

Tuesday, June 02, 2020 | weekly publication

## Tuesday Espresso

### Weekly Commodity Roundup

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#### Utilities

German power contracts are hovering about an euro lower than a week ago at around EUR 37/MWh, with coal and carbon markets trading mostly sideways over the recent days. There has not been much change in Polish contracts at PLN 222/MWh, with clean-dark spreads still squeezed by the earlier rise in emission costs. The Polish power sector is still in anticipation mode ahead of the eagerly-awaited announcement of an updated national energy strategy, which may or may not include cash investments by state-controlled utilities.

#### Gas & Oil

Oil market sentiment is upbeat, as evidenced by eight weeks straight of increasing speculative positions. As crude prices rise, refiners experience squeezed cracking margins, underpinned by weak demand for their products. The model margin is still negative at -\$2/bbl, and the Urals/Brent keeps moving further into the negative territory (-\$2/bbl). To us, this indicates many more months of reduced capacity utilization rates as new refineries are about to be brought on line in different parts of the world and as Chinese producers maximize output to capitalize on higher regulated prices, resulting in record growth in Chinese exports of diesel (+20% y/y) and gasoline (+40% y/y).

In Petchem, margins have stabilized at compressed levels and product prices at the moment are seen to be trying to catch up with crude feedstocks.

Gas contracts for 2021 delivery in the EU market are holding above EUR 12/MWh, but with spot prices stuck at 4 euros downside risk to our positive 2021 forecasts is still there.

#### Metals

Prices of industrial metals shifted higher on slightly better-than-expected PMI prints in China. For KGHM, the zloty's current appreciation against the dollar is putting downward pressure on profit margins. KGH stock has enjoyed better performance in the past week than the zloty copper index.

#### Coal

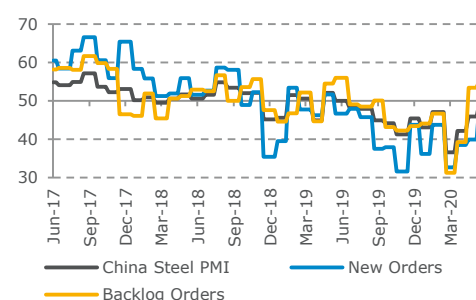
Prices paid for thermal coal imported from abroad are low as the zloty strengthens vis-a-vis the dollar, and this is bad news for the local producer JSW, which will probably have to mark sales prices down heavily in the quarters ahead. The same goes for rival listed coal miner LW Bogdanka, indicating lower orders ahead for the mining equipment producer Famur. Prices of coking coal are also on a downward trend despite improving prospects for the Chinese steel industry. On top of all that, JSW is having to stop some of its operations due to coronavirus infections among employees.

China's recovering steel demand, which coincides with coronavirus-induced production curbs in Brazil, is having a positive effect on prices of iron ore (boosting the prospects of BHP and Rio Tinto).

#### Agricultural Commodities

Prices in the Brazilian sugar market have shifted higher on coronavirus production concerns. Brazil is the second-largest sugar supplier in the world after India, also affected by the coronavirus pandemic. In Ukraine, sugar prices are propped by a lower 2019 sugar beet harvest.

#### Charts of the Week



#### China steel PMI (points)

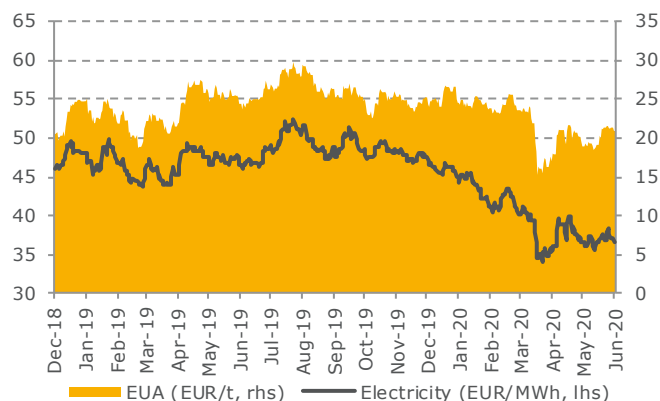
China's Purchasing Managers' Index for the steel industry increased to 50.9 points in May, an improvement of 5 points on the previous month. This was accompanied by a rise in the new orders index to 52.9pts, and an acceleration in production to 56.4pts. At the same time the domestic steel stocks were seen to decrease. The export orders sub-index improved in May but was still low at 31.9pts vs. 27.8 in April.

#### 1-Week & YTD Performance

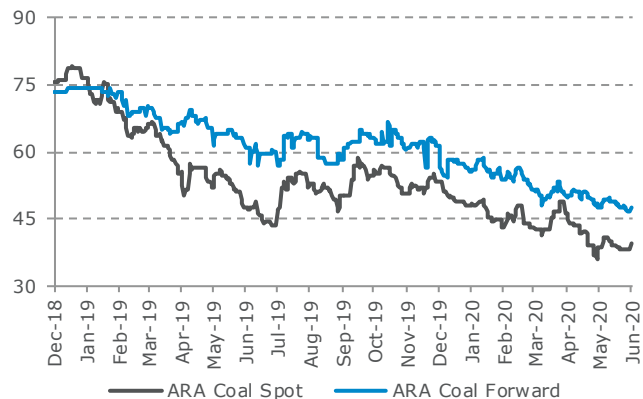
Company	1W	YTD
Ciech	-9.7%	-7%
Tarczyński	-4.7%	-11%
MOL	-1.5%	-33%
OMV	-1.2%	-41%
CEZ	0.0%	-5%
Kernel	0.0%	-5%
Astarta	0.6%	1%
Alumetal	1.3%	-5%
Orzeł Biały	1.5%	-14%
Kęty	1.9%	2%
Energa	1.9%	13%
PCC Rokita	2.1%	2%
Lotos	2.1%	-28%
Boryszew	2.2%	-13%
IMC	3.8%	-2%
LW Bogdanka	5.9%	-41%
ZCh Police	6.3%	13%
PKN Orlen	7.4%	-21%
ZE PAK	7.7%	5%
KGHM	8.7%	-9%
Kruszwica	8.7%	28%
Grupa Azoty	8.8%	15%
Tauron	9.8%	-21%
Tupras	10.8%	-30%
PGNiG	11.7%	-1%
Enea	13.3%	-22%
ZA Puławy	18.3%	6%
PGE	24.8%	-34%
JSW	28.5%	-18%
WIG Indices	1W	YTD
WIG	4.8%	-16%
Chemicals	1.4%	5%
Energy	13.1%	-21%
Oil & Gas	7.0%	-19%
Food Industry	1.6%	-1%
Basic Material	9.9%	-10%
Ukraine	1.1%	-2%
Sector Indices	1W	YTD
Mining	4.0%	-8%
Oil & Gas E&P	0.9%	-39%
Refining EU	9.6%	-23%
Refining US	2.4%	-31%
Agri & Food	0.7%	-2%
Rubber	6.8%	-27%
Fertilizers	2.9%	-10%
Chemicals EU	3.7%	-9%
Industrials EU	3.2%	-17%
Petchem World	5.2%	-21%
Utilities EU	4.9%	-4%
Utilities US	+6.9%	-6%

## Utilities

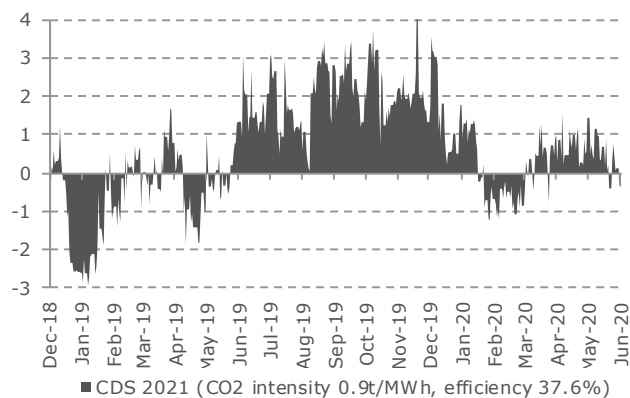
**EU Prices of Electricity (EUR/MWh) & EUAs (EUR/t)**



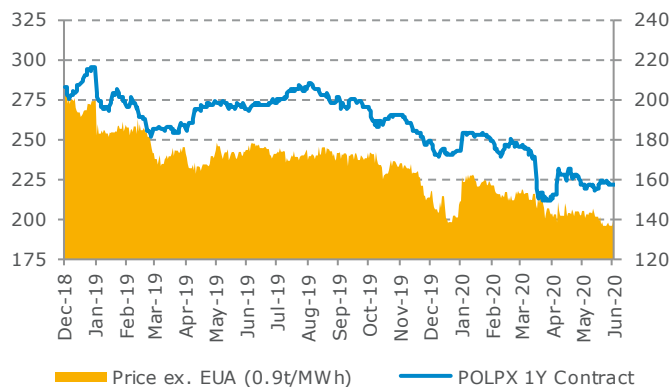
**ARA Coal Spot and Forward Prices (EUR/t)**



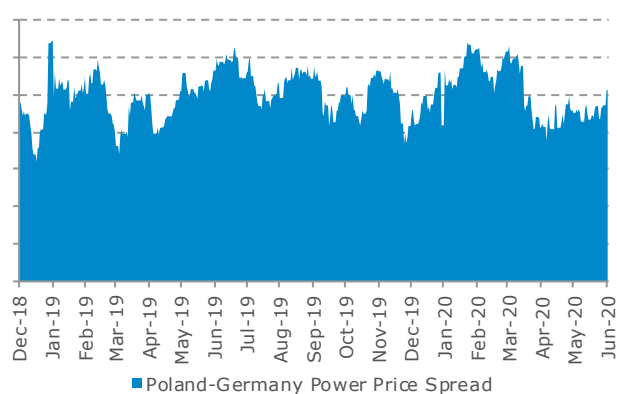
**Clean-Dark Spread, Germany (EUR/MWh)**



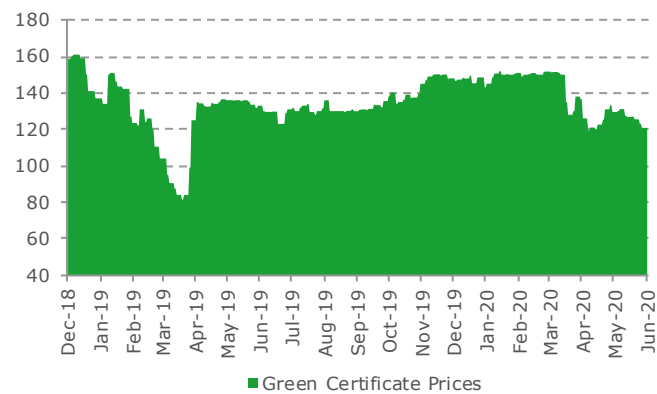
**Polish Electricity Prices (1Y) (PLN/MWh)**



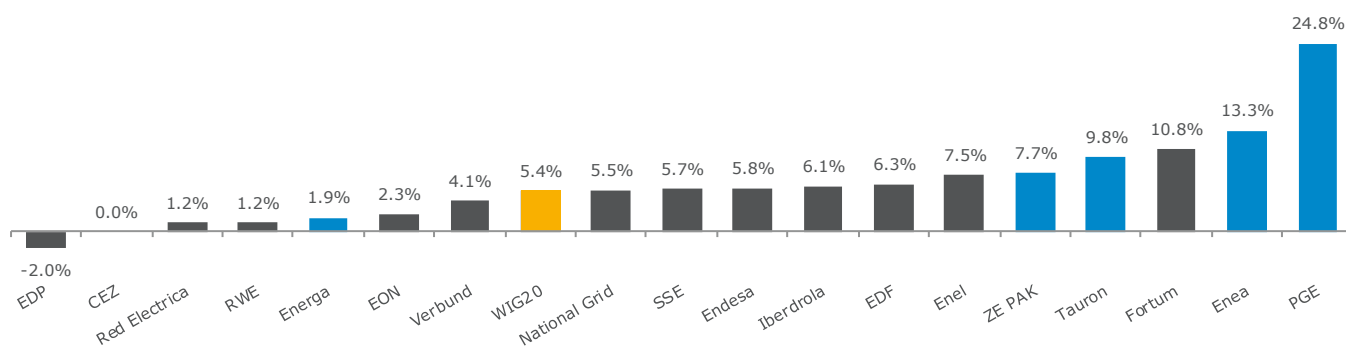
**Poland-Germany Power Price Spread (PLN/MWh)**



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



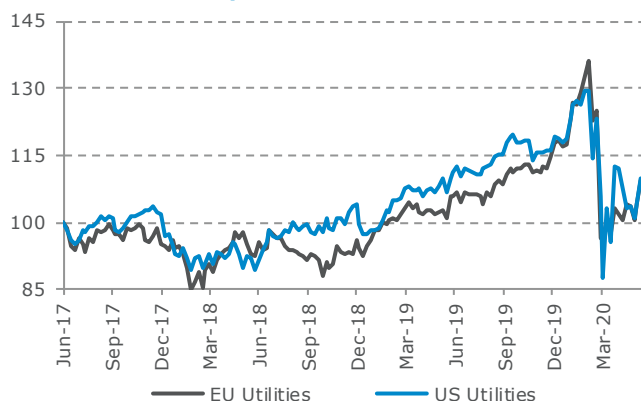
## Weekly Returns of Utility Stocks



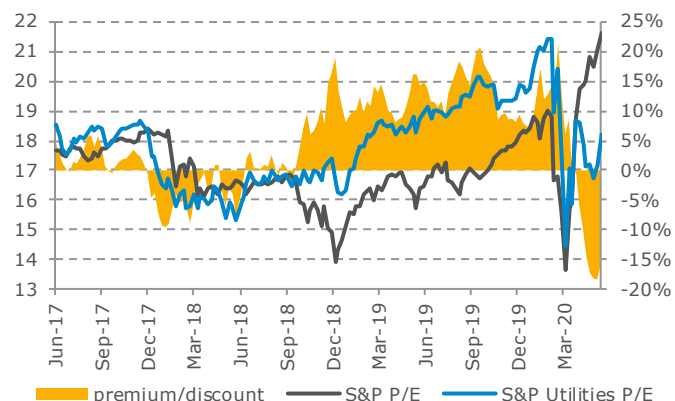
Source: Bloomberg, mBank

## Utilities

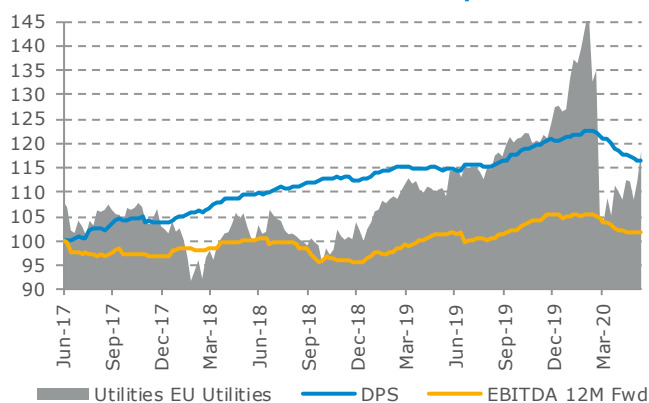
### MSCI Utilities Europe vs. S&P Utilities



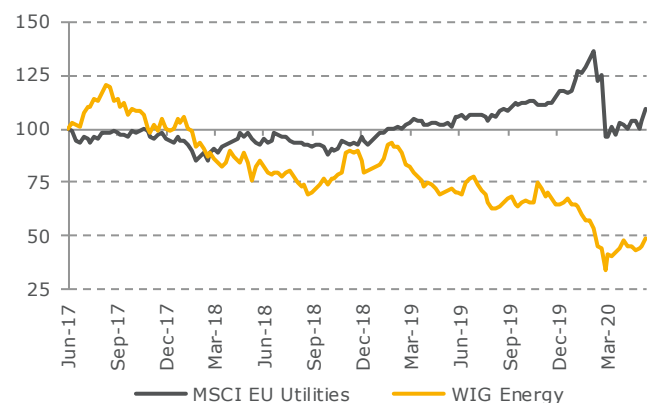
### S&P Utilities vs. S&P 500 P/E



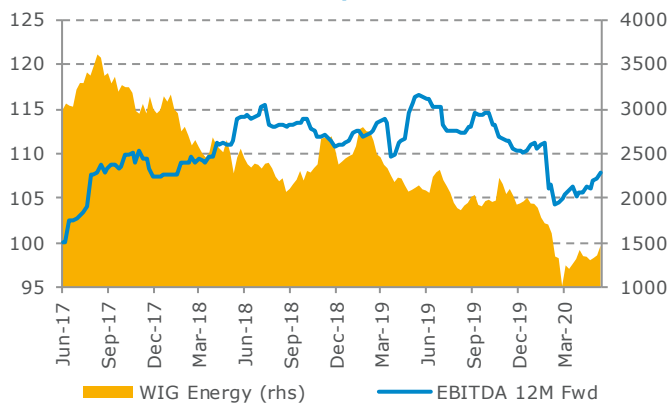
### MSCI Utilities EU vs. DPS & EBITDA Expectations



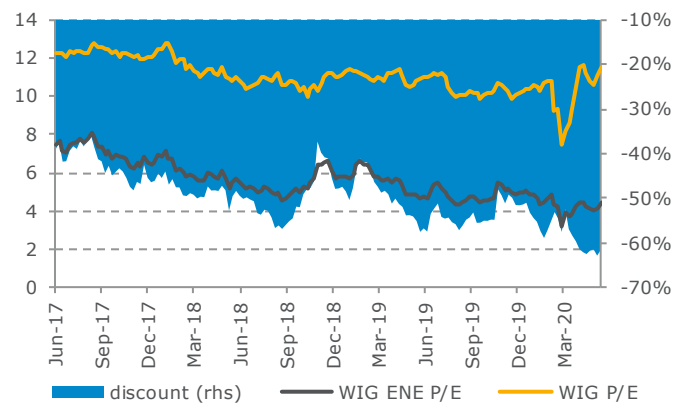
### MSCI Utilities EU vs. WIG-ENERGY



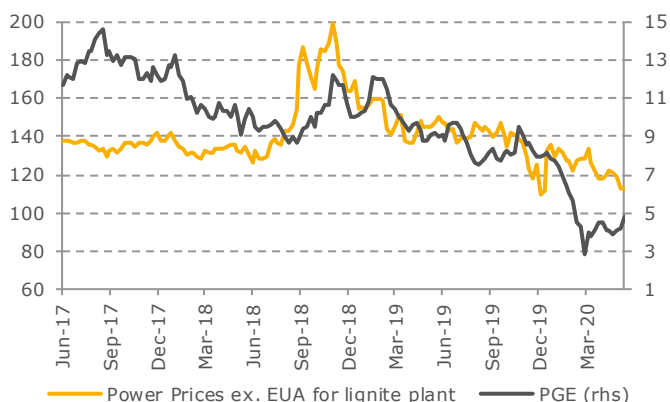
### WIG-ENERGY vs. EBITDA Expectations



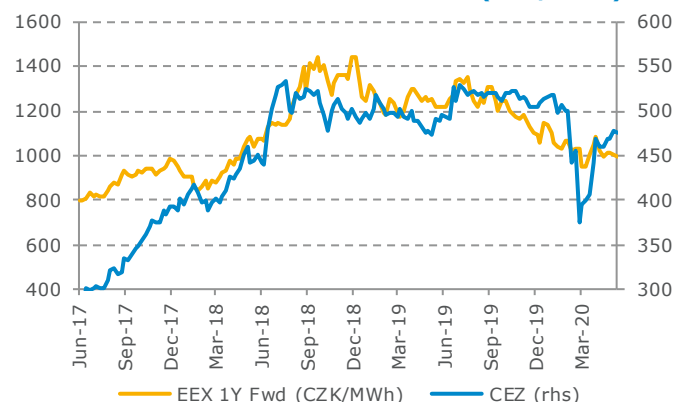
### WIG-ENERGY vs. WIG P/E



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



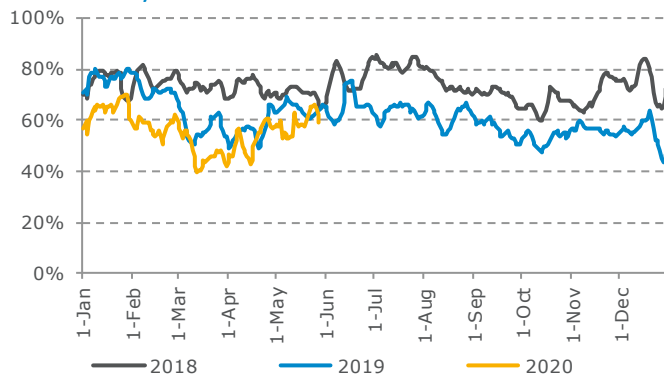
### CEZ Performance vs. EEX Power Prices (CZK/MWh)



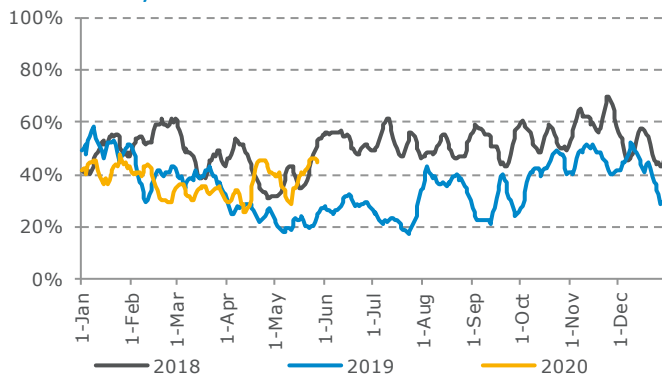
Source: Bloomberg, mBank

## Utilities

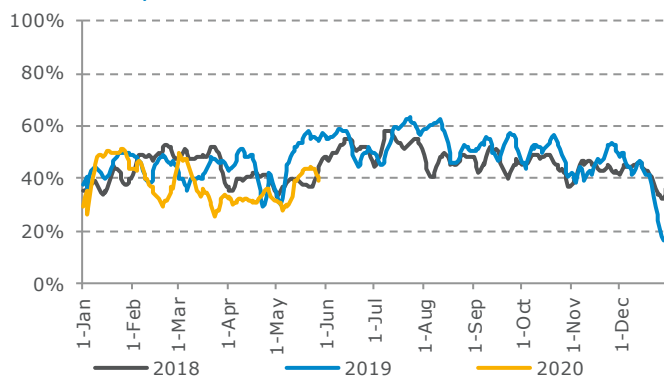
**Load Factor, Bełchatów Power Station**



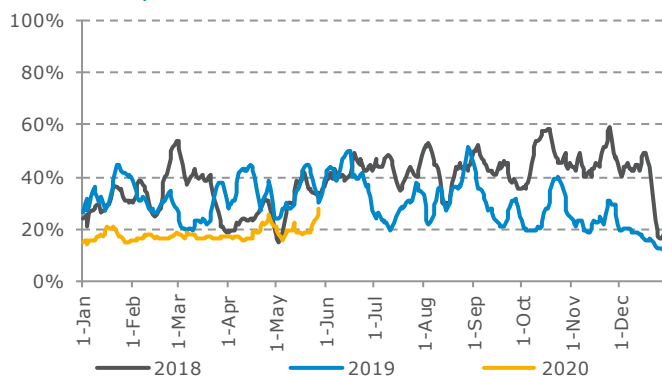
**Load Factor, Turów Power Station**



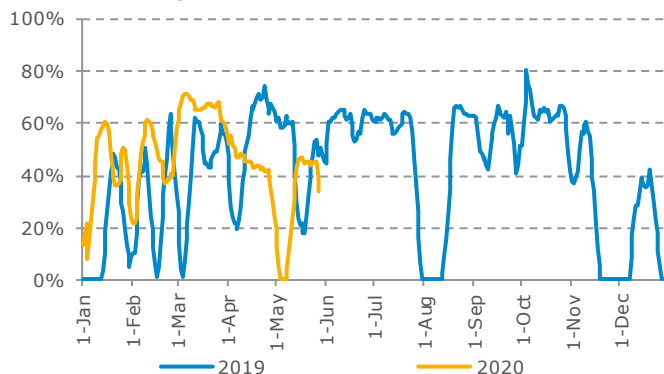
**Load Factor, Kozienice Power Station**



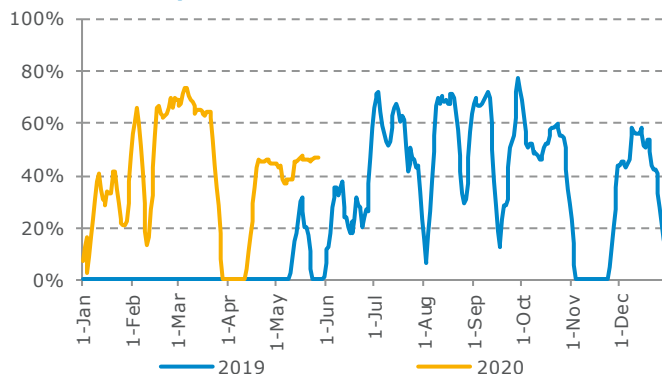
**Load Factor, Jaworzno Power Station**



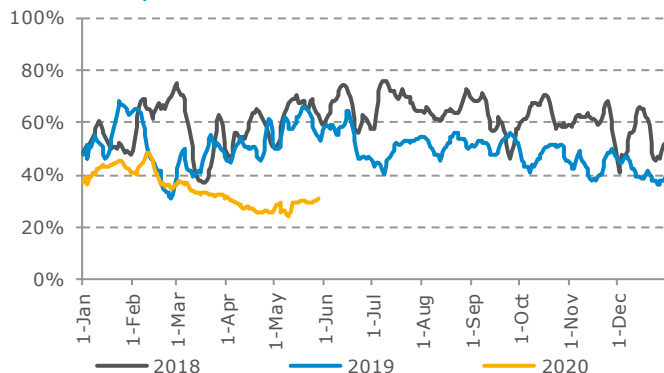
**Load Factor, Opole Power Station, Block B5**



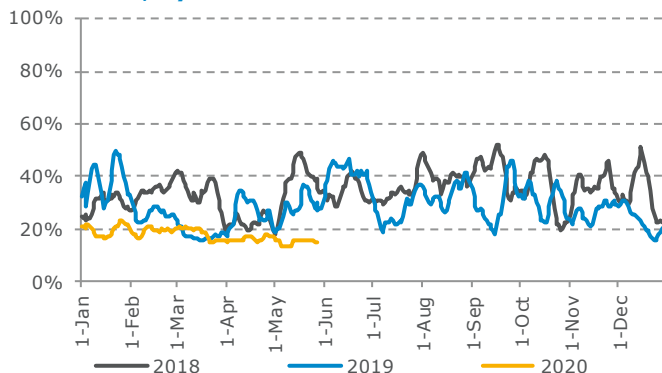
**Load Factor, Opole Power Station, Block B6**



**Load Factor, Połaniec Power Station**



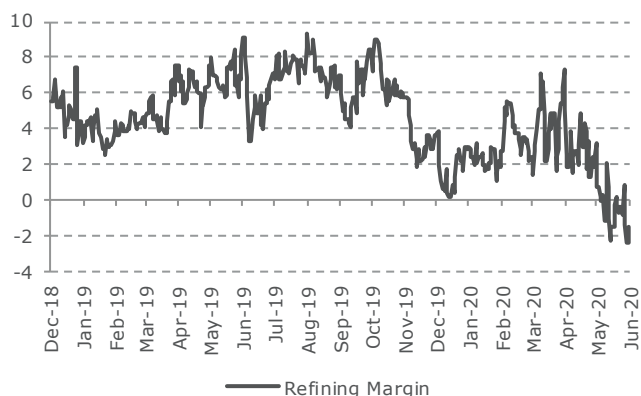
**Load Factor, Rybnik Power Station**



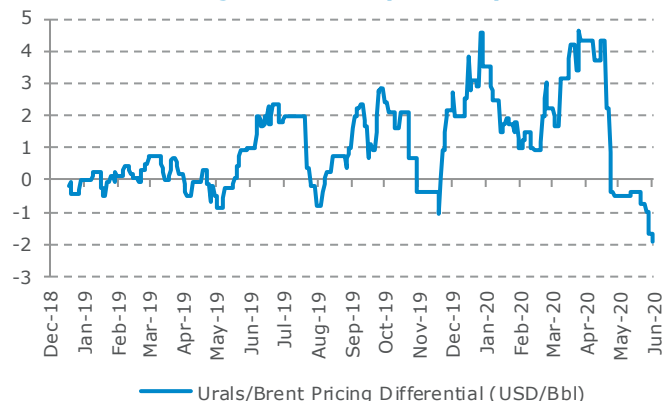
Source: PSE, mBank; Load factor = actual generation (7-day average) as a percentage of available capacity

## Gas & Oil

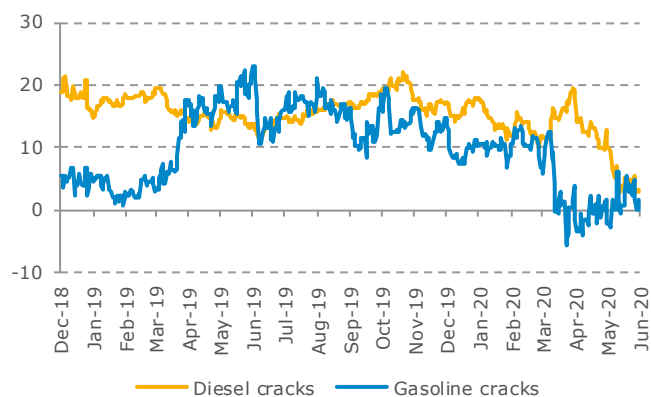
### Refining Margins (US\$/bbl)



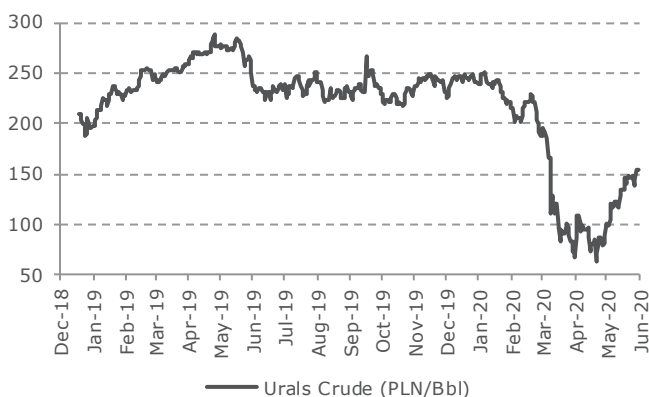
### Urals/Brent Pricing Differential (US\$/bbl)



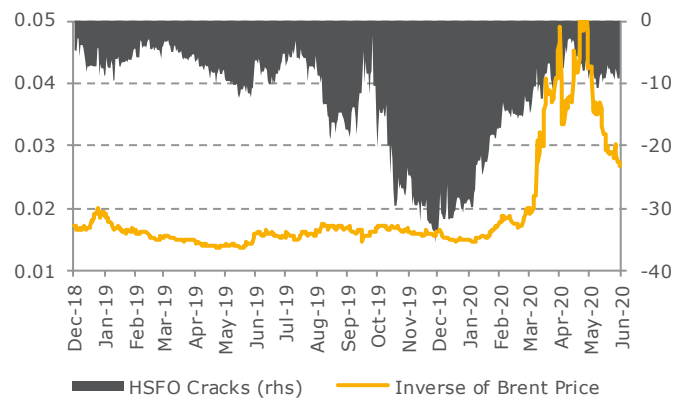
### Cracking Margins on Diesel & Gasoline (US\$/bbl)



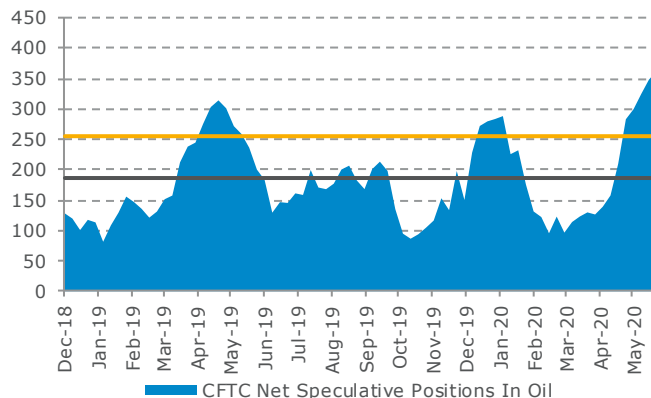
### Price of Urals Crude (PLN/bbl)



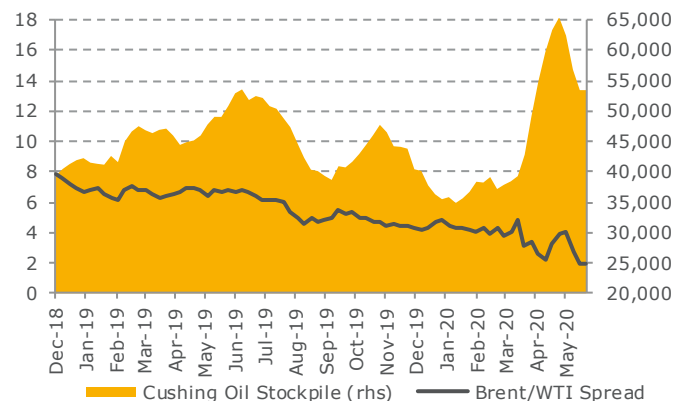
### HSFO Cracks (US\$/bbl) vs. Inverse of Brent Price



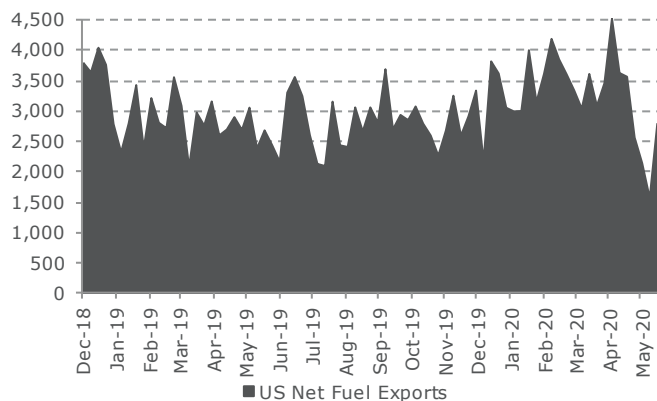
### CFTC Net Speculative Positions In Oil



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



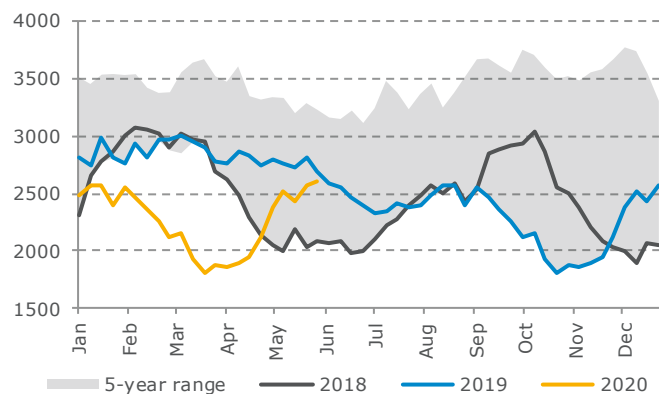
### US Net Fuel Exports



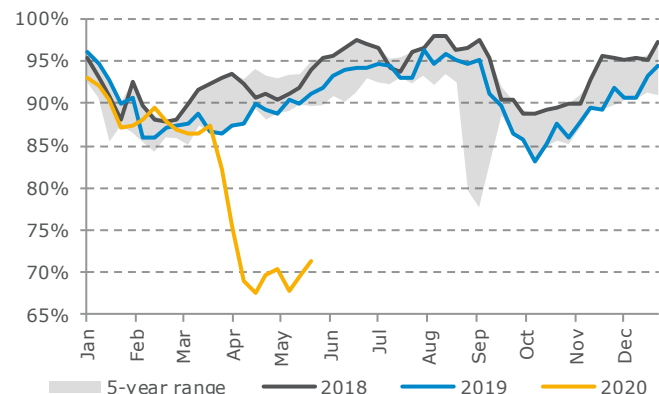
Source: Bloomberg, mBank

## Gas & Oil

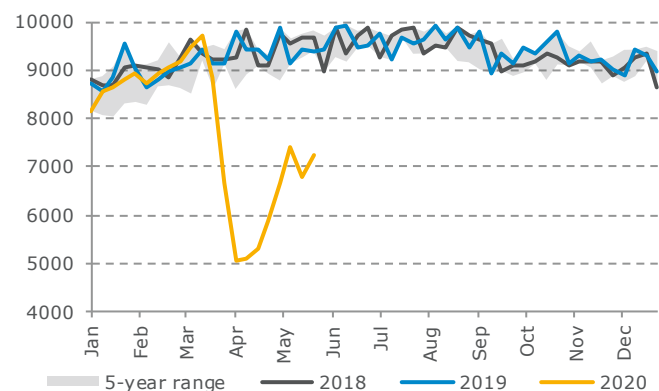
**Diesel Inventories @ARA**



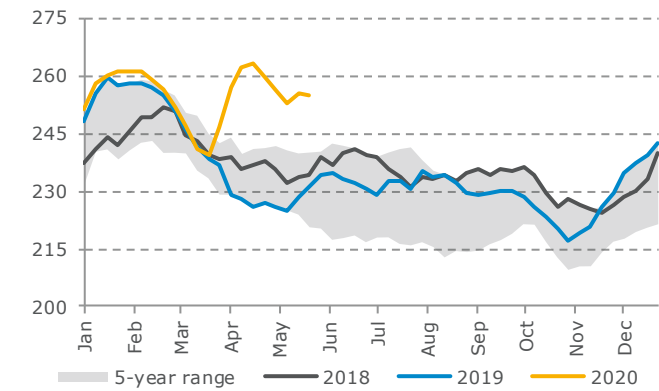
**US Refinery Utilization Rates**



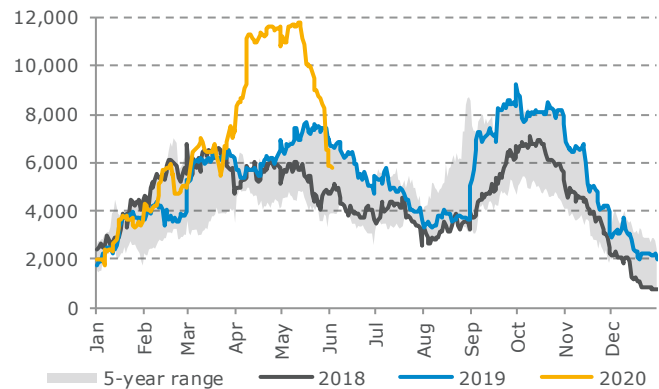
**US Gasoline Demand**



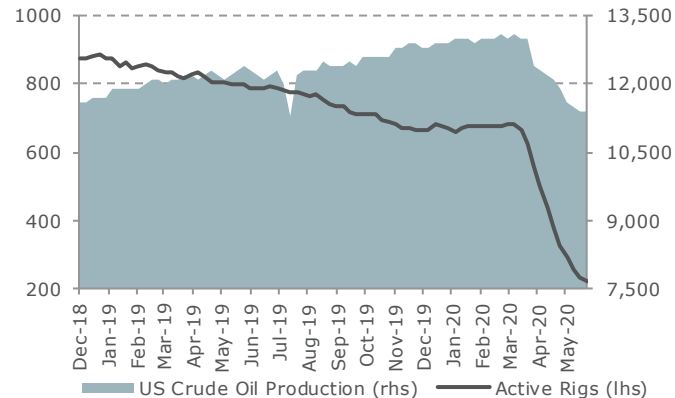
**US Gasoline Inventories**



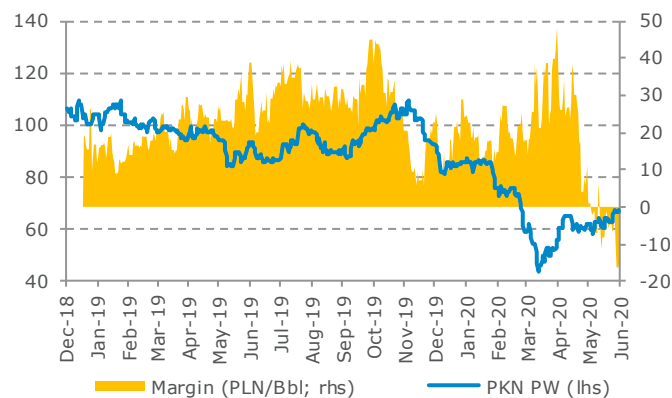
**Global Refinery Outages (mbbl/d)**



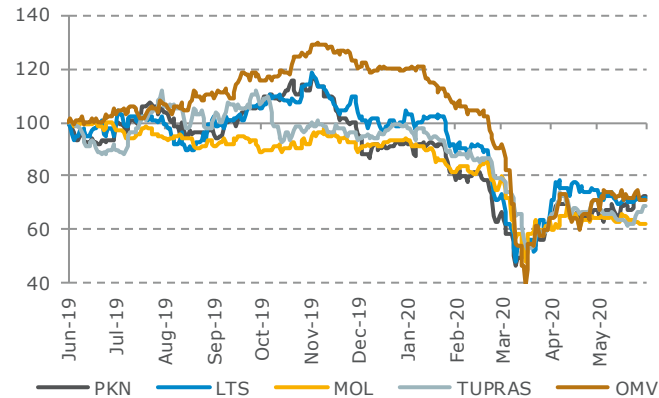
**US Crude Oil Production (mboe/d) vs. Active Rigs**



**PKN Performance vs. Benchmark Margins**



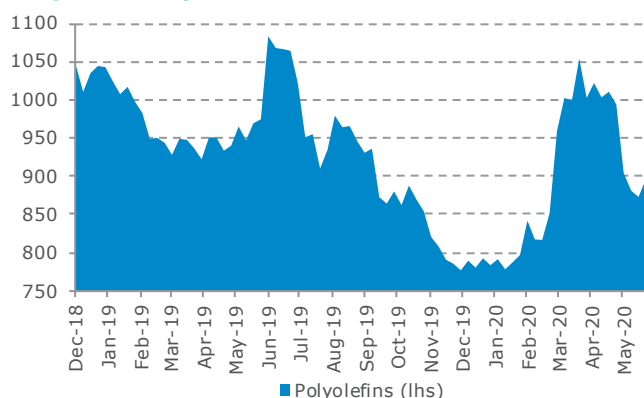
**Normalized Oil Stock Chart**



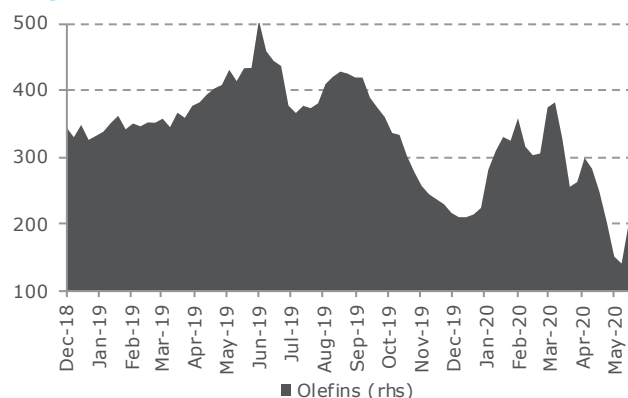
Source: Bloomberg, mBank

## Petrochemicals & NatGas

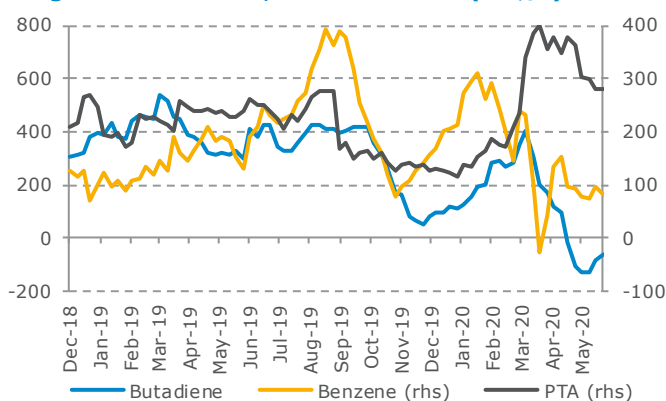
### Margins on Polyolefins



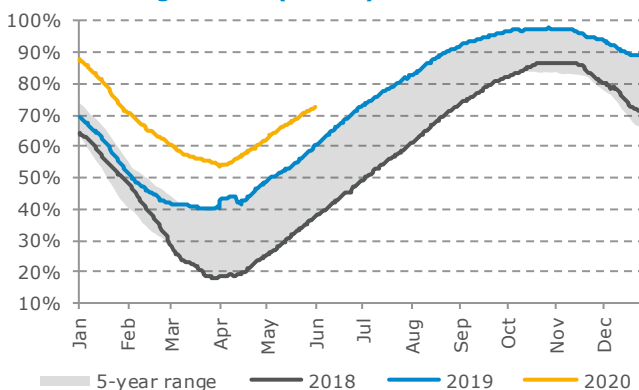
### Margins on Olefins



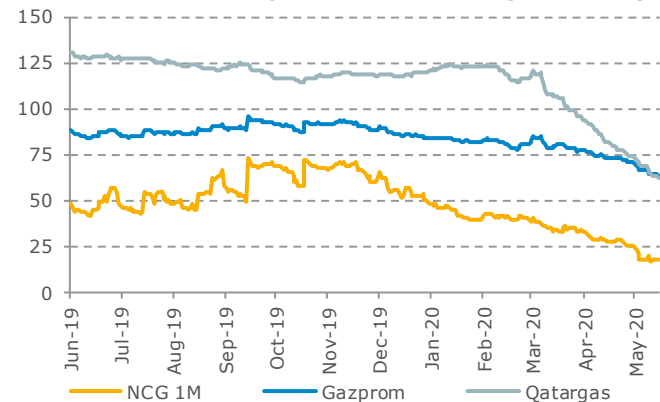
### Margins on Butadiene, Benzene & PTA (US\$/t)



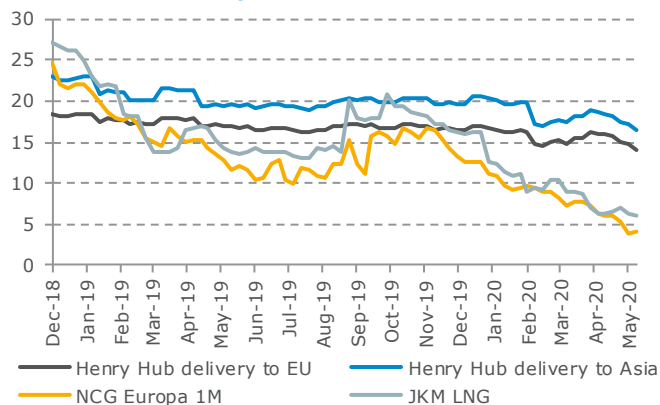
### EU Gas Storage Levels (% Full)



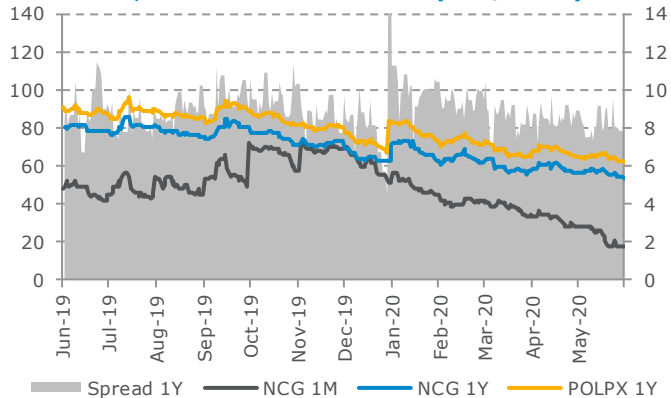
### Estimated Costs of Imported Natural Gas (PLN/MWh)



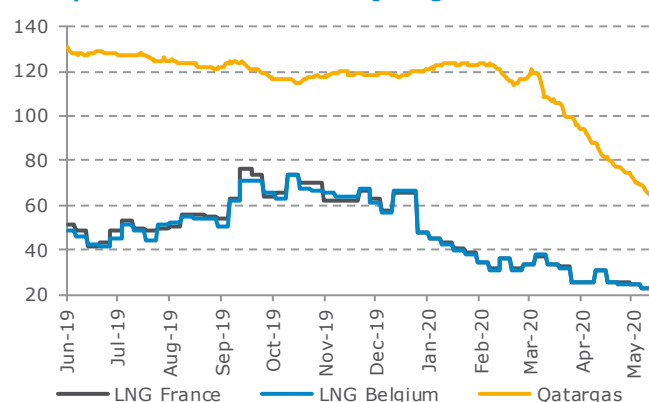
### Prices of US LNG Exports to EU and Asia



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



### LNG Spot Rates vs. Estimated Qatargas rates

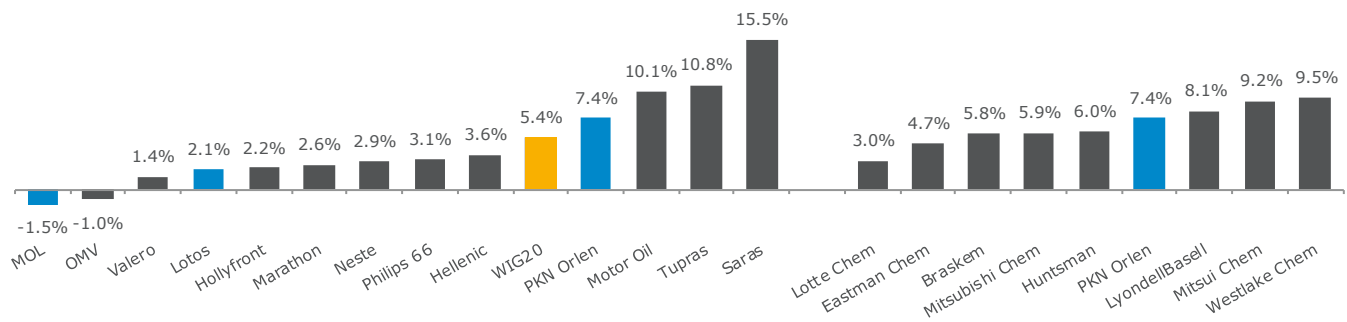


Source: Bloomberg, mBank

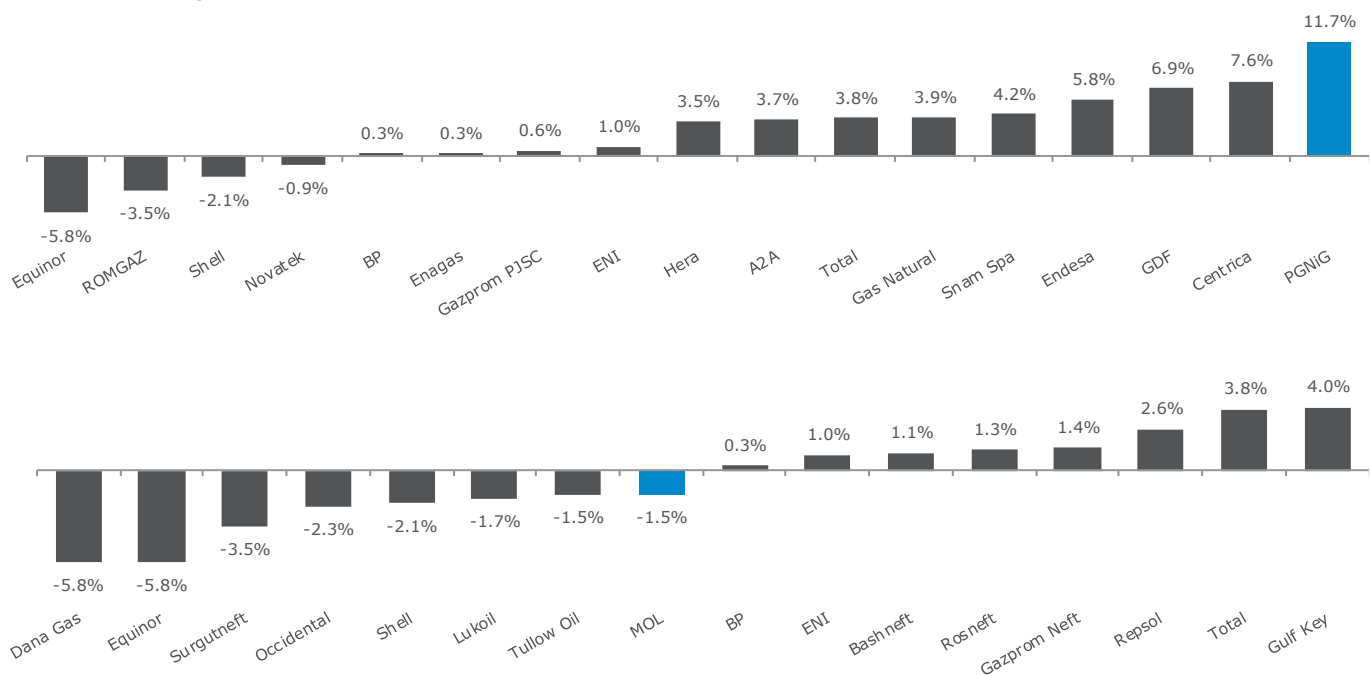


## Weekly Performance Charts

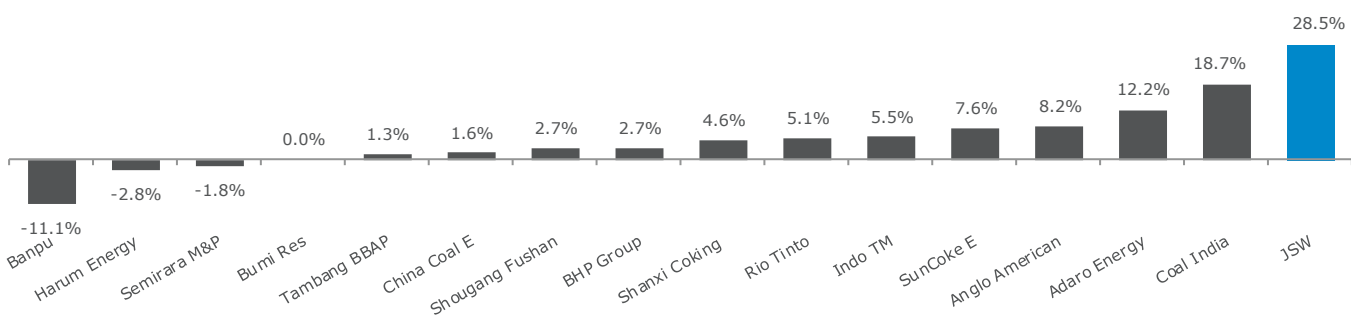
### Oil Refiners (L) & Petrochemical Producers (R)



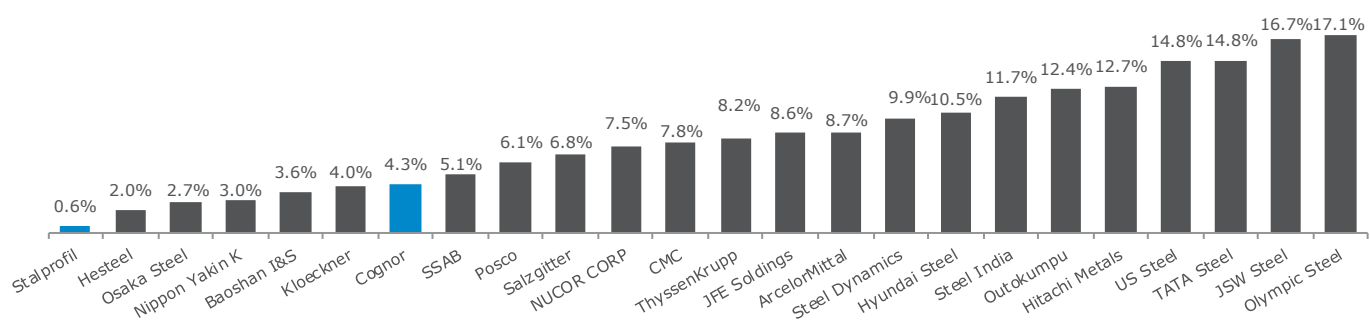
### Natural Gas Companies



### Coal Producers



### Steel Producers & Distributors

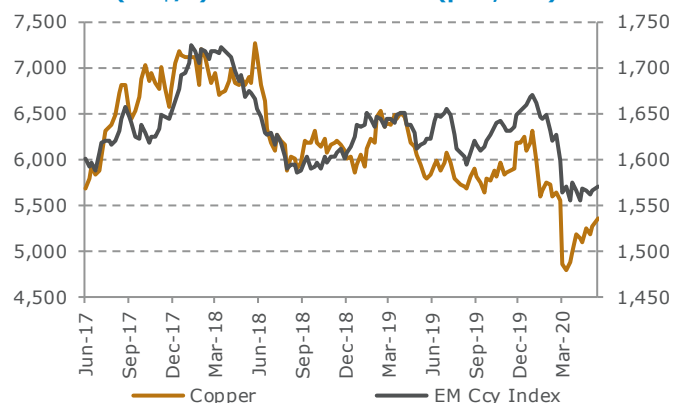


Source: Bloomberg, mBank

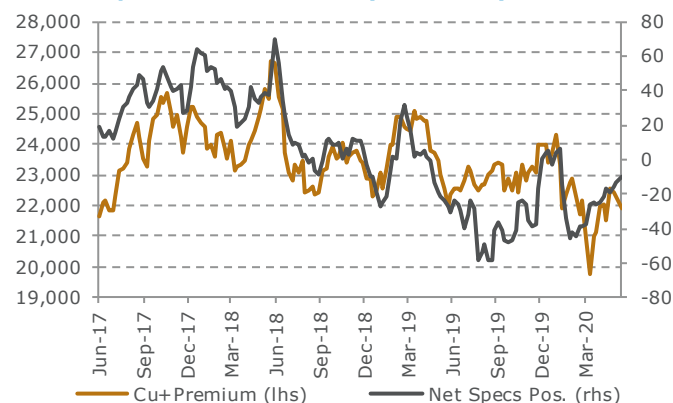


## Copper Charts

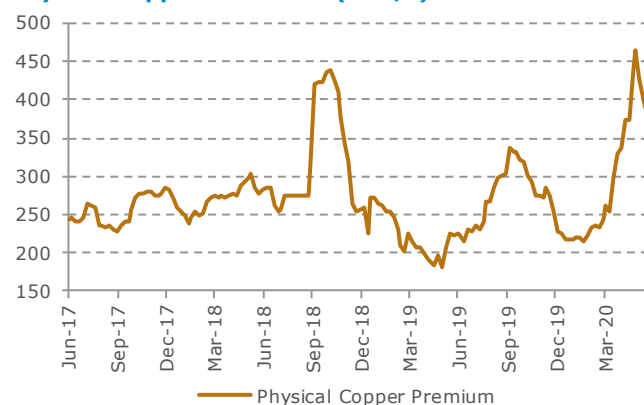
Cu Price (US\$/t) vs. EM Currencies (pts.; rhs)



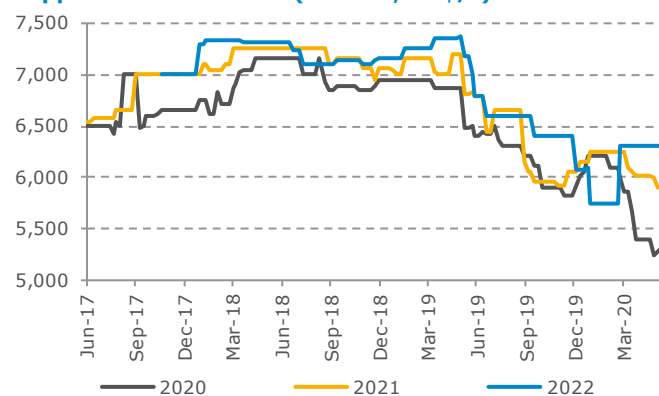
CU Price incl. Supplier Premium (PLN 1,000/t; lhs) vs. Net Speculative Positions (1,000, rhs)



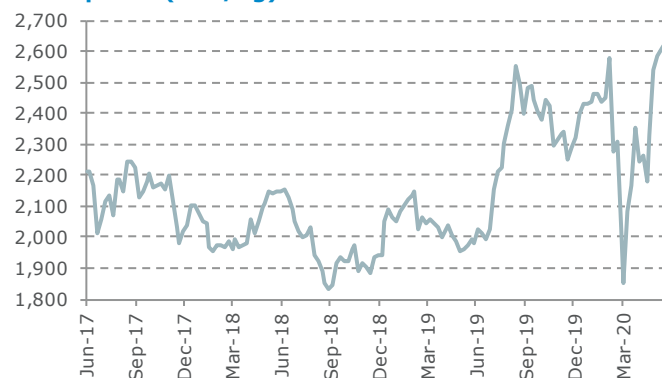
Physical Copper Premiums (PLN/t)



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



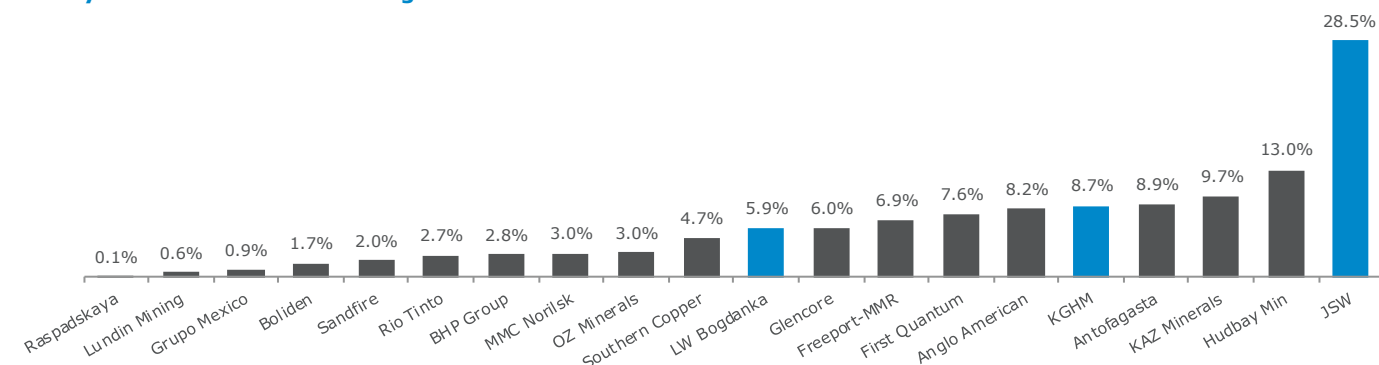
Silver prices (PLN/kg)



Prices of gold (PLN/oz)



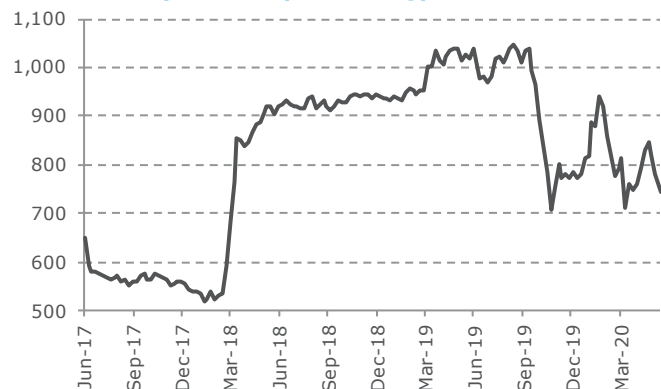
## Weekly Returns of Metal & Mining Stocks



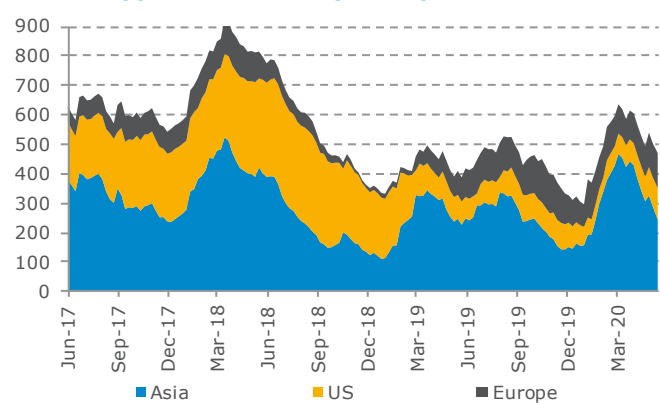
Source: Bloomberg, mBank

## More Copper Charts

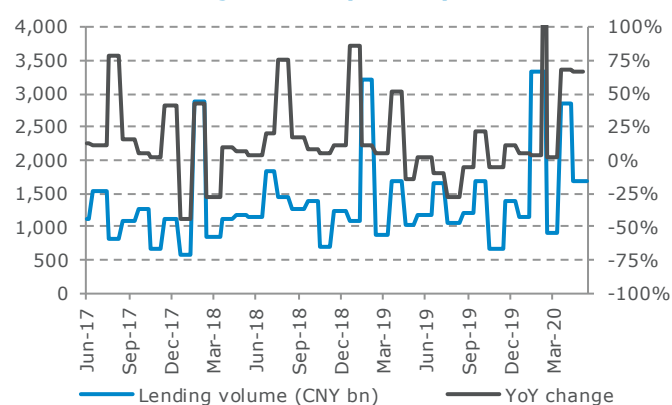
Prices of molybdenum (PLN/10 kg)



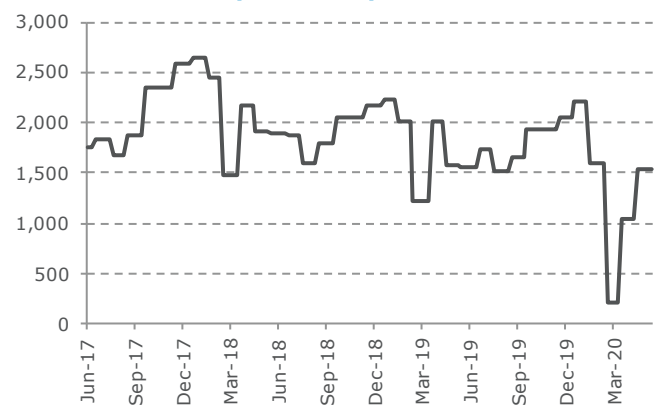
Global Copper Inventories (1,000t)



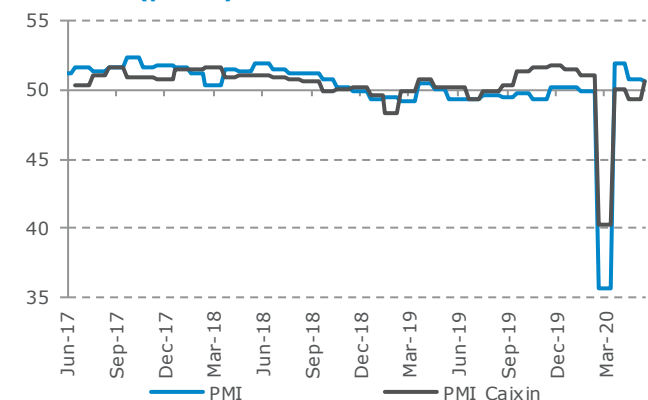
New Bank Lending in China (CNY bn)



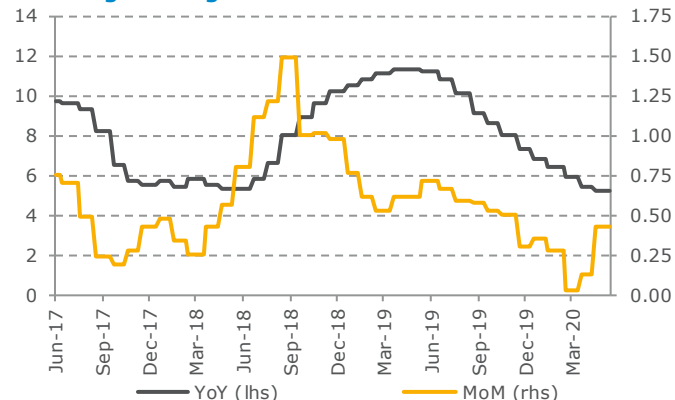
Car Sales in China (thousands)



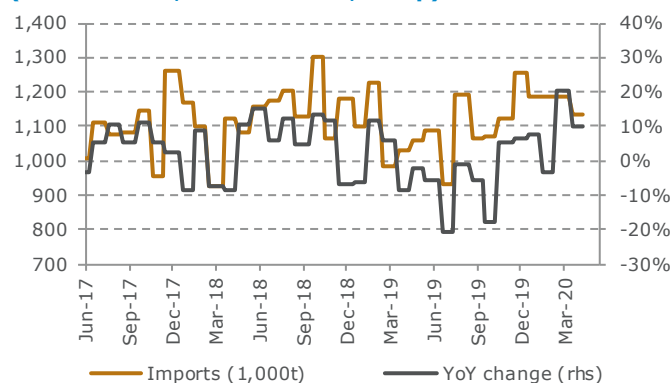
China PMI (points)



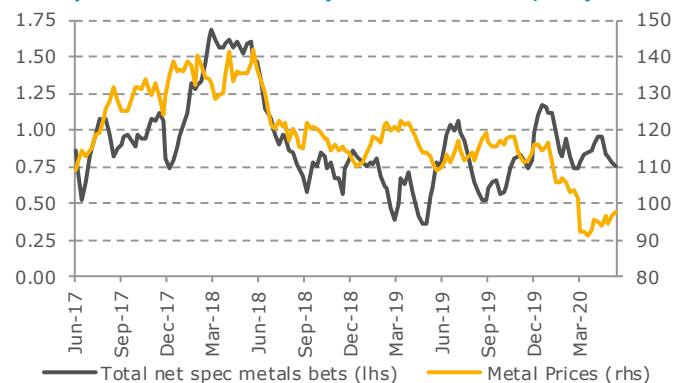
% Change In Avg. New Home Prices In 70 CN Cities



China Copper Imports (concentrates, refined metal, scrap)



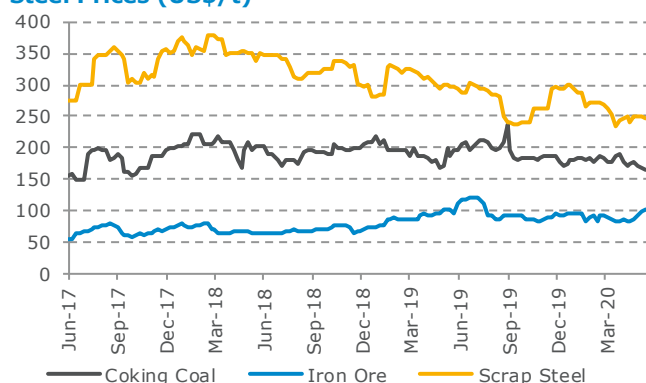
Metal Price Index (pts, rhs) vs. Net Speculative Positions (million contracts, lhs)



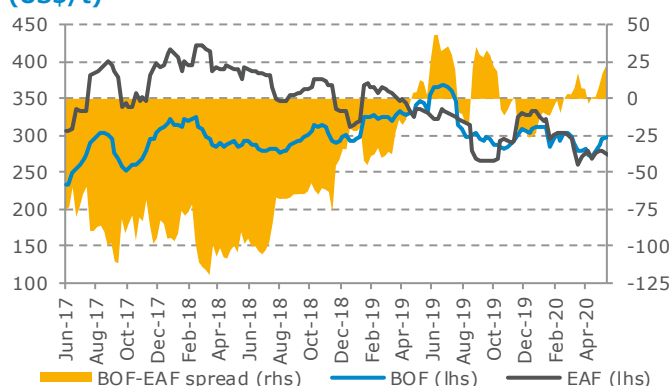
Source: Bloomberg, mBank

## Steel Charts

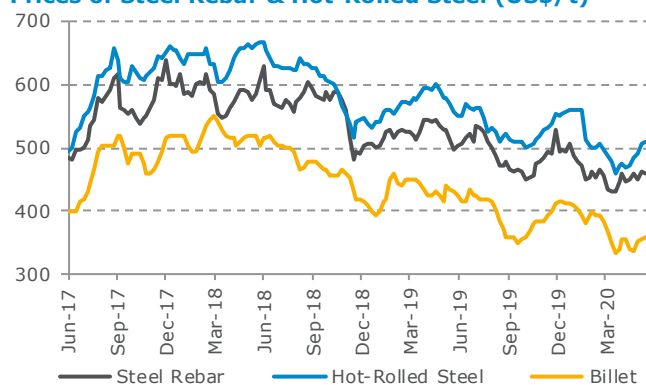
**China Coking Coal & Iron Ore Prices, Rotterdam Scrap Steel Prices (US\$/t)**



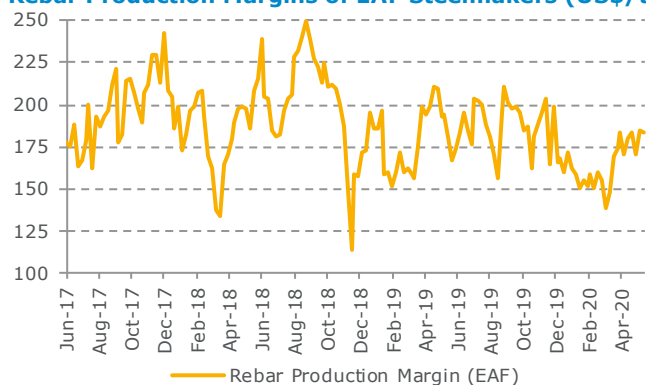
**Production Costs of BOF vs. EAF Steel Producers (US\$/t)**



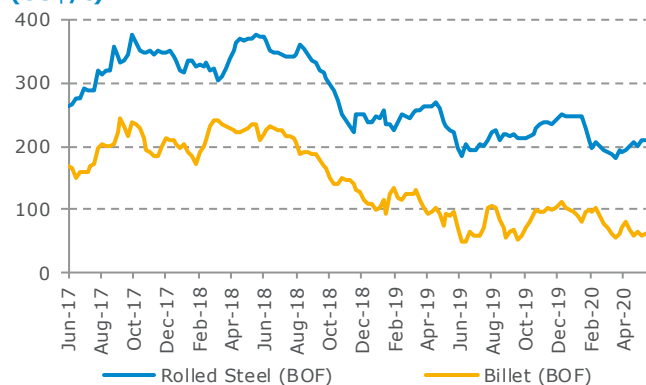
**Prices of Steel Rebar & Hot-Rolled Steel (US\$/t)**



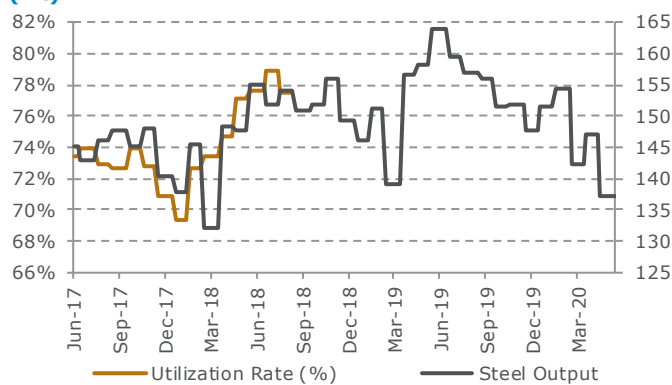
**Rebar Production Margins of EAF Steelmakers (US\$/t)**



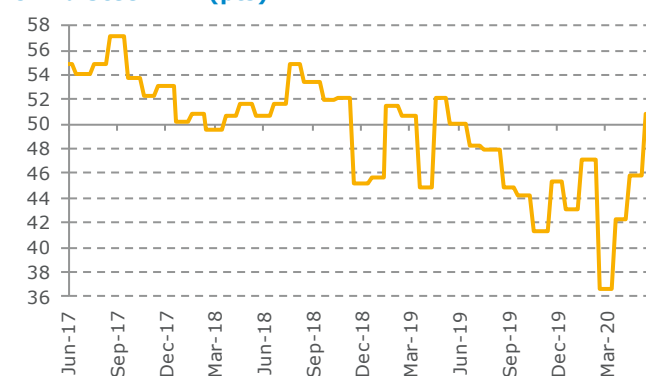
**Rolled Steel & Billet Margins of BOF Steelmakers (US\$/t)**



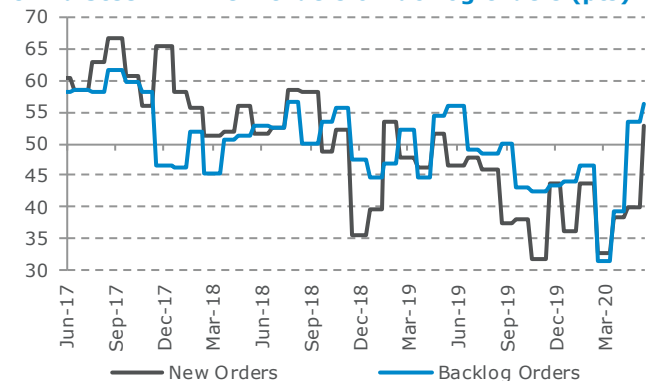
**Global Steel Plant Capacity Utilization Rates & Output (Mt)**



**China Steel PMI (pts)**



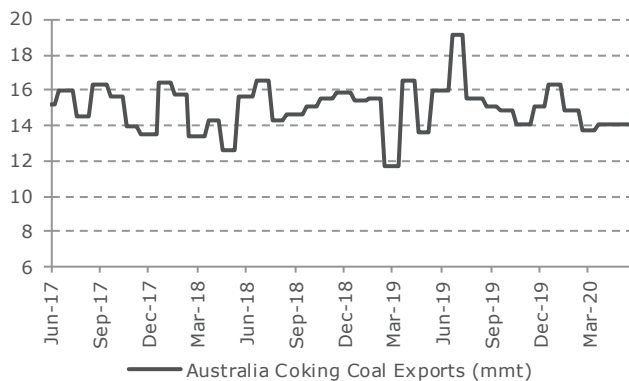
**China Steel PMI New Orders & Backlog Orders (pts)**



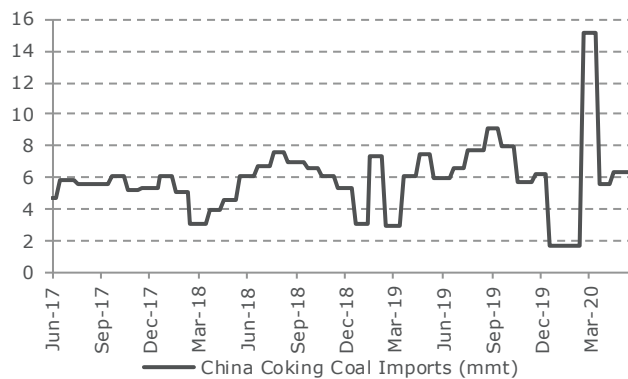
Source: Bloomberg, mBank

## More Steel Charts

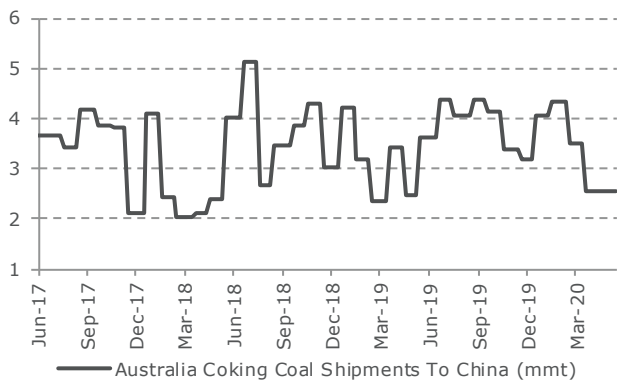
**Australia Coking Coal Exports (mmt)**



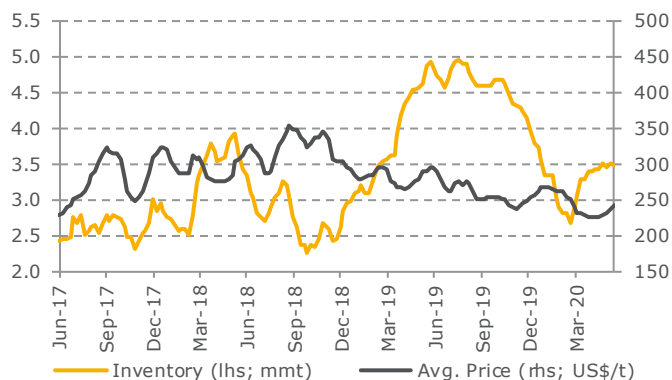
**China Coking Coal Imports (mmt)**



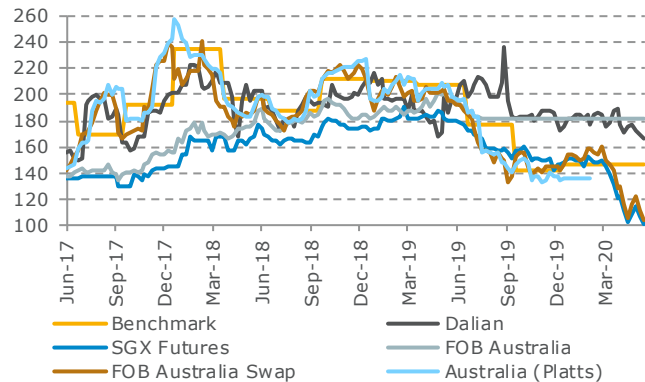
**Australia Coking Coal Shipments To China (mmt)**



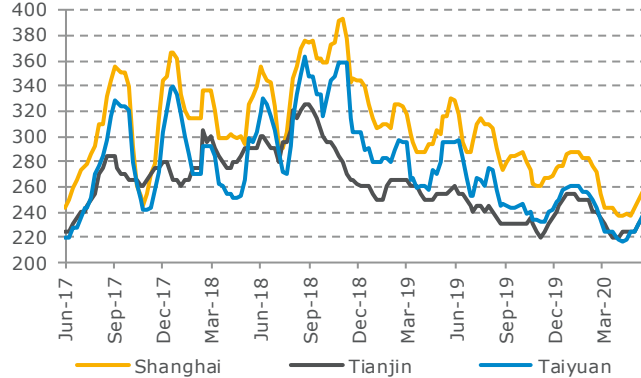
**China Coke Inventories (lhs; mmt) & Average Prices (rhs; US\$/t)**



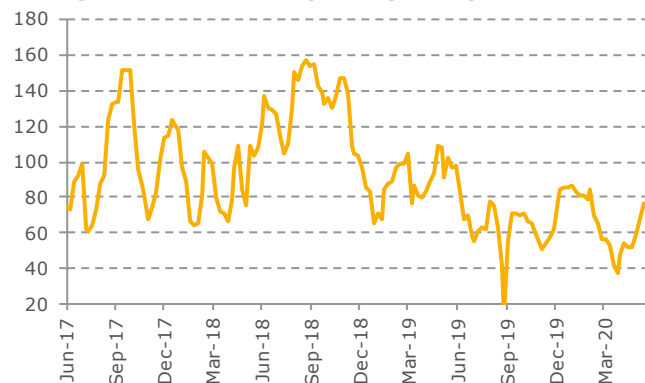
**China Coking Coal Prices vs. Benchmark (US\$/t)**



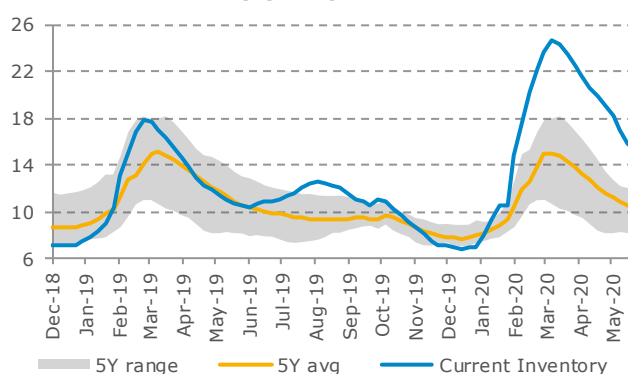
**China Coke Prices (US\$/t)**



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



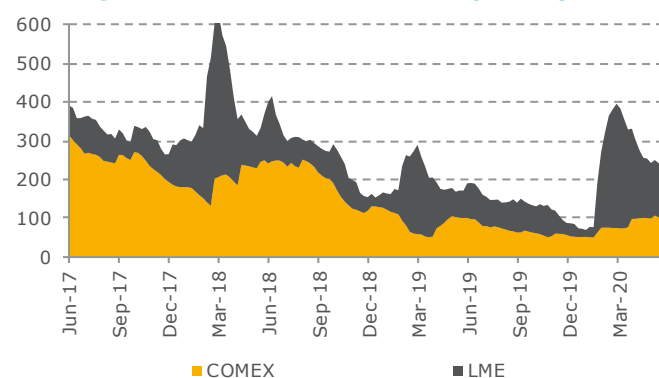
**China Steel Inventory (mmt)**



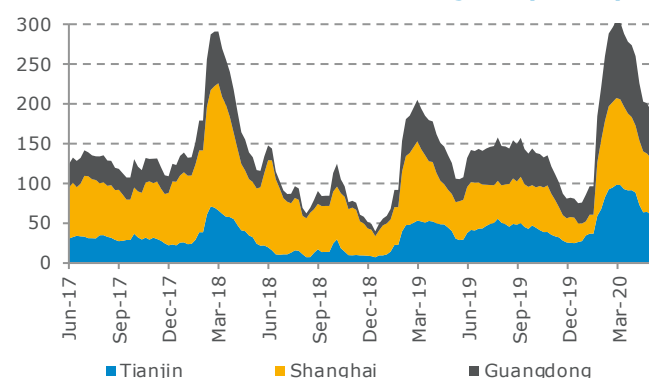
Source: Bloomberg, mBank

## Zinc and Electrical Steel Charts

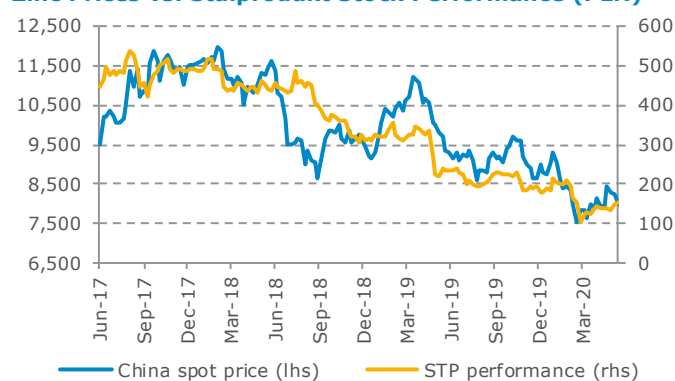
### Exchange-Monitored Zinc Inventories (1,000t)



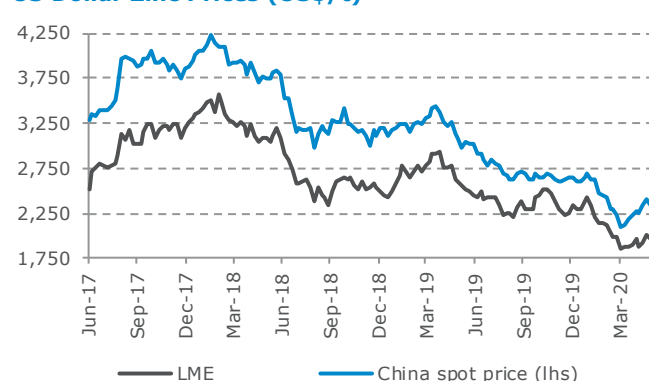
### Zinc Inventories in Three Chinese Regions (1,000t)



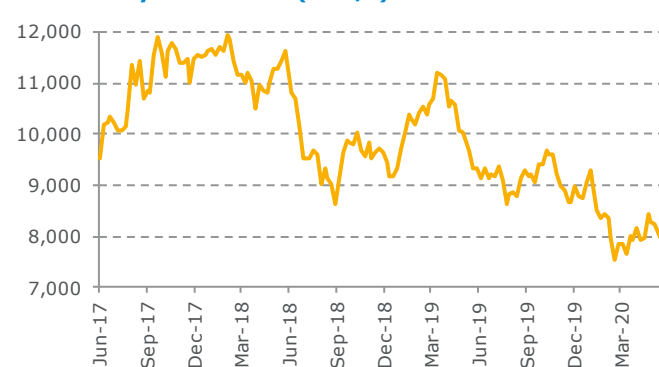
### Zinc Prices vs. Stalprodukt Stock Performance (PLN)



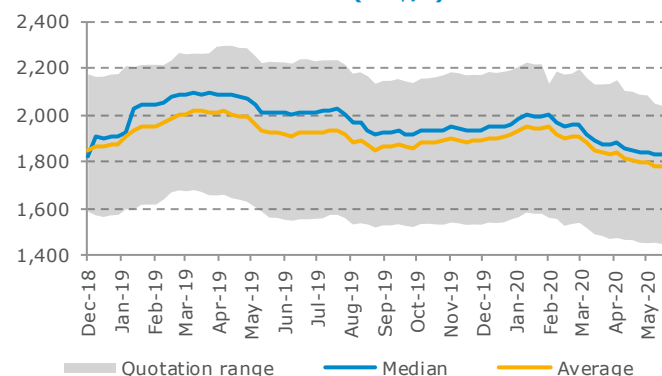
### US Dollar Zinc Prices (US\$/t)



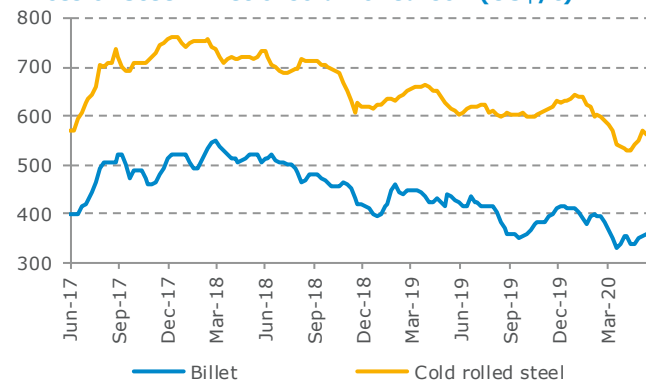
### Polish Zloty Zinc Prices (PLN/t)



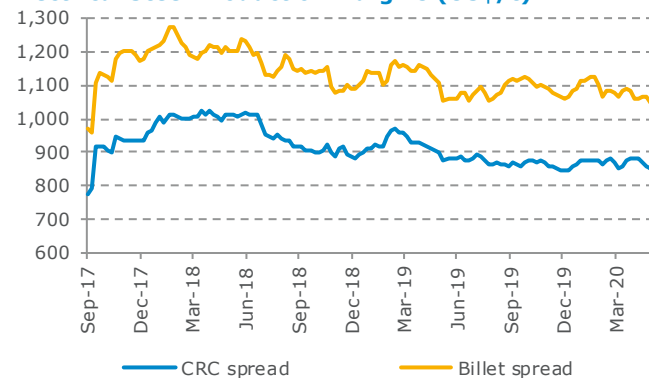
### China Electrical Steel Prices (US\$/t)



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



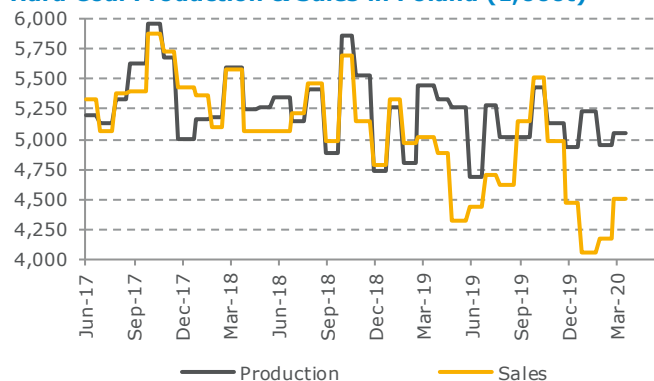
### Electrical Steel Production Margins (US\$/t)



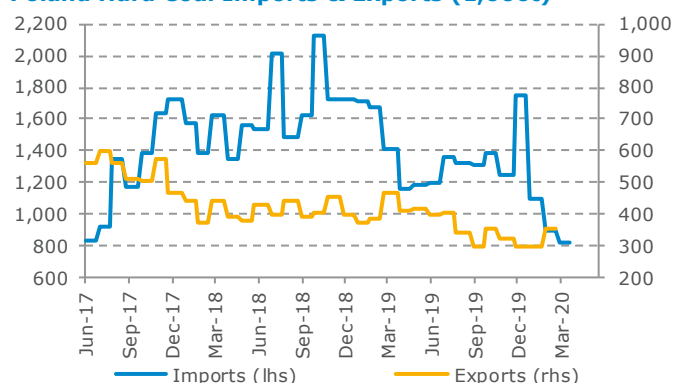
Source: Bloomberg, mBank

## Thermal Coal Charts

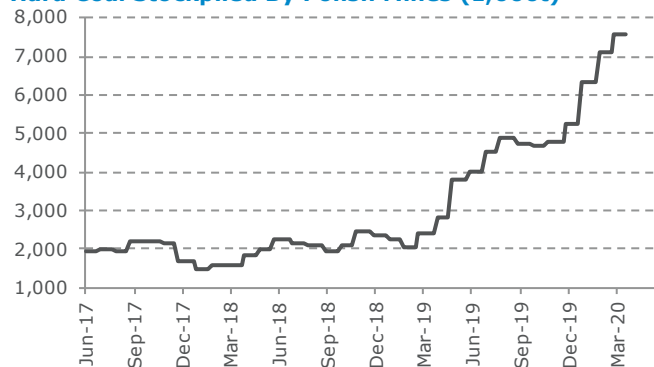
**Hard Coal Production & Sales in Poland (1,000t)**



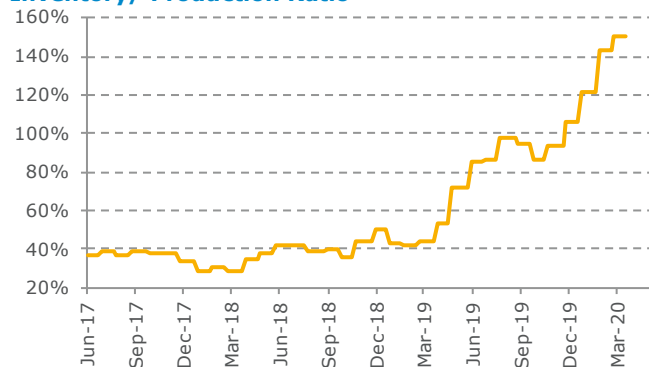
**Poland Hard Coal Imports & Exports (1,000t)**



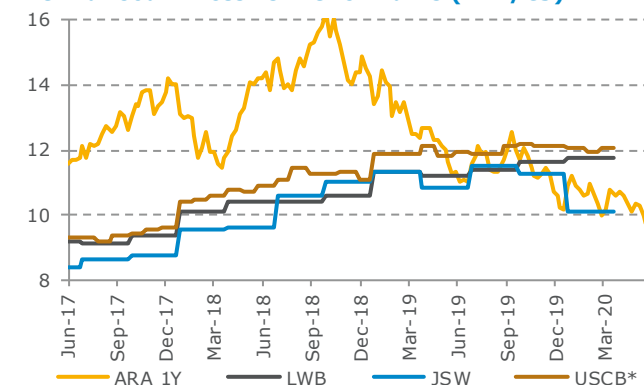
**Hard Coal Stockpiled By Polish Mines (1,000t)**



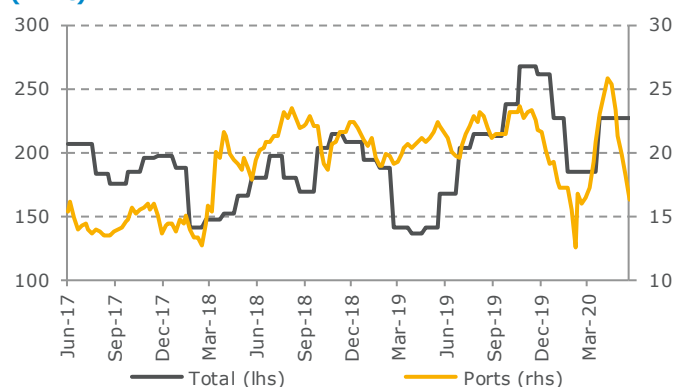
**Inventory/ Production Ratio**



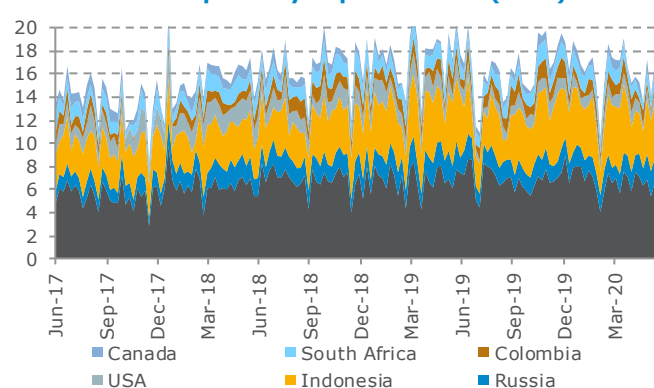
**Thermal Coal Prices vs. Benchmarks (PLN/GJ)**



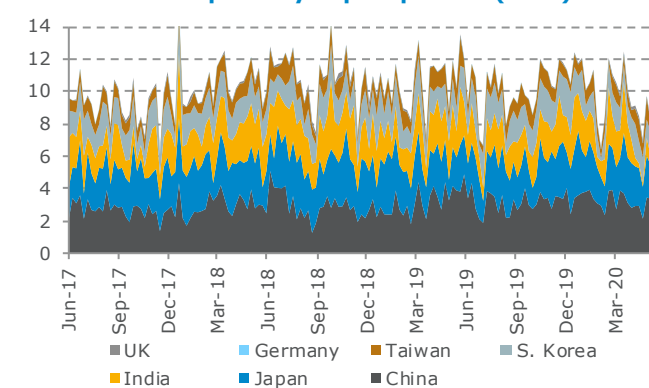
**China Thermal Coal Inventories, Total & In Ports (mmt)**



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



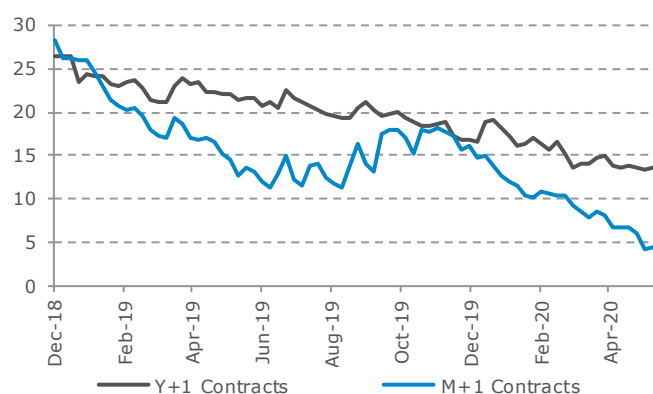
**Thermal Coal Imports by Top Importers (mmt)**



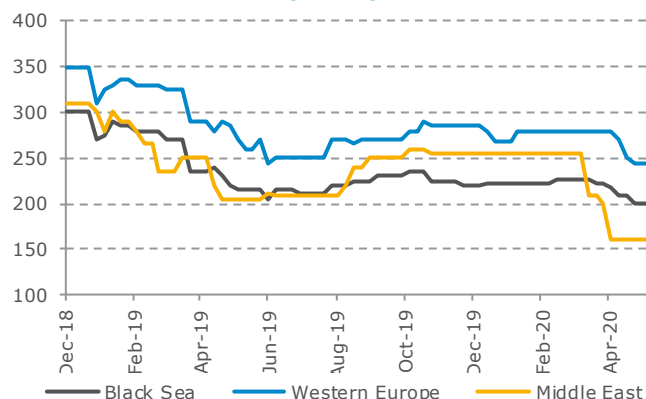
Source: Bloomberg, ARP, Eurostat, mBank \*Upper Silesian Coal Basin

## Fertilizer Charts

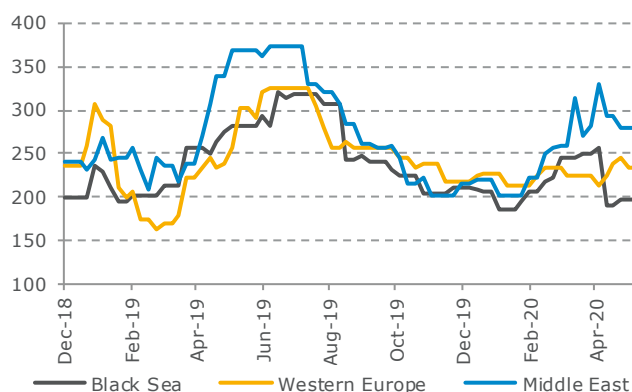
### German NatGas Prices (US\$/MWh)



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



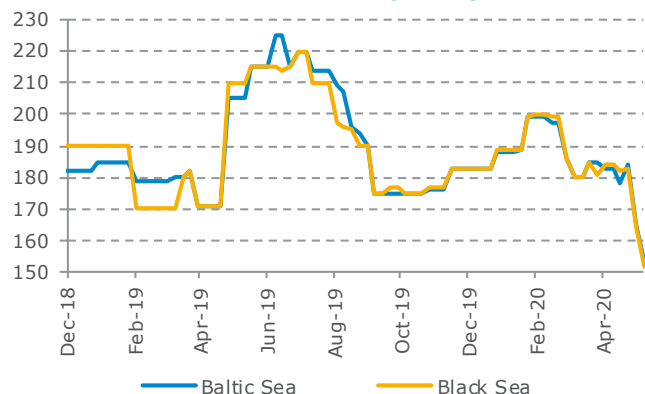
### Urea-Ammonia Price Difference



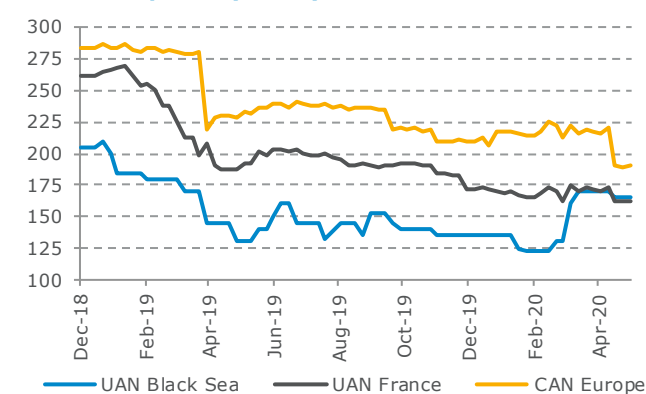
### World Urea Prices (US\$/t)



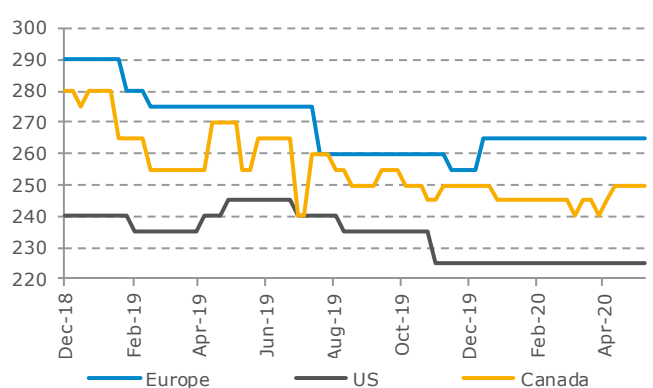
### World Ammonium Nitrate Prices (US\$/t)



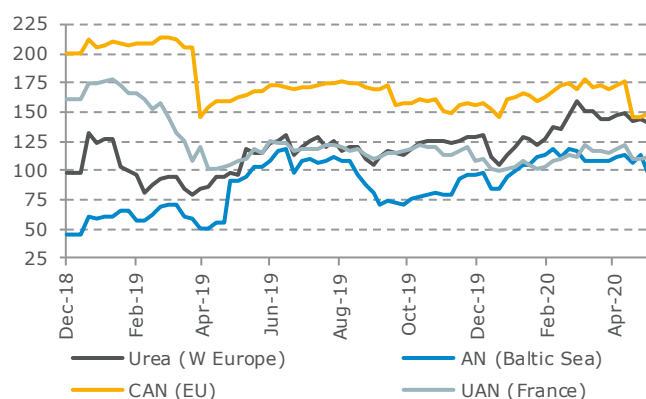
### CAN & UAN prices (US\$/t)



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



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

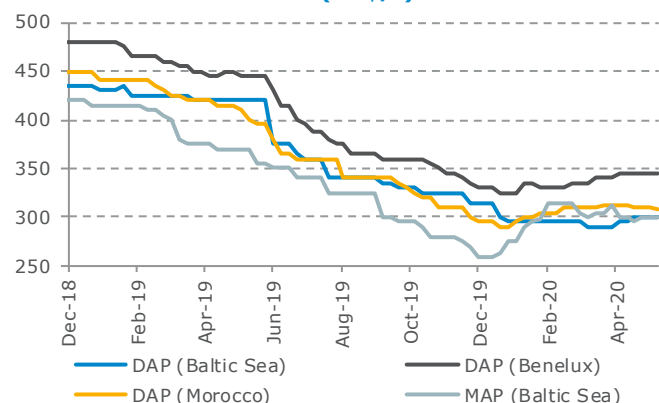


Source: Bloomberg, mBank

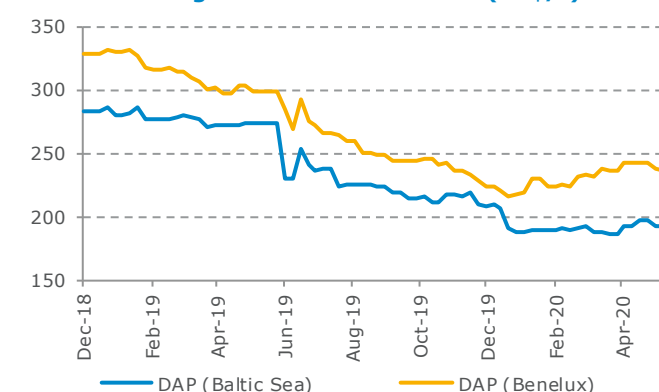


## Fertilizer Charts

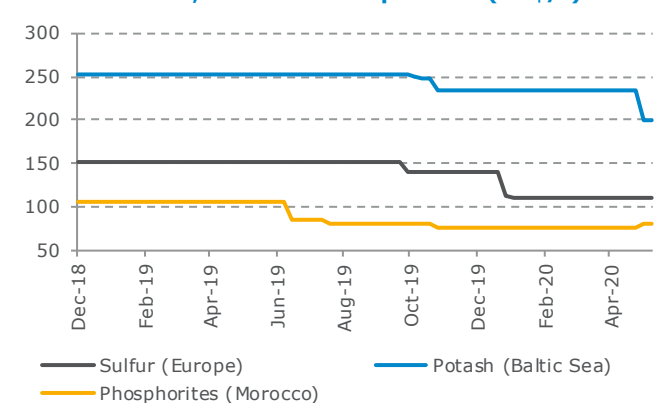
Prices of P & K Fertilizers (US\$/t)



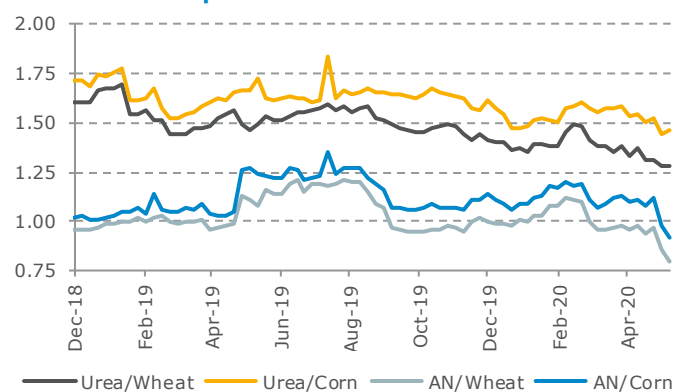
Production Margins on P & K Fertilizers (US\$/t)



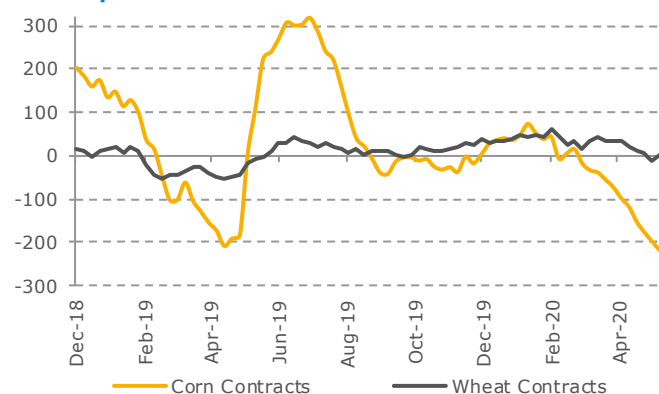
Prices of Sulfur, Potash & Phosphorites (US\$/t)



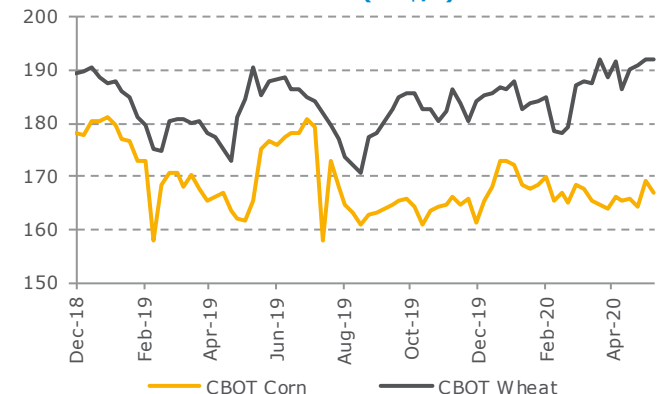
Fertilizer-to-Crop Price Ratios



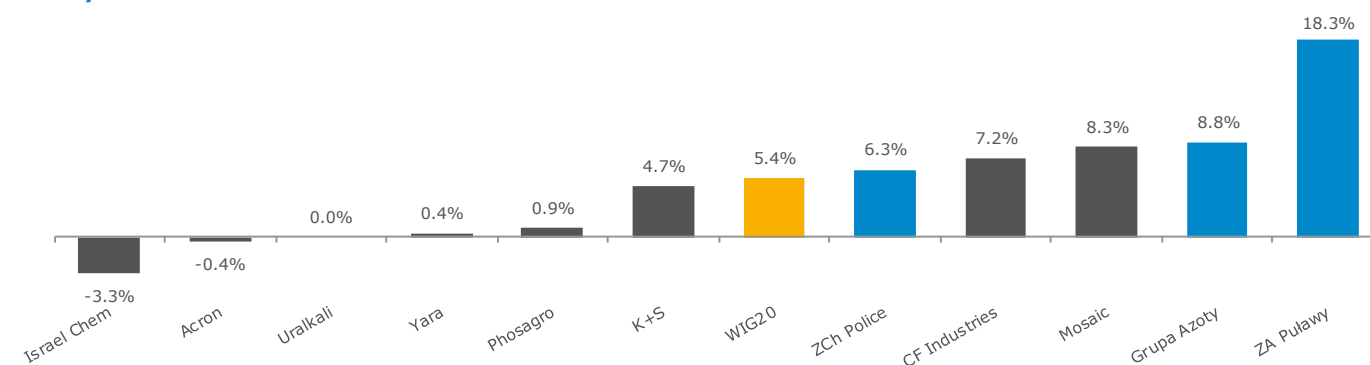
CBOT Open Positions In Corn and Wheat CBT



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



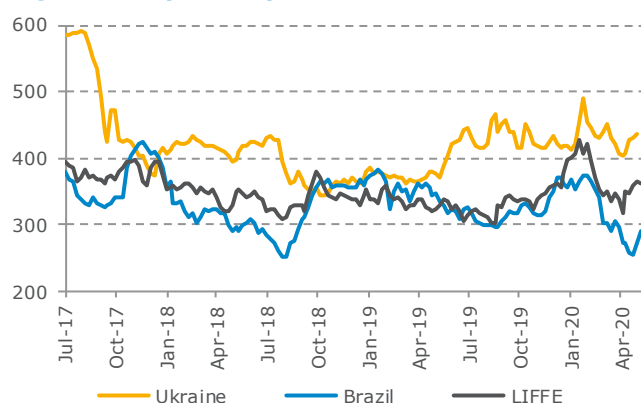
Weekly Returns of Fertilizer Stocks



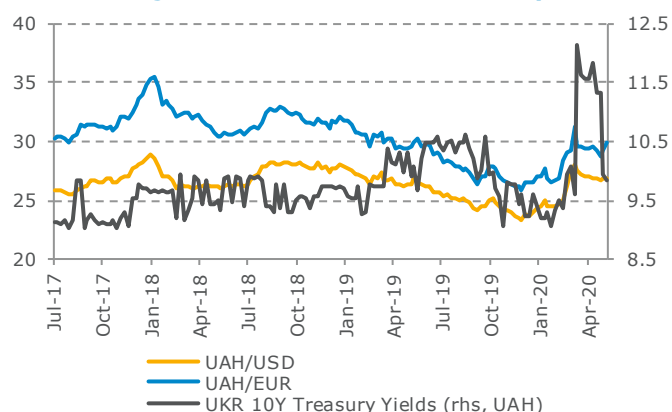
Source: Bloomberg, mBank

## Agricultural Commodities

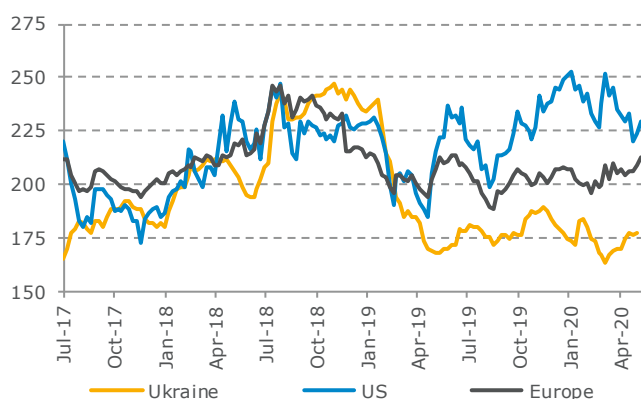
### Sugar Prices (US\$/Mt)



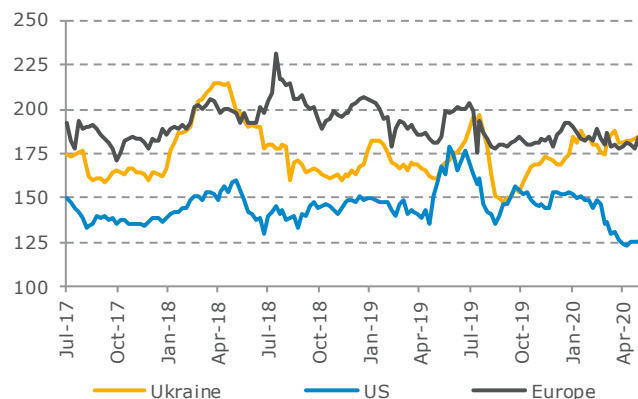
### UAH Exchange Rates & Ukraine 10Y Treasury Yields



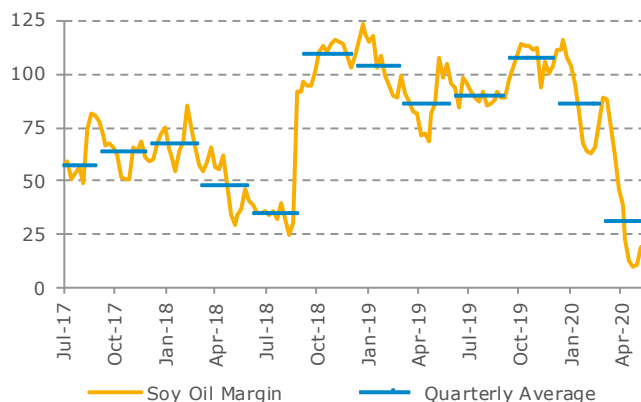
### Wheat Prices (US\$/Mt)



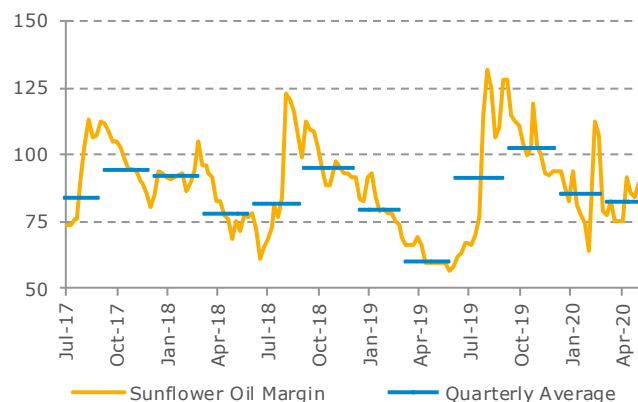
### Corn Prices (US\$/Mt)



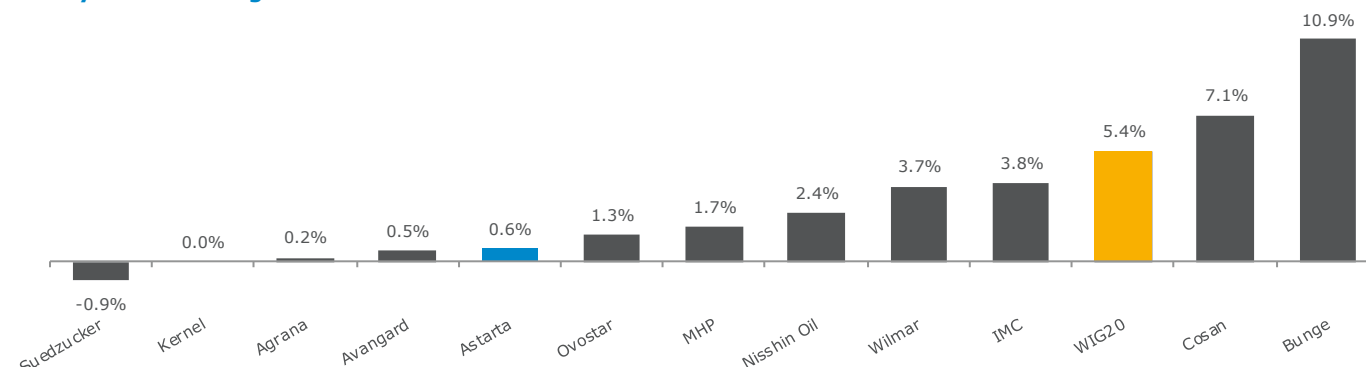
### Model Margins on Soy Oil (US\$/Mt)



### 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		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
UTILITIES																
CEZ	484.0	7.0	6.7	7.4	2.1	1.9	2.0	18.1	12.0	16.8	29%	29%	27%	4.9%	7.0%	7.5%
Enea	6.2	2.9	2.9	2.6	0.6	0.5	0.6	2.6	2.5	2.0	20%	18%	21%	0.0%	0.0%	3.9%
Energa	8.0	3.8	4.4	4.6	0.7	0.7	0.8	6.2	6.0	5.4	19%	17%	17%	0.0%	0.0%	0.0%
PGE	5.3	3.0	3.4	2.5	0.6	0.5	0.5	-	7.2	3.4	19%	15%	21%	0.0%	0.0%	3.5%
Tauron	1.3	4.5	4.9	4.3	0.8	0.8	0.8	-	3.4	1.9	18%	17%	19%	0.0%	0.0%	0.0%
ZE PAK*	8.1	-	0.6	0.5	0.0	0.0	0.1	-	10.8	4.0	-	8%	11%	-	-	3.1%
EDF	8.1	4.9	4.8	4.4	1.0	1.0	1.0	5.4	18.9	14.0	21%	22%	23%	4.1%	2.5%	3.4%
EDP	4.2	9.3	9.4	9.3	2.3	2.2	2.2	30.0	18.8	17.7	25%	23%	24%	4.5%	4.5%	4.6%
Endesa	21.7	7.6	7.5	7.3	1.5	1.5	1.4	100+	13.8	13.6	20%	19%	20%	6.6%	7.2%	6.0%
Enel	7.0	8.2	7.5	7.2	1.7	1.7	1.6	33.3	14.0	13.0	21%	22%	23%	4.7%	5.1%	5.4%
EON	9.6	17.0	8.1	7.8	1.4	0.9	0.9	14.1	15.4	13.7	8%	11%	11%	4.8%	4.9%	5.1%
Fortum	17.3	15.0	10.1	9.3	4.6	0.7	0.6	10.1	11.4	12.5	30%	7%	7%	6.4%	6.3%	6.3%
Iberdola	9.7	10.6	10.3	9.7	3.0	2.9	2.8	18.0	17.4	16.2	29%	28%	28%	3.8%	4.3%	4.5%
National Grid	9.3	13.5	11.5	10.9	4.0	3.9	3.8	20.8	15.7	15.3	30%	34%	35%	5.0%	5.3%	5.4%
Red Electrica	16.0	10.0	10.3	10.2	8.0	7.9	8.0	12.0	13.1	13.2	80%	77%	78%	6.1%	6.5%	6.4%
RWE	30.3	12.2	7.4	6.6	1.6	1.4	1.4	2.2	18.4	15.3	13%	19%	21%	2.6%	2.8%	3.0%
SSE	12.5	10.4	12.1	11.5	0.9	2.9	3.0	9.1	15.1	13.8	9%	24%	26%	7.8%	6.2%	6.4%
Verbund	40.0	13.0	13.0	12.9	4.1	4.3	4.3	25.0	25.3	25.1	32%	33%	33%	1.7%	1.8%	1.9%
Median		9.3	7.5	7.4	1.5	1.4	1.4	13.1	13.9	13.6	21%	21%	22%	4.5%	4.5%	4.6%

### Comparison of Gas & Oil Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
OIL REFINERS																
Lotos	60.12	4.9	26.3	4.8	0.5	0.8	0.7	9.6	-	8.5	10%	3%	15%	5.0%	3.3%	5.0%
MOL	1970.00	3.4	8.5	5.4	0.4	1.0	0.9	6.6	-	12.3	13%	12%	17%	7.2%	0.0%	3.5%
PKN Orlen	67.70	4.0	8.8	4.7	0.3	0.6	0.6	6.7	-	9.9	8%	7%	12%	5.2%	4.4%	4.4%
Hellenic Petroleum	6.32	7.1	8.5	6.4	0.5	0.7	0.6	11.9	13.0	6.5	7%	8%	9%	7.9%	5.5%	6.6%
HollyFrontier	31.14	4.0	11.5	6.5	0.4	0.7	0.5	6.7	100+	13.9	11%	6%	8%	4.3%	4.5%	4.6%
Marathon Petroleum	36.50	6.4	11.8	7.4	0.5	0.7	0.6	9.1	-	15.4	8%	6%	8%	5.8%	6.4%	6.8%
Motor Oil	15.63	4.4	6.6	4.5	0.2	0.3	0.3	7.7	15.9	8.3	5%	5%	7%	7.4%	5.9%	7.1%
Neste Oil	35.86	9.9	15.1	12.7	1.7	2.5	2.1	15.4	23.2	20.2	18%	17%	17%	2.6%	2.6%	2.8%
OMV	29.72	3.8	5.4	3.9	0.9	1.2	1.0	5.8	15.5	7.9	22%	22%	24%	6.7%	6.8%	6.9%
Phillips 66	78.83	11.4	14.3	7.7	0.4	0.7	0.6	11.6	30.9	12.1	4%	5%	7%	4.4%	4.6%	4.9%
Saras	0.81	4.3	4.5	3.4	0.1	0.2	0.2	29.2	47.8	11.0	3%	4%	4%	9.8%	5.3%	4.7%
Tupras	88.80	9.0	10.1	5.8	0.4	0.6	0.4	42.3	67.8	8.2	4%	6%	7%	-	8.1%	11.6%
Valero Energy	66.58	6.0	19.3	7.5	0.4	0.8	0.5	11.4	-	16.2	6%	4%	7%	5.4%	5.9%	6.0%
Median		4.9	10.1	5.8	0.4	0.7	0.6	9.6	23.2	11.0	8%	6%	8%	5.6%	5.3%	5.0%

### Comparison of Petrochemical Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
PETROCHEMICALS																
PKN Orlen	67.70	4.0	8.8	4.7	0.3	0.6	0.6	6.7	-	9.9	8%	7%	12%	5.2%	4.4%	4.4%
Axiall	48.20	6.7	8.7	7.8	1.2	1.4	1.3	14.8	34.9	22.0	18%	16%	17%	2.1%	2.2%	2.3%
Braskem	27.92	15.5	6.9	6.1	1.1	1.0	0.9	-	-	23.3	7%	15%	15%	9.0%	0.1%	0.6%
Eastman Chemical	68.56	8.4	8.8	8.1	1.6	1.9	1.7	12.4	11.6	9.9	19%	21%	22%	3.7%	3.8%	4.1%
Huntsman Corp	18.43	6.6	11.4	7.1	0.8	0.9	0.8	7.5	50.9	13.4	12%	8%	11%	3.5%	3.5%	3.7%
Lotte Chemicals	189,500	4.0	5.3	3.8	0.5	0.6	0.5	9.1	15.4	8.4	12%	11%	14%	3.5%	3.0%	3.7%
LyondellBasell	65.34	6.0	9.3	7.2	1.0	1.4	1.2	6.8	13.8	8.8	17%	15%	17%	6.4%	6.5%	6.6%
Mitsubishi Chemical	640.20	6.8	7.6	8.1	0.8	0.9	0.9	5.4	12.3	15.4	12%	12%	12%	6.2%	5.9%	5.2%
Mitsui Chemicals	2220.00	6.6	7.5	8.8	0.6	0.7	0.8	5.8	9.5	13.6	10%	9%	9%	4.5%	4.5%	4.1%
Westlake Chemical	48.20	6.7	8.7	7.8	1.2	1.4	1.3	14.8	34.9	22.0	18%	16%	17%	2.1%	2.2%	2.3%
Median		6.6	8.7	7.5	0.9	1.0	0.9	7.5	14.6	13.5	12%	13%	15%	4.1%	3.7%	3.9%

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		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
GAS COMPANIES																
PGNiG	4.29	5.2	4.9	4.1	0.7	0.8	0.8	18.1	13.9	9.6	13%	16%	20%	2.6%	2.2%	2.9%
A2A	1.26	6.4	6.6	6.4	1.0	1.1	1.1	10.1	13.6	13.3	16%	17%	17%	6.1%	6.3%	6.5%
BG Group	12.91	4.0	6.5	4.9	0.6	0.9	0.7	8.4	39.8	12.5	15%	13%	14%	11.4%	4.3%	4.4%
BP	3.11	5.7	7.0	5.3	0.5	0.8	0.6	20.0	100+	10.1	9%	11%	12%	10.3%	9.9%	9.7%
Centrica	0.38	4.5	3.8	3.8	0.2	0.3	0.3	-	8.8	6.0	5%	7%	7%	13.2%	5.0%	6.3%
Enagas	20.92	11.3	9.4	9.7	7.7	7.9	8.4	11.8	12.4	12.2	69%	84%	87%	7.4%	8.0%	8.1%
Endesa	21.70	7.6	7.5	7.3	1.5	1.5	1.4	100+	13.8	13.6	20%	19%	20%	6.6%	7.2%	6.0%
Engie	10.65	7.4	6.0	5.5	0.9	1.0	0.9	31.3	12.6	9.9	13%	16%	17%	7.5%	6.4%	7.4%
Eni	8.34	3.4	5.4	4.0	0.7	0.9	0.8	100+	-	21.7	21%	17%	20%	10.3%	8.9%	8.9%
Equinor	141.15	3.6	4.7	3.4	1.1	1.4	1.2	29.2	100+	17.7	29%	29%	35%	1.7%	3.6%	4.6%
Gas Natural SDG	16.52	7.6	8.2	7.7	1.5	1.6	1.5	11.6	13.5	11.8	20%	19%	19%	8.1%	8.7%	9.1%
Gazprom	198.72	4.2	5.2	4.3	1.0	1.1	1.0	3.7	9.2	5.5	23%	22%	23%	7.7%	4.9%	8.2%
Hera	3.45	9.0	7.8	7.6	1.2	1.2	1.2	13.2	17.1	16.3	13%	15%	15%	2.9%	3.1%	3.2%
NovaTek	148.90	3.2	14.3	11.5	3.4	4.2	3.7	3.2	16.2	12.5	105%	30%	32%	3.2%	3.1%	5.6%
ROMGAZ	30.50	5.6	4.4	4.4	2.0	2.1	2.1	10.8	8.8	9.5	35%	49%	47%	5.3%	10.4%	9.6%
Shell	14.68	3.9	6.5	4.9	0.6	0.9	0.7	8.3	40.6	12.7	15%	13%	14%	11.4%	4.3%	4.3%
Snam	4.30	12.3	12.3	11.9	10.1	9.9	9.7	13.0	13.2	12.6	82%	81%	81%	5.5%	5.9%	6.1%
Total	34.55	4.4	7.2	5.4	0.8	1.0	0.9	8.9	31.0	14.8	19%	14%	16%	7.8%	7.7%	7.8%
Median		5.4	6.6	5.4	1.0	1.1	1.0	11.6	13.6	12.5	19%	17%	19%	7.5%	6.1%	6.4%

## Comparison of E&amp;P Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
E&P COMPANIES																
MOL	1970.00	4.2	4.8	3.8	0.5	0.6	0.5	6.2	19.8	6.7	12%	13%	14%	-	5.2%	5.8%
Bashneft	1823.50	2.5	1.8	1.5	0.5	0.4	0.4	3.7	2.5	2.0	20%	24%	25%	-	14.1%	15.3%
BP	3.11	5.7	7.0	5.3	0.5	0.8	0.6	20.0	100+	10.1	9%	11%	12%	10.3%	9.9%	9.7%
Dana Gas	0.62	3.3	4.2	4.9	2.4	2.2	2.4	7.7	10.0	12.2	73%	52%	49%	32.6%	9.2%	8.9%
Eni	8.34	3.4	5.4	4.0	0.7	0.9	0.8	100+	-	21.7	21%	17%	20%	10.3%	8.9%	8.9%
Equinor	141.15	3.6	4.7	3.4	1.1	1.4	1.2	29.2	100+	17.7	29%	29%	35%	1.7%	3.6%	4.6%
Gazprom Neft	337.50	3.9	6.2	4.7	1.0	1.3	1.1	4.0	7.6	5.7	25%	21%	23%	11.2%	100%+	8.8%
Gulf Keystone	0.76	0.9	4.0	1.2	0.6	1.2	0.7	5.0	-	36.1	59%	31%	56%	-	-	-
Lukoil	5318.00	3.0	4.7	3.8	0.5	0.7	0.6	5.5	13.3	8.9	16%	15%	15%	6.5%	6.7%	8.5%
Occidental Petroleum	13.81	8.8	11.4	8.9	2.9	3.3	3.3	-	-	-	33%	29%	37%	22.7%	11.2%	6.0%
Repsol	8.62	-	6.2	4.5	0.5	0.8	0.7	-	18.3	8.3	-	13%	15%	10.8%	11.2%	11.2%
Rosneft Oil	378.70	4.3	6.7	4.9	0.9	1.5	1.2	5.7	25.0	7.1	22%	22%	24%	7.5%	2.8%	6.9%
Shell	14.68	3.9	6.5	4.9	0.6	0.9	0.7	8.3	40.6	12.7	15%	13%	14%	11.4%	4.3%	4.3%
Surgutneftegas	35.42	-	-	-	-	-	-	11.9	3.1	6.4	-	-	-	2.0%	10.5%	3.7%
Total	34.55	4.4	7.2	5.4	0.8	1.0	0.9	8.9	31.0	14.8	19%	14%	16%	7.8%	7.7%	7.8%
Tullow Oil	0.24	-	5.1	5.5	2.6	3.4	3.6	-	-	-	-	67%	66%	7.8%	-	-
Median		3.9	5.4	4.7	0.7	1.0	0.8	6.9	15.8	9.5	21%	21%	23%	10.3%	8.9%	8.1%

## Comparison of Mining Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
MINING COMPANIES																
JSW	17.50	0.6	4.7	3.0	0.1	0.4	0.3	3.3	-	-	22%	8%	11%	9.8%	0.0%	0.0%
KGHM	87.42	5.4	7.6	7.7	1.1	1.2	1.2	12.3	29.1	36.1	20%	16%	16%	0.0%	1.1%	0.9%
LW Bogdanka*	20.55	0.6	0.8	1.0	0.2	0.2	0.2	2.3	4.1	6.7	36%	30%	25%	-	6.8%	2.9%
Anglo American	16.99	4.2	4.8	4.2	1.3	1.5	1.3	7.7	12.1	9.2	30%	31%	32%	5.0%	3.5%	4.6%
Antofagasta	8.95	6.0	8.6	5.9	2.8	3.4	2.9	22.4	69.9	24.1	46%	40%	49%	3.0%	0.8%	2.3%
BHP Group	15.93	6.0	5.9	6.6	3.0	3.1	3.2	12.9	11.0	13.2	50%	52%	50%	6.5%	5.8%	4.9%
Freeport-McMoRan	9.34	11.8	14.8	5.7	2.1	2.5	1.8	-	-	10.2	18%	17%	32%	2.1%	0.5%	1.8%
Glencore	1.57	5.7	6.7	5.4	0.3	0.3	0.3	-	56.1	14.8	5%	5%	5%	10.0%	4.2%	6.9%
Grupo Mexico	49.84	5.6	6.5	5.5	2.8	2.8	2.4	9.0	22.8	11.9	51%	42%	44%	6.4%	4.4%	8.5%
Kazakhmys	4.90	4.8	6.1	5.5	2.5	3.0	2.7	5.2	9.2	7.7	52%	49%	50%	1.9%	1.2%	1.2%
Rio Tinto	43.77	6.4	5.7	6.1	2.4	2.7	2.7	11.4	11.1	12.3	37%	47%	44%	6.8%	5.7%	5.3%
Southern CC	36.85	9.5	13.6	10.4	4.7	5.6	4.7	19.2	32.5	20.5	50%	41%	45%	4.3%	3.1%	3.8%
Median		5.6	6.3	5.6	2.2	2.6	2.1	10.2	17.5	12.3	36%	35%	38%	5.0%	3.3%	3.3%
ALUMINUM PRODUCERS																
Grupa Kęty	354.00	7.8	8.7	8.4	1.3	1.4	1.3	11.5	13.1	12.4	16%	16%	15%	6.8%	4.3%	6.1%
Alcoa	9.49	6.9	5.1	3.8	0.4	0.5	0.5	-	-	-	6%	10%	12%	-	-	-
Constellium	8.11	6.1	7.0	5.9	0.5	0.6	0.6	16.8	-	11.5	9%	9%	10%	-	-	-
Kaiser Aluminum	72.68	7.3	11.1	7.5	0.9	1.1	1.1	18.7	29.3	18.5	12%	10%	14%	3.3%	3.5%	4.0%
Norsk Hydro	24.68	7.1	5.5	4.5	0.5	0.5	0.5	-	26.0	12.9	7%	9%	10%	5.1%	5.1%	5.1%
Rusal	3.11	18.8	19.3	14.6	1.3	1.5	1.4	6.3	4.6	4.2	7%	8%	9%	-	1.5%	5.0%
Median		7.2	7.9	6.7	0.7	0.9	0.8	14.2	19.5	12.4	8%	9%	11%	5.1%	3.9%	5.0%

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		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
FERTILIZER PRODUCERS																
Grupa Azoty	33.55	4.8	6.3	9.3	0.6	0.8	0.9	8.9	15.7	-	13%	13%	9%	0.0%	0.0%	0.0%
ZA Police*	11.90	9.6	16.5	9.2	0.7	0.8	0.7	18.0	-	-	7%	5%	8%	-	-	-
Acron	6172.00	10.5	10.1	8.5	3.2	3.1	2.7	10.0	16.3	11.2	31%	31%	32%	6.4%	5.9%	5.7%
CF Industries	29.59	6.6	9.2	9.1	2.8	3.1	3.0	13.2	20.1	17.2	43%	34%	33%	4.1%	4.1%	4.1%
Israel Chemicals	11.80	5.7	7.5	6.5	1.3	1.4	1.3	9.0	14.5	11.2	23%	18%	20%	5.7%	2.7%	4.4%
K+S	5.79	6.6	8.6	6.6	1.1	1.1	1.1	12.6	-	18.6	16%	13%	16%	2.6%	1.5%	2.5%
Phosagro	2802.00	6.8	7.0	6.1	2.1	2.1	1.9	7.4	12.6	7.1	30%	30%	32%	8.0%	5.6%	7.8%
The Mosaic Company	12.52	-	8.3	6.1	1.1	1.2	1.1	-	85.2	15.2	-	14%	18%	1.6%	1.5%	1.6%
Yara International	332.60	7.8	6.1	5.6	1.1	1.1	1.0	17.2	10.8	9.0	15%	18%	18%	3.4%	4.9%	6.2%
Median		6.7	8.3	6.6	1.1	1.2	1.1	11.3	15.7	11.2	20%	18%	18%	3.7%	3.4%	4.3%

### Comparison of Agricultural Company Valuations

	Price	EV/EBITDA			EV/S			P/E			EBITDA Margin			DY		
		2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
AGRI PRODUCERS																
Astarta*	16.10	4.3	4.1	2.8	0.7	0.8	0.7	53.5	-	2.7	17%	19%	25%	-	-	5.7%
Kemel	42.00	4.6	6.1	5.4	0.4	0.5	0.4	5.1	7.0	6.3	9%	8%	8%	2.1%	2.3%	2.2%
Agrana Beteiligungs	17.40	10.7	8.4	-	0.7	0.7	-	42.4	21.5	-	6%	8%	-	5.7%	6.0%	-
Bunge Limited	39.22	-	9.7	8.3	0.3	0.3	0.3	-	14.4	9.8	-	3%	4%	5.1%	5.0%	5.3%
Cosan	68.29	11.4	6.3	5.5	2.6	0.5	0.5	11.1	18.7	13.2	23%	8%	8%	1.5%	2.1%	2.3%
MHP	6.00	4.7	4.2	-	1.0	1.0	-	2.9	-	-	21%	24%	-	12.5%	4.7%	-
Nisshin Oillio	3460.00	8.1	8.0	7.7	0.5	0.5	0.5	13.1	13.2	13.1	6%	6%	6%	2.3%	2.3%	2.3%
Suedzucker	13.45	-	11.3	7.5	0.8	0.8	0.7	-	-	16.0	-	7%	10%	1.5%	1.6%	2.1%
Wilmar Int.	3.92	11.8	11.8	10.8	0.8	0.7	0.6	14.1	14.5	13.0	7%	6%	6%	3.1%	3.1%	3.4%
Median		8.1	8.0	7.5	0.7	0.7	0.5	13.1	14.4	13.0	9%	8%	8%	2.7%	2.7%	2.3%

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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**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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