

Global Trade in Commodities: Is the Commodities Supercycle Accelerating?

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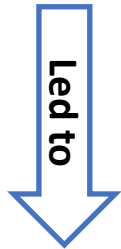
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Preconditions

❑ The beginning of the 21st century is characterized by:

- population growth
 - growing consumption
- } – mostly in developing countries
- unstructured technological growth – lack of packaged approach to development and implementation of technology;
 - unprepared ecologization of global agenda.



- ❖ imbalances in production and consumption of energy, food, minerals, microchips etc.;
- ❖ development of financial markets detached from 'real' sector (*derivatives, crypto currencies, etc.*);
- ❖ increasing debt burden on countries' economies, and other crisis phenomena.

Preconditions

❑ Two years of COVID-19:

- have **accelerated the pace of**
 - ❖ food, fuel & production inflation;
 - ❖ other crisis processes;
- have greatly worsened readiness of the population to fight the crises in different countries;
- has shown vulnerability of the old system, built since the 19th century.

❑ The beginning of 2021 displayed the **record freight figures for sea containers and shipment** in general → **increasing pressure on the prices of:**

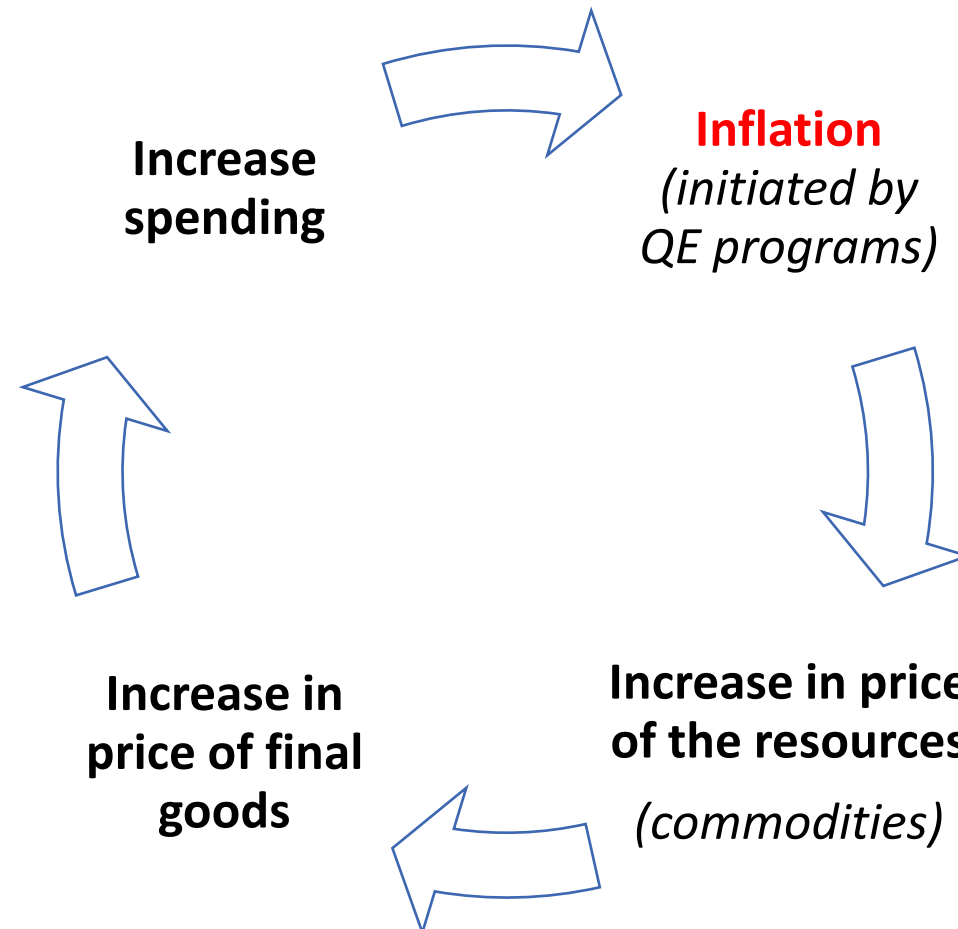
- commodities;
- producer goods.

Commodities and Inflation

Increase in price for commodities leads:

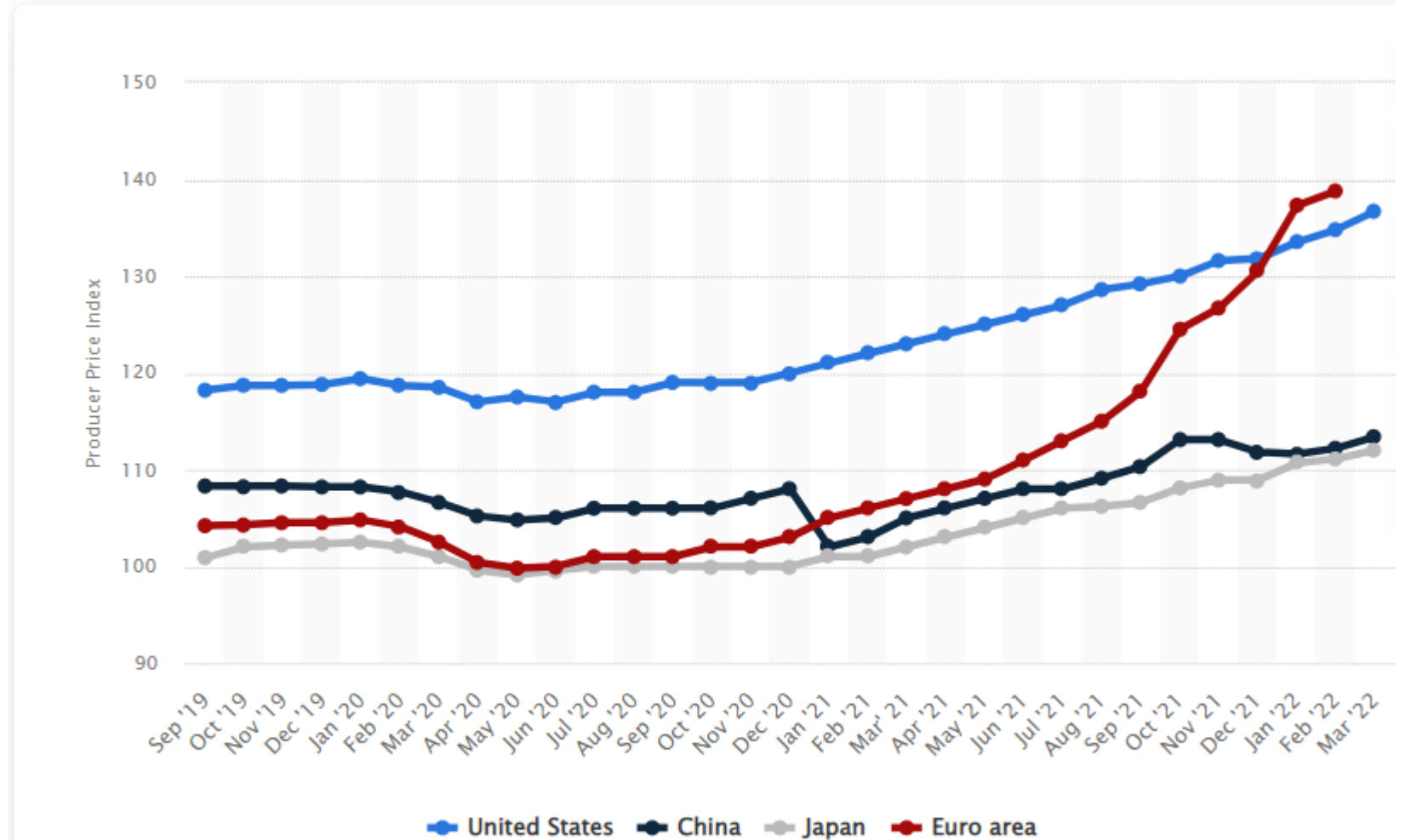
- Food → foodflation
- Energy → energy inflation
- Metals → industrial inflation

The **cumulative effect of different types of inflation** in current conditions increases the **risk of hyperinflation**



Monthly Producer Price Index (PPI) for all Commodities (in major economies from 10/2019 to 03/2022)

The **Producer Price Index (PPI)** – measures the average change over time in the selling prices received by domestic producers for their output.



Commodities Prices

□ *Since autumn of 2021*, we have been observing the **record prices for commodities**:

- natural gas;
- coal;
- copper;
- nickel;
- aluminum;
- wheat;
- corn;
- neon;
- palladium;
- gold, etc.

→ this allows us to speak of the beginning of the **new commodities supercycle**, which can be bigger and longer than 4 previous ones in the 19-20th centuries.

Recent Commodities Supercycle

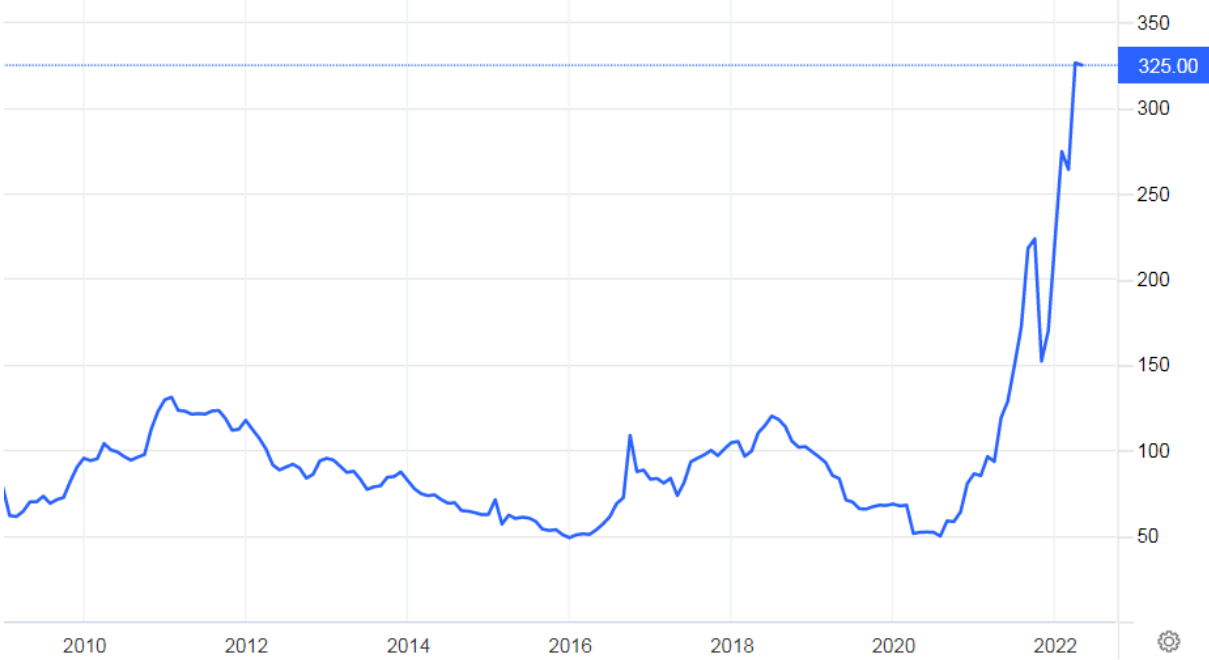
- ❑ **Commodities supercycles** – are a phenomenon where commodities trade above their long-term price trend over a long period.
- ❑ Examples of the recent supercycle are:
 - the growing oil and gas prices since the end of 2020:
 - ❖ **oil** – from ~30 \$/barrel to 100\$ and continued growing to 2008 and 2011 levels;
 - ❖ **natural gas** – the 10-fold growth of gas prices – from \$70 to \$700 and more;
 - **motor fuel** prices has not been so high in the decades as in March-April, 2022;
 - **coal** prices are at the record high levels.
 - **agricultural commodities** prices have reached the 2012 levels – the year of the global food crisis.

Oil, Coal & Gas* Prices Dynamics

Crude Oil WTI (USD/Bbl) 105.96 +3.55 (+3.47%)



Coal (USD/T) 325.00 -1.3 (-0.40%)



Natural Gas EU Dutch TTF (EUR) 104.97 +5.52 (+5.55%)



* TTF Hub

Metals Prices Dynamics

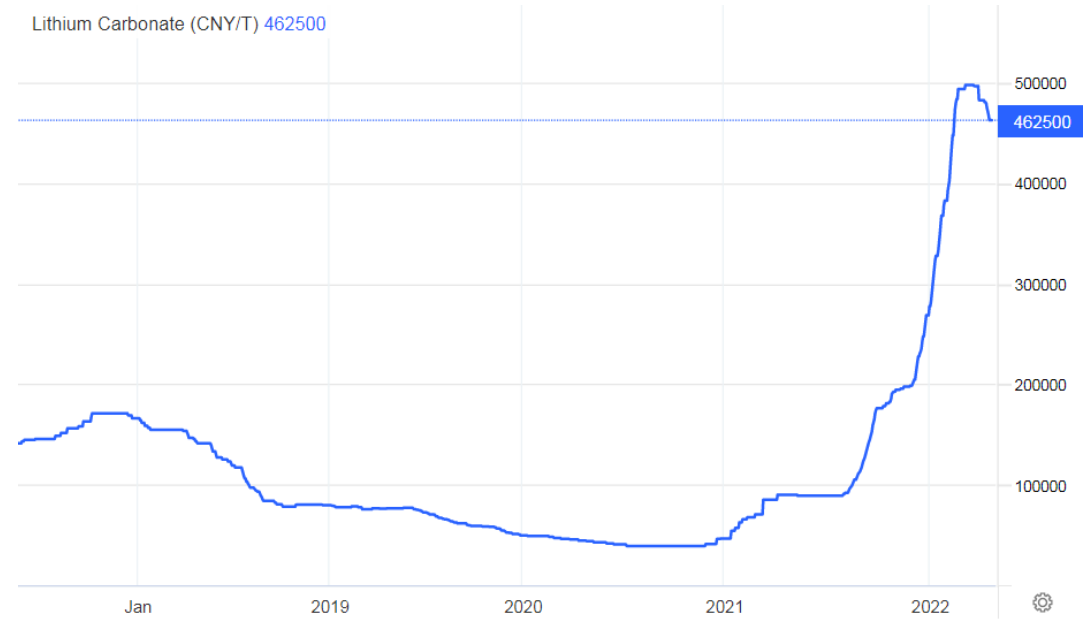


Metals Prices Dynamics

Gold (USD/t.oz) 1867.40 -28.23584 (-1.49%)



Lithium Carbonate (CNY/T) 462500



Steel Rebar (CNY/T) 5152.00 +37 (+0.72%)

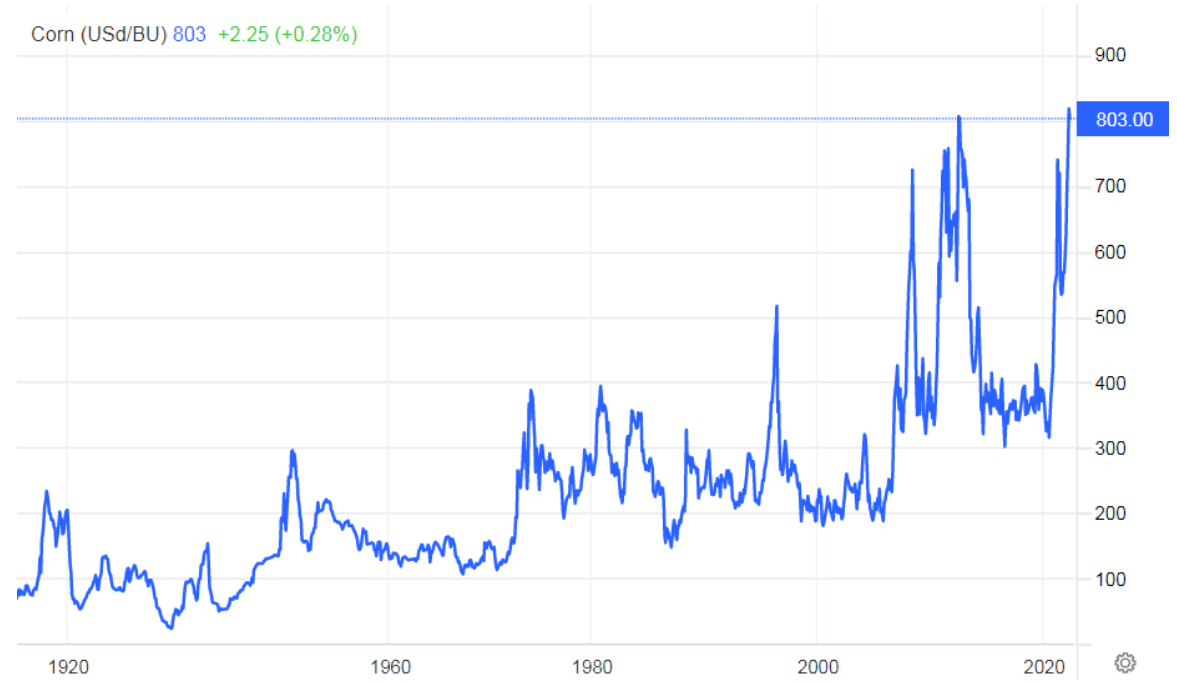


Food Prices Dynamics

Wheat (USd/Bu) 1053.75 +8.25 (+0.79%)



Corn (USd/BU) 803 +2.25 (+0.28%)



Soybeans (USd/Bu) 1659.25 -48.75 (-2.85%)

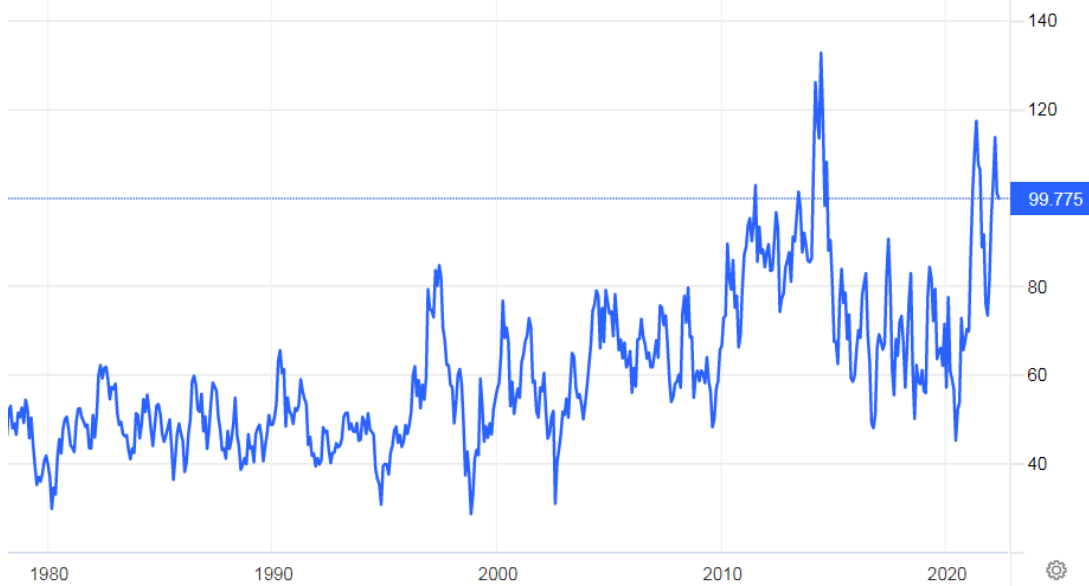


Rice (USD/cwt) 16.6300 -0.46 (-2.69%)

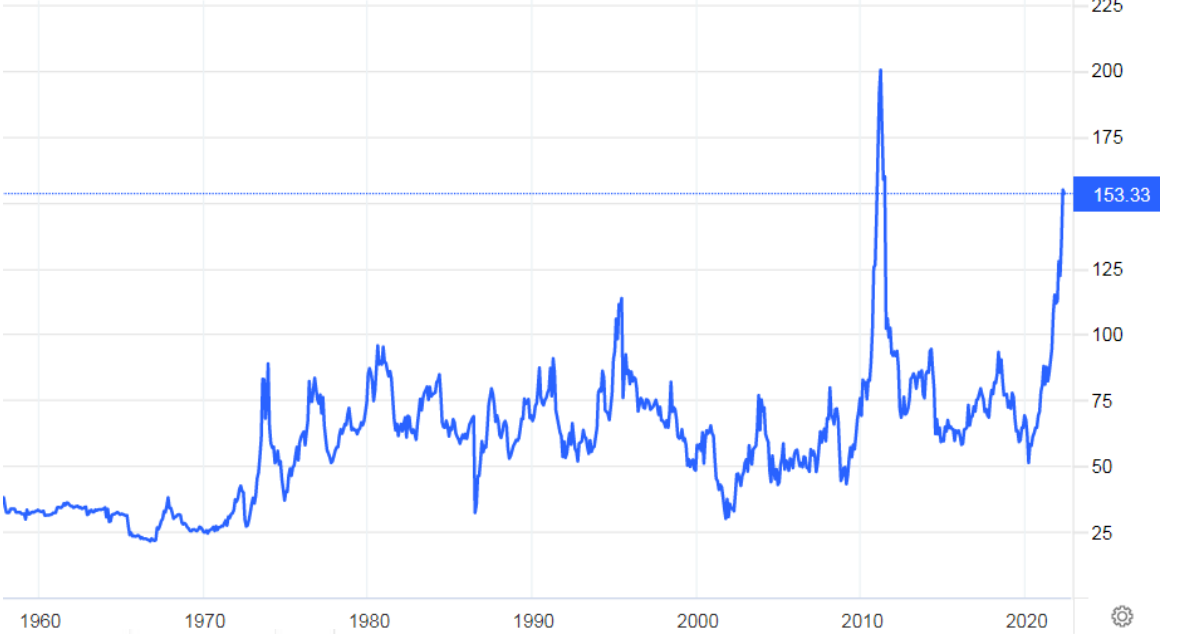


Food Prices Dynamics

Lean Hogs (USD/Lbs) 99.7750 -1.125 (-1.11%)



Cotton (USD/Lbs) 153.33 -1.42999 (-0.92%)



Poultry (BRL/Kgs) 7.98 +0.03 (+0.38%)



Recent Commodities Supercycle

- ❑ **August-September 2021** – the **beginning of the new commodities supercycle**.
- ❑ In 2022, the situation on the global commodity market continues to be extremely turbulent and unpredictable in its further development.
- ❑ To some extent **commodity markets unite all countries of the world** ⇒ the situation in these **markets has a global effect**.

Recent Commodities Supercycle

❑ The main contemporary challenges of commodity trading:

- **global geopolitical tensions;**
- **global inflation** caused by a sharp increase in money emission after 2008 and during the COVID-19;
- **adverse and unpredictable weather events** (*droughts, floods, heat waves, etc.*);
- **disruptions in logistics networks** (*congestion of ports and cross-border railway crossings, sanctions and bans on entering ports, etc.*);
- **increasing the price of access to fuel and fertilizers;**
- **underinvestment in the oil, gas and coal sectors** due to low energy prices in 2014-2020s and the green transition strategy mainly in Western countries (*phasing out fossil fuels*);
- **an increase in prices for metals** due to rising prices for fossil raw materials and energy;
- **problems with forecasting of supply and demand;**
- **sanctions policy, etc.**

All these issues are interconnected and have a significant impact on each other!!!

Recent Commodities Supercycle

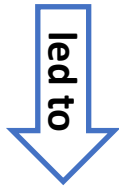
- ❑ Recent **commodities supercycle** is actively unfolding → which **affects the production sector**:
 - increase in production costs;
 - production slowdown in various sectors;
 - suspension of production.

- ❑ A **failure in supply of semi-finished and finished products** → leads to a decrease in the incomes of:
 - producers;
 - households (*through an increase in spending and due to the problems with employment*).

Recent Commodities Supercycle

❑ Specifics of current situation:

1. increase in commodities prices **would not lead to a rapid reduction in consumption and demand for commodities;**
2. competition for smaller volumes of commodities among a larger number of consumers has developed
→ that is, **seller's markets** have formed.



Higher prices for all types of commodities!!!

Recent Commodities Supercycle

❑ Rising **energy prices** alone increase both:

➤ **transportation costs;**

➤ **production costs** of intermediate and finished goods, as well as extraction/production/cultivation/breeding of the commodities themselves.

↓

❑ *As a result*, the **prices are rising sharply all over the world for:**

➤ basic foodstuff;

➤ metals (*precious, rare earth, non-ferrous and ferrous*);

➤ finished goods.

❑ **Many production sites stop** → which leads to **negative socio-economic consequences**.

Impact of Commodities Supercycle on the Different Groups of Countries

- ❑ For the **least developed countries**: the **greatest challenge** is the issue of **food security**.
- ❑ For **developing countries**: the **food problem + provision of energy and production resources** ⇒ to keep the economy running.
- ❑ **Developed countries** (*which have traditionally compensated imports of cheap commodities with expensive manufactured goods*) **may face the greatest number of challenges**.
- ❑ *In the modern conditions, it is not possible to fully implement such a model*, since developing and least developed countries supply not only **raw materials**, but also **intermediate ones**.
- ❑ **Disruptions in the supply of these materials and goods, unpredictable price changes and the impossibility of medium-term planning and marketing** ⇒ can **significantly affect**:
 - the production capabilities of developed countries;
 - the standard of living of their population.

A common challenge for all groups of countries – **is maintaining socio-political stability against the backdrop of economic problems!!!**

Recent Commodities Supercycle: Specifics

□ The **deepening crisis processes and global geopolitical tension** demand from all countries:

➤ providing strategically safe supply of key resources and goods;

➤ creating/increasing material reserves of:

❖ food;

❖ metals;

❖ oil;

❖ liquefied natural gas;

❖ coal;

❖ wood;

❖ other commodities.

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□ This **substantially increases the demand and prices** for commodities.

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□ Thus, the **commodities supercycle** (*unlike the previous ones*) is **going to increase** – showing no signs of reducing prices.

Recent Commodities Supercycle: Specifics

□ The **countries producing commodities** are investing in deep processing at home in the framework of:

- diversification of their economy;
- reduction of their dependence on raw materials' exports.

e.g.:

- **producers of primary energy resources** investing in the production of **polymers, fertilizers, basic chemicals** and **gases** (*helium, ethane, etc.*);
- **agricultural producers** **develop processing** and **increase value added**;
- **in mining investment is directed into ore dressing** and further **metal production**.

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All the above:

- ❖ reduces the amount of commodities available for export;
- ❖ affects the prices.

Recent Commodities Supercycle: Specifics

- ❑ Besides general factors determining this supercycle, it is important to mention specific features determining each category of commodities:
 - agricultural;
 - energy;
 - metals.

Agricultural commodities

□ **Agricultural commodities** are mainly **influenced by:**

- the problems in global supply of different fertilizers;
- unpredictable climate fluctuations (*increased/reduced seasons, including agricultural, heating/cooling greenhouses; droughts; heatwaves; changing in air mass movement, etc.*);
- transportation problems;
- local and regional conflicts;
- fighting for transborder water resources.

□ **Agriculture** is connected with:

- the **energy sector** – through fuel, fertilizers and greenhouse heating;
- **metallurgy** – through metal-intensive agricultural equipment.

Agricultural commodities

- ❑ The **growing prices for fuel, fertilizers and metals** (*steel and aluminum*) → lead to:
 - increasing expenditures of agriproducers;
 - further rising of agricultural prices.

- ❑ Through **rapeseed** – as the main source for bioethanol production – agriculture influences the fuel subsector of the energy market.

Energy Commodities

❑ **Hydrocarbons** are:

- the power source;
- the raw materials for petro-, gas- and coal- chemical industries.

❑ **Petrochemicals** are used in all spheres of production and life!

❑ The **demand for energy (hydrocarbon) commodities** grows in 2 directions:

- energy production;
- as industrial raw materials.

Energy Commodities

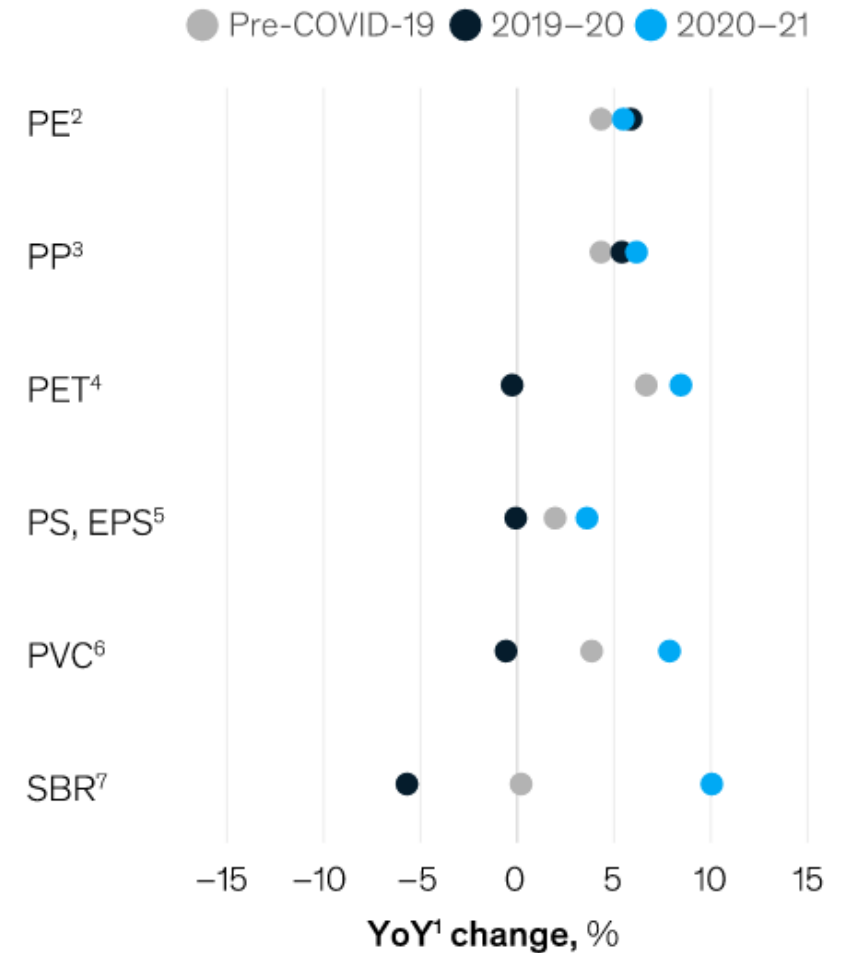
- ❑ **Energy commodities** are used differently, but **remain an important raw material for the basic industries** like:
 - energy;
 - petrochemical;
 - cement production;
 - agrichemical;
 - metallurgy.
- ❑ **The growing oil, gas and coal prices as basic industrial materials → lead to the growth of the final products in this branch → causing the further growth of prices in the industry.**
- ❑ **The current growth of fossil fuel and petrochemical industry products → has led to increasing of all prices:**
 - many goods have petrochemical components;
 - all goods have transport component in their prices.

Case: Growing Demand for Key Petrochemicals

□ Oil, gas and coal – are raw materials for petrochemical industry.

□ Demand for key petrochemicals is growing → demand for hydrocarbons also growing.

Growth in demand for key petrochemicals, YoY¹ change, %



¹ Year over year.

² Polyethylene.

³ Polypropylene.

⁴ Polyethylene terephthalate.

⁵ PS is polystyrene; EPS is extracellular polymeric substances.

⁶ Polyvinyl chloride.

⁷ Styrene-butadiene rubber.

Source: IHS Markit; McKinsey Corporate Performance Analysis Tool

Energy Commodities

Important: the **mankind's need for more energy** in the conditions of:

- expanding digitalization and robotization;
- developing new data transmission systems, innovative agricultural technology in different climates (*greenhouses in deserts and arctic zones*).



this **requires** not “ragged” decentralized electricity generation from renewable sources (*at least until the advent of adequate storage technologies*), but **centralized predictable and controlled electricity generation**.

Energy Commodities

- ❑ To supply growing energy needs all ways of generation will be involved:
 - traditional;
 - renewable;
 - prospective (*e.g. hydrogen*).

- ❑ The **growing demand for electric power** is **directly connected** with the **growing demand for energy commodities**.

- ❑ **System electrification** (*initially based on coal*) **in Africa**:
 - is only beginning;
 - it will definitely influence demand for energy commodities.

Energy Commodities

❑ The reasons for **energy commodities** price fluctuations:

- the industry **underinvestment since 2014** (*after the drop in prices*);
- **the shift to 'green transition' policy** for renewable energy which cannot provide the stable energy supply for highly developed energy systems on the current level of development;
- **more complicated access to financial resources** in western markets due to introducing of ESG standards;
- **demand and supply shocks** (*e.g., caused by COVID-19, weather disasters, geopolitical tensions, etc.*).

❑ The **announced by developed countries renewable energy plans are hard to implement** as:

- most energy is produced from primary energy sources;
- nuclear power generation development has been neglected lately (*whereas the developing countries started their nuclear power production only in the end of the 20th or beginning of the 21st centuries*).

Energy Commodities

❑ Further development of **renewable energy projects** demands great increase in consumption of:

- copper;
- lithium;
- aluminum;
- rare earth metals;



- ❖ prices for these metals are skyrocketing;
- ❖ competition for them has considerably grown.

❑ In order to develop **renewable energy projects** basic industries should function properly – **but they are resource and power intensive** → which leads to further growth of **metals** and **energy** prices.

Energy Commodities

- ❑ The **renewable energy development** requires investment, which is **difficult to provide** in the conditions of **growing prices on metals** necessary for the equipment.

- ❑ It is **highly problematic to calculate an investment project** as it is difficult to forecast weather conditions that strongly determine renewables.

- ❑ The **rise in prices of:**
 - copper;
 - nickel;
 - lithium;
 - polysilicon;

for solar panels and batteries production → has led to **10-35% growth of the 'green energy' project costs.**

Energy Commodities

- ❑ The **growing demand for energy resources** in **MENA, ASEAN, Africa, South America, South Asia** countries has become a **long-term factor for high prices** → as a result, **the supply of energy commodities from these regions is going to shrink.**
- ❑ **It will be hard to achieve general reduction of energy consumption:**
 - the advanced economies would have to start reindustrialization;
 - developing countries will continue or even boost industrialization ⇒ thus needing more energy.
- ❑ **Energy commodities** are **the major driver of the modern commodities supercycle.**

Important: We are discussing **non-renewables**, which makes them even more valuable over time!!!

Depleting Resources and Price Increase

❑ Most **easy-to-extract reserves** have already been mined → the need to develop **hard-to-extract reserves**:

- in difficult geological and climatic conditions;
- at great depths;
- in remote areas of land, seas and oceans.



- ❖ increase in the cost of production;
- ❖ increase in time to develop and reach the project capacity;
- ❖ increase of the cost of transportation;
- ❖ **increase the price of extracted resources.**

Metals

□ **Metals** and their production **linked and influence** on the **prices of other commodities**.

□ **Big amount of metals** from cast iron to californium **are required for:**

- global technological race;
- space race;
- industrialization/reindustrialization;
- creation of new/modernization of old technological zones;
- renewable energy projects development;
- construction and infrastructure development.

Metals

- ❑ **Rivalry among countries is moving into outer space creating further demand for:**
 - aluminum;
 - titanium;
 - nickel;
 - rare earth metals;
 - platinum;
 - palladium;
 - gold.

- ❑ **The demand and prices for uranium and competition to access to it will go on growing as national nuclear power programs are designed** (*currently uranium prices are growing, but they have not reached their peak of 2007*).

Metals

□ The prices of **metals** influence the costs of:

- construction;
- ship-building;
- industrial equipment;
- pipelines;
- defense industry;
- transport, etc.

□ **Metals** prices growth → leads to rising prices of practically all kinds of products → which only enhances inflation and power of the commodities supercycle (*as in case with energy resources*).

Metals: Case of Lithium

□ The whole world is involved in competition for **lithium resources**.

□ **Lithium** is a **basic material** for:

- the production of different types of batteries, including the industrial ones (*which can provide more stable work of energy systems using renewable resources*);
- nuclear, space, and electronic industries.

Metals: Case of Lithium

- ❑ The prices of metals needed for the energy transition continue to rise.
- ❑
- ❑ **Lithium carbonate:**
 - has risen in price by 70% since the beginning of the year;
 - compared to April 2021, it has increased in price by 5.5 times.
- ❑ For the middle of March, 2022 costs for production of various types of batteries show growth because of rise in price of raw materials.
- ❑ Battery manufacturers are already planning to raise prices by 25% in the near future → which in turn could push automakers to increase the cost of cars by about 15%.
- ❑ *By 2050, Europe alone will need:*
 - 35 times more lithium;
 - 3.5 times more cobalt;
 - 3-6 times more rare earth elements.
- ❑ These metals are used in everything from electric vehicles to renewable energy.

Global Value Chains

- ❑ **Logistics** and **global value chains** closely connected to commodities:
 - production;
 - trade;
 - consumption.
- ❑ **COVID-19** and **geopolitical tensions** together have **substantially changed global**:
 - connectivity;
 - logistics;
 - traditional value chains.
- ❑ **High probability that global value chains will change their status** from **'highly tense'** → to **'completely ruined'** (*trend for the regionalization and near-shoring*).
- ❑ We have been observing the process of **reconfiguration and adaptation to new realities**, but, considering the above trends, the **problems are going to pile up**.

Global Value Chains

- ❑ **COVID-19 restrictions and bans on entering ports for ships of certain countries** → will **only exacerbate the function of global value chains.**


e.g.: the number of container ships in lines to enter Chinese ports has doubled since February 2022.

1826 container ships (*~25% of the global container fleet*) are **waiting for entering the seaports worldwide in April 2022.**

- ❑ **Commodity prices are subject to increase due to:**
 - the more complicated routes;
 - difficulties in ports;
 - search for alternative ways of transportation;
 - increasing fuel prices;
 - introducing new environmental standards for sea transport.

Conclusions

- ❑ Transition to multipolar world, situation on the commodities markets, and risks connected with geopolitical tensions ⇒ have made **food, energy, water + industrial production nexus** extremely important.

 - ❑ The new reality for the mankind demands for:
 - providing food, energy and general resource security;
 - localization of production of strategically vital goods (*medicine and medical equipment, transport, power generation and electric machines, agricultural equipment, weapons, control and communication systems, etc.*);
 - adequate power supply.
- 
- Result:** increase in demand for commodities.
-
- ❑ The growing demand without proper supply leads to increasing prices ⇒ this means that the **commodities supercycle** will only accelerate in the near future.