Commodity Prices: Special Focus on Oil

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This presentation

- Sums up the recent trends in oil (and briefly, other commodity) prices
- Discusses core factors determining oil price changes:

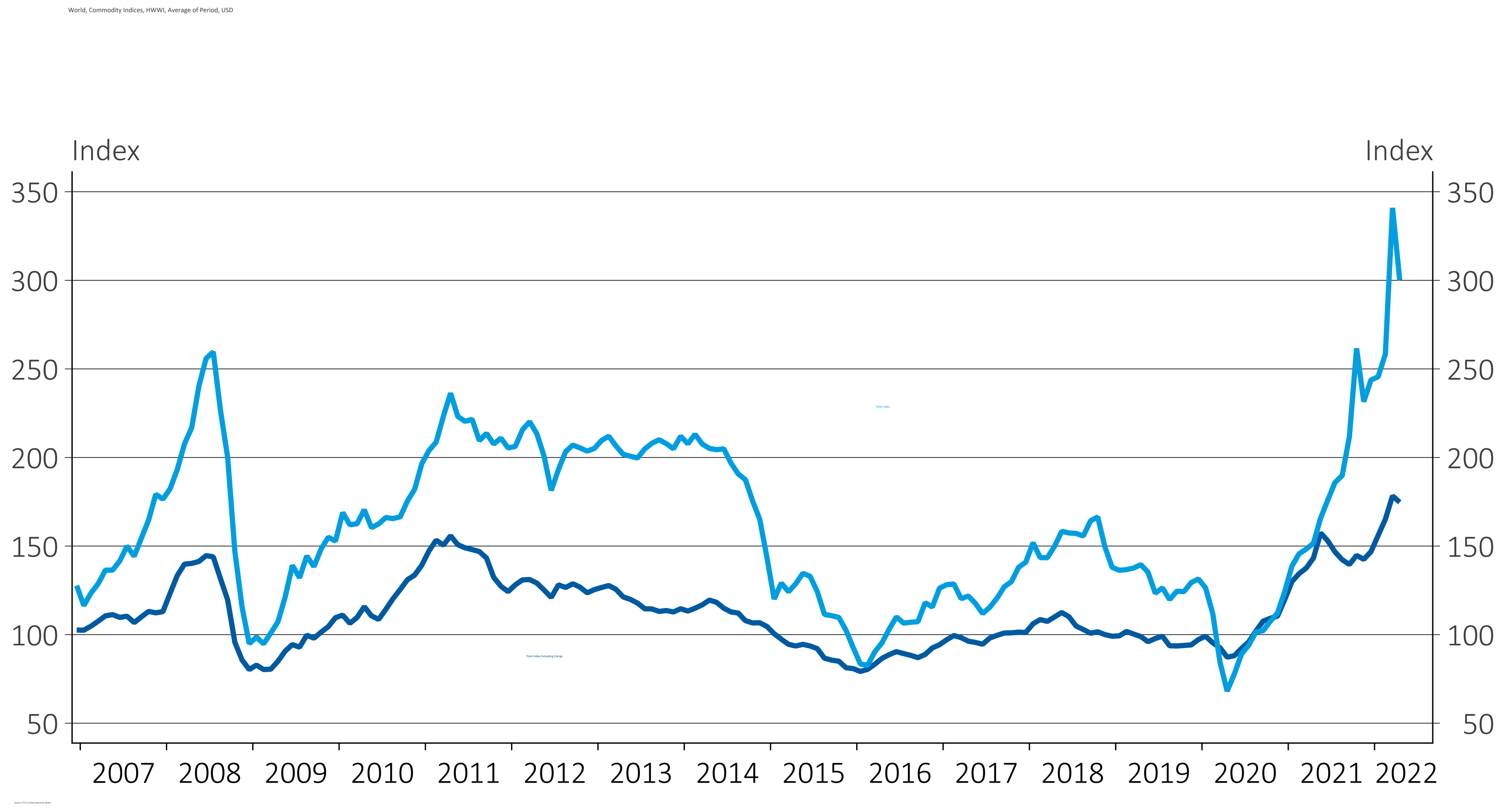
  - The recent drivers of price development (i.e. Russia's aggression)

  - The US (shale) oil production

  - The OPEC responses

  - Price forecast plus a scenario
- Note: There's much going with other commodity prices as well, but this presentation focuses on oil prices.

HWWI Index, including and excluding energy 2007:1 – 2022:3 (2020=100)



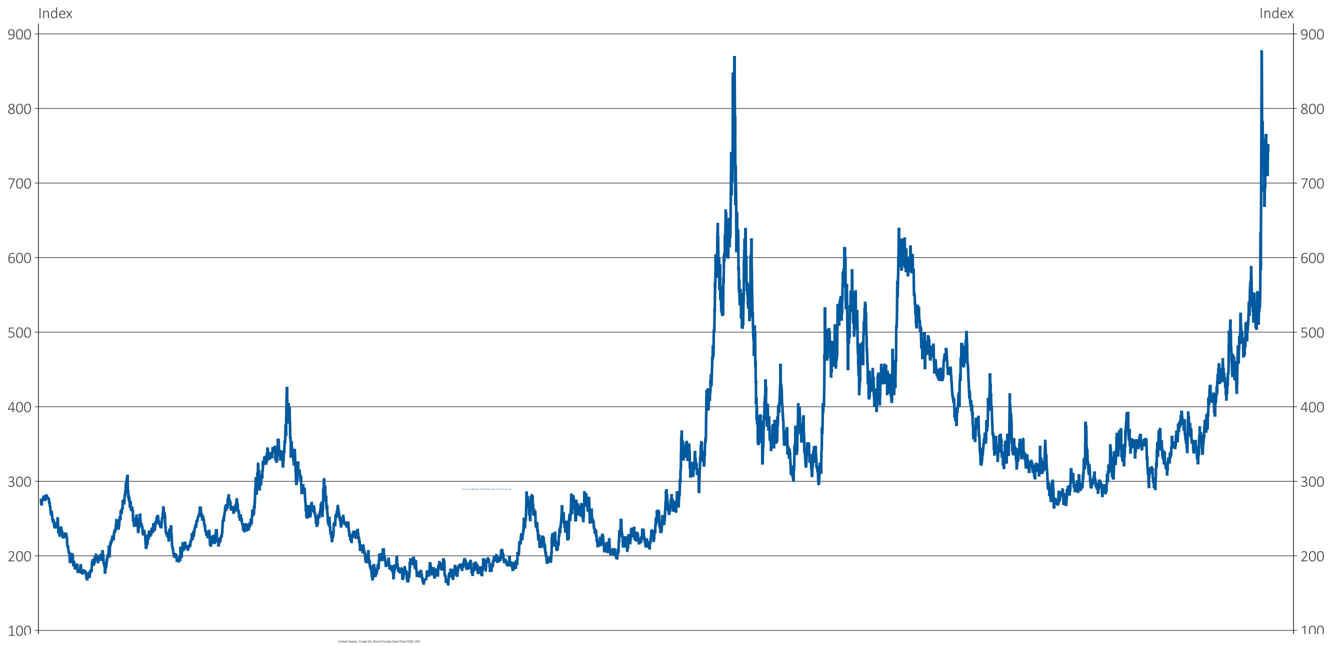
- HWWI overall index increased by 32% (US dollar basis) in March compared with the previous month

- Crude oil prices increased by 18.6% compared with the previous month
- Natural gas prices increased by 60.1% m-on-m

Weighting of Commodities and Commodity Groups in the HWWI Index Index, total (all commodities)

- Weights, HWWI-Index (2020 = 100)

HWWI Index, total	**100**
HWWI Index, total excl. Energy	27.1
Food total	9.7
Industrial raw materials	17.4
Energy raw materials	72.9
- Coal	5.81
- Crude Oil	**51.38**
- Natural gas	15.75



- **Russia's invasion of Ukraina** has had a marked effect on a group of commodity prices, for instance wheat and oil prices

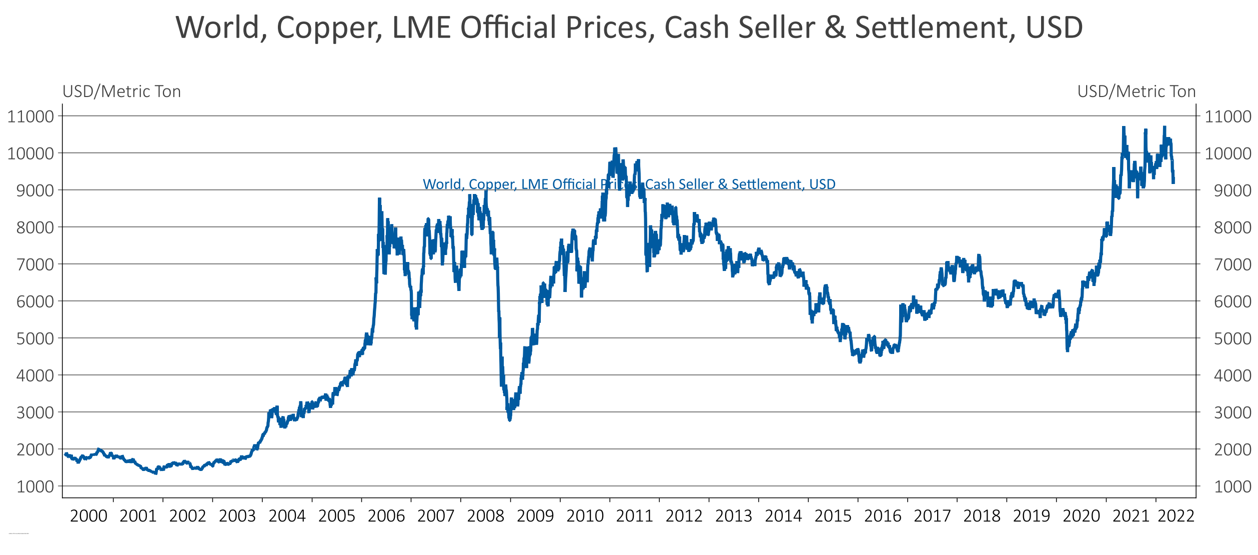
Wheat price index

- The index for food and beverages rose by 9.8% in March compared with the previous month and was thus 37.3% higher than a year earlier.

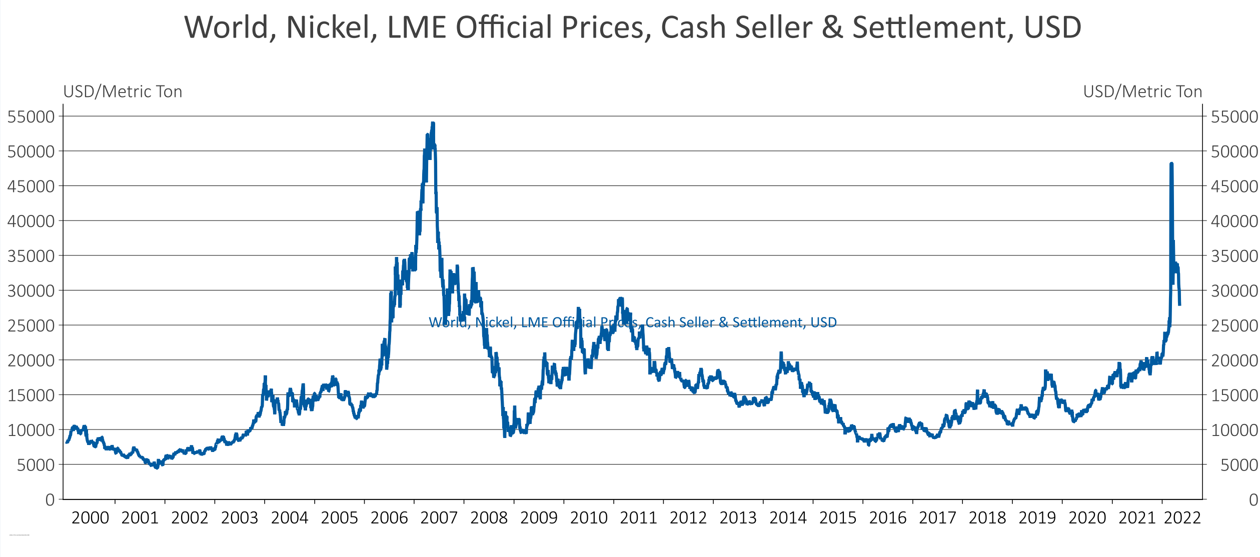
Oil price on the left. Price index for energy raw materials: +37.0% (euro basis: +41.1%) compared with the previous month.

Price index for industrial raw materials: +7% (euro basis: +10.1%) compared with the previous month

Copper

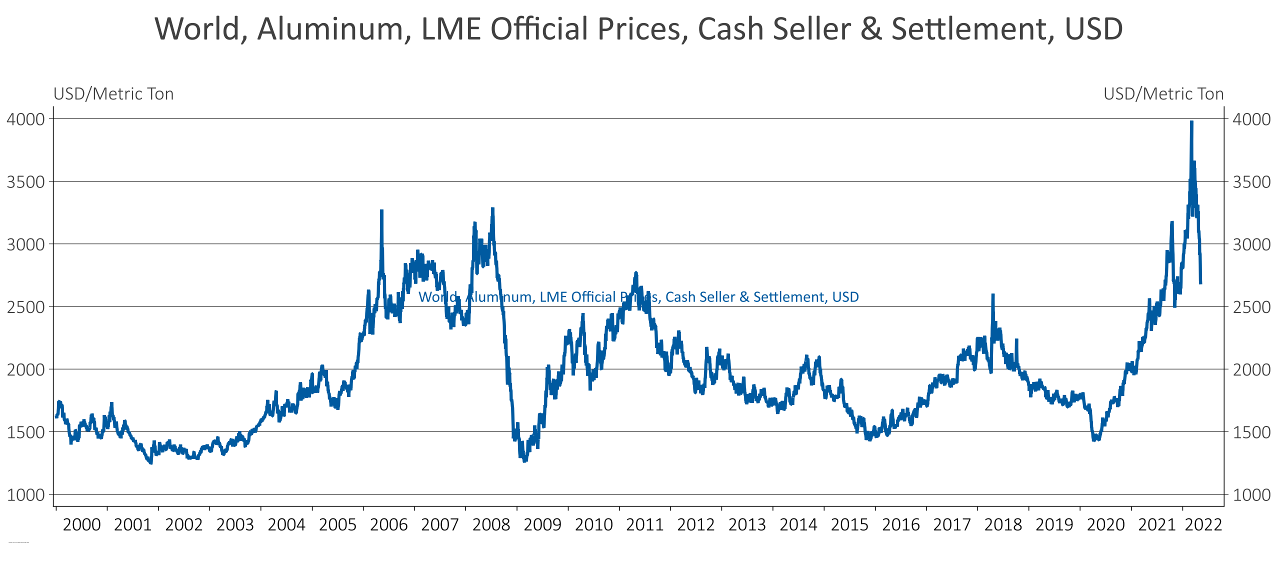


Nickel

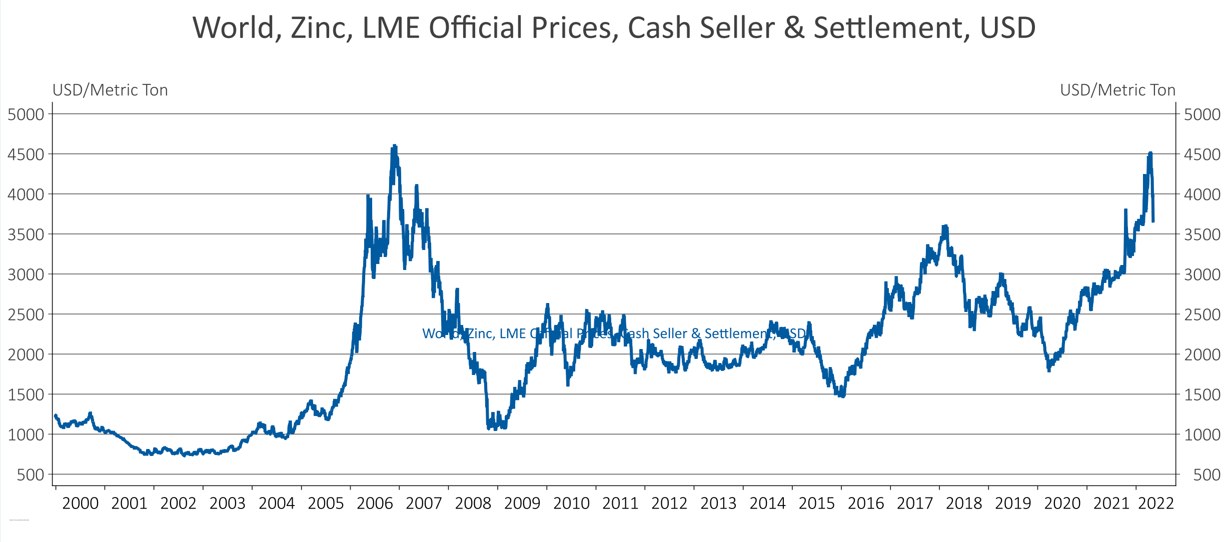


Price index for industrial raw materials: +7% (euro basis: +10.1%) compared with the previous month

Aluminum



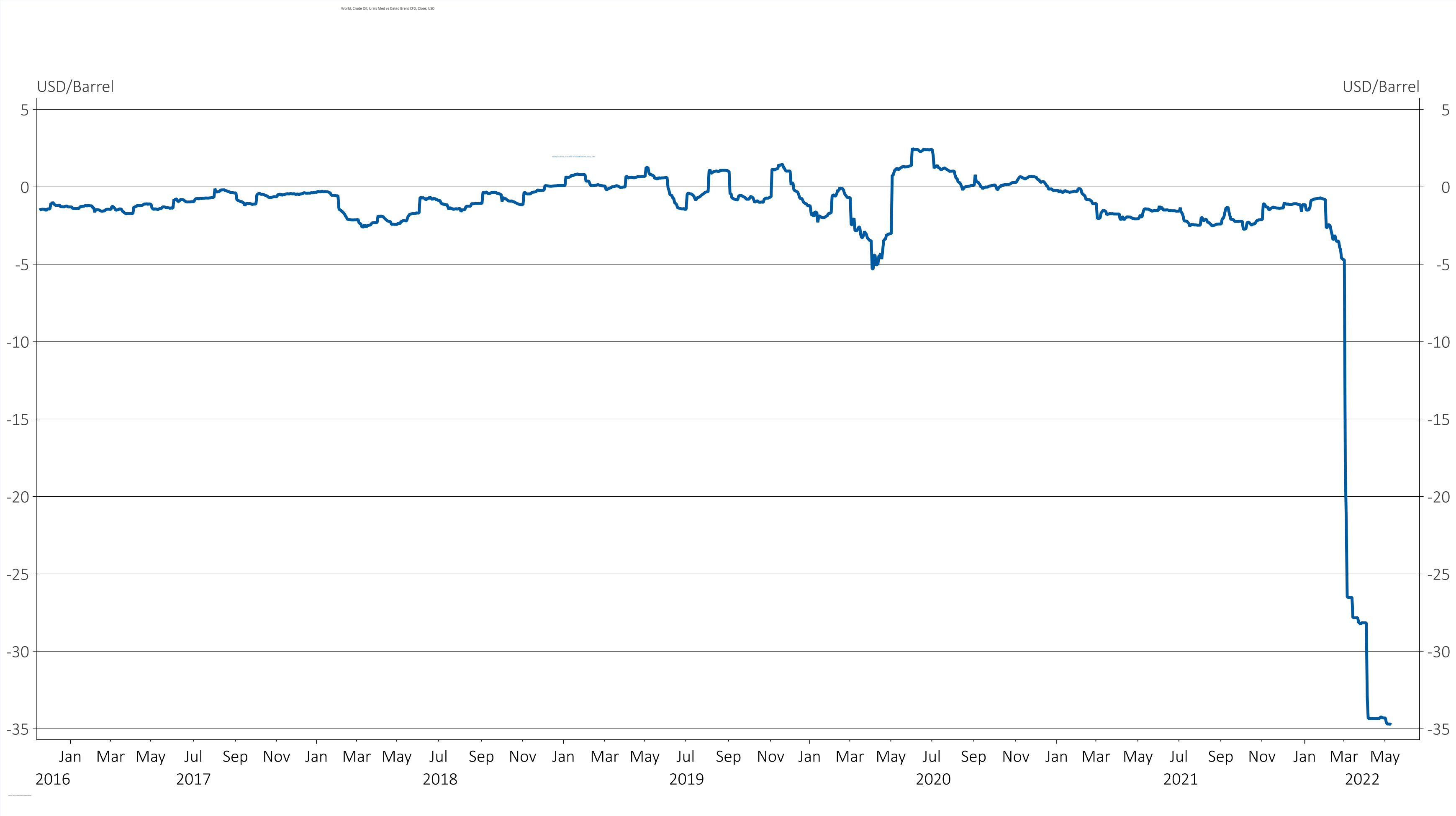
Zinc



In Euro terms, the *nominal* price of oil is historically high [but not in *real terms*]

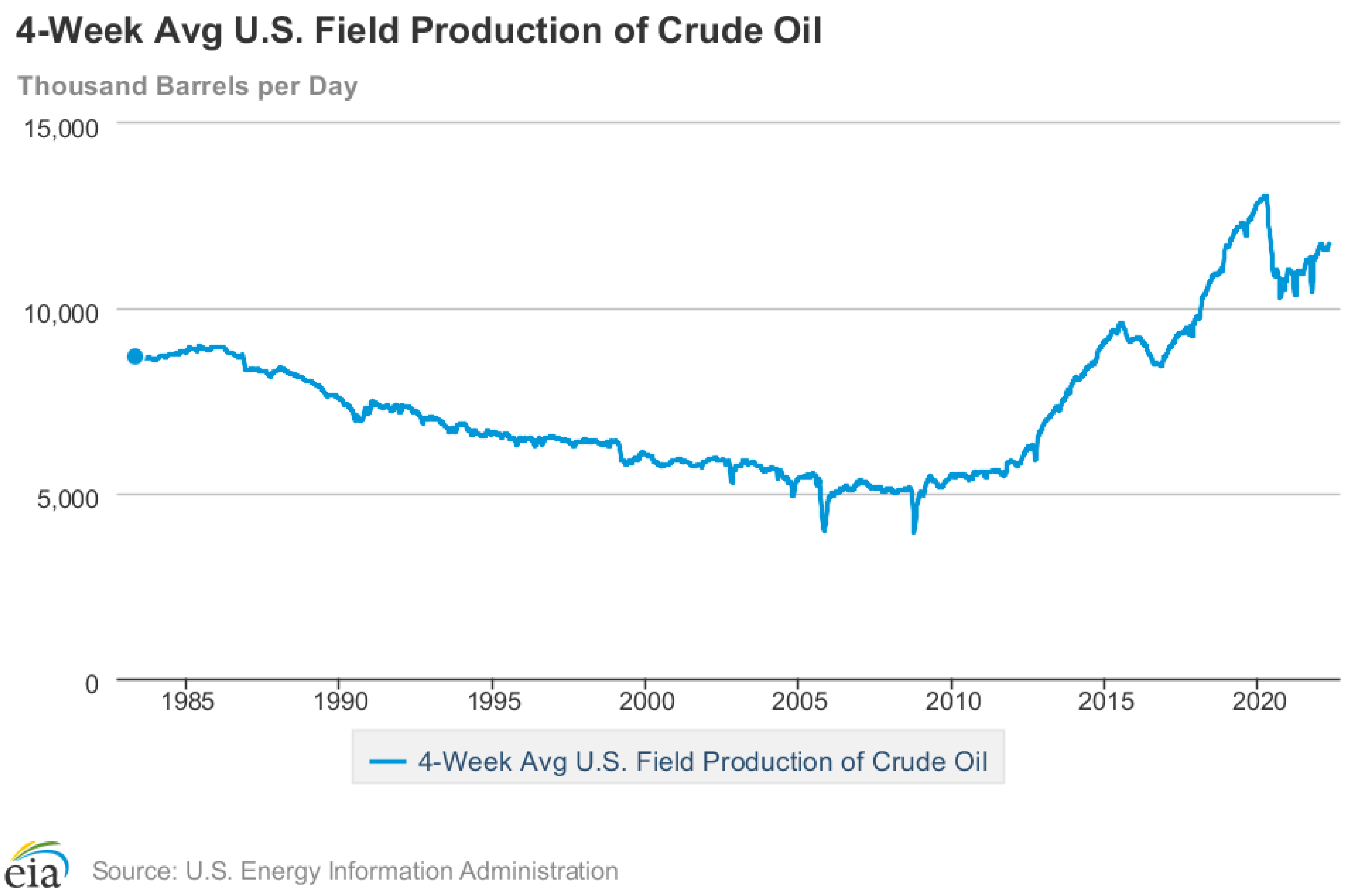
- After Russia's demands of "security guarantees" from NATO on the 17th December, the price of oil has increased by 50 % in euro terms (from 66,2 euros to c. 100 euros per barrel)

Russian oil (Urals) available at bargain price while western buyers are shifting to Brent…



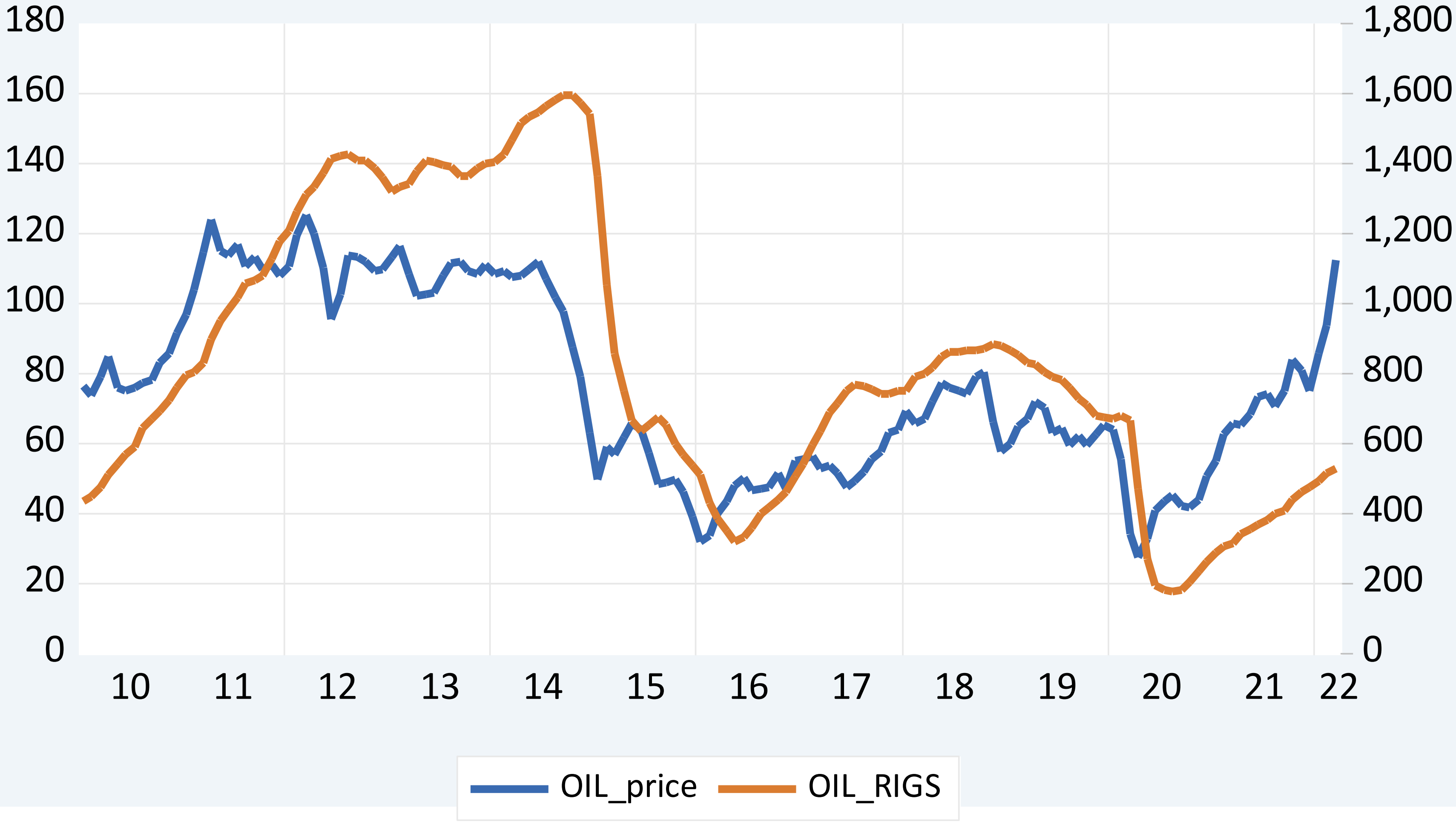
The supply-side of oil production

- Thus, if the Russia-Ukraina war does not cool, -leading perhaps to EU's sanctions on Russian oil soon -, what could alleviate price pressures?



- US oil supply has recovered ..But there is still room for improvement to reach the pre-pandemic high

The connection between oil prices and number of oil rigs has weakened in the US



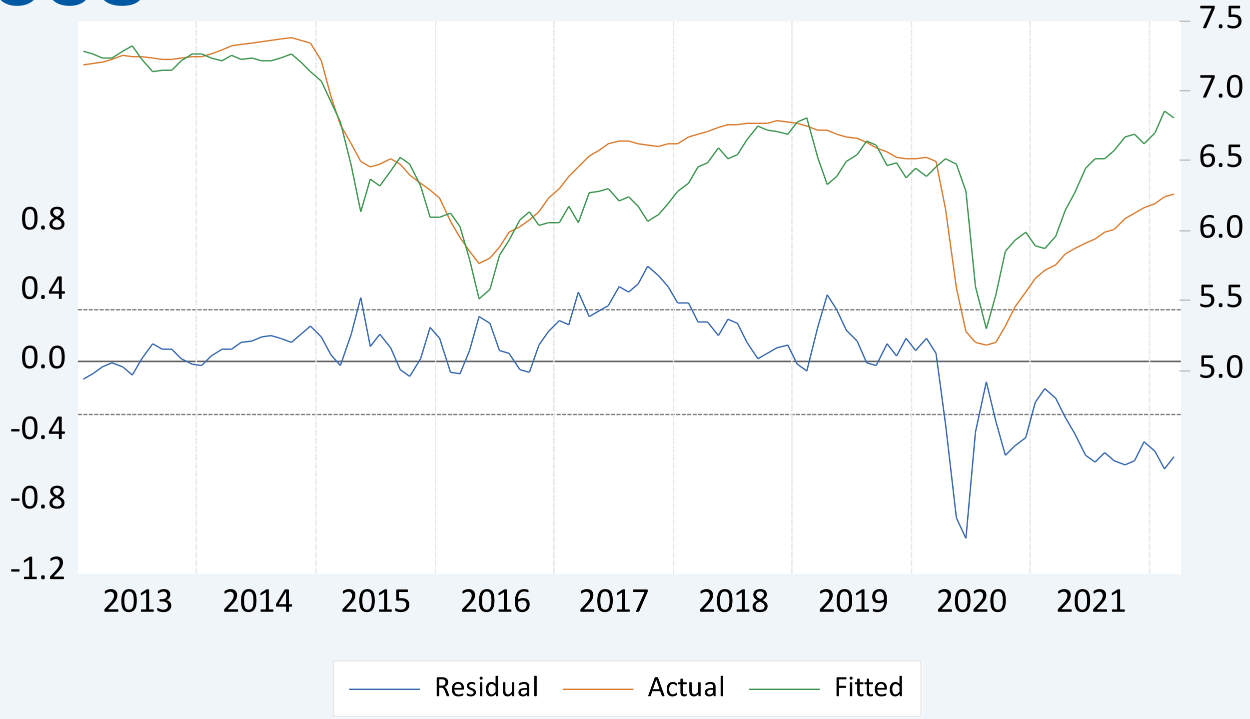
- US firms have avoided debt and concentrated on profits/dividends in 2021 – 2022
- Present Biden, 2022 March: ”*U.S. oil companies sitting on record profits*”

Estimation of the relationship between number of US oil rigs and oil prices

- We can estimate with the US data (using OLS)

LOG(OIL_RIGSt) =
0.66+ 1.40*LOG(OIL_PRICEt-4)

Adjusted R2 = 0.725



-> 1 per cent increase in oil price has in 4 months been associated with 1.40 per cent increase in the number of US oil rigs between 2013 M1 and 2022 M3.

->> The connection between these two variables has weakened in time

Policy measures put in place in the U.S. to increase oil supply

- Biden implored lawmakers to impose fees on companies that aren't using wells from their leases on acres of public lands.

  - there are 9,000 unused but already approved permits for production.

- The U.S. releases 1 million barrels of oil per day from its strategic reserves for the six months (c. 1/3 of the reserves), starting from April.

  - planned daily release from the SPR is about 1% of daily global production and 5% of U.S consumption.

Lately some easing of the OPEC output cuts that originate from 2020

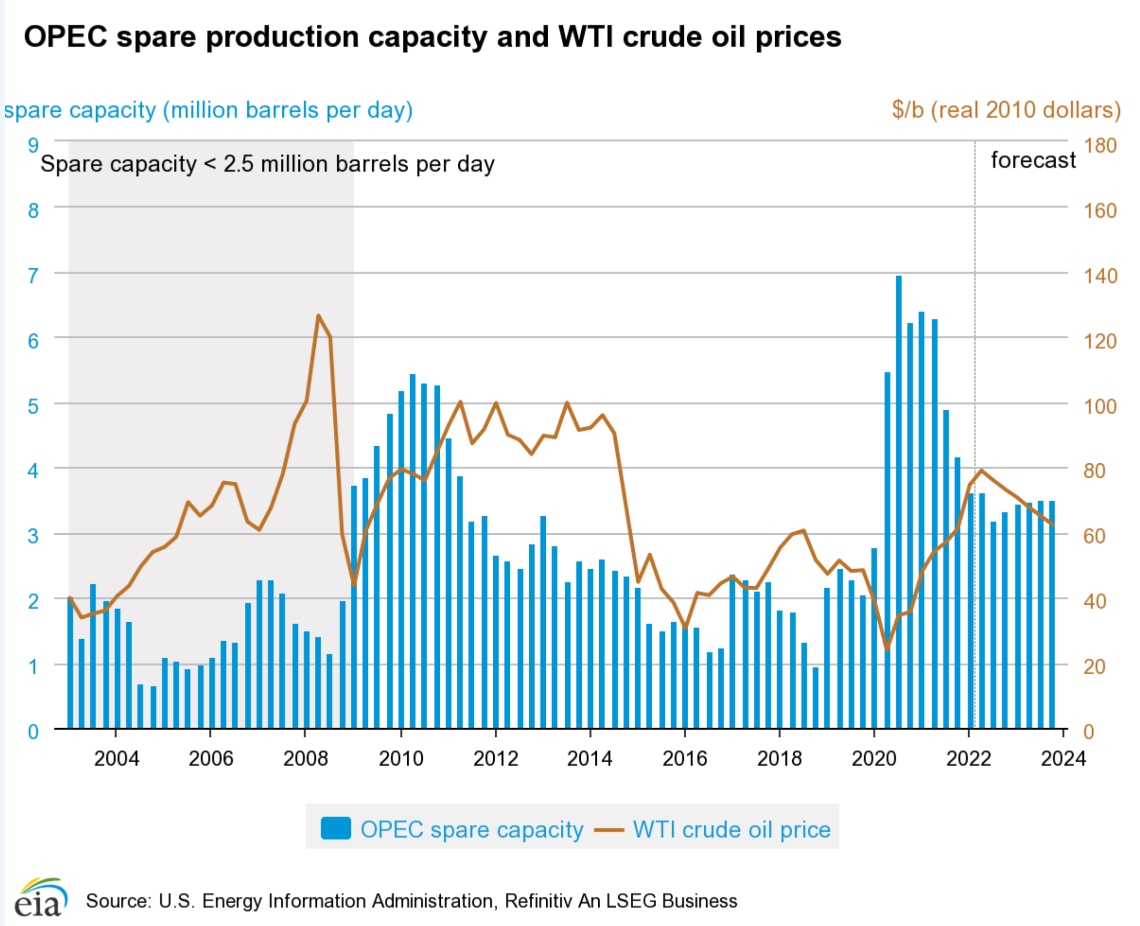
- In order **to phase out the remaining 5.76mn b/d of the original 9.7mn b/d production cut** implemented in 2020

  - OPEC+ producers agreed in July 2021 to ease the output cuts by 2 mb/d between August and December 2021, adding 400 kb/d each month over this period.

  - The monthly 400 kb/d reductions per month were then carried on until April 2022 –> OPEC+ calculated to have added 3.6 mb/d to the market until that time (2 mb/d in 2021 + 1.6 mb/d in 2022).

  - **Latest announcement by OPEC**: OPEC+ aims to release the remaining 2.16 mb/d in monthly increments of **432 kb/d between May 2022 and September 2022…**

.. But OPEC countries could increase their production easily more, according to EIA



- EIA: OPEC member countries produce about **40 percent of the world's crude oil.** Equally important to global prices, OPEC's **oil exports represent about 60 percent of the total** petroleum traded internationally

- High spare capacity indicates a withholding of production presumably for price management purposes (EIA)

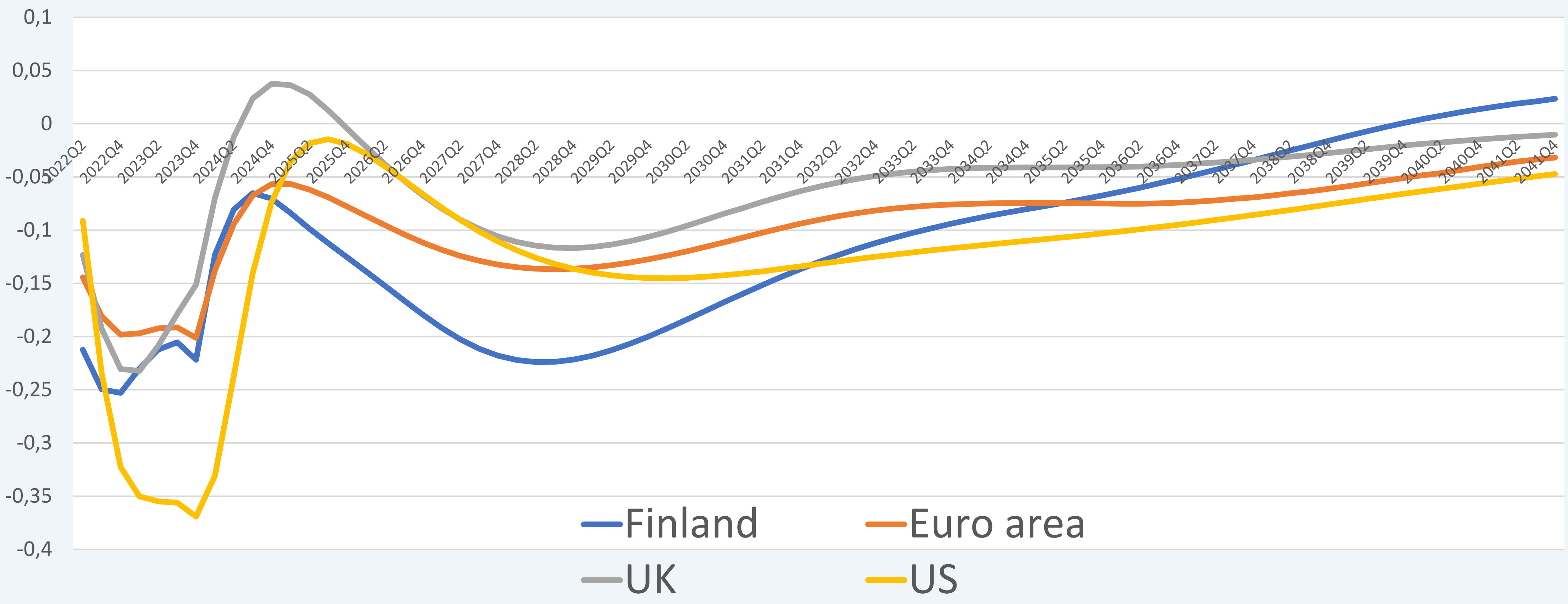
So where are we heading?

- Thus, there probably will be a gradual increase in global oil supply. At least potential exists.
    - Sanctions on oil exports from Venezuela will be / are to be eased soon
    - There is also potential for the Iran nuclear deal (even if Russia is not helping the negotiations) that would boost oil supply
- Global demand probably continues to rise in the short run unless the Fed's faster-than-expected monetary policy tightening leads to a recession in the US or China's GDP growth slows down more than expected (due to long-lasting lockdowns in major cities)
- **But the geopolitics dominates**. (supply and indirectly, demand)
- EIA forecasts:

"We expect the Brent price will average **$108/b in 2Q22 and $102/b in the second half of 2022** (2H22)…We expect the average price to fall to **$93/b in 2023**. However, this price forecast is highly uncertain."

- Obviously, if Russia further escalates the war, oil price shock will follow amid new sanctions. -> **On the 4th of May the EU made a decision to phase out all Russian oil imports by the end of the year.**

NiGEM simulation: GDP effect of a 30 dollar increase in oil price (Brent) per barrel



A few concluding remarks

- While the oil price shock would hurt the euro area economies, **natural gas price shock would probably have a clearly larger effect**
  - Discontinuing natural gas imports from Russia would probably result in a sharp recession in the euro area
- There is an optimistic scenario to be made as well: ”normalization”/ decrease in commodity price level in 2023. However probability for this development does not seem so high currently.

Final note: though the oil price development is important, natural gas price maybe the topic #1 in Europe in 2022

Germany, Natural Gas, NCG Natural Gas (NCGI), Index, EUR