

Economic Situation and Perspectives in Uncertain Times

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International Motion & Drives Summit

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Hannover

Uncertain times...

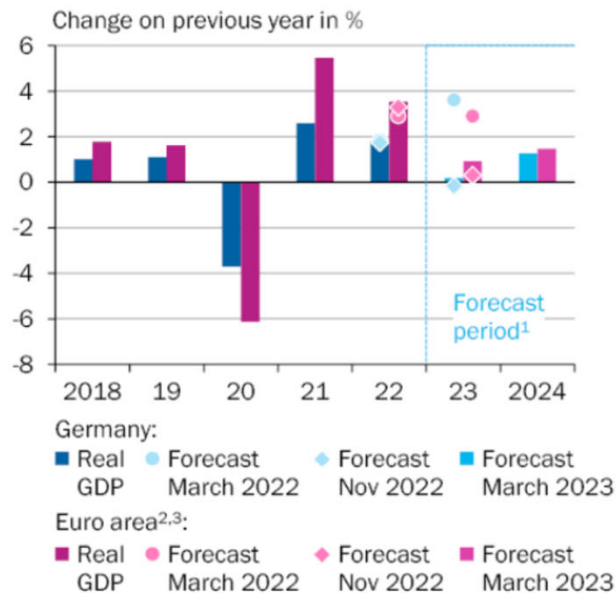
...a period of crises

- 2007-2008 Global Financial Crisis
- 2009- European debt crisis
- 2015 /16 European migrant crisis
- 2019/2020-2022 Global COVID19-pandemic
- 2021-2023 Global energy crisis
- 2022- Russian war on Ukraine

GDP and key indicators:

...growth slowdown in 2022 and 2023, and modest rise in 2024

GDP in Germany and the euro area



Key economic indicators (in %)

	2022	2023 ¹	2024 ¹
Germany			
Gross domestic product ^{4,5}	1.8	0.2	1.3
Consumer prices ⁵	6.9	6.6	3.0
Unemployment rate ⁶	5.3	5.4	5.2
Effective wages ^{5,7}	4.7	5.9	4.5
Budget balance ⁸	- 2.6	- 1.6	- 0.4
Euro area			
Gross domestic product ^{2,4,5}	3.5	0.9	1.5
Consumer prices ^{5,9}	8.4	5.9	2.9
Global economy			
Gross domestic product ^{2,4,5}	2.9	2.2	2.7
Consumer prices ⁵	7.4	5.3	3.5

1 – Forecast by the GCEE. 2 – Values are based on seasonal and calendar-adjusted quarterly figures. 3 – March 2022 and November 2022 forecasts without Croatia. 4 – Constant prices. 5 – Change on previous year. 6 – Registered unemployed in relation to civil labour force. 7 – Gross wages and salaries (domestic concept) per employees hour worked. 8 – In relation to nominal GDP; regional authorities and social security according to national accounts. 9 – Harmonised Index of Consumer Prices.

Sources: Eurostat, Federal Statistical Office, national statistical offices, own calculations
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Source: German Council of Economic Experts (2023), Updated Economic Outlook 2023 and 2024 (Aktualisierte Konjunkturprognose 2023 und 2024). March 22, 2023, Wiesbaden.

Global economic outlook...

...things improve slightly, but downside risks dominate

+

- Decreasing whole-sale energy prices and possible faster pass-through
 - Faster decline in inflation
 - Earlier recovery of households' real disposable income
- China's exit from Zero-COVID policy + stronger than expected demand recovery
 - Boost for the export economy in the Euro area
- Easing of bottlenecks in intermediate goods

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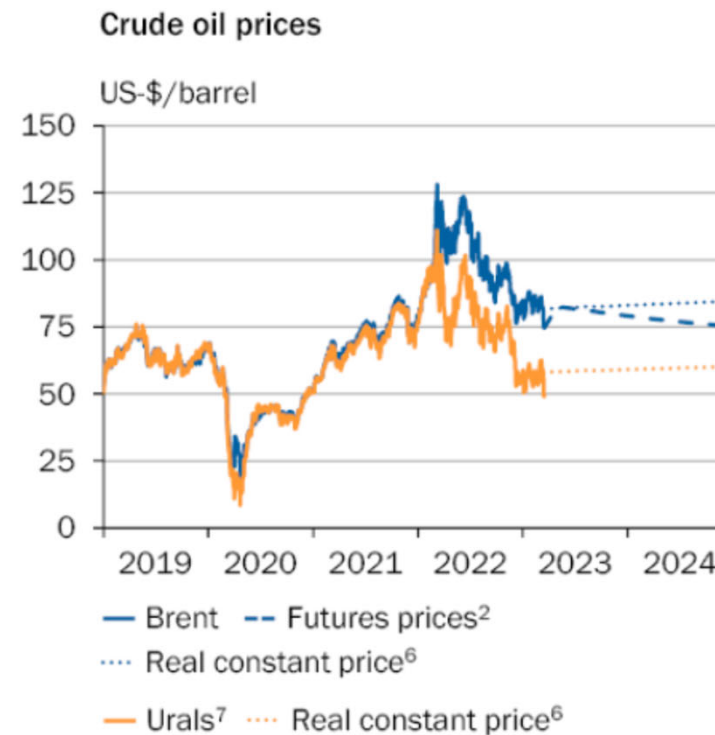
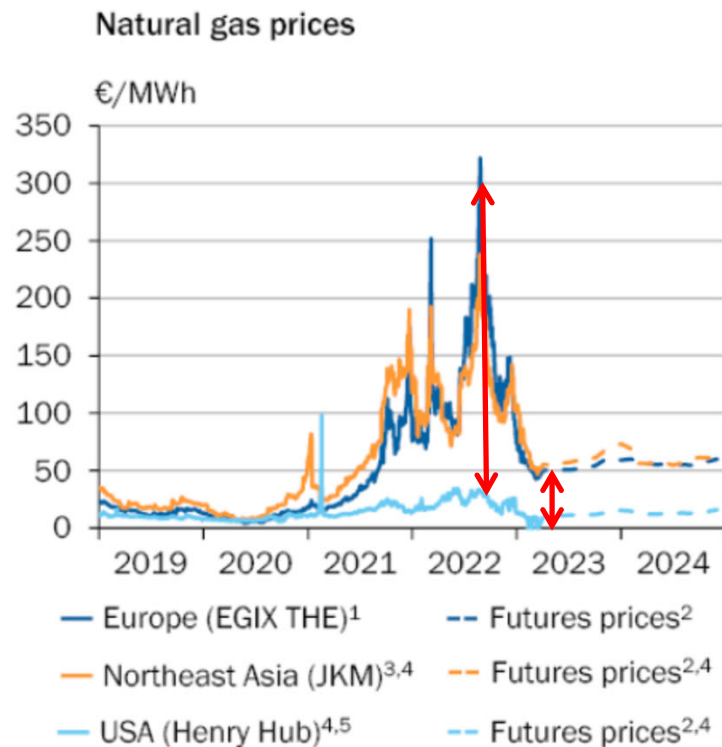
- Uncertainty about future energy supply and energy prices
- Inflation and monetary policy
 - Public debt services
 - Home construction loans
 - Financial market problems
- Growth paths of US and Chinese economy
- Geopolitical tensions between the USA and China

→ **All expert reviews unisono emphasize that downside risks remain dominant** (e.g. OECD, March 2023: *"a fragile recovery"*; IMF, April 2024: *"a rocky recovery"*)

Energy

Energy prices and energy supply:

Falling wholesale prices, but level remains high



Source: German Council of Economic Experts (2023), Updated Economic Outlook 2023 and 2024 (Aktualisierte Konjunkturprognose 2023 und 2024). March 22, 2023, Wiesbaden.

Energy prices and energy supply:

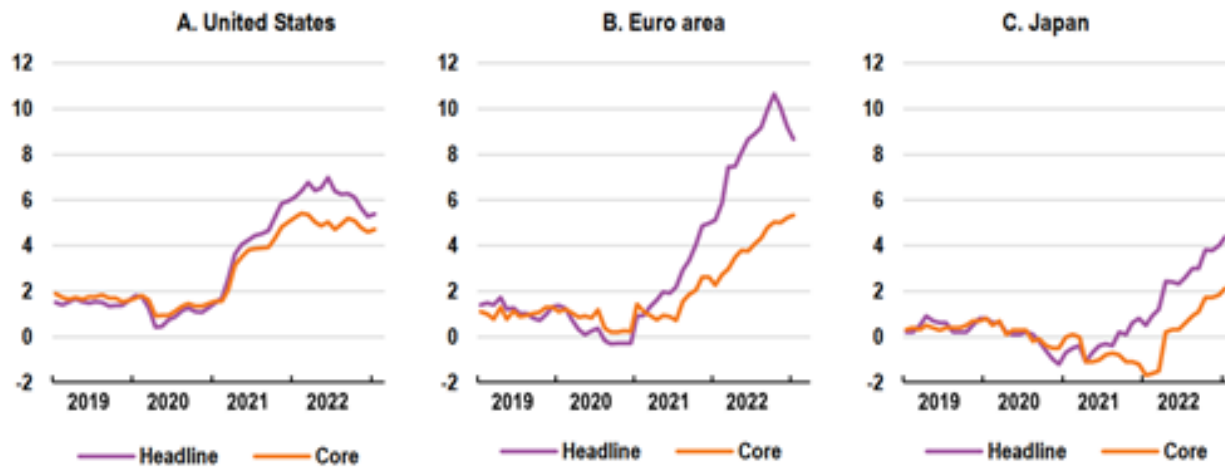
Threats and policy options

- Energy supply situation has eased for the time being, but energy crisis is not over!
- Wholesale energy prices are expected to remain high (above avg. level of 2010-2019)
 - full recovery of output in energy-intensive industries not anticipated
- China's economic upturn
- Energy required for electricity and the heat turnaround
 - green energy and decarbonization
- LNG
 - Higher freight costs
 - Demand from China
- Openness to technology?
 - Nuclear Phase-out in Germany
 - Fracking
- Baseload capacity currently ensured by lignite power plants
 - worst carbon footprint
 - coal phase-out planned for 2038 (2030)
- Rising instead of shrinking dependence of baseload capacity
 - Political argument
 - Bargaining power
 - „European“ solidarity

Inflation

Core inflation is proving persistent

Per cent, year-on-year



Note: Based on the consumers' expenditure deflator for the United States, the harmonised index of consumer prices for the euro area and the consumer price index for Japan.

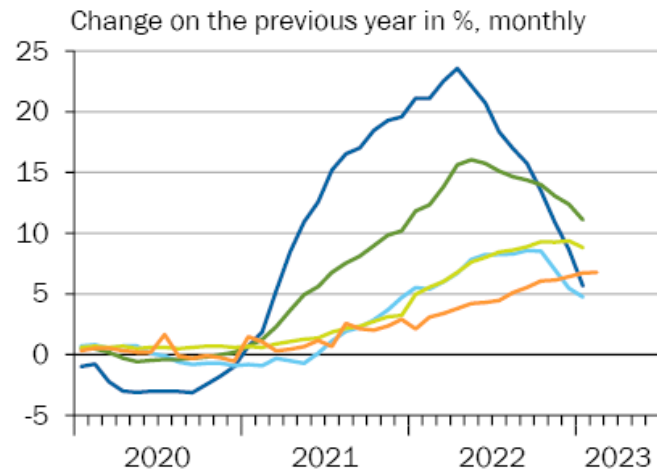
Source: OECD Consumer Prices database; Eurostat; and OECD calculations.

Source: OECD (2023), OECD Economic Outlook, Interim Report, March 2023, p. 10.

- Consumer price inflation has probably peaked
- But CPI is declining only slowly despite lower energy prices
- Core inflation is expected to remain high:
 - Consumption-related sectors are expected to continue to pass-through
- Still high predictions of CPI for 2023 and 2023

Pass-through of inflation: price increases still upstream

Price increases at upstream stages of production lower but still at a high level



Import price index (extra euro area)³:

Intermediate goods industry (blue) Consumer goods⁴ (light blue)

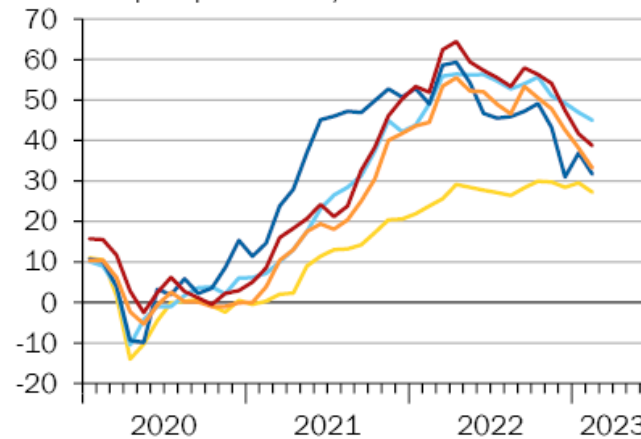
Producer price index (domestic sales)³:

Industry excluding energy⁵ (green) Consumer goods⁴ (yellow)

HICP¹: Non-energy industrial goods (orange)

Many companies are planning further price increases in the upcoming months³

Balance of the number of companies that plan price raises/cuts⁶



Services (yellow) Retail trade (light blue)

Manufacturing / Production of:

Durable consumer goods (dark blue) Non-durable consumer goods (orange)

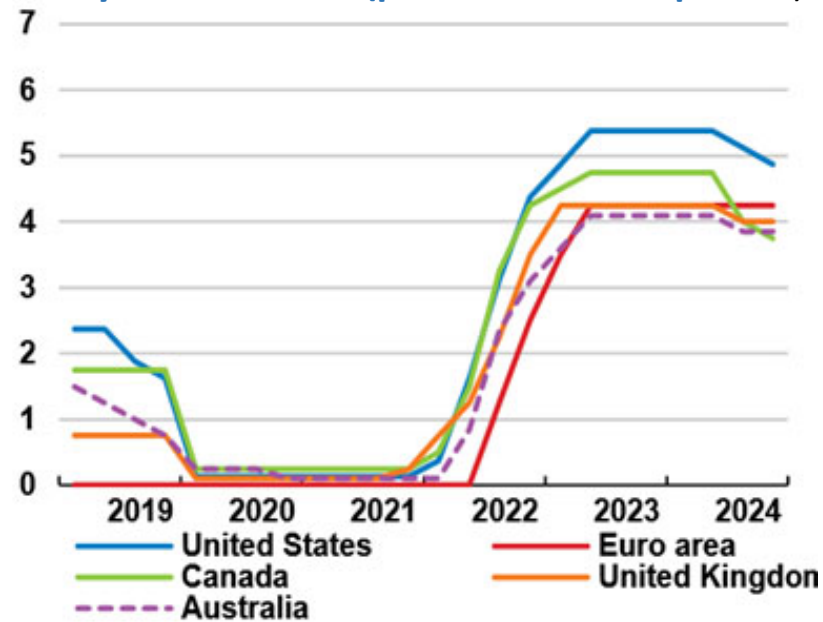
Food and beverages (red)

Source: German Council of Economic Experts (2023), Updated Economic Outlook 2023 and 2024 (Aktualisierte Konjunkturprognose 2023 und 2024). March 22, 2023, Wiesbaden.

Bank responses...

...rapid increases of policy interest rates

Policy interest rates (per cent, end of quarter)

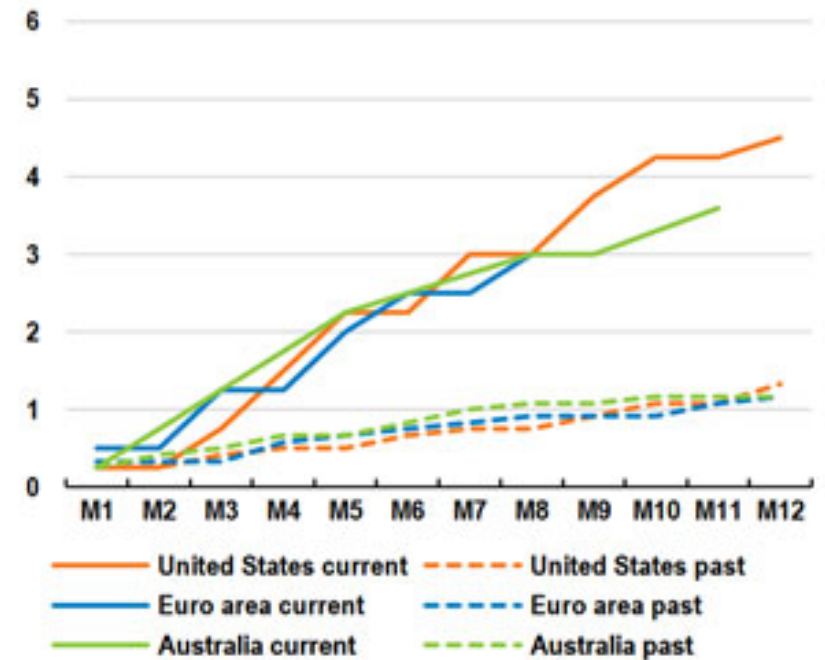


Note: Main refinancing rate for the euro area.

Source: OECD Interim Economic Outlook 113 database.

Source: OECD (2023), OECD Economic Outlook, Interim Report, March 2023, p. 18.

Cumulative monthly increase in policy interest rates since the start of the tightening cycle (per cent)



„Current“ denotes the current policy tightening cycle. „Past“ shows the average of the previous three monetary policy tightening cycles. M1-M12 denote months, with the first policy increase occurring in month 1 (M1).

Source: OECD (2023), OECD Economic Outlook, Interim Report, March 2023, p. 12.

Bank responses...

...implications

- ECB increased key interest rate by 350 basis points within 9 months → monetary tightening was stronger than financial markets expected in autumn 2022
- Inflation outlook suggests further raises in the US and the euro area in the upcoming months
- **Perspective:** effects on consumer prices expected to become observable in the upcoming months

Risks:

- Decline in bank lending
- Increased loan loss/rising loan defaults
- Less business investment
- First real economy effects already observable → home construction loans (-38.1% in Jan 23), financial market risks (SVB, Signature, Silvergate, Credit Suisse)

→ Difficulties for central banks to fight inflation

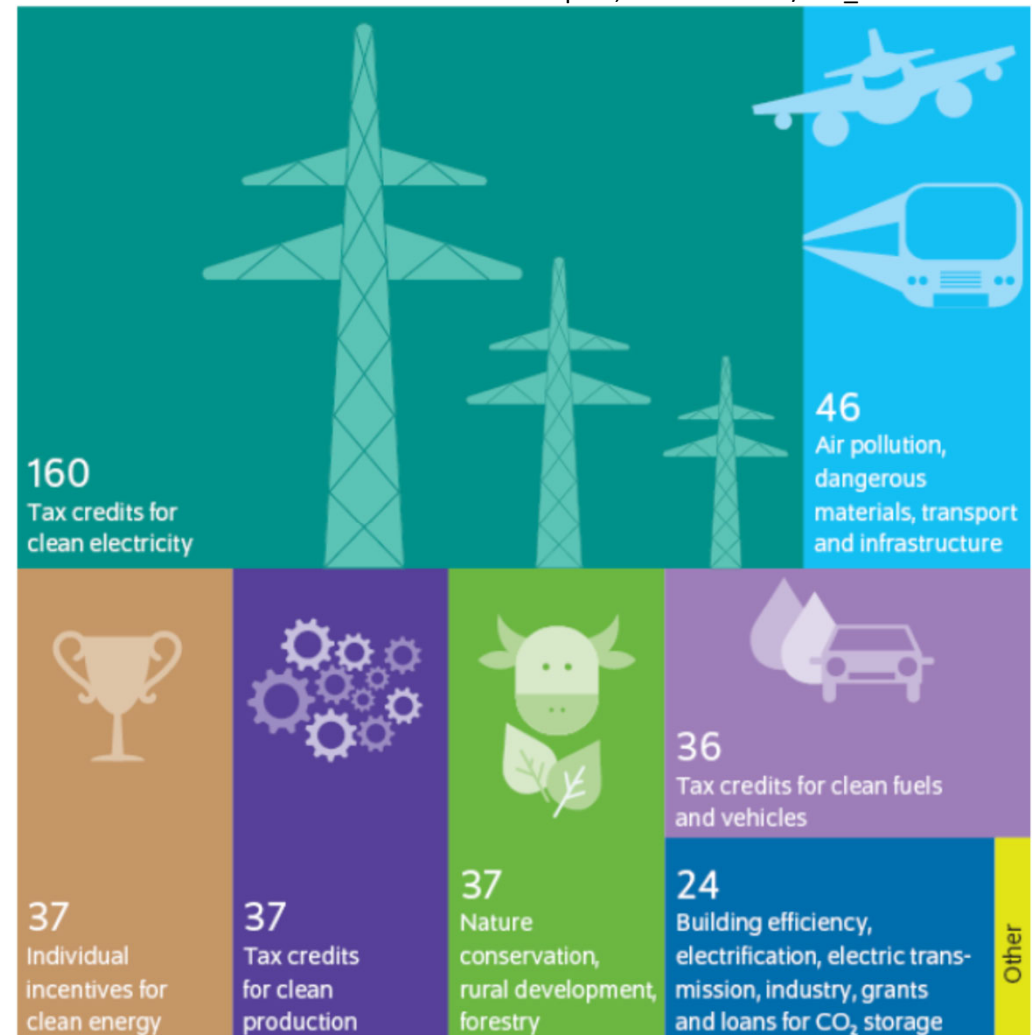
→ Insufficient monetary policy responses

Enforced Industrial Policy and Geopolitical Tensions

US Strategy: Inflation Reduction Act (IRA)

Source: DIW Weekly Report 6/2023,
p.55, DOI: 10.18723/diw_dwr:2023-6-1

- More than an investment program:
 - Secure US hegemony as the largest energy producer in the long-term
 - Support the reindustrialization of the US economy
 - Provide social and labor market policy stimulus
- Important ancillary condition: **local content requirement**
- **Clean energy:** Transformation from fuel-intensive to material-intensive
- **Reduction of dependence on China or Russia** by developing resilient value chains



Note: The colored squares depict the various volumes of the individual packages and thematically summarize the IRA's programs.

„Made in China 2025“ and the 14th 5-Year Plan

Source: data.worldbank.org and
www.statista.com

- China's „dual circulation“ strategy:
 - 1) Keep China open to the world (“**great international circulation**”)
 - 2) Reinforcing its own market (“**great domestic circulation**”)

→ Boost economic self-reliance and greater economic leverage over foreign countries

- Made in China 2025:

- Strengthening domestic consumption
- Increase Chinese-domestic content of core materials to 40 percent by 2020 and 70 percent by 2025
- Achieve independence from foreign suppliers

- 14th 5-Year Plan: Becoming a "*moderately developed*" economy by 2035 with a per capita GDP of about US\$30,000

Supply chain resilience

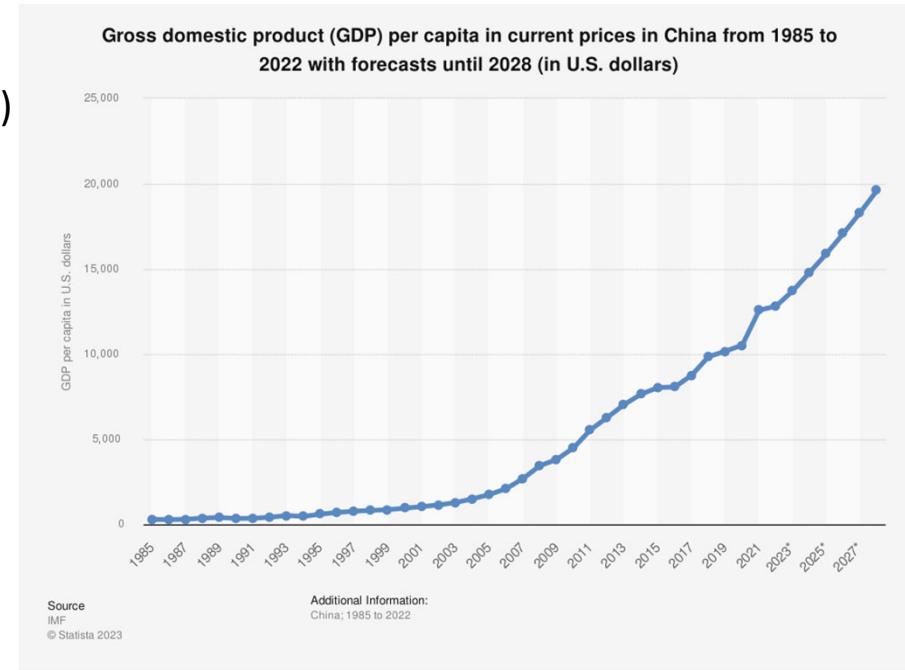
Data

Environmental protection

Digital economy

Standardization

Innovation



GDP per capita

India 2,256 USD (2021)

Bulgaria 12,221 USD (2021)

China 12,556 USD (2021)

Romania 14,858 USD (2021)

Poland 17,999 USD (2021)

Greece 20,192 USD (2021)

Implications

Perspectives and Implications

- **More coordination needed!** Most crises are exaggerated by too few coordination
 - For Europe to remain attractive in international competition:
 - **Energy costs** play an important role
 - **Availability of imported and raw materials**
 - Transition to decarbonized economies worldwide will stress competition for and dependence on rare-earth and other raw materials
 - **Strong and increasing competition** on world markets for high-tech products and green technology
 - Consequences of **China's „Made in China 2025“** and the **US IRA** for Europe should not be underestimated
 - Both provide opportunities (increased sales markets), but also risks (restricted access to markets)
 - Strategic countermeasures should be taken swiftly
- **Strengthening development and production of green technology (through innovation and new technology)**
- **Secure access to critical raw materials, including identification and extraction in Europe**

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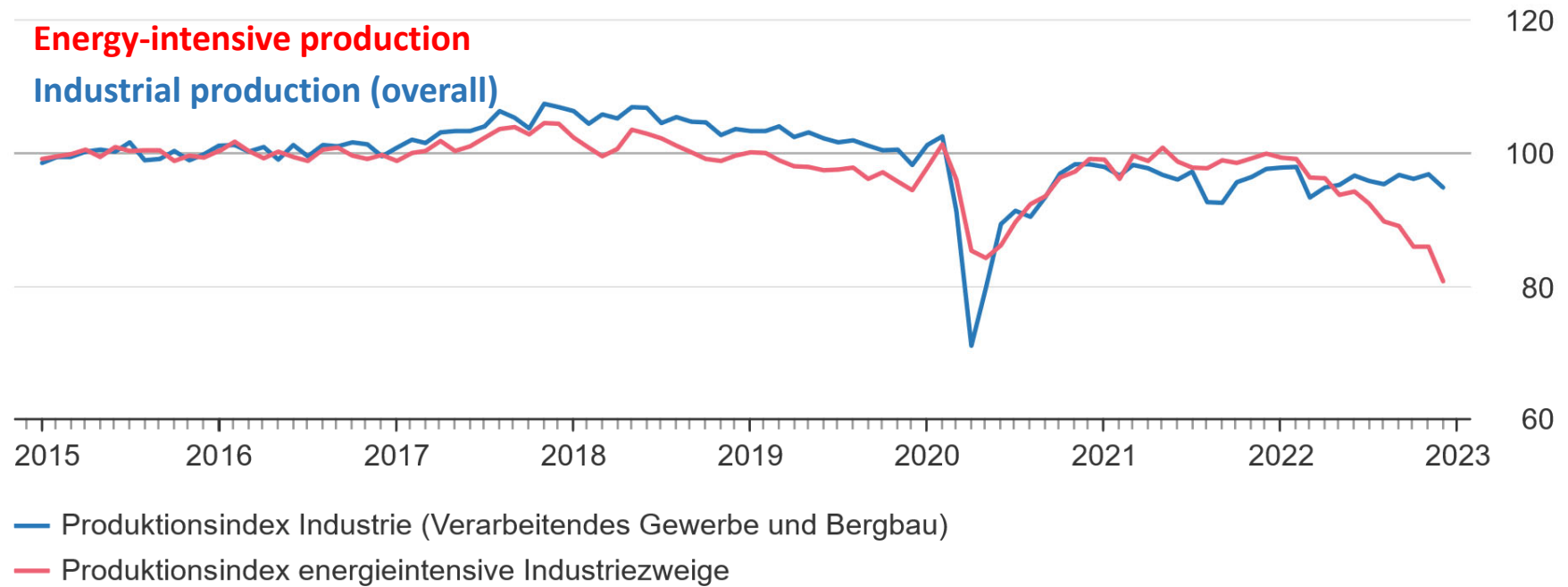
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Backup

Production indices for German industry

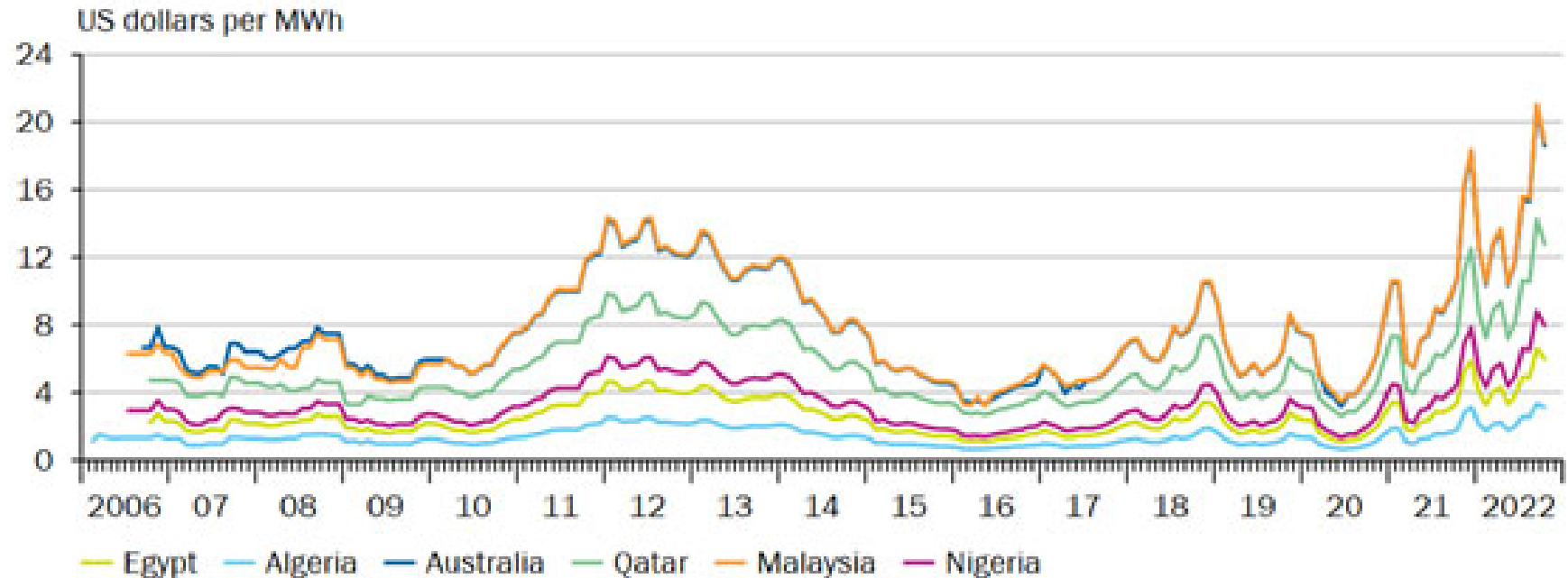


Saisonbereinigt nach dem Verfahren X13JDemetra+.

© Statistisches Bundesamt (Destatis), 2023

Source: Statistisches Bundesamt (2023)

Prices for LNG imports



1 - Freight costs for LNG imports to Belgium depending on the country of origin. Price in US dollars per MMBtu (1 million British thermal units) converted into US dollars per MWh.

Source: Refinitiv Datastream

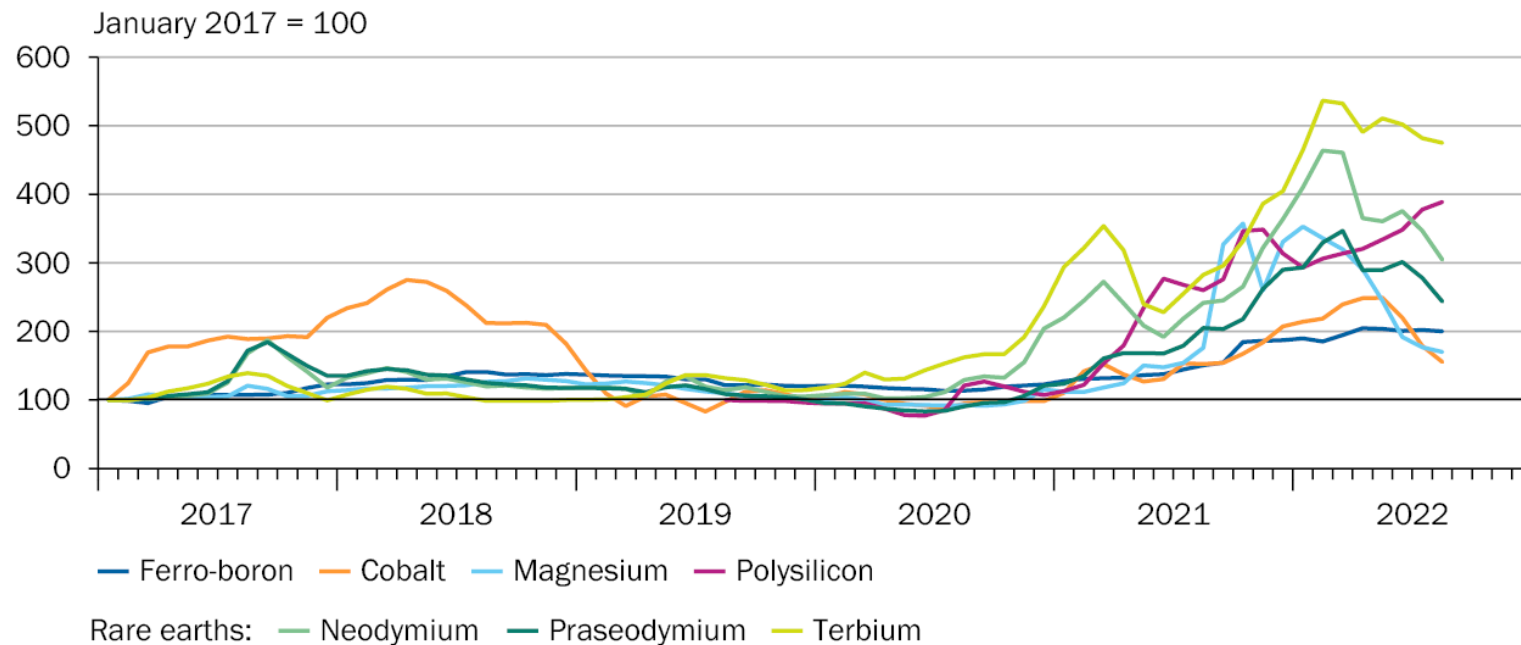
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Source: German Council of Economic Experts (2022), "Energiekrise und Strukturwandel: Perspektive für die deutsche Industrie", p. 235, Wiesbaden, Germany.

Critical raw materials...

...competition due to demand, prices and availability

Dynamic price development of selected critical raw materials since 2020



Source: German Mineral Resources Agency (DERA)

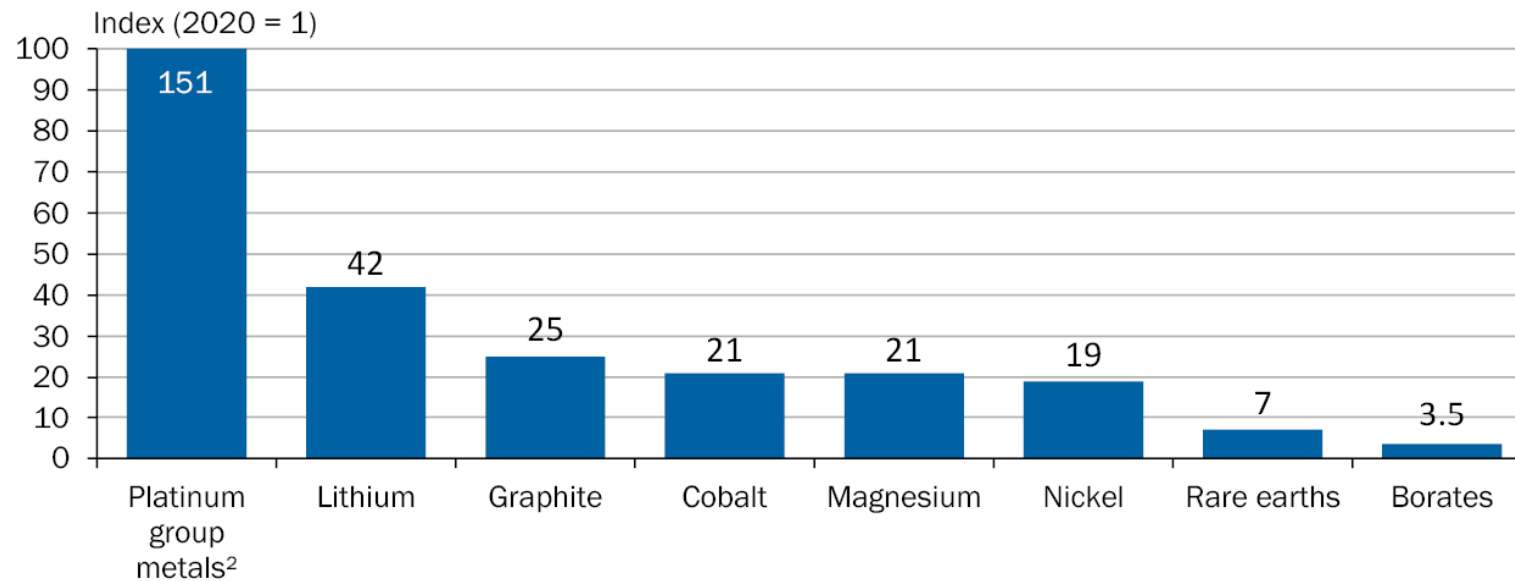
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Source: German Council of Economic Experts (2022), Wettbewerbsfähigkeit in Zeiten geopolitischer Veränderungen, p. 381, Wiesbaden, Germany.

Critical raw materials...

...supply shortages to be expected

Growth of global demand for selected critical raw materials over the period 2020 to 2040¹



1 – Projections based on the International Energy Agency (IEA) Sustainable Development Scenario, which indicates total demand in a scenario consistent with the Paris Agreement targets. 2 – Includes iridium, osmium, palladium, platinum, rhodium and ruthenium.

Source: IEA (2021)

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Source: German Council of Economic Experts (2022), Wettbewerbsfähigkeit in Zeiten geopolitischer Veränderungen, p. 377, Wiesbaden, Germany.