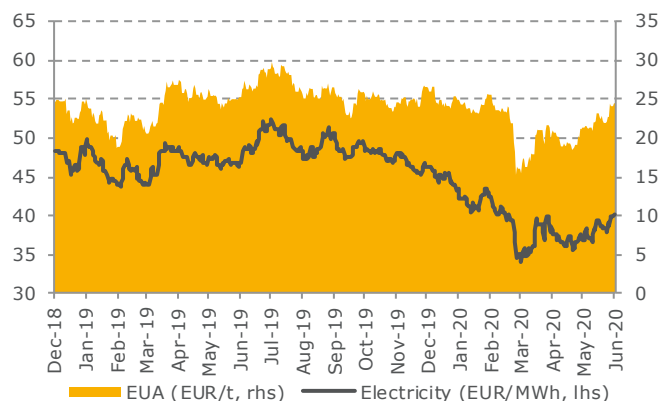
#### 1-Week & YTD Performance

Company	1W	YTD
PGNiG	-5.9%	2%
IMC	-5.8%	-3%
Ciech	-3.3%	-20%
Boryszew	-3.2%	-17%
MOL	-2.5%	-36%
OMV	-1.6%	-40%
Tarczyński	-0.7%	-13%
Energa	-0.5%	13%
Kernel	0.0%	-5%
PCC Rokita	0.0%	-4%
CEZ	1.0%	-3%
ZCh Police	1.5%	32%
Lotos	1.8%	-28%
Alumetal	2.1%	-1%
Grupa Azoty	2.2%	10%
KGHM	2.4%	-9%
Kęty	2.6%	9%
Kruszwica	2.7%	25%
LW Bogdanka	3.6%	-34%
PKN Orlen	3.8%	-24%
JSW	4.1%	-7%
ZA Puławy	4.4%	5%
Tupras	4.7%	-29%
Astarta	5.6%	19%
Orzeł Biały	6.3%	-6%
PGE	8.7%	2%
Enea	11.9%	0%
ZE PAK	16.2%	23%
Tauron	29.5%	66%

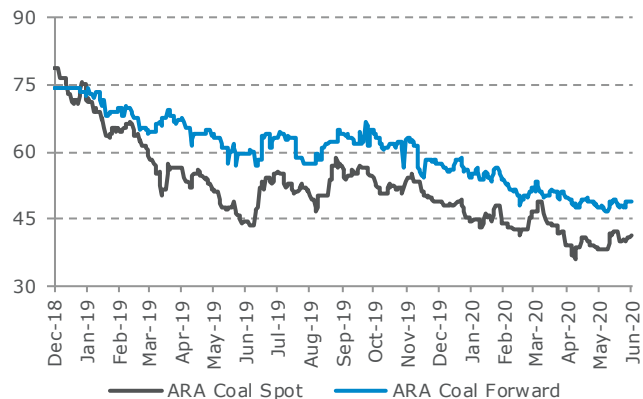
WIG Indices	1W	YTD
WIG	3.3%	-12%
Chemicals	0.4%	0%
Energy	11.5%	13%
Oil & Gas	1.0%	-20%
Food Industry	1.0%	0%
Basic Material	2.6%	-10%
Ukraine	1.1%	1%
Sector Indices	1W	YTD
Mining	1.4%	-5%
Oil & Gas E&P	0.9%	-39%
Refining EU	1.4%	-25%
Refining US	-0.4%	-33%
Agri & Food	3.0%	0%
Rubber	4.9%	-21%
Fertilizers	-0.2%	-10%
Chemicals EU	3.6%	-3%
Industrials EU	3.3%	-14%
Petchem World	0.8%	-19%
Utilities EU	4.1%	0%
Utilities US	-1.7%	-10%

## Utilities

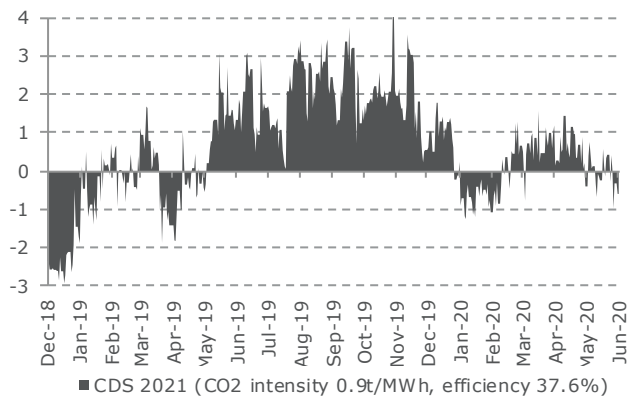
**EU Prices of Electricity (EUR/MWh) & EUAs (EUR/t)**



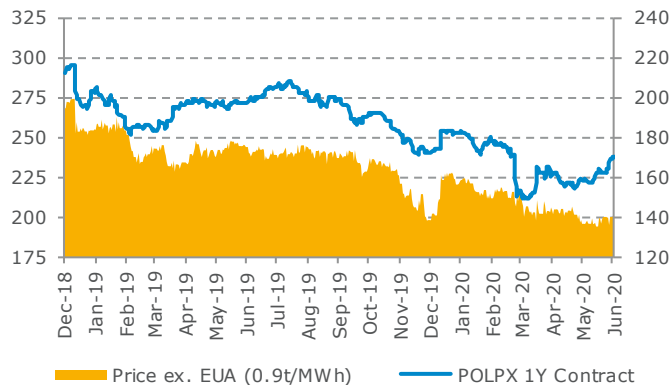
**ARA Coal Spot and Forward Prices (EUR/t)**



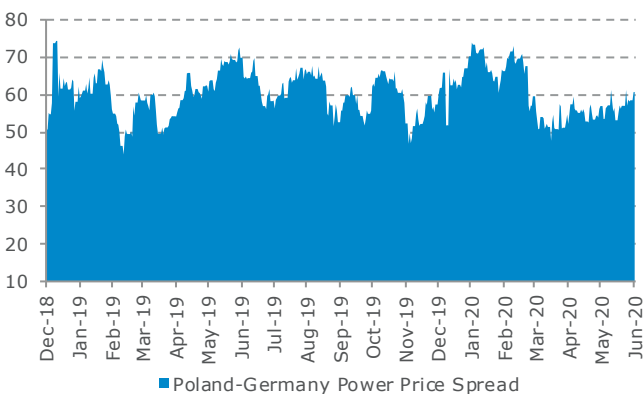
**Clean-Dark Spread, Germany (EUR/MWh)**



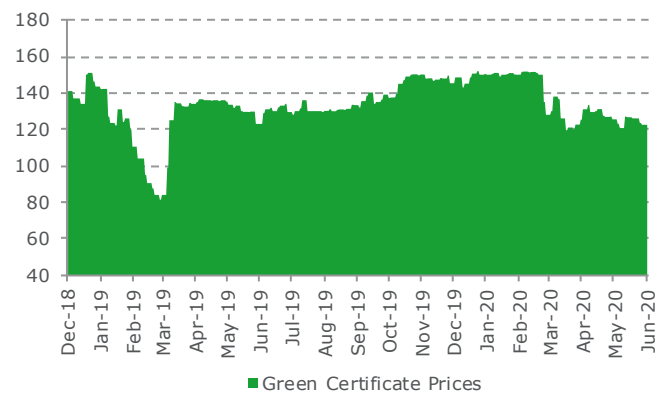
**Polish Electricity Prices (1Y) (PLN/MWh)**



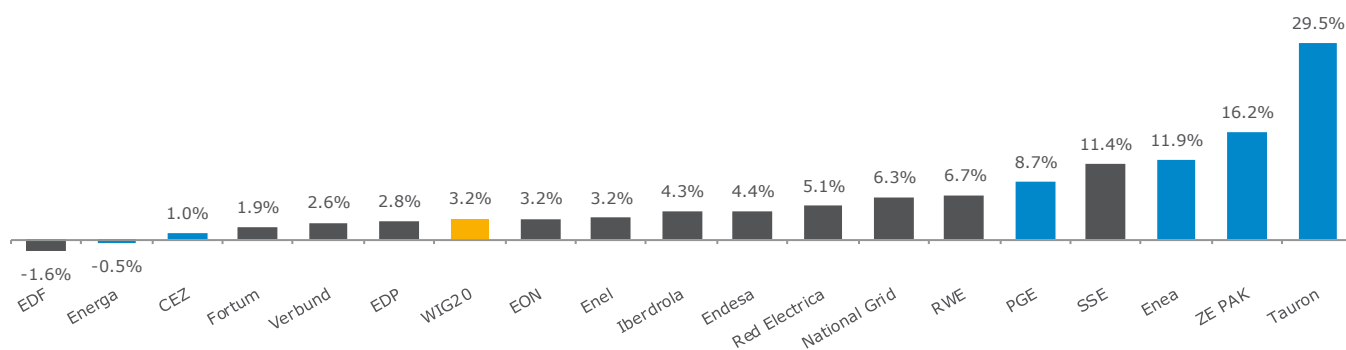
**Poland-Germany Power Price Spread (PLN/MWh)**



**Polish Green Certificate Prices (PLN/MWh)**



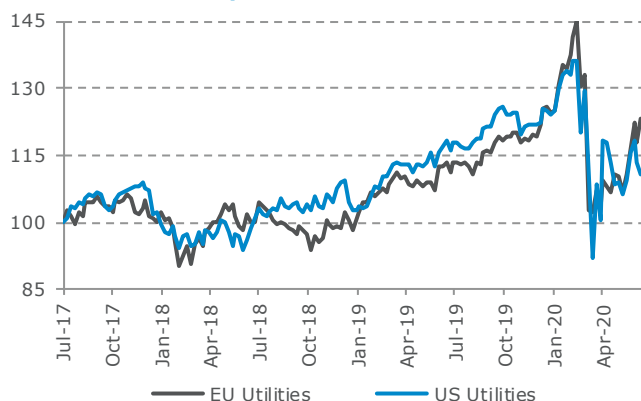
## Weekly Returns of Utility Stocks



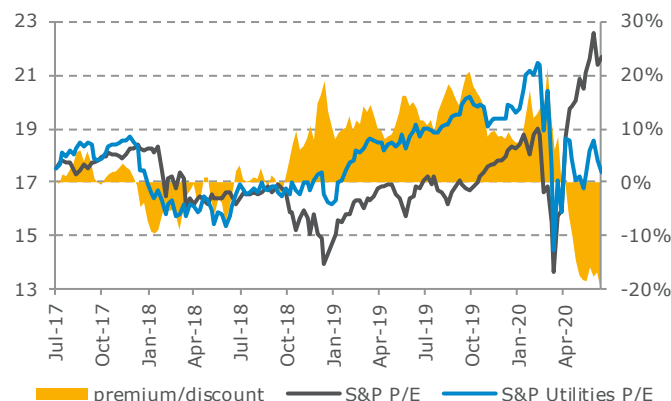
Source: Bloomberg, mBank

## Utilities

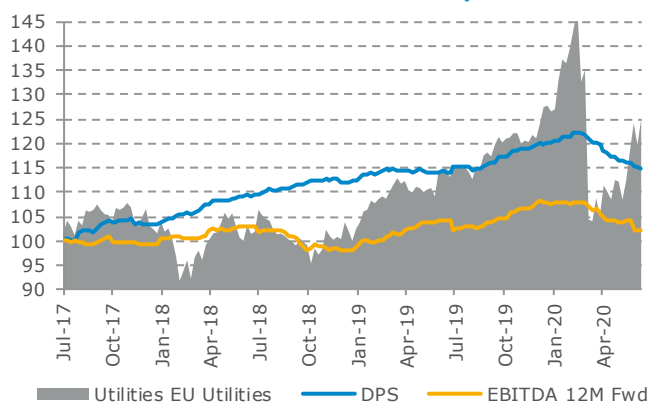
### MSCI Utilities Europe vs. S&P Utilities



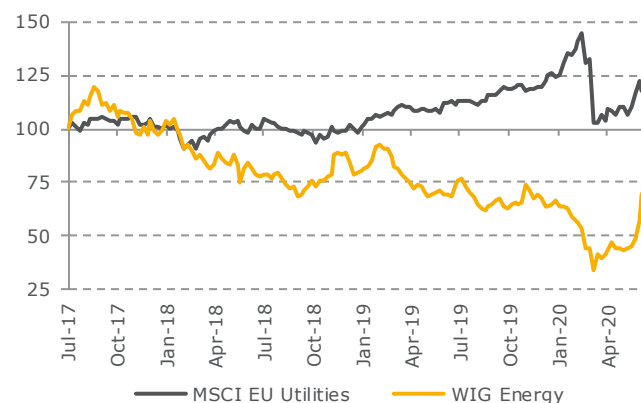
### S&P Utilities vs. S&P 500 P/E



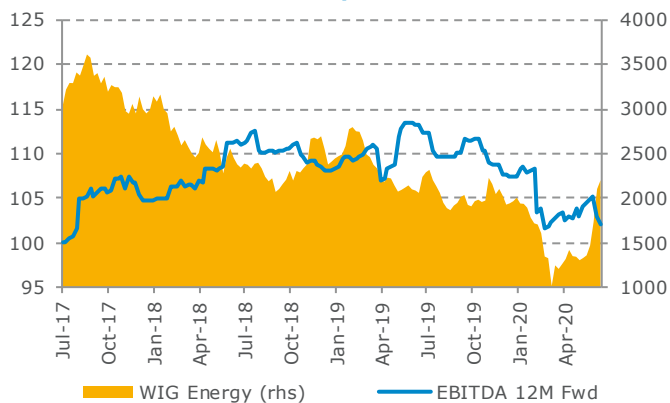
### MSCI Utilities EU vs. DPS & EBITDA Expectations



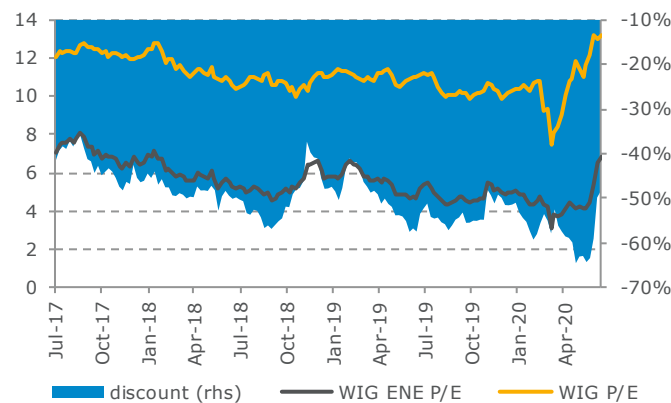
### MSCI Utilities EU vs. WIG-ENERGY



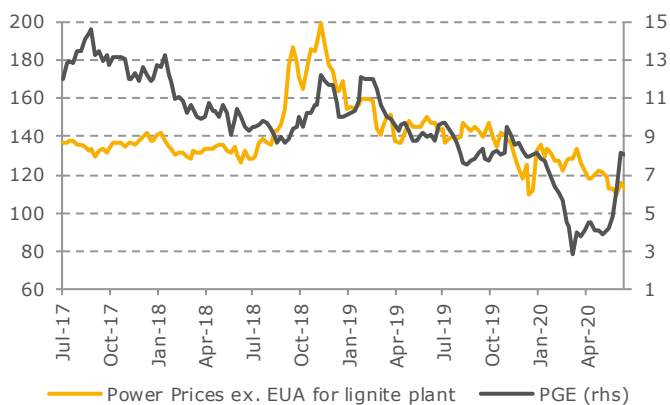
### WIG-ENERGY vs. EBITDA Expectations



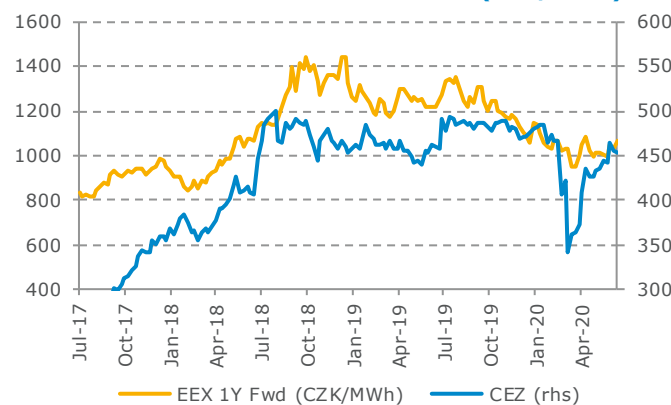
### WIG-ENERGY vs. WIG P/E



### PGE Performance vs. Power Prices ex. EUA



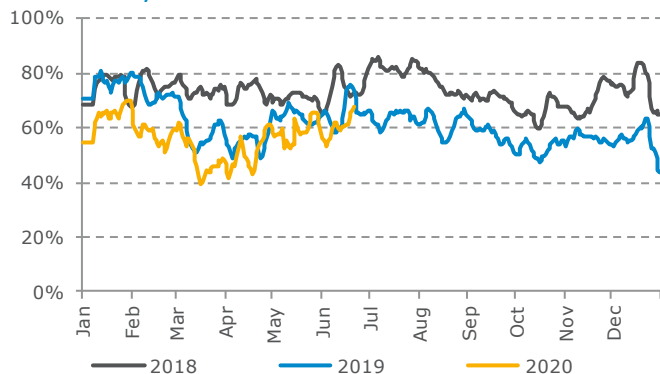
### CEZ Performance vs. EEX Power Prices (CZK/MWh)



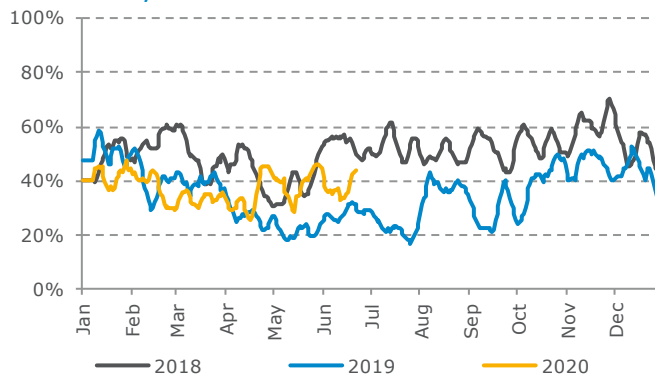
Source: Bloomberg, mBank

## Utilities

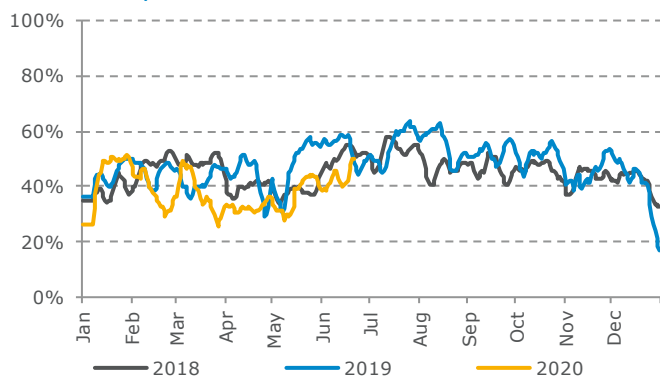
**Load Factor, Bełchatów Power Station**



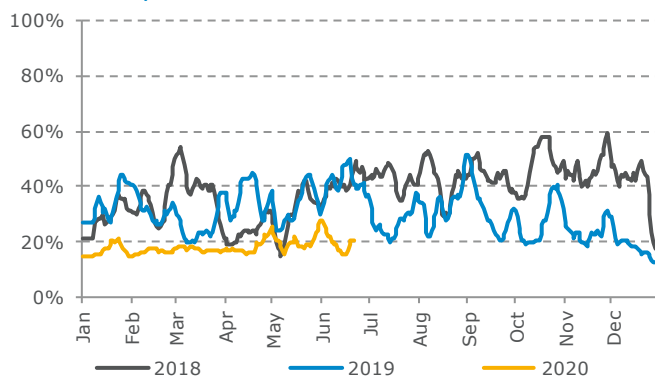
**Load Factor, Turów Power Station**



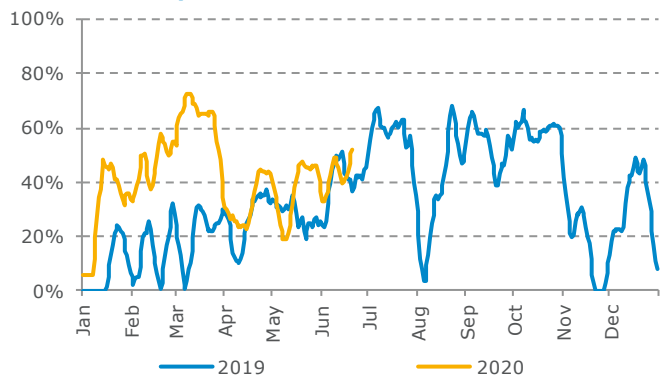
**Load Factor, Kozienice Power Station**



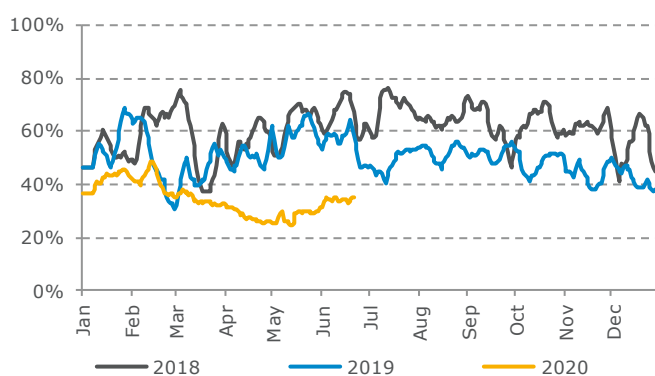
**Load Factor, Jaworzno Power Station**



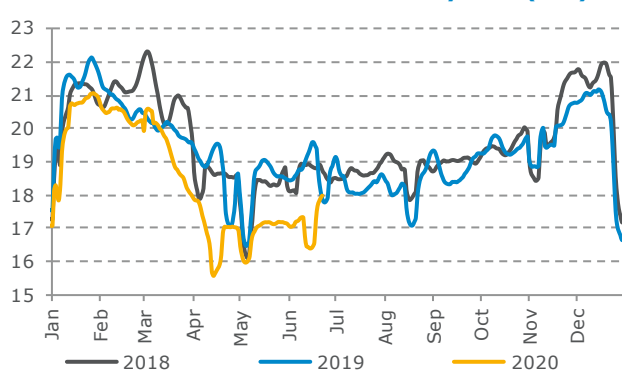
**Load Factor, Opole Power Station, Blocks B5&B6**



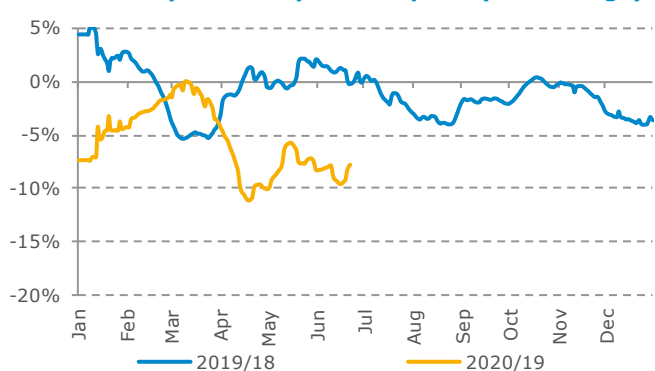
**Load Factor, Połaniec Power Station**



**Actual Total Load of the Polish Power System (GW)**



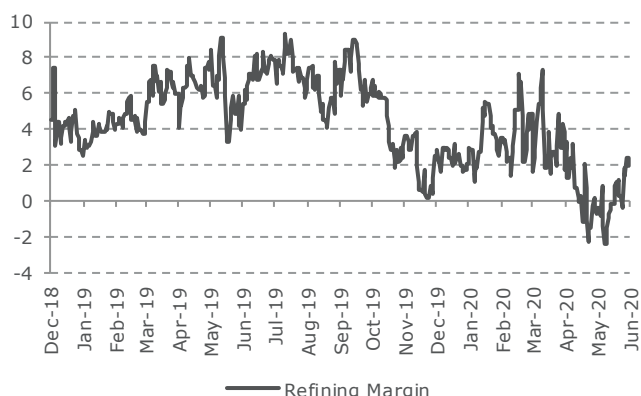
**Polish Monthly Electricity Consumption (YoY Change)**



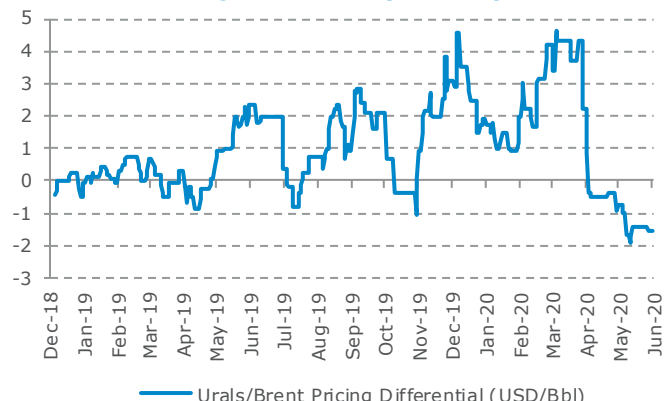
Source: PSE, mBank; Load factor = actual generation (7-day average) as a percentage of available capacity

## Gas & Oil

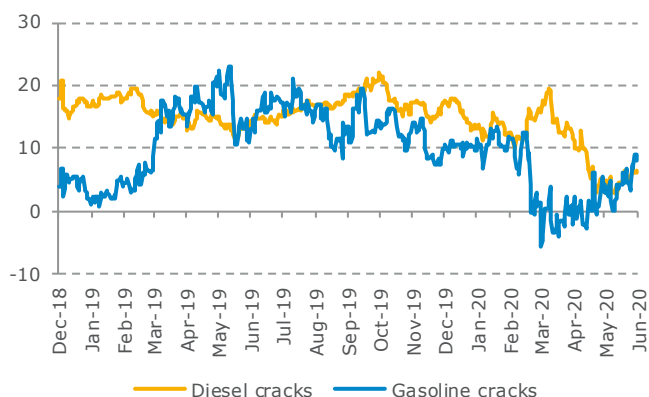
### Refining Margins (US\$/bbl)



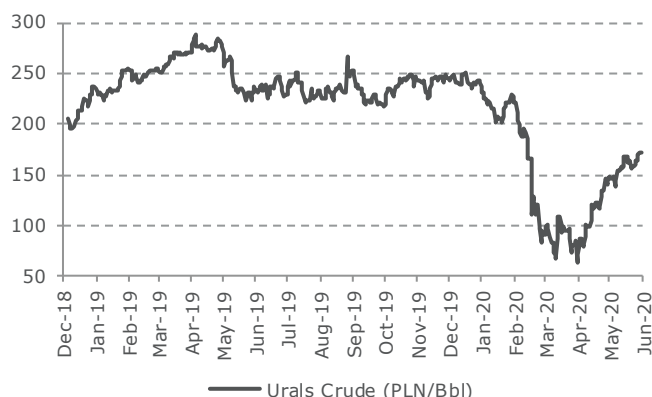
### Urals/Brent Pricing Differential (US\$/bbl)



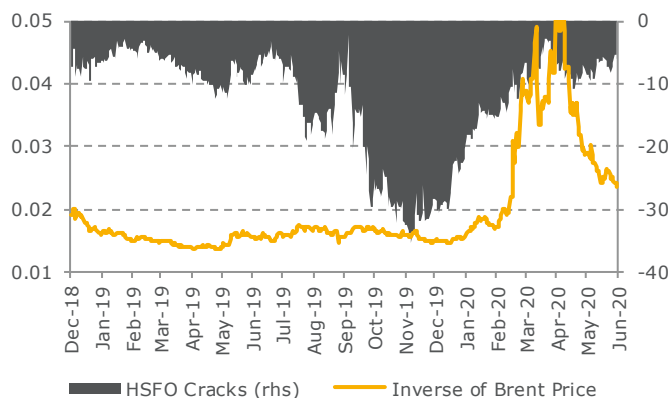
### Cracking Margins on Diesel & Gasoline (US\$/bbl)



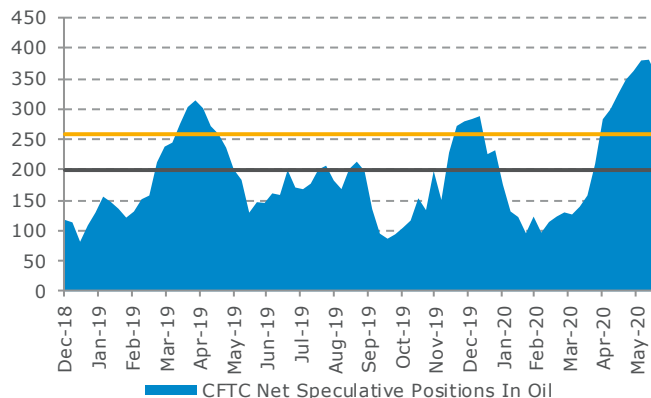
### Price of Urals Crude (PLN/bbl)



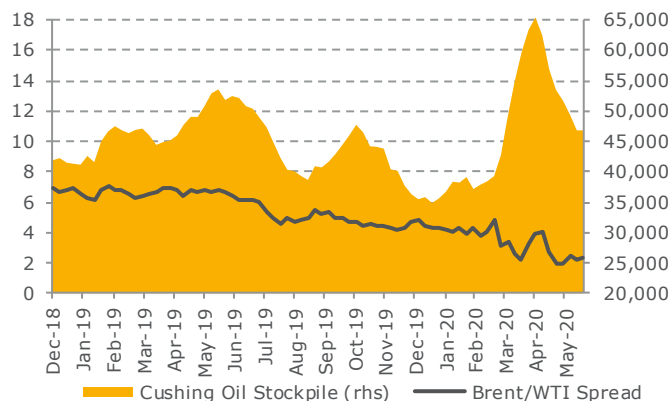
### HSFO Cracks (US\$/bbl) vs. Inverse of Brent Price



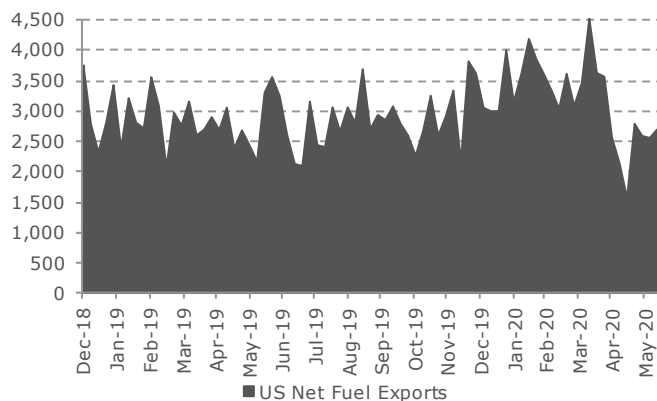
### CFTC Net Speculative Positions In Oil



### Brent/WTI Spread vs. Cushing Oil Stockpile



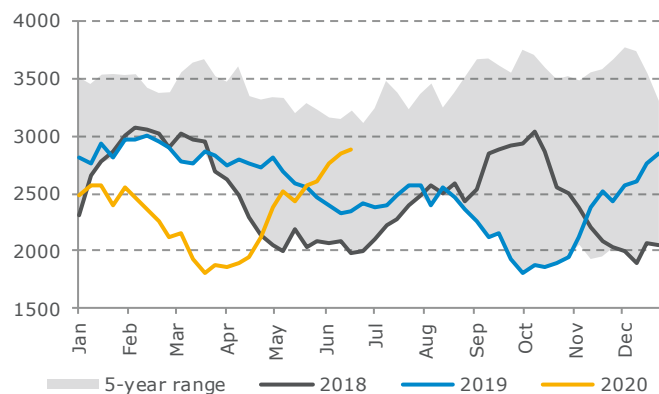
### US Net Fuel Exports



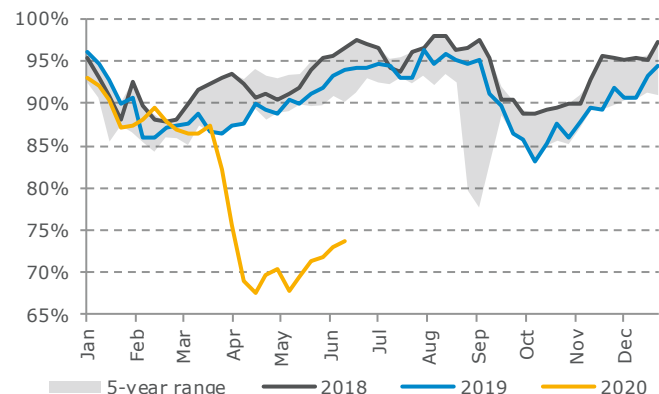
Source: Bloomberg, mBank

## Gas & Oil

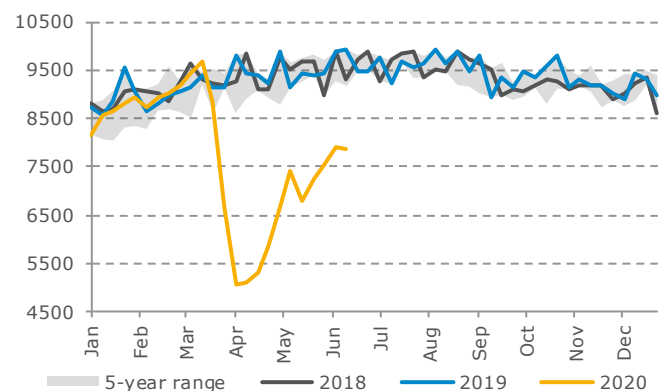
**Diesel Inventories @ARA**



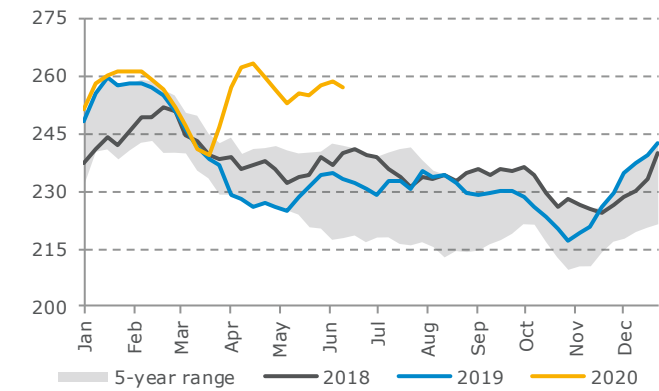
**US Refinery Utilization Rates**



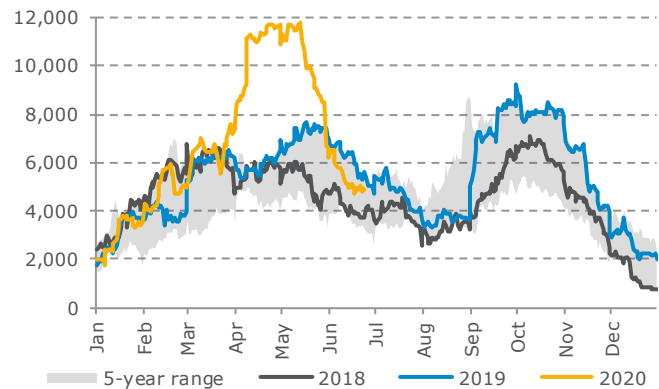
**US Gasoline Demand**



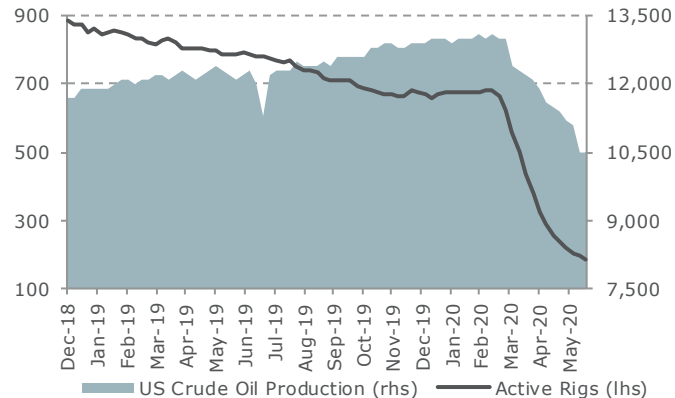
**US Gasoline Inventories**



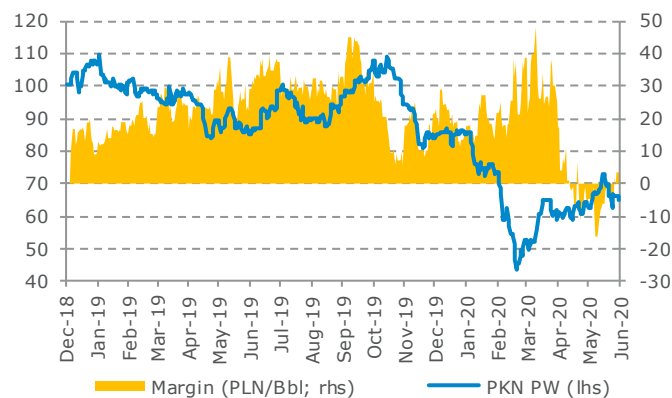
**Global Refinery Outages (mbbl/d)**



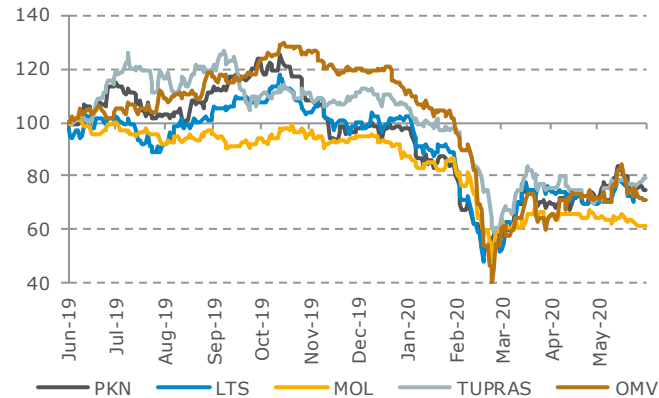
**US Crude Oil Production (mboe/d) vs. Active Rigs**



**PKN Performance vs. Benchmark Margins**



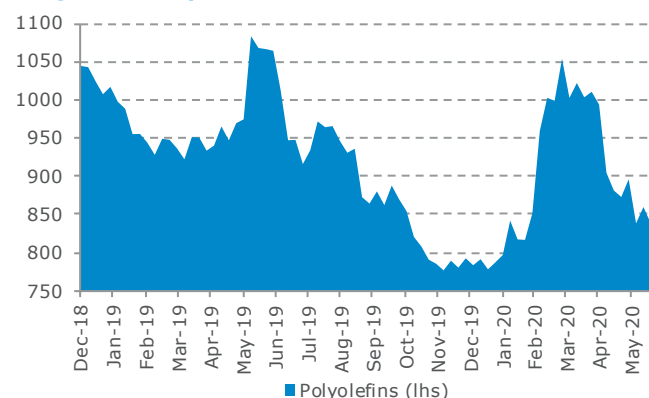
**Normalized Oil Stock Chart**



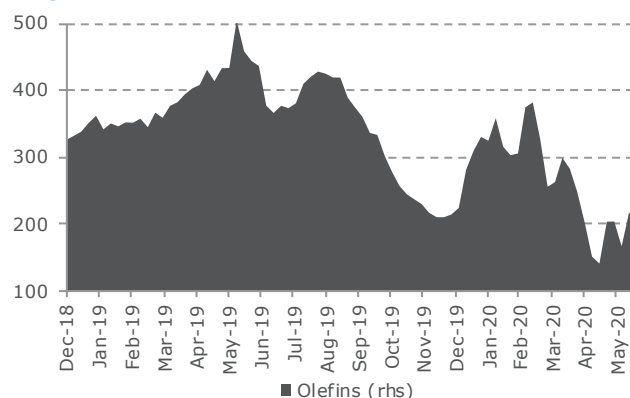
Source: Bloomberg, mBank

## Petrochemicals & NatGas

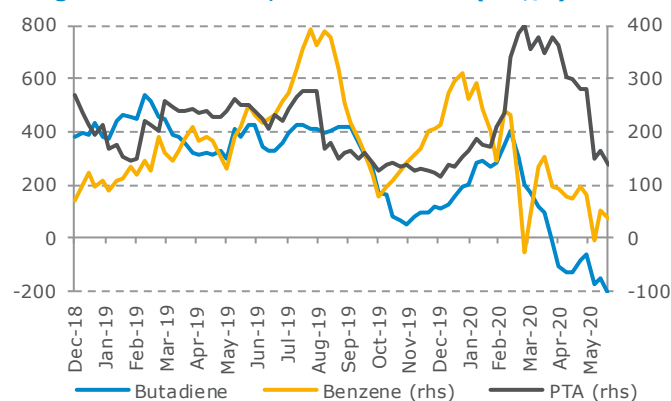
### Margins on Polyolefins



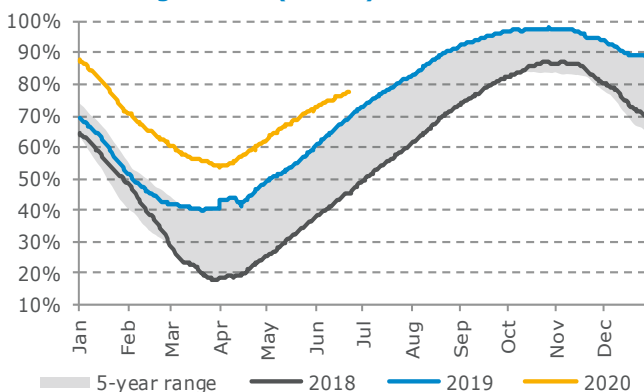
### Margins on Olefins



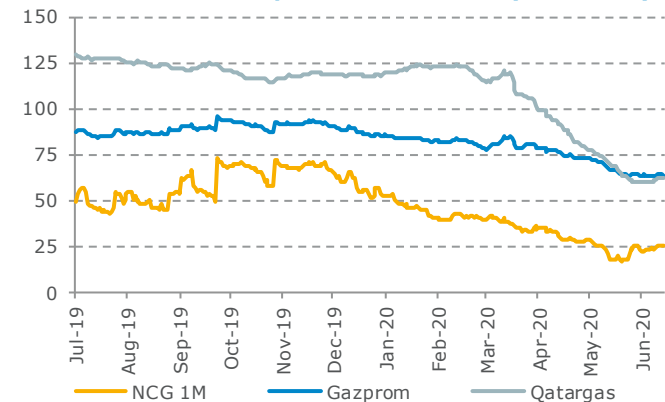
### Margins on Butadiene, Benzene & PTA (US\$/t)



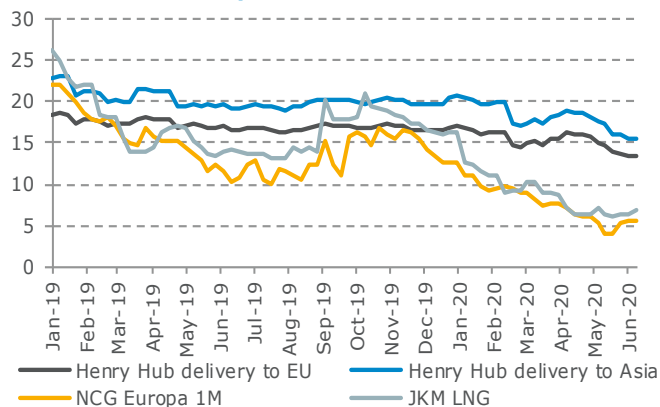
### EU Gas Storage Levels (% Full)



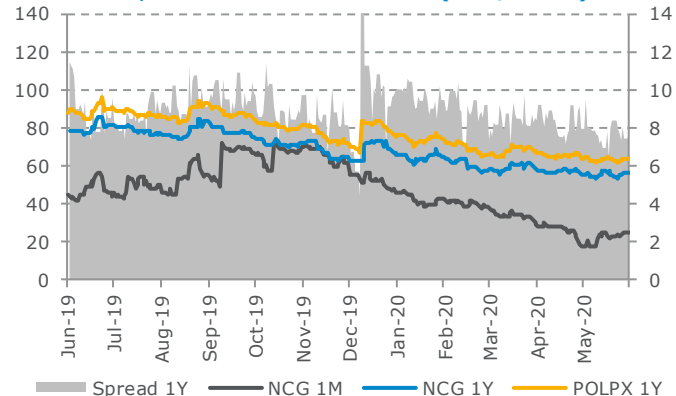
### Estimated Costs of Imported Natural Gas (PLN/MWh)



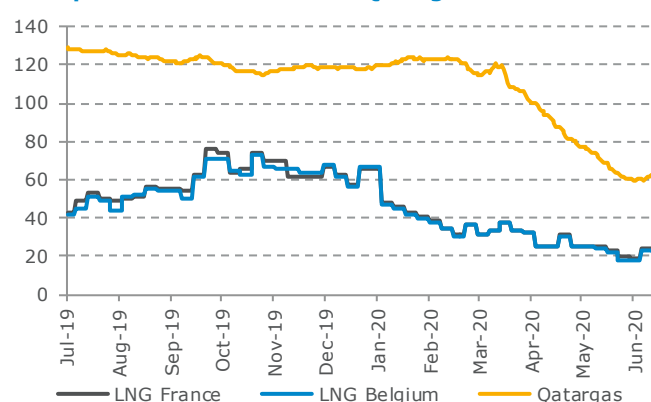
### Prices of US LNG Exports to EU and Asia



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



### LNG Spot Rates vs. Estimated Qatargas rates

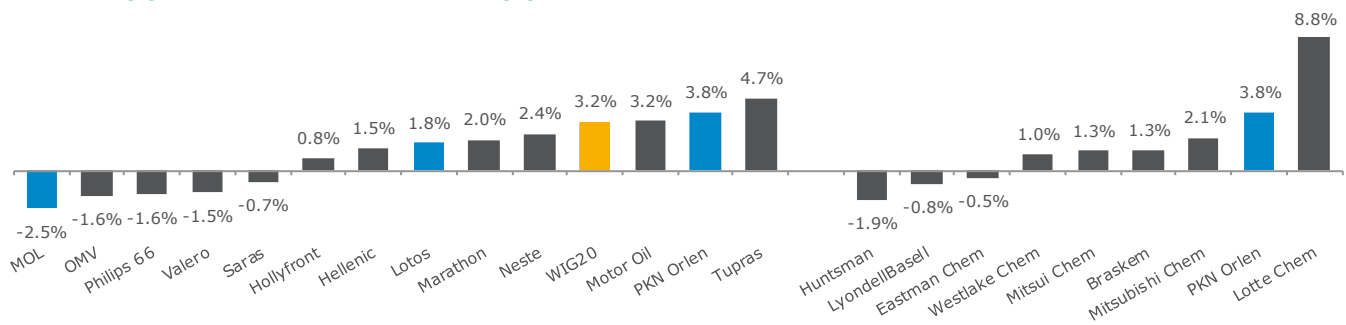


Source: Bloomberg, mBank

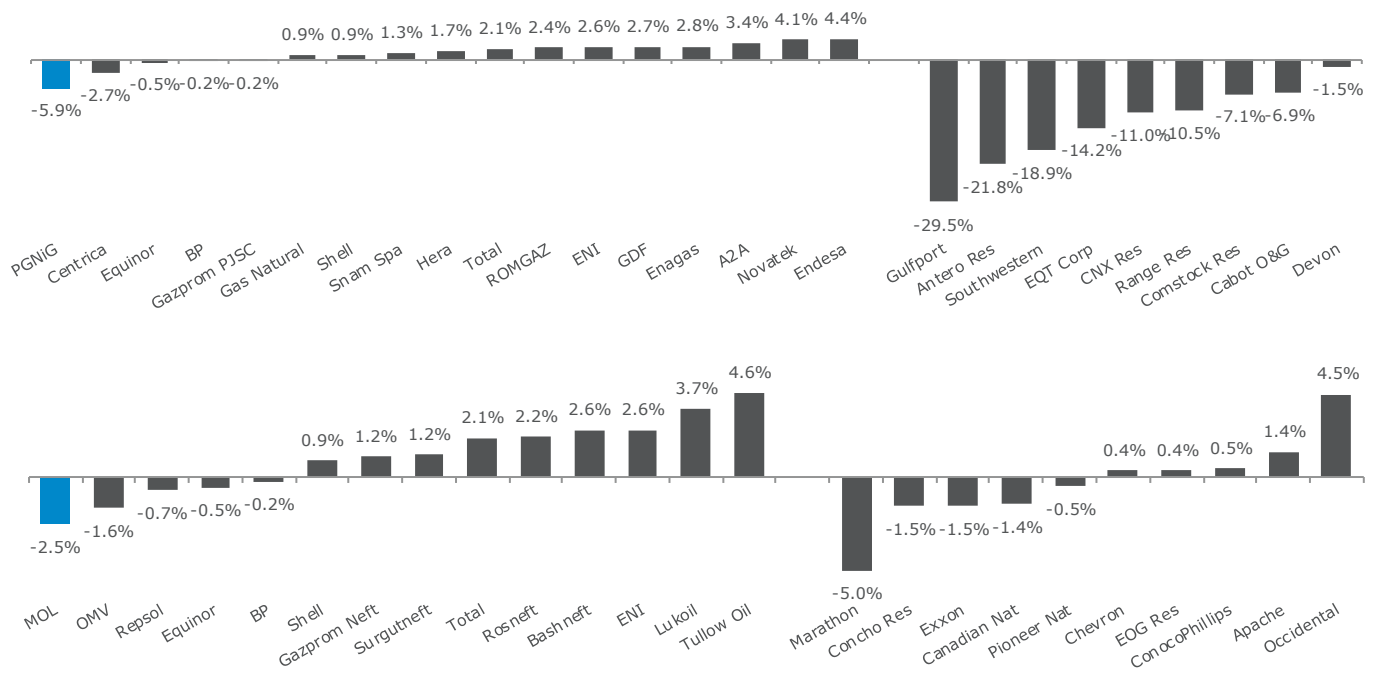


## Weekly Performance Charts

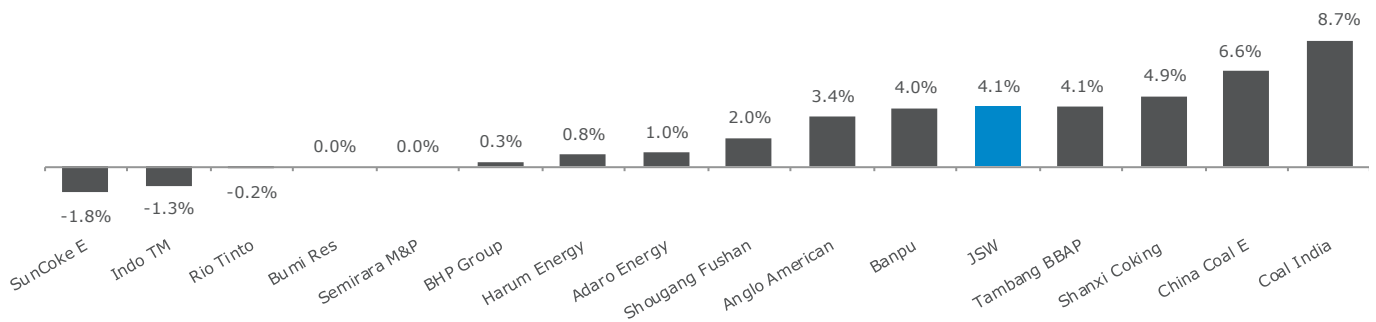
### Oil Refiners (L) & Petrochemical Producers (R)



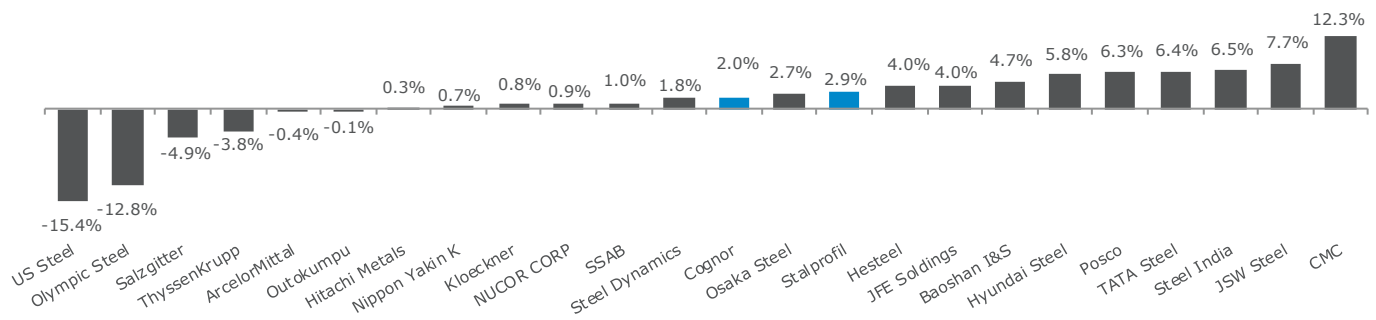
### Natural Gas Companies



### Coal Producers



### Steel Producers & Distributors

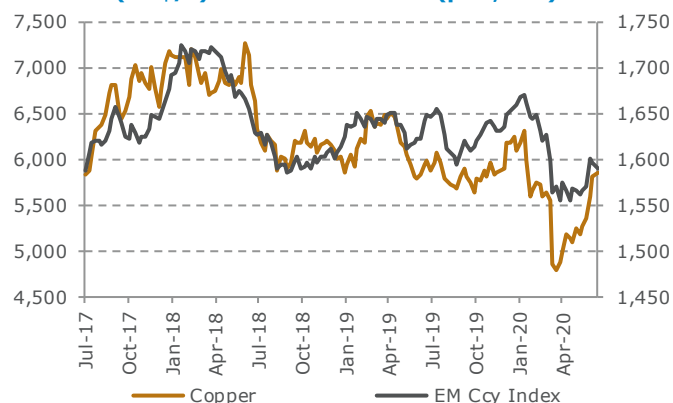


Source: Bloomberg, mBank

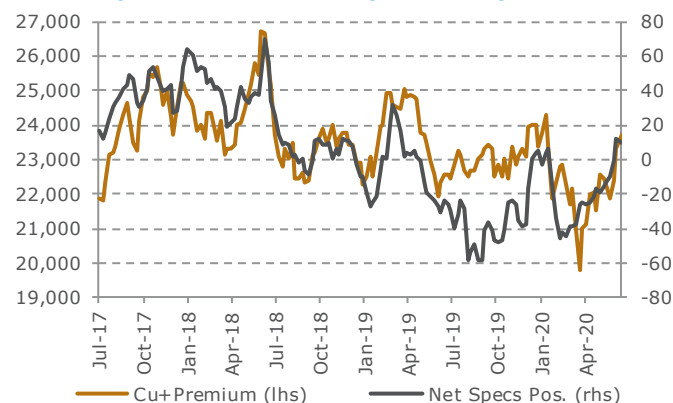


## Copper Charts

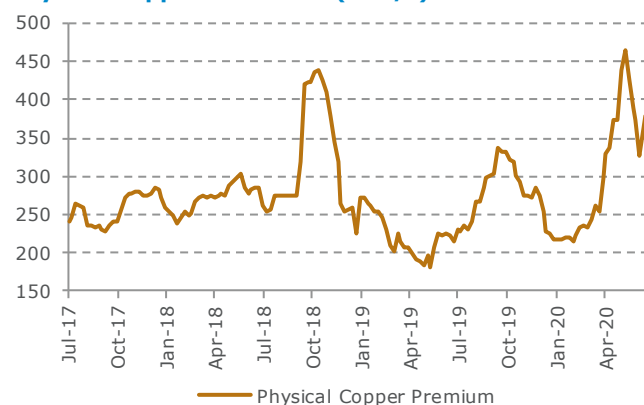
Cu Price (US\$/t) vs. EM Currencies (pts.; rhs)



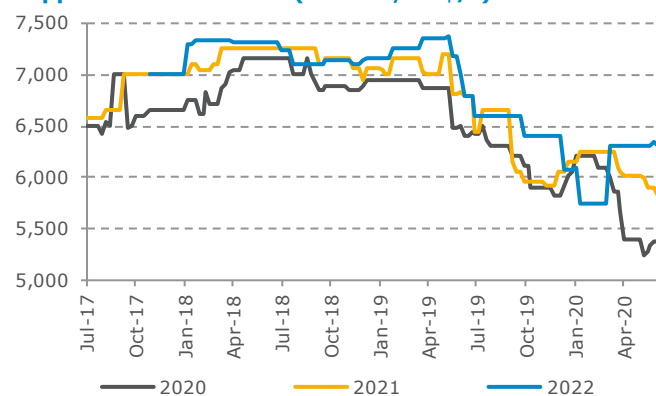
CU Price incl. Supplier Premium (PLN 1,000/t; lhs) vs. Net Speculative Positions (1,000, rhs)



Physical Copper Premiums (PLN/t)



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



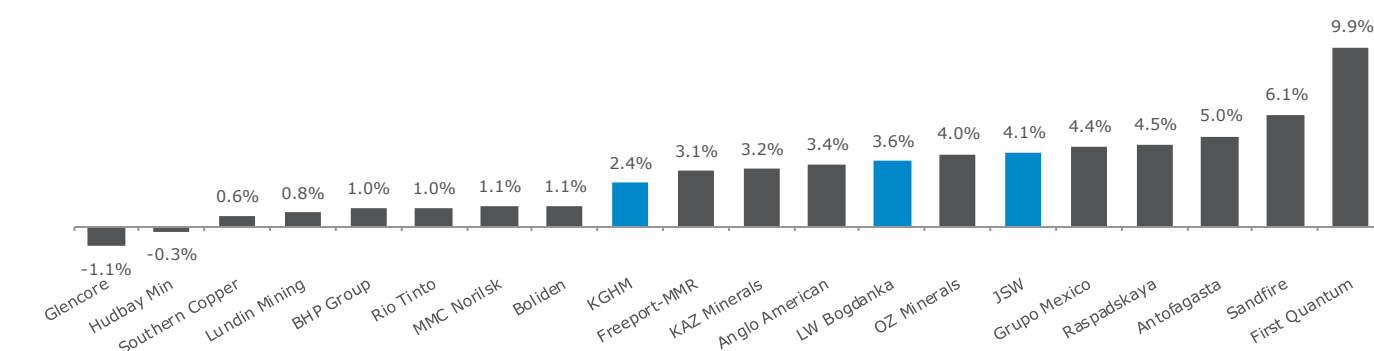
Silver prices (PLN/kg)



Prices of gold (PLN/oz)



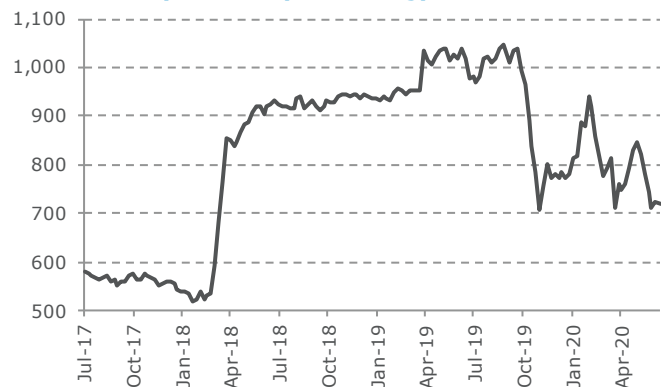
## Weekly Returns of Metal & Mining Stocks



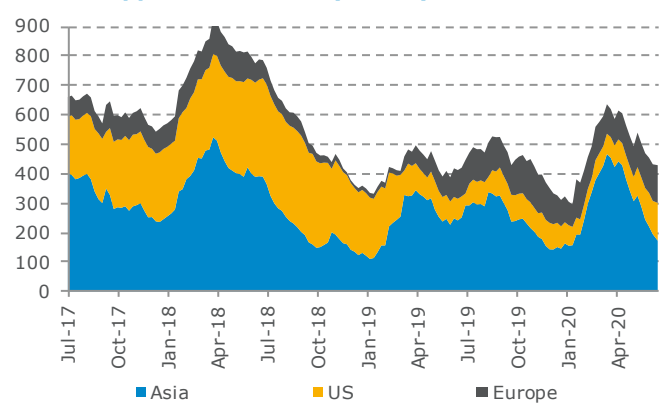
Source: Bloomberg, mBank

## More Copper Charts

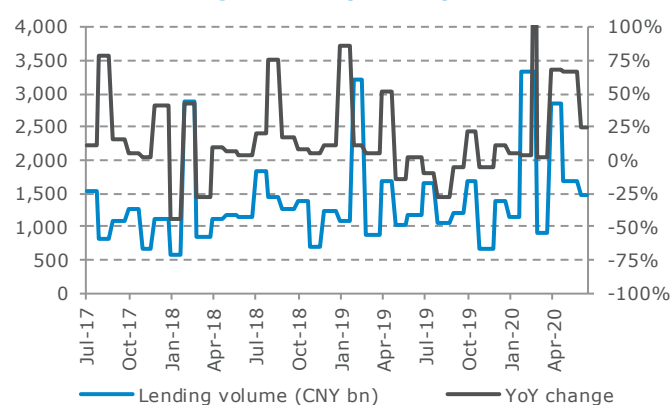
Prices of molybdenum (PLN/10 kg)



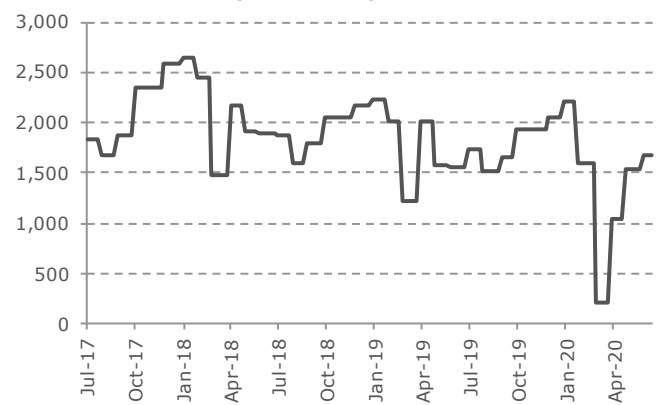
Global Copper Inventories (1,000t)



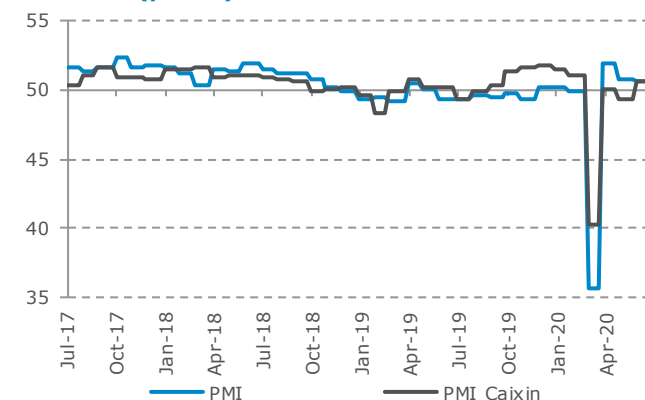
New Bank Lending in China (CNY bn)



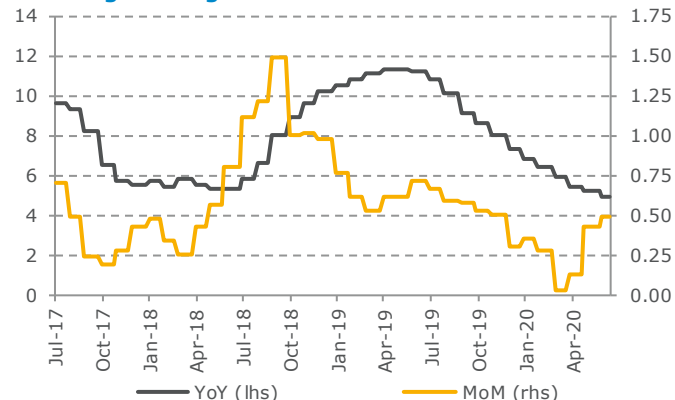
Car Sales in China (thousands)



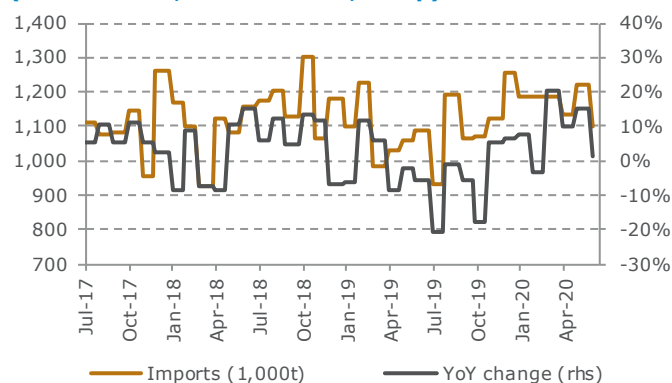
China PMI (points)



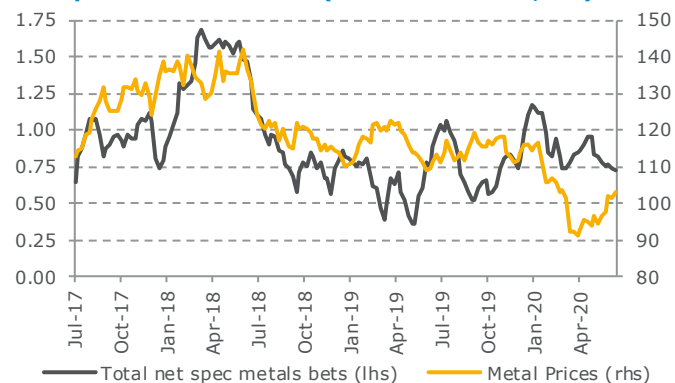
% Change In Avg. New Home Prices In 70 CN Cities



China Copper Imports (concentrates, refined metal, scrap)



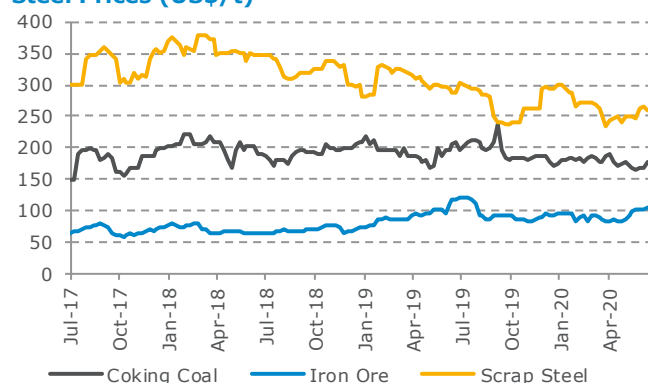
Metal Price Index (pts, rhs) vs. Net Speculative Positions (million contracts, lhs)



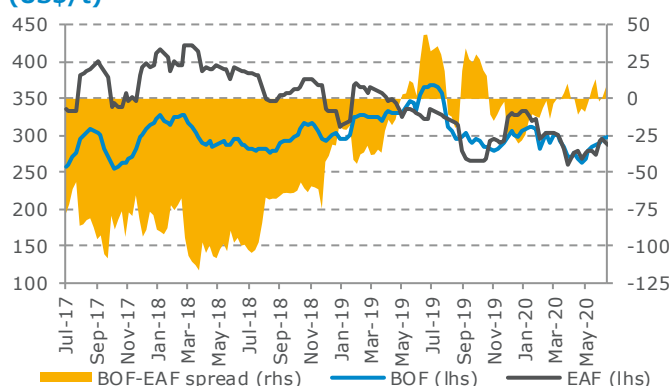
Source: Bloomberg, mBank

## Steel Charts

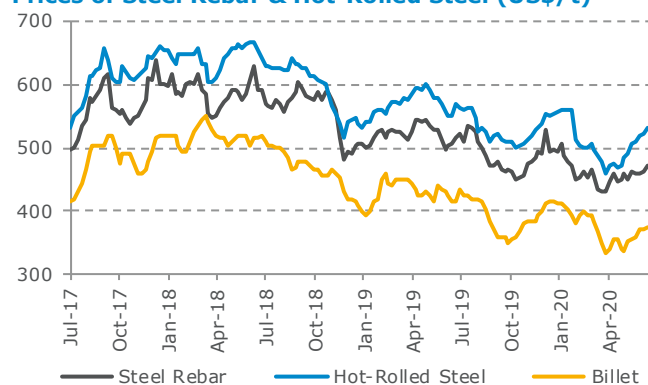
**China Coking Coal & Iron Ore Prices, Rotterdam Scrap Steel Prices (US\$/t)**



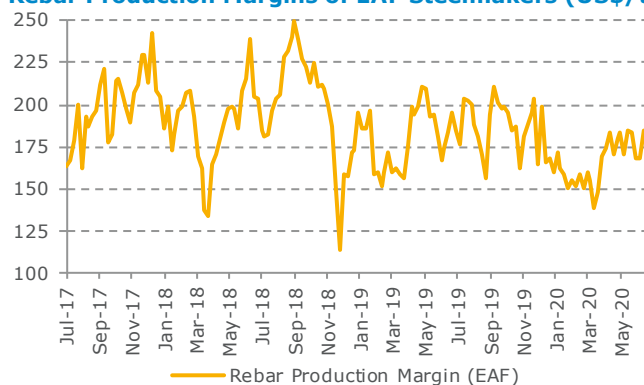
**Production Costs of BOF vs. EAF Steel Producers (US\$/t)**



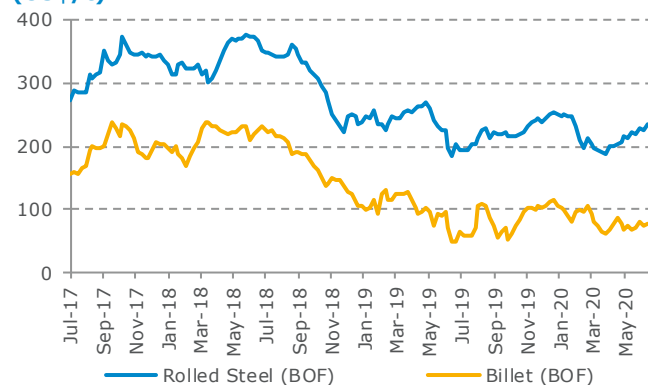
**Prices of Steel Rebar & Hot-Rolled Steel (US\$/t)**



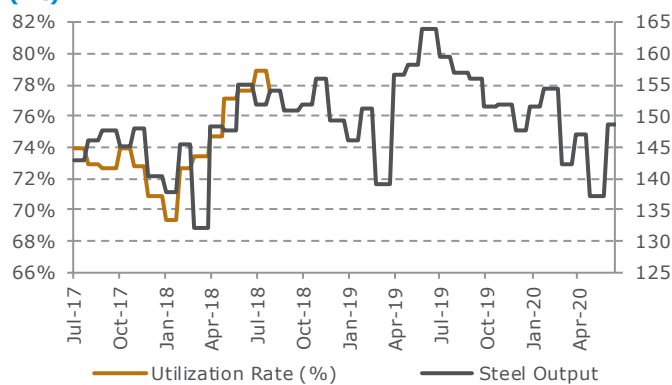
**Rebar Production Margins of EAF Steelmakers (US\$/t)**



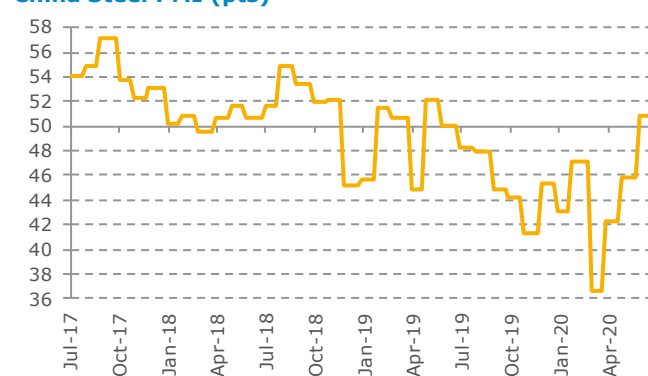
**Rolled Steel & Billet Margins of BOF Steelmakers (US\$/t)**



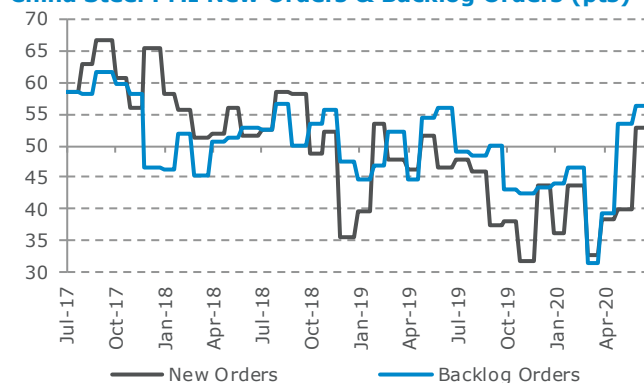
**Global Steel Plant Capacity Utilization Rates & Output (Mt)**



**China Steel PMI (pts)**



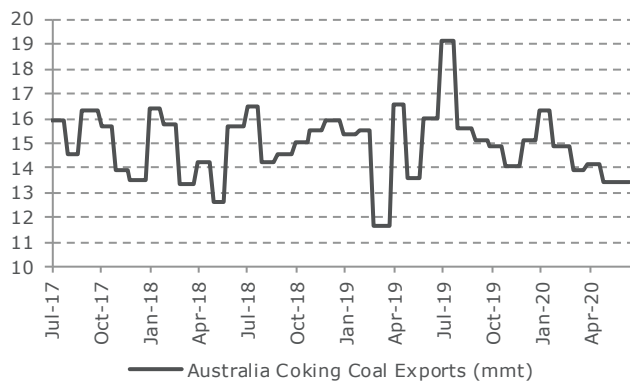
**China Steel PMI New Orders & Backlog Orders (pts)**



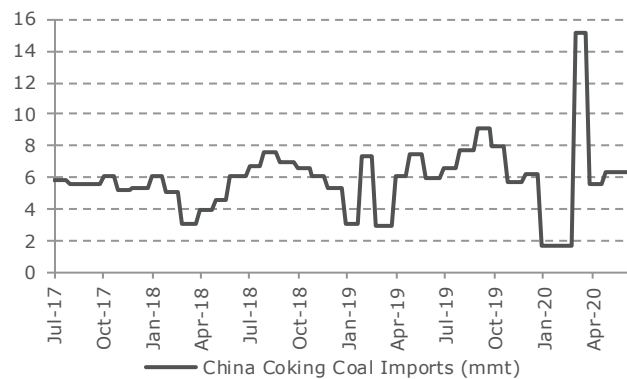
Source: Bloomberg, mBank

## More Steel Charts

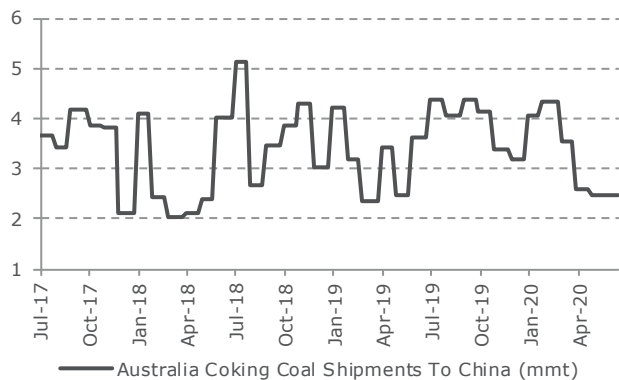
**Australia Coking Coal Exports (mmt)**



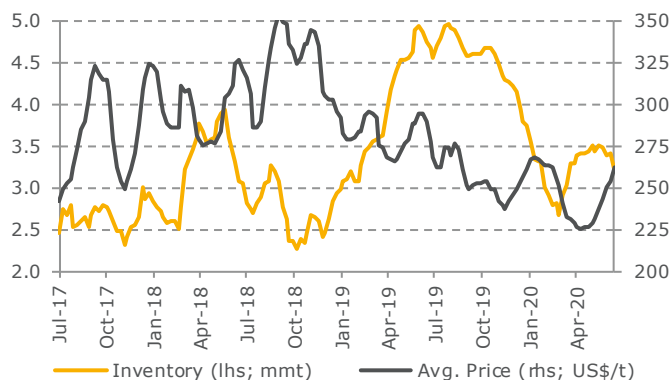
**China Coking Coal Imports (mmt)**



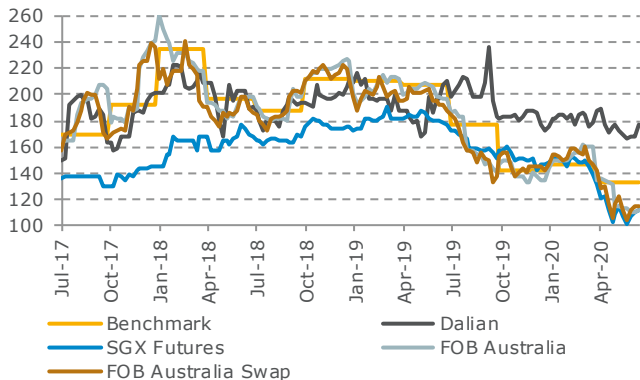
**Australia Coking Coal Shipments To China (mmt)**



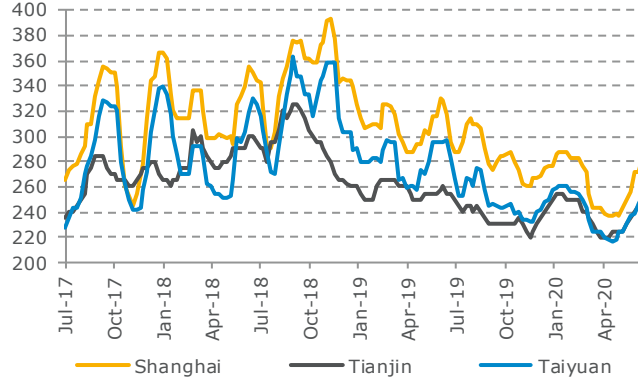
**China Coke Inventories (lhs; mmt) & Average Prices (rhs; US\$/t)**



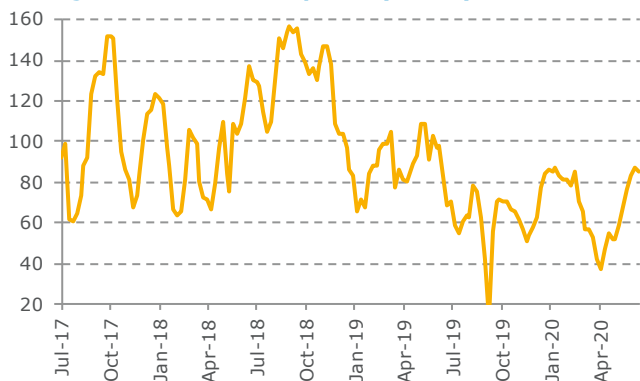
**China Coking Coal Prices vs. Benchmark (US\$/t)**



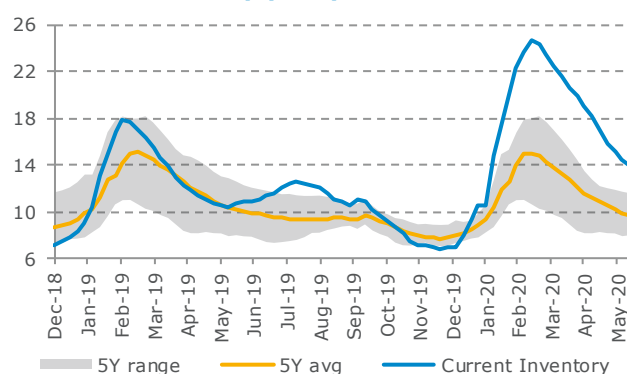
**China Coke Prices (US\$/t)**



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



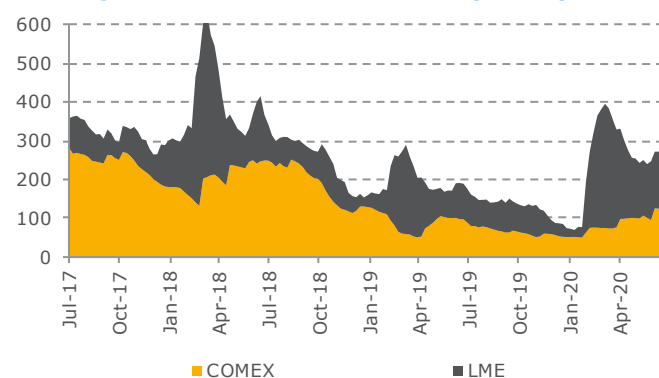
**China Steel Inventory (mmt)**



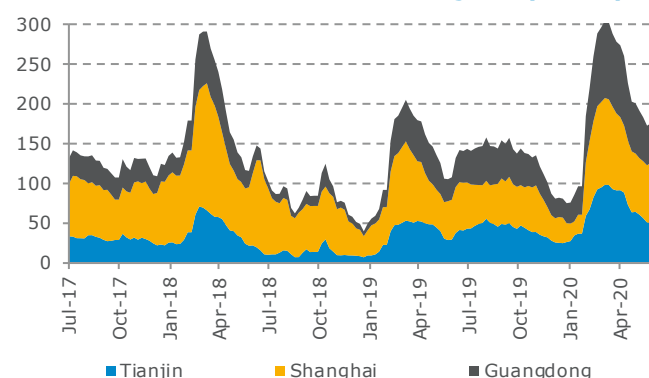
Source: Bloomberg, mBank

## Zinc and Electrical Steel Charts

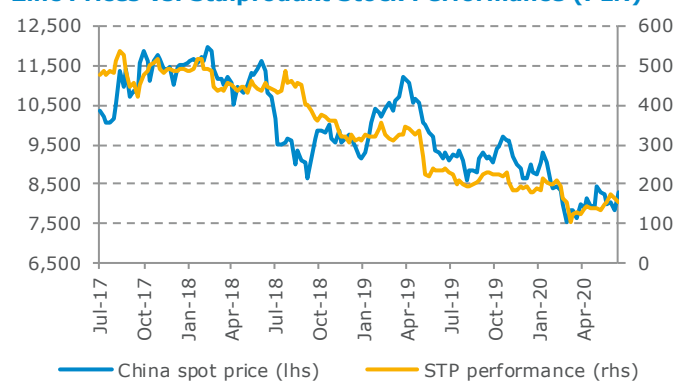
### Exchange-Monitored Zinc Inventories (1,000t)



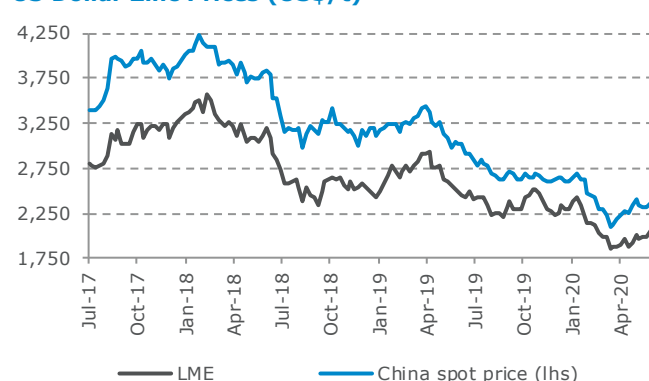
### Zinc Inventories in Three Chinese Regions (1,000t)



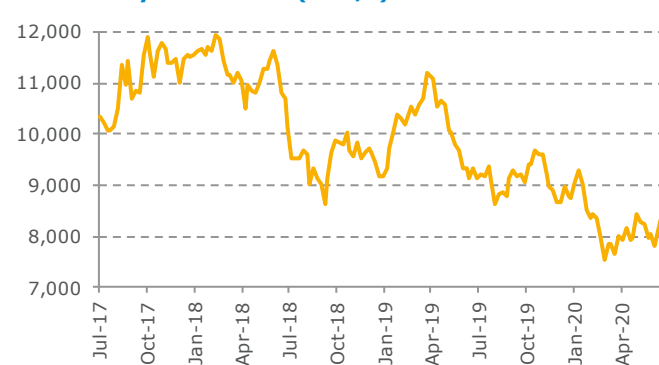
### Zinc Prices vs. Stalprodukt Stock Performance (PLN)



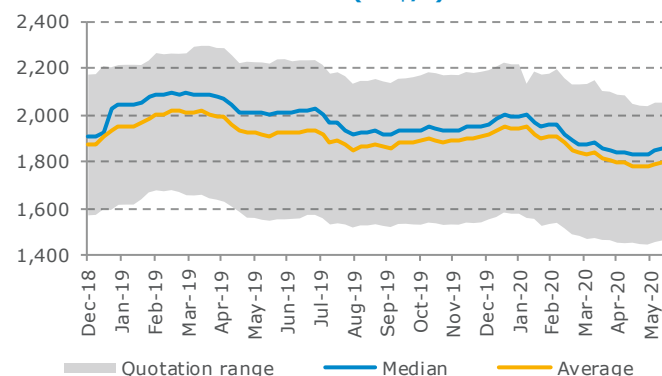
### US Dollar Zinc Prices (US\$/t)



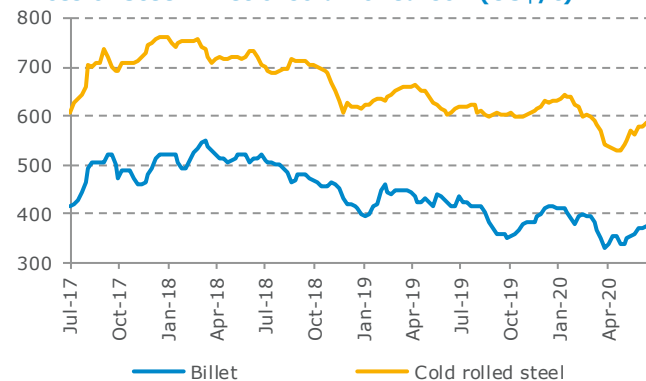
### Polish Zloty Zinc Prices (PLN/t)



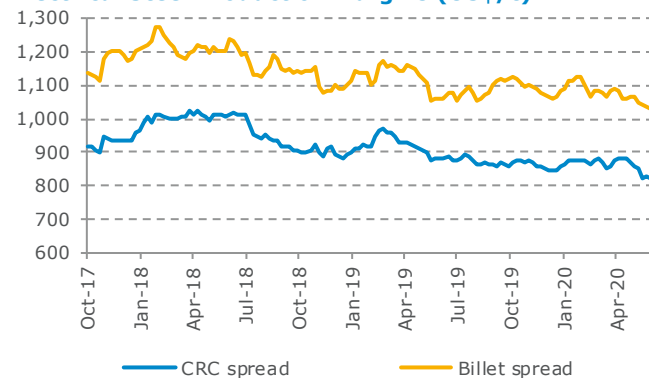
### China Electrical Steel Prices (US\$/t)



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



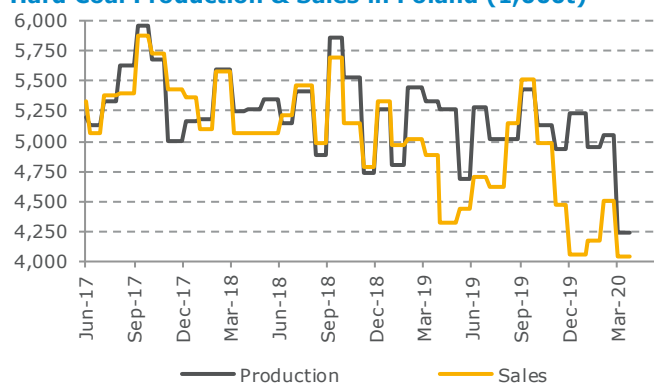
### Electrical Steel Production Margins (US\$/t)



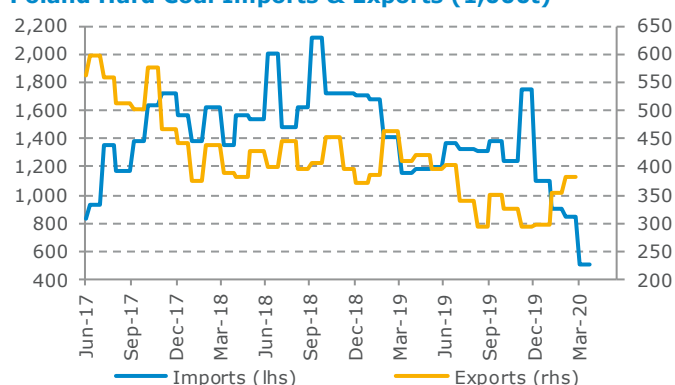
Source: Bloomberg, mBank

## Thermal Coal Charts

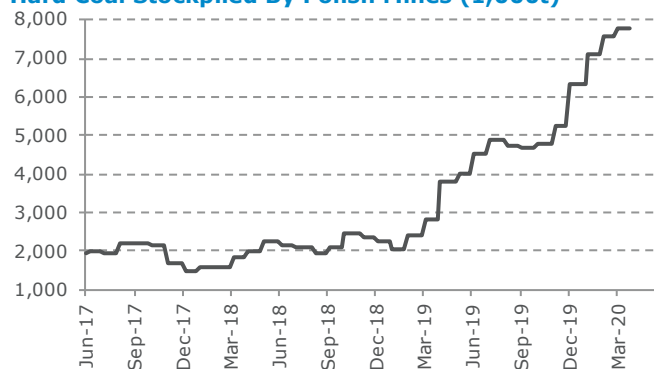
**Hard Coal Production & Sales in Poland (1,000t)**



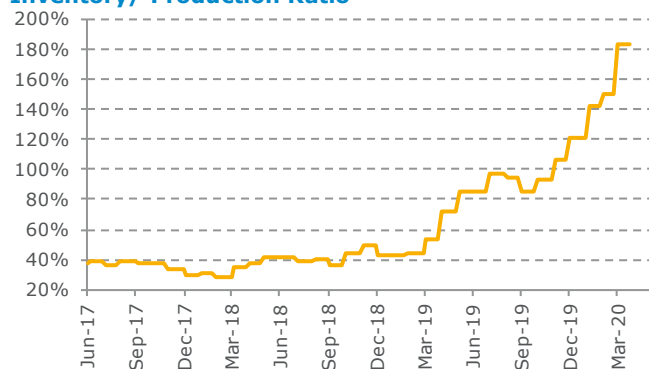
**Poland Hard Coal Imports & Exports (1,000t)**



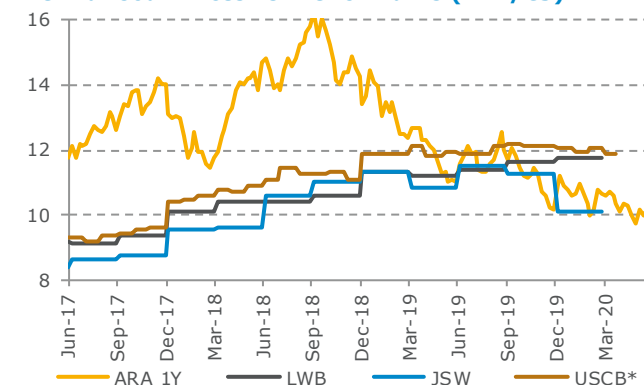
**Hard Coal Stockpiled By Polish Mines (1,000t)**



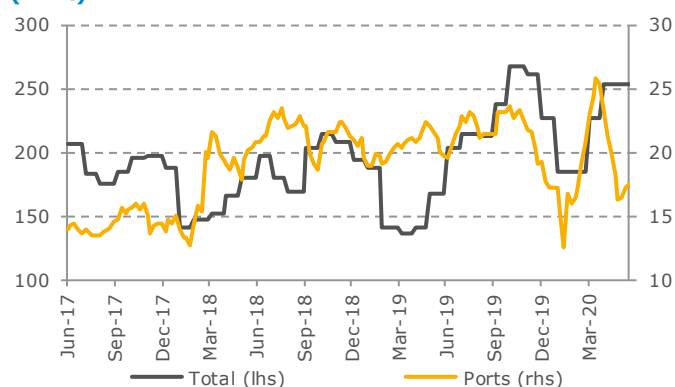
**Inventory/ Production Ratio**



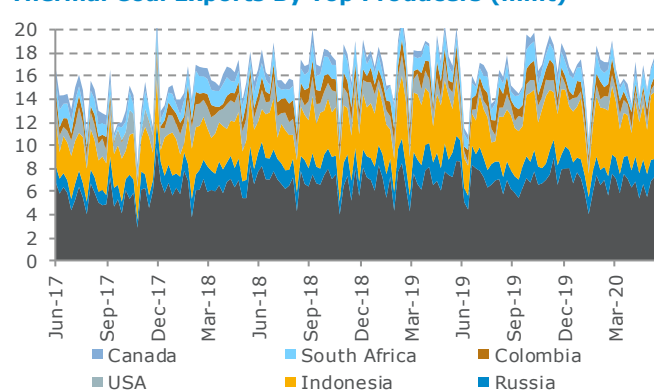
**Thermal Coal Prices vs. Benchmarks (PLN/GJ)**



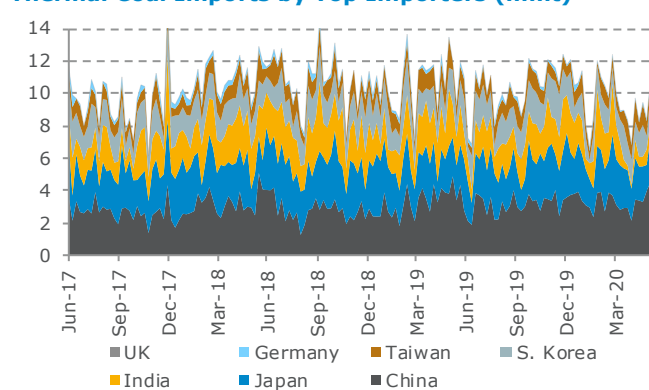
**China Thermal Coal Inventories, Total & In Ports (mmt)**



**Thermal Coal Exports By Top Producers (mmt)**



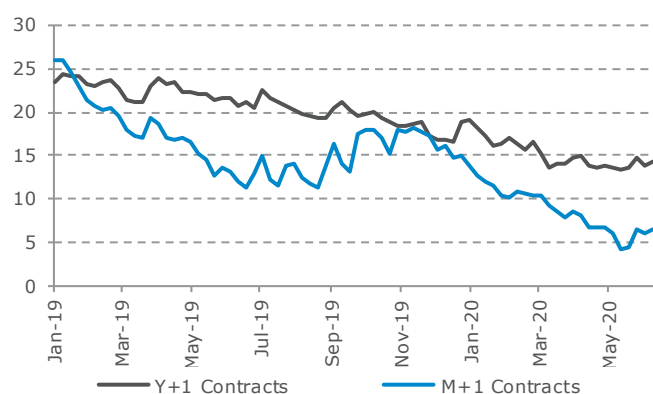
**Thermal Coal Imports by Top Importers (mmt)**



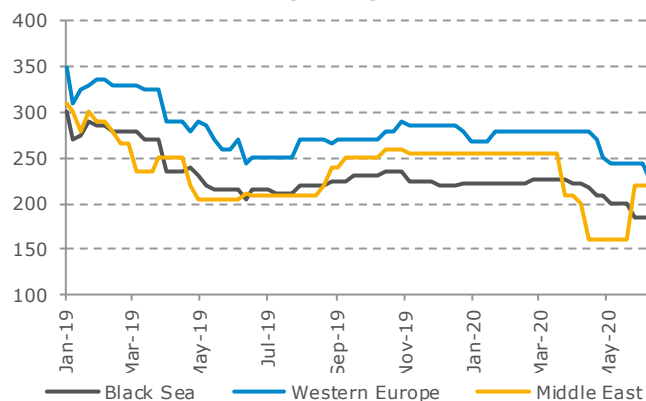
Source: Bloomberg, ARP, Eurostat, mBank \*Upper Silesian Coal Basin

## Fertilizer Charts

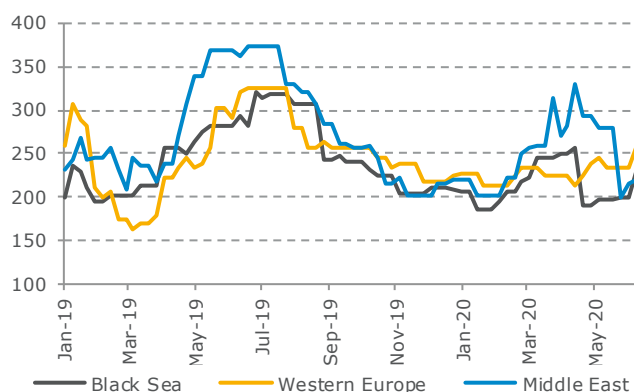
### German NatGas Prices (US\$/MWh)



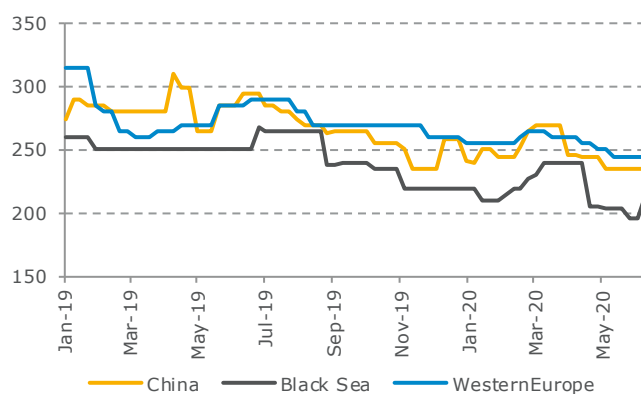
### World Ammonia Prices (US\$/t)



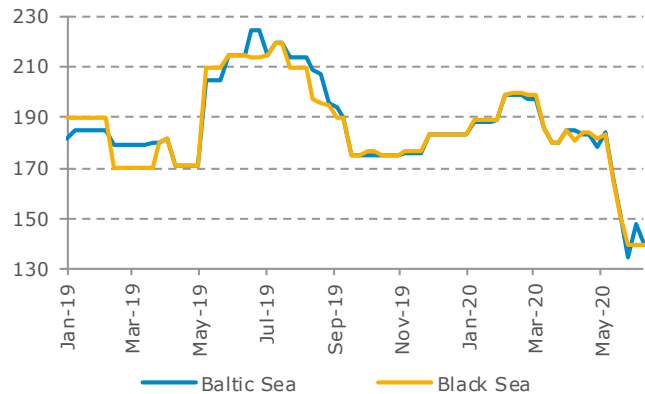
### Urea-Ammonia Price Difference



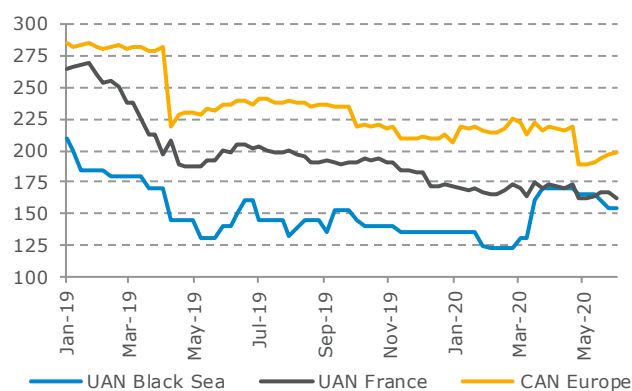
### World Urea Prices (US\$/t)



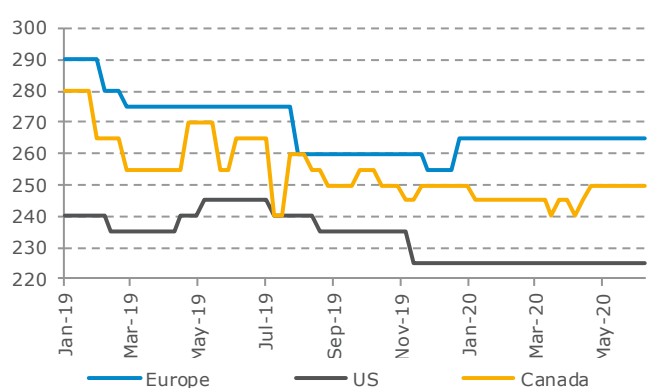
### World Ammonium Nitrate Prices (US\$/t)



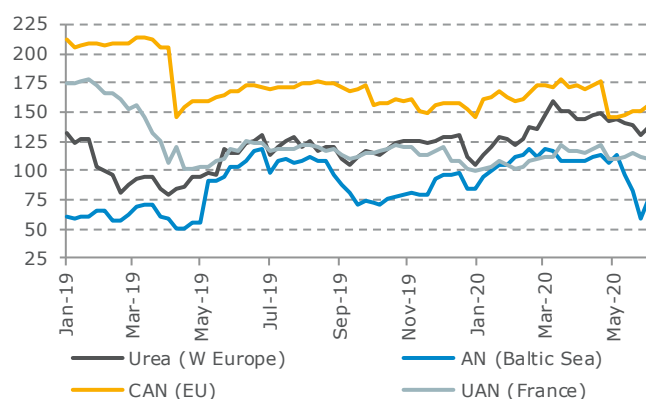
### CAN & UAN prices (US\$/t)



### World Ammonium Sulfate Prices (US\$/t)



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

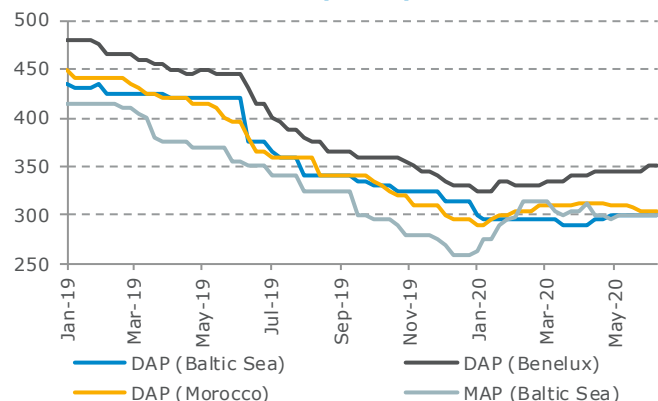


Source: Bloomberg, mBank

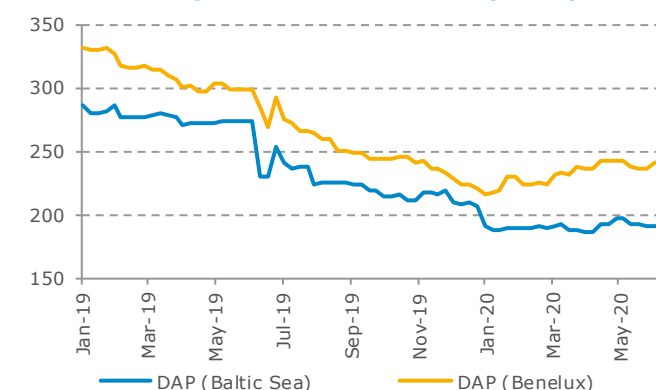


## Fertilizer Charts

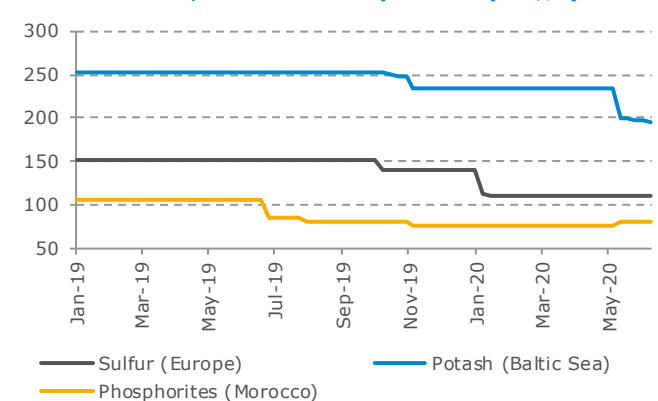
Prices of P & K Fertilizers (US\$/t)



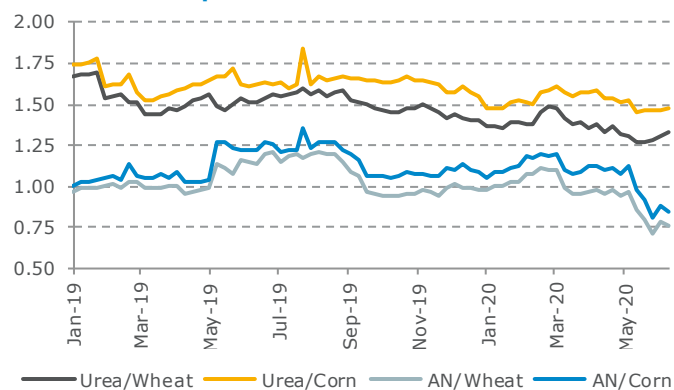
Production Margins on P & K Fertilizers (US\$/t)



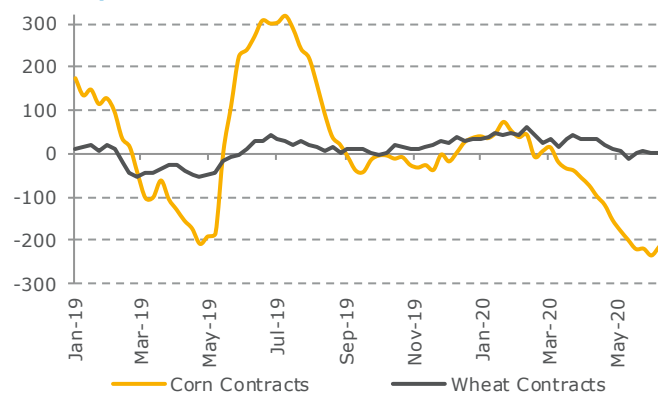
Prices of Sulfur, Potash & Phosphorites (US\$/t)



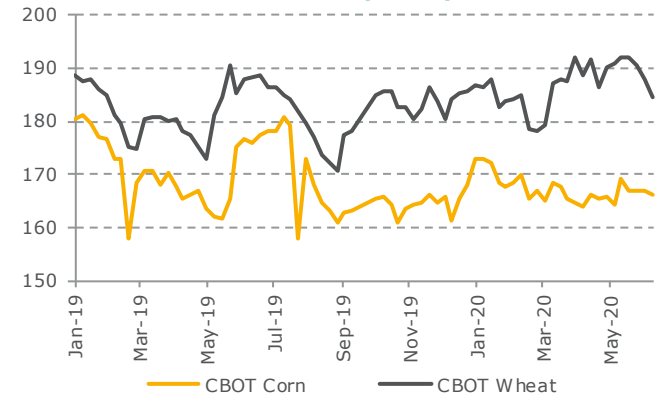
Fertilizer-to-Crop Price Ratios



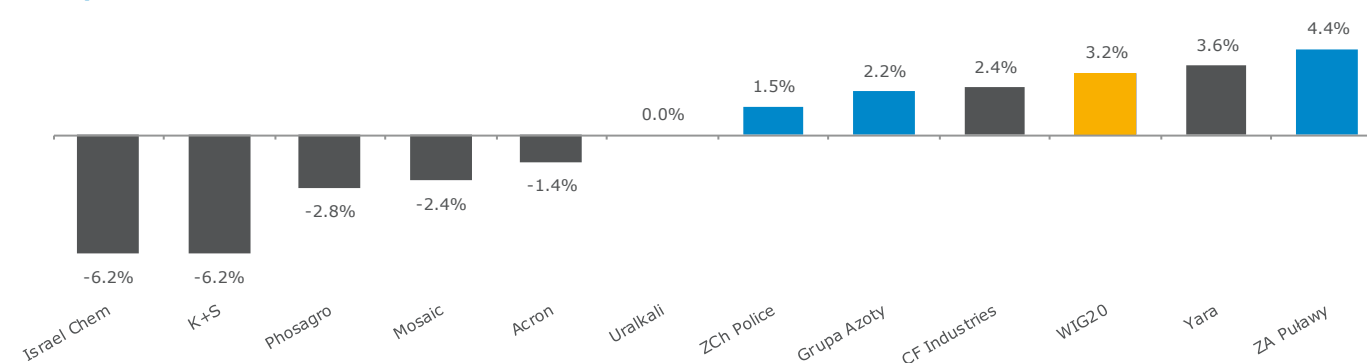
CBOT Open Positions In Corn and Wheat CBT



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



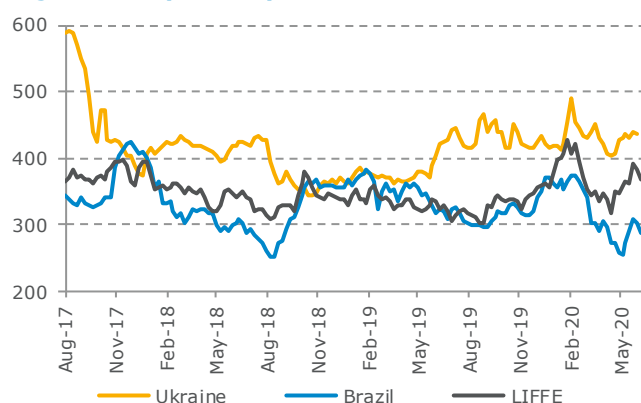
Weekly Returns of Fertilizer Stocks



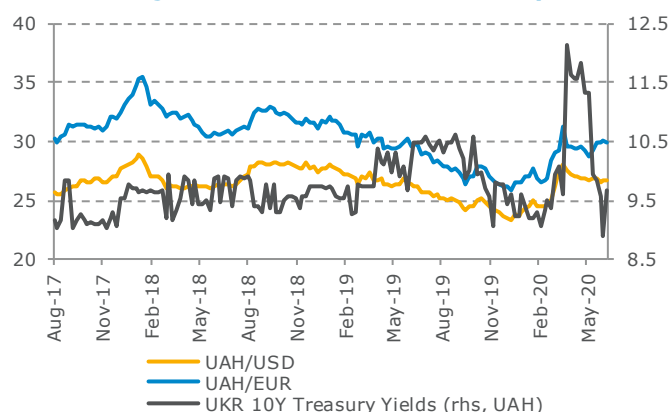
Source: Bloomberg, mBank

## Agricultural Commodities

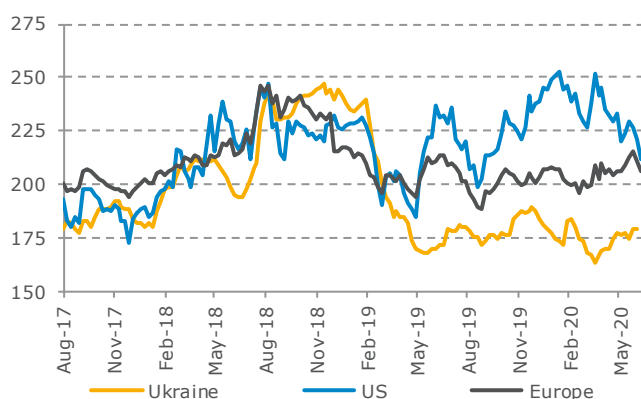
### Sugar Prices (US\$/Mt)



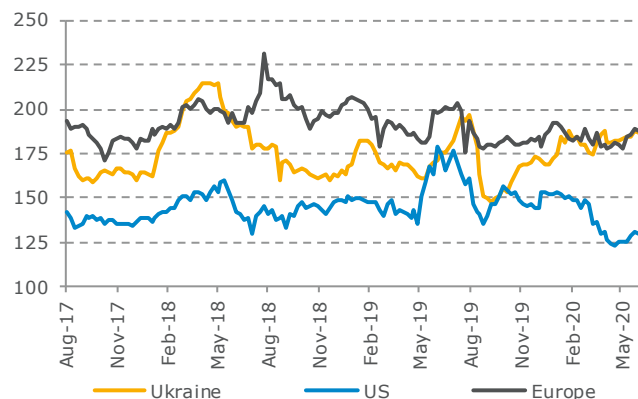
### UAH Exchange Rates & Ukraine 10Y Treasury Yields



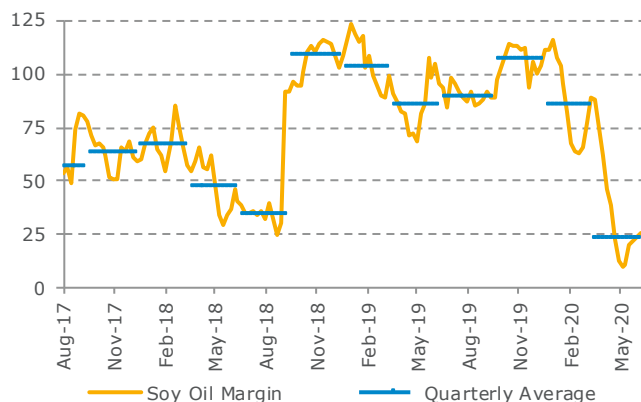
### Wheat Prices (US\$/Mt)



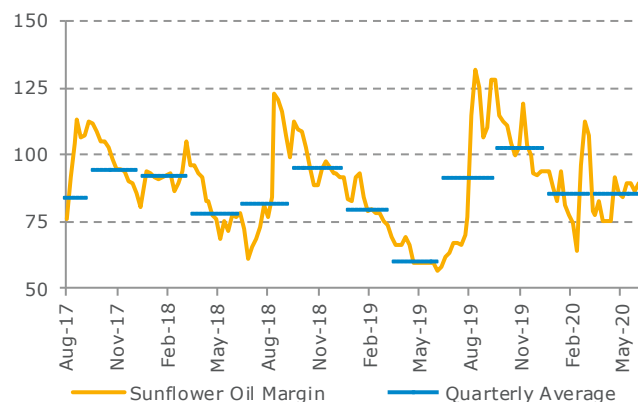
### Corn Prices (US\$/Mt)



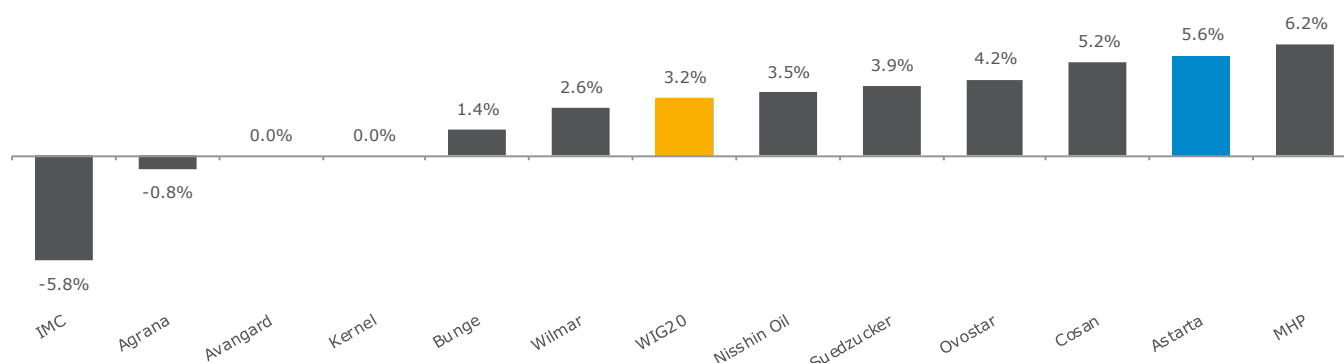
### Model Margins on Soy Oil (US\$/Mt)



### 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	493.0	6.7	7.5	8.1	1.9	2.0	2.0	12.2	17.1	22.4	29%	27%	25%	6.9%	7.4%	5.3%
Enea	7.9	3.1	2.8	-	0.6	0.6	-	3.2	2.5	-	18%	21%		0.0%	3.1%	-
Energa	8.0	5.1	4.5	4.4	0.8	0.8	0.8	10.4	8.1	8.0	15%	18%	18%	0.0%	0.0%	1.8%
PGE	8.1	4.3	3.2	3.2	0.6	0.7	0.7	11.0	5.3	5.9	15%	21%	21%	0.0%	2.3%	4.7%
Tauron	2.7	5.6	4.9	4.4	1.0	1.0	0.9	7.2	4.0	4.0	17%	19%	21%	0.0%	0.0%	0.0%
ZE PAK*	9.5	1.0	0.8	1.0	0.1	0.1	0.1	12.7	4.6	9.7	8%	11%	8%	-	2.6%	3.7%
EDF	8.0	4.8	4.4	4.3	1.1	1.0	1.0	22.5	15.6	14.1	22%	23%	24%	1.0%	2.9%	3.3%
EDP	4.2	9.3	9.2	8.8	2.2	2.2	2.6	18.3	17.2	16.4	24%	24%	30%	4.5%	4.7%	5.0%
Endesa	22.5	7.7	7.6	7.6	1.5	1.5	1.5	14.3	14.1	14.3	19%	20%	20%	7.0%	5.8%	5.0%
Enel	7.6	7.8	7.5	7.2	1.8	1.7	1.7	15.2	14.1	13.4	22%	23%	23%	4.7%	5.0%	5.4%
EON	10.1	8.3	8.0	7.7	0.9	0.9	0.9	16.3	14.4	11.7	11%	12%	12%	4.7%	4.9%	5.1%
Fortum	17.1	9.2	7.5	7.9	0.5	0.4	0.4	10.7	11.9	12.5	5%	5%	5%	6.5%	6.5%	6.3%
Iberdola	10.1	10.6	10.0	9.4	3.0	2.8	2.7	18.0	16.9	15.9	28%	29%	29%	4.1%	4.4%	4.6%
National Grid	9.7	14.2	11.5	11.1	4.3	4.0	3.9	26.7	16.3	16.5	30%	35%	36%	4.9%	5.1%	5.2%
Red Electrica	17.4	10.1	10.1	9.9	7.8	7.8	7.7	14.1	14.1	13.6	77%	78%	77%	5.9%	5.9%	6.0%
RWE	31.8	7.7	7.0	6.8	1.5	1.4	1.3	19.4	16.2	16.1	20%	20%	19%	2.7%	2.8%	3.0%
SSE	13.9	14.6	12.4	12.3	3.8	3.2	3.5	-	16.1	16.2	26%	26%	29%	5.8%	5.7%	5.8%
Verbund	38.8	13.0	12.7	11.6	4.4	4.4	4.4	25.0	24.4	21.7	34%	35%	38%	1.9%	2.1%	2.6%
Median		7.8	7.5	7.7	1.5	1.5	1.5	14.3	14.3	14.1	21%	22%	23%	4.5%	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	60.08	26.3	4.8	4.2	0.8	0.7	0.6	-	8.5	7.6	3%	15%	14%	1.7%	5.0%	5.0%
MOL	1892.00	7.5	5.3	4.1	1.0	0.9	0.7	100+	11.3	7.1	14%	17%	18%	0.0%	3.7%	3.9%
PKN Orlen	65.12	8.5	4.6	4.6	0.6	0.5	0.5	-	9.5	9.9	7%	12%	10%	1.5%	4.6%	4.7%
Hellenic Petroleum	6.19	9.2	6.7	6.0	0.7	0.6	0.5	23.5	9.5	7.9	7%	9%	9%	4.6%	6.9%	8.9%
HollyFrontier	31.73	13.0	7.0	5.0	0.8	0.6	0.4	-	16.4	8.3	6%	8%	7%	4.4%	4.5%	4.7%
Marathon Petroleum	38.61	12.2	7.6	6.4	0.8	0.6	0.5	-	16.6	9.6	7%	8%	8%	6.0%	6.2%	6.8%
Motor Oil	14.64	8.3	5.5	4.8	0.4	0.4	0.3	18.0	7.9	6.4	5%	7%	7%	6.3%	7.4%	8.4%
Neste Oil	35.34	15.4	12.7	10.1	2.5	2.1	1.8	24.7	20.3	15.5	16%	17%	18%	2.5%	2.8%	3.4%
OMV	29.94	5.5	3.9	3.3	1.2	1.0	0.8	16.9	8.0	5.9	22%	25%	26%	6.5%	6.4%	6.9%
Phillips 66	74.40	14.0	7.4	6.8	0.7	0.5	0.5	29.6	11.4	9.6	5%	7%	7%	4.9%	5.1%	5.5%
Saras	0.74	4.4	3.2	3.5	0.2	0.1	0.1	82.4	10.0	10.7	4%	5%	3%	6.2%	5.5%	4.0%
Tupras	90.00	10.4	6.2	5.3	0.6	0.4	0.4	22.8	7.9	6.8	6%	7%	7%	9.8%	11.9%	12.6%
Valero Energy	62.66	19.1	7.2	5.3	0.6	0.4	0.3	-	15.5	9.4	3%	6%	6%	6.3%	6.4%	6.5%
Median		10.4	6.2	5.0	0.7	0.6	0.5	23.5	10.0	8.3	6%	8%	8%	4.9%	5.5%	5.5%

### 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	65.12	8.5	4.6	4.6	0.6	0.5	0.5	-	9.5	9.9	7%	12%	10%	1.5%	4.6%	4.7%
Axiall	54.89	9.5	8.6	8.1	1.5	1.4	1.4	40.7	25.9	20.8	16%	17%	17%	1.9%	2.0%	2.1%
Braskem	24.83	8.1	6.9	6.1	1.2	1.0	0.9	-	46.6	20.8	15%	15%	15%	0.1%	0.7%	3.5%
Eastman Chemical	69.26	8.9	8.1	7.7	1.9	1.8	1.7	11.8	10.0	8.8	21%	22%	23%	3.8%	4.1%	4.4%
Huntsman Corp	18.23	11.2	7.0	6.0	0.9	0.8	0.8	47.2	13.3	10.5	8%	11%	13%	3.6%	3.7%	3.9%
Lotte Chemicals	179,500	5.1	3.7	3.3	0.5	0.5	0.5	14.7	8.0	7.0	11%	14%	14%	3.1%	3.9%	4.3%
LyondellBasell	66.71	9.5	7.3	6.6	1.4	1.2	1.2	14.3	9.0	7.8	15%	17%	18%	6.3%	6.5%	6.8%
Mitsubishi Chemical	646.70	8.6	8.8	7.4	0.9	1.0	0.9	17.0	19.1	10.2	10%	11%	12%	4.9%	4.0%	4.5%
Mitsui Chemicals	2316.00	7.7	8.9	6.7	0.7	0.8	0.7	11.9	19.7	10.6	9%	9%	11%	4.3%	3.7%	4.0%
Westlake Chemical	54.89	9.5	8.6	8.1	1.5	1.4	1.4	40.7	25.9	20.8	16%	17%	17%	1.9%	2.0%	2.1%
Median		8.7	7.7	6.7	1.0	1.0	0.9	15.8	16.2	10.4	13%	14%	15%	3.4%	3.8%	4.1%

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	4.42	5.1	4.2	4.0	0.8	0.8	0.8	14.3	9.9	8.9	16%	20%	20%	2.1%	2.8%	5.0%
A2A	1.30	6.7	6.4	6.0	1.1	1.1	1.1	13.4	13.0	11.3	17%	17%	18%	6.1%	6.4%	6.8%
BG Group	13.58	6.6	5.0	3.9	0.9	0.7	0.6	40.1	13.0	8.4	13%	14%	16%	3.9%	3.9%	4.6%
BP	3.16	7.0	5.3	4.1	0.8	0.6	0.5	95.6	11.6	7.3	11%	12%	13%	9.6%	9.4%	9.5%
Centrica	0.41	3.9	3.9	3.9	0.3	0.3	0.3	9.4	6.6	5.8	7%	7%	7%	4.6%	5.8%	9.4%
Enagas	21.81	9.6	9.9	10.3	8.1	8.7	9.0	13.0	12.8	13.2	84%	87%	87%	7.7%	7.8%	7.8%
Endesa	22.53	7.7	7.6	7.6	1.5	1.5	1.5	14.3	14.1	14.3	19%	20%	20%	7.0%	5.8%	5.0%
Engie	11.10	6.1	5.6	5.3	1.0	0.9	0.9	13.0	10.2	9.5	17%	17%	17%	5.9%	7.0%	7.5%
Eni	8.80	5.3	4.0	3.2	0.9	0.8	0.7	-	23.1	10.3	18%	20%	23%	8.5%	8.5%	8.7%
Equinor	140.90	4.7	3.4	2.6	1.3	1.2	1.0	83.9	18.6	10.6	29%	34%	38%	3.3%	4.3%	4.9%
Gas Natural SDG	16.64	8.2	7.7	7.7	1.6	1.5	1.5	13.7	11.9	11.7	19%	19%	19%	8.6%	9.0%	9.5%
Gazprom	193.90	5.6	4.4	3.4	1.1	1.0	0.9	10.3	5.5	3.6	20%	23%	27%	4.9%	8.6%	13.6%
Hera	3.46	7.9	7.6	7.6	1.2	1.1	1.2	16.9	15.9	15.7	15%	15%	16%	3.1%	3.2%	3.5%
NovaTek	156.50	15.2	12.2	9.3	4.5	4.0	3.4	23.6	13.6	9.9	30%	32%	36%	3.0%	5.3%	4.1%
ROMGAZ	31.95	5.1	4.5	4.2	2.5	2.3	2.2	11.1	9.7	8.8	49%	52%	52%	8.5%	9.7%	10.8%
Shell	15.22	6.7	5.1	4.0	0.9	0.7	0.6	40.5	13.2	8.5	13%	14%	16%	3.9%	3.9%	4.5%
Snam	4.35	12.4	12.0	11.6	9.9	9.7	9.6	13.3	12.6	12.3	80%	81%	82%	5.7%	6.0%	6.4%
Total	35.44	7.6	5.8	4.5	1.0	0.9	0.8	34.8	15.4	9.7	14%	16%	19%	7.3%	7.6%	7.7%
Median		6.7	5.4	4.4	1.1	1.1	1.0	14.3	12.9	9.8	17%	19%	19%	5.8%	6.2%	7.2%

## Comparison of E&amp;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	1892.00	4.9	3.8	3.3	0.7	0.6	0.5	17.2	6.1	4.7	14%	15%	16%	5.3%	6.4%	6.9%
Bashneft	1850.00	1.7	1.6	-	0.4	0.4	-	2.3	2.2	-	25%	25%	-	12.9%	13.9%	-
BP	3.16	7.0	5.3	4.1	0.8	0.6	0.5	95.6	11.6	7.3	11%	12%	13%	9.6%	9.4%	9.5%
Dana Gas	0.65	4.4	5.2	3.8	2.3	2.5	2.2	10.5	12.7	6.8	52%	49%	57%	8.8%	8.5%	12.5%
Eni	8.80	5.3	4.0	3.2	0.9	0.8	0.7	-	23.1	10.3	18%	20%	23%	8.5%	8.5%	8.7%
Equinor	140.90	4.7	3.4	2.6	1.3	1.2	1.0	83.9	18.6	10.6	29%	34%	38%	3.3%	4.3%	4.9%
Gazprom Neft	354.90	6.4	5.2	4.5	1.3	1.1	1.0	8.4	6.4	5.2	21%	22%	21%	5.6%	7.7%	9.5%
Gulf Keystone	0.92	6.4	1.9	0.8	1.8	0.9	0.5	-	-	2.3	27%	50%	54%	-	-	-
Lukoil	5461.00	5.3	4.3	3.6	0.8	0.7	0.6	17.6	10.1	7.4	14%	15%	15%	6.4%	7.3%	9.7%
Occidental Petroleum	19.91	11.8	9.3	7.4	3.5	3.6	3.3	-	-	-	30%	38%	45%	8.0%	1.6%	2.0%
Repsol	8.13	6.0	4.5	3.9	0.8	0.6	0.6	16.3	7.6	6.0	13%	14%	15%	11.8%	11.7%	12.0%
Rosneft Oil	374.25	6.7	5.1	4.2	1.5	1.2	1.0	25.4	7.3	5.1	22%	24%	24%	2.7%	6.5%	9.3%
Shell	15.22	6.7	5.1	4.0	0.9	0.7	0.6	40.5	13.2	8.5	13%	14%	16%	3.9%	3.9%	4.5%
Surgutneftegas	34.97	-	-	-	-	-	-	3.5	6.2	5.6	-	-	-	51.1%	2.4%	6.4%
Total	35.44	7.6	5.8	4.5	1.0	0.9	0.8	34.8	15.4	9.7	14%	16%	19%	7.3%	7.6%	7.7%
Tullow Oil	0.33	5.4	5.9	5.7	3.6	3.8	3.6	-	-	-	66%	65%	63%	-	-	-
Median		6.0	5.1	4.0	1.0	0.9	0.8	17.4	10.1	6.8	21%	22%	22%	7.7%	7.4%	8.7%

## 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	19.82	5.2	3.3	3.3	0.4	0.3	0.4	-	-	-	8%	11%	11%	0.0%	0.0%	0.0%
KGHM	86.92	5.2	6.5	5.0	1.1	1.1	1.0	11.2	22.3	11.6	20%	17%	20%	0.0%	1.8%	2.2%
LW Bogdanka*	23.05	0.9	1.1	1.1	0.3	0.3	0.3	4.0	4.7	10.4	31%	26%	26%	8.4%	5.6%	3.1%
Anglo American	18.34	5.1	4.4	4.3	1.6	1.4	1.4	13.1	9.9	10.1	32%	32%	31%	3.2%	4.2%	4.0%
Antofagasta	9.02	8.1	5.8	5.5	3.4	2.9	2.8	51.9	23.5	20.6	42%	49%	51%	1.1%	2.4%	2.5%
BHP Group	16.29	5.9	6.5	6.4	3.1	3.3	3.2	11.0	13.1	12.9	53%	50%	50%	5.8%	5.0%	4.9%
Freeport-McMoRan	10.79	14.6	6.0	5.4	2.6	2.0	1.9	-	11.1	9.7	18%	33%	34%	0.5%	1.5%	1.7%
Glencore	1.66	6.8	5.5	5.2	0.3	0.3	0.3	48.9	16.6	12.3	5%	6%	5%	3.6%	6.0%	8.1%
Grupo Mexico	52.74	7.2	6.0	5.3	2.8	2.5	2.4	24.2	12.0	10.8	39%	41%	45%	7.8%	7.5%	12.0%
Kazakhmys	4.46	5.5	5.1	4.4	2.8	2.6	2.2	7.6	6.6	5.4	51%	51%	50%	1.7%	1.4%	1.8%
Rio Tinto	45.26	5.7	6.1	6.5	2.7	2.7	2.8	10.6	12.2	13.4	47%	45%	43%	5.9%	5.3%	5.0%
Southern CC	37.43	13.3	10.5	10.0	5.5	4.8	4.6	31.6	21.0	20.1	41%	45%	46%	3.1%	3.6%	4.5%
Median		5.8	5.9	5.2	2.6	2.2	2.0	12.2	12.2	11.6	35%	37%	39%	3.1%	3.9%	3.6%
ALUMINUM PRODUCERS																
Grupa Kęty	375.50	9.1	8.8	8.6	1.4	1.4	1.3	13.9	13.2	12.8	16%	15%	15%	4.1%	5.8%	5.7%
Alcoa	11.83	5.6	4.1	3.7	0.6	0.5	0.5	-	-	89.6	10%	13%	13%	1.1%	1.1%	1.8%
Constellium	7.74	6.8	5.7	4.7	0.6	0.6	0.5	-	10.9	4.7	9%	10%	12%	-	-	-
Kaiser Aluminum	74.15	11.3	7.6	6.6	1.1	1.1	0.9	29.9	18.9	11.1	10%	14%	14%	3.4%	3.9%	4.2%
Norsk Hydro	27.00	5.9	4.8	4.1	0.5	0.5	0.5	30.7	14.4	10.4	9%	10%	11%	4.6%	4.6%	5.2%
Rusal	2.96	18.8	13.8	9.9	1.5	1.3	1.2	4.6	3.9	3.5	8%	9%	12%	1.4%	4.1%	5.3%
Median		8.0	6.7	5.7	0.9	0.8	0.7	21.9	13.2	10.7	10%	11%	12%	3.4%	4.1%	5.2%

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	32.25	6.2	9.1	9.2	0.8	0.9	0.9	15.1	-	77.2	13%	9%	10%	0.0%	0.0%	0.0%
ZA Police*	13.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acron	5500.00	9.4	7.9	7.8	2.9	2.5	2.4	28.7	9.8	9.7	31%	32%	31%	6.7%	6.5%	6.5%
CF Industries	30.15	9.5	9.3	8.7	3.2	3.1	2.9	20.7	18.0	14.0	34%	33%	34%	4.0%	4.0%	4.0%
Israel Chemicals	11.07	7.5	6.4	6.3	1.4	1.3	1.2	16.7	11.5	11.9	18%	19%	19%	3.3%	3.8%	3.8%
K+S	5.95	8.8	6.7	6.1	1.2	1.1	1.0	-	21.4	9.6	13%	16%	17%	0.9%	2.1%	3.6%
Phosagro	2677.00	6.8	6.3	6.1	2.1	2.0	1.9	20.1	10.9	17.1	31%	32%	31%	3.5%	4.4%	5.1%
The Mosaic Company	13.05	8.6	6.3	5.3	1.2	1.1	1.1	100+	17.2	9.2	14%	18%	20%	1.5%	1.6%	1.8%
Yara International	356.70	6.4	5.9	5.7	1.1	1.1	1.0	11.7	9.8	9.2	18%	18%	18%	4.9%	5.7%	5.9%
Median		8.1	6.6	6.2	1.3	1.2	1.1	18.4	11.5	10.8	18%	19%	20%	3.4%	3.9%	3.9%

### 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																
Astarta*	19.00	3.9	3.1	2.9	0.9	0.9	0.8	-	4.7	3.9	23%	28%	27%	-	-	-
Kemel	42.00	6.0	5.8	5.5	0.6	0.6	0.6	9.4	6.2	6.2	9%	11%	10%	2.3%	2.4%	2.1%
Agrana Beteiligungs	18.06	9.0	-	-	0.7	-	-	23.5	-	-	7%	-	-	5.5%	-	-
Bunge Limited	40.39	9.8	8.4	8.0	0.3	0.3	0.3	14.8	10.1	8.7	3%	4%	4%	4.8%	5.1%	6.2%
Cosan	70.29	6.8	6.0	5.8	0.6	0.5	0.5	18.7	13.4	13.0	8%	9%	8%	2.1%	2.1%	3.3%
MHP	6.16	4.6	4.3	3.8	1.0	0.9	0.9	-	3.4	3.0	22%	22%	25%	8.4%	12.2%	12.2%
Nisshin Oillio	3410.00	7.7	7.9	7.2	0.5	0.5	0.5	13.9	14.0	12.3	6%	6%	7%	2.3%	2.3%	2.4%
Suedzucker	14.19	11.5	7.7	6.7	0.8	0.8	0.7	-	18.7	11.6	7%	10%	11%	1.4%	1.9%	2.6%
Wilmar Int.	3.88	11.9	11.0	10.3	0.7	0.7	0.6	14.5	13.1	11.9	6%	6%	6%	3.0%	3.4%	3.5%
Median		7.7	6.9	6.3	0.7	0.6	0.6	14.7	11.6	10.2	7%	9%	9%	2.7%	2.4%	3.3%

Source: mBank 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%  
**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.

**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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