# OEET Workshop Turin 1-2/12/2022

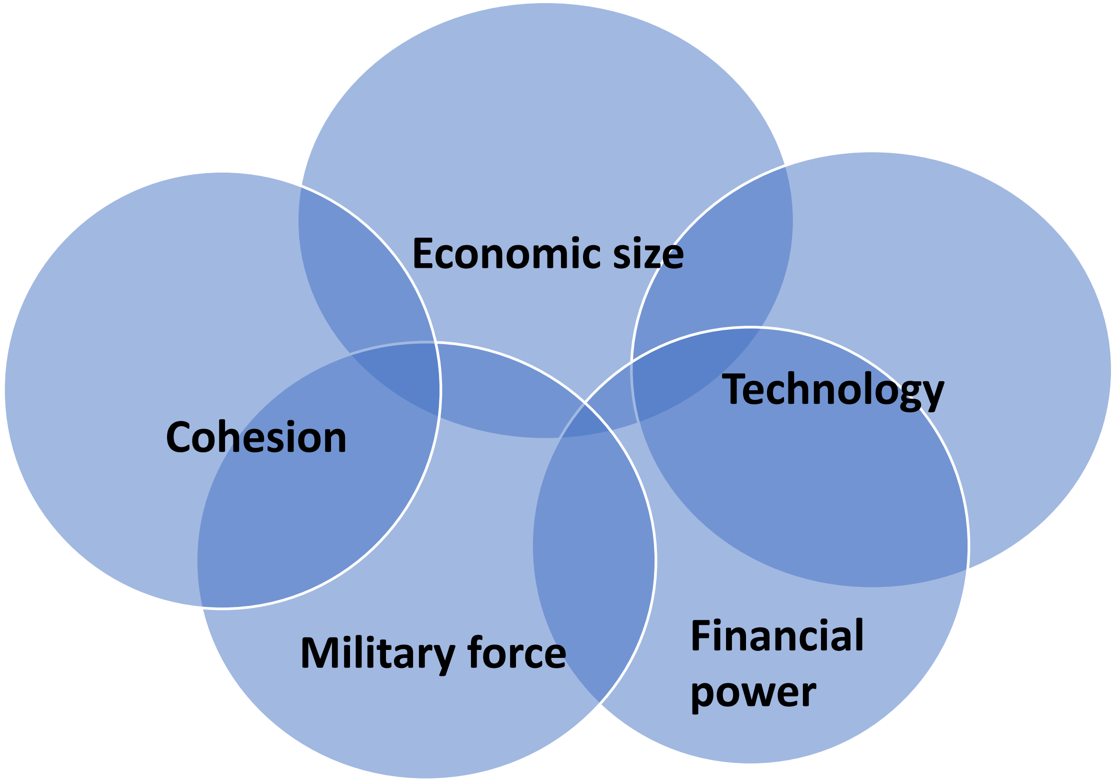
## Changes in the world economy and the main emerging countries in the XXI Century

**Vittorio Valli, University of Turin and OEET**

# Changes in global economic power

- **In the first part of the XXI Century the world economy has undergone crucial changes in the global economic power of major countries, which is principally determined by the economic size, technological and military levels, financial power and internal cohesion of each country.**
- **However, it is also extremely important to consider the international economic and financial relations of a country.**
- **For example, in the recent phase of globalization (rapidly growing from the 1970s to 2007 and then slowing down) many countries, their citizens, their firms and in particular their multinationals, had been exposed to the consequences of financial crises and the "great recession", trade conflicts and wars, sanctions, pandemics, periods of fragilization of global value chains, logistic problems, more arduous and costly access to energy and other strategic raw materials, inflation spurts, worsening environmental problems, etc. All this has contributed to slow down globalization and fragment the global economy.**

# Global power




See also Valli V. (2018), Chapter 6.

# Changes in economic size

- **In terms of *economic size*, roughly measured by total GDP in PPP, China has overtaken the United States since 2016; in the 2000-2021 years India has overtaken Japan and Germany; Indonesia and Brazil have overtaken France and the UK, while Mexico, Turkey and South Korea have approached the level of Italy (see table 1).**

- **Of course, China and India have a very large economic size also because of their immense population (over 1.4 billion people for China and India versus about 335 million for the US and 280 for Indonesia), but in the 2000-2021 years also their per capita GDP and their productivity have increased much faster than in the US, the other Western countries and Japan.**

# Table 1: Changes in economic size

GDP in PPP in current international $: USA=100.  Source: World Bank (2022). Our elaborations.

| Rank 2021 | Countries | 2000 | 2007 | 2019 | 2021 |
|---|---|---|---|---|---|
| 1 | China | 35.9 | 62.1 | 109.7 | 118.8 |
| 2 | USA | 100.0 | 100.0 | 100.0 | 100.0 |
| 3 | India | 21.6 | 28.9 | 44.6 | 44.4 |
| 4 | Japan | 33.8 | 31.0 | 25.0 | 23.5 |
| 5 | Germany | 21.9 | 20.7 | 21.6 | 21.0 |
| 6 | Russian Federation | 9.76 | 16.4 | 20.6 | 20.8 |
| 7 | Indonesia | 9.76 | 11.6 | 15.6 | 15.5 |
| 8 | Brazil | 15.4 | 16.5 | 15.2 | 14.9 |
| 9 | France | 15.5 | 15.0 | 15.4 | 14.9 |
| 10 | United Kingdom | 15.2 | 15.1 | 15.3 | 14.5 |
| 11 | Italy | 15.0 | 13.8 | 12.4 | 11.8 |
| 12 | Mexico | 10.7 | 10.8 | 11.8 | 11.3 |
| 13 | Turkey | 5.9 | 7.2 | 10.5 | 11.3 |
| 14 | South Korea | 8.5 | 9.7 | 10.4 | 10.6 |
| 15 | Canada | 8.8 | 9.0 | 8.7 | 8.7 |
| 16 | Spain | 8.5 | 10.0 | 9.2 | 8.4 |
| 17 | Saudi Arabia | 8.0 | 8.6 | 7.9 | 7.6 |

# Changes in per capita GDP in PPP

- **In the 2000-2021 years, in terms of per capita GDP in PPP, the gap between Western countries and some of the main emerging countries has rapidly diminished, though remaining rather large.**
- **For example, China in the year 2000 had a per capita GDP in PPP equal to 8% of the one of the USA, 27.9% in 2021; India in 2000 had 5.8% of the US level, 10.6 % in 2021; Indonesia went up from 13% to 18.6% ; Turkey from 26.5 % to 44%. However, some other countries, such as Brazil (which went down from 24.9% to 23.2%) and Mexico (which went down from 30.5% to 28.9%), had a rather disappointing performance. Table 2 shows a more detailed comparison between USA and China in 2000 and 2021.**
- **The rapid catching up in per capita GDP in some emerging countries is largely due to a rapid catching up in productivity (see World Bank 2021), at least in the formal part of the economy. It is also mainly due to industrialization, the scale economies and the rise of some modern services, to the increase in physical and human capital and the technological level and to a positive insertion in the globalization process.**

# Table 2. USA and China: selected indicators

| Indicators | USA | | CHINA | |
|---|---|---|---|---|
| | 2000 | 2021 | 2000 | 2021 |
| 1. Population as % of USA | 100.0 | 100.0 | 446.5 | 425.4 |
| 2. Total GDP in PPP as % of the US | 100.0 | 100.0 | 35.9 | 118.8 |
| 3. Per capita GDP in PPP as % of the US | 100.0 | 100.0 | 8.0 | 27.9 |
| 4. GDP per person employed in constant 2017 PPP $ as % of the US | 100.0 | 100.0 | 6.1 | 24.5 |
| 5. Capital stock in US dollars 2017 as % of the US (a) | 100.0 | 100.0 | 28.0 | 147.3 |
| 6. Gross capital formation as % of GDP (b) | 24.0 | 21.0 | 34.0 | 43.0 |
| 7. Mean years of schooling of adult population (25+ years) | 12.7 | 13.7 | 6.5 | 7.6 |
| 8. Expected years of schooling (c) | 15.1 | 16.3 | 9.9 | 14.2 |
| 9. Spending in R.& D. as % of GDP (b) | 2.6 | 3.4 | 0.9 | 2.4 |

Notes: (a) 2019 instead of 2021; (b) 2020 instead of 2021: (c) 2001 instead of 2000 for China.
Sources: World bank (2022) for indicators 1-4; FRED (2022) for indicator 5; World Bank (2022) for indicator 6; UNDP (2022) for indicators 7 and 8; OECD (2022) for indicator 9. Our elaborations.

# Military Force

- **In terms of *military force*, the US has remained the leading power and the Russian federation maintains its enormous arsenal of nuclear and conventional weapons, but China is rapidly rising, massively increasing its army, navy and air-space forces and its technological level in nuclear and conventional weapons (see *table 3*). From 2000 to 2021 global military spending increased by about 80% in constant US$. In 2021 the first five big spenders were the USA (801 current billion $; 37.9% of global spending) China (293 B $; 13.9%), India (76.6 B $; 3.6%), UK (68.4 B $; 3.2%), Russia (65.9 B $; 3.1%)(Source SIPRI, 2022).**

- **India and countries such as Japan, South Korea and North Korea, Pakistan, Brazil, Egypt, Turkey, Iran, Indonesia, Saudi Arabia and  Israel, are striving to expand their military force. France and the UK maintain a solid position in terms of nuclear and air-force equipment, but in an ancillary way to the US military power under the NATO umbrella, while Germany, after the start of the Ukraine war, has recently announced a sharp increase in its military budget.**

# Table 3.Ranking in military strength in 2022 (a)

| Rank | Countries | Global firepower index | Rank | Countries | Global firepower index |
|---|---|---|---|---|---|
| 1 | United States | 0.0453 | 11 | Italy | 0.1801 |
| 2 | Russian Federation | 0.0501 | 12 | Egypt | 0.1869 |
| 3 | China | 0.0511 | 13 | Turkey | 0.1961 |
| 4 | India | 0.0979 | 14 | Iran | 0.2104 |
| 5 | Japan | 0.1195 | 15 | Indonesia | 0.2251 |
| 6 | South Korea | 0.1261 | 16 | Germany | 0.2322 |
| 7 | France | 0.1283 | 17 | Australia | 0.2377 |
| 8 | United Kingdom | 0.1382 | 18 | Israel | 0.2621 |
| 9 | Pakistan | 0.1572 | 19 | Spain | 0.2901 |
| 10 | Brazil | 0.1695 | 20 | Saudi Arabia | 0.2966 |
| (a) Excluding nuclear capabilities. Ukraine is 22th, North Korea is 30th. Source: Global firepower (2022). | | | | | |

# Financial power

**In the important field of global *financial power*, the United States, EU, China, Japan, UK maintain a strong leadership, but Canada, South Korea, India, Brazil, some oil-rich countries are improving the size, attractiveness and sophistication of their financial markets. As it happened in China in the last three decades, in the long run, with a considerable delay, the rise of an economy usually contributes to determine the rise of its financial strength (*Table 4* shows the stock market capitalization of listed domestic companies, which represents a rough and partial, albeit important, aspect of financial power).**

**Notice that some important countries for stock market capitalization of domestic listed firms such as UK, France, Italy are not included in the table because for them World Bank's data cover only the period up to 2014 (2018 for France).**

# Table 4. Stock market capitalization of listed domestic companies in 2020 and 2003

Source: World Bank (2022 b). Values in current billion US dollars

| Rank 2020 | Country | 2020 | 2003 | Rank 2020 | Country | 2020 | 2003 |
|---|---|---|---|---|---|---|---|
| 1 | USA | 40720 | 14266 | 11 | Australia | 1721 | 586 |
| 2 | China | 12214 | 513 | 12 | Iran | 1218 | 27 |
| 3 | Japan | 6718 | 2953 | 13 | South Africa | 1051 | 261 |
| 4 | Hong Kong | 6130 | 715 | 14 | Brazil | 988 | 235 |
| 5 | Canada | 2641 | 910 | 15 | Spain | 759 | 726 |
| 6 | India | 2595 | 309 | 16 | Russia | 695 | ….. |
| 7 | Saudi Arabia | 2429 | ….. | 17 | Singapore | 653 | 148 |
| 8 | Germany | 2284 | 1079 | 18 | Thailand | 543 | 119 |
| 9 | South Korea | 2176 | 329 | 19 | Indonesia | 469 | 55 |
| 10 | Switzerland | 2002 | 727 | 20 | Malaysia | 437 | 161 |

# Social Cohesion

- **A country can have an important economic size and a good level of technology and competitiveness, but a bad score in social cohesion.**
- **From the economic point of view social cohesion mainly depends on the level of inequality and in the absence, or weakness, of social mobility, i.e. the possibility to up-grade the economic and social status of a person.**
- **From 2000 to 2021 within- country global income inequality has badly increased, while between- country inequality has decreased (see WIR 2022, p.57). In the US, Japan and in some EU countries, as well as in China, India, Brazil, Indonesia, South Korea, the percentage of total income going to the top 10% of population has increased, while the percentage going to the bottom 50% has decreased or stagnated. In 2021 Mexico, Brazil, India, Indonesia and the USA had huge differences between the top 1% and top 10% earners and the bottom 50%; a little less Russia, China, South Korea and Japan. Substantial, but smaller income gaps existed in Germany, UK, Italy and France (*Tables 5* and *6*).**
- **As to inequality in wealth the situation is even worse. The economic crisis of the lower middle class and of the poor has contributed to feed various forms of populism.**

# Table 5. Inequality in income and wealth in selected countries (2021)

## Source: World inequality report (2022) and WID (2022)

| Countries | % Share of Bottom 50% | | % Share of Middle 40% | | % Share of Top 10% | | % Share of Top 1% | |
|---|---|---|---|---|---|---|---|---|
| | Income | Wealth | Income | Wealth | Income | Wealth | Income | Wealth |
| China | 14.4 | 6.4 | 44.0 | 25.8 | 41.7 | 67.8 | 14.0 | 30.5 |
| USA | 13.3 | 1.5 | 41.2 | 27.8 | 45.5 | 70.7 | 18.8 | 34.9 |
| India | 13.1 | 5.9 | 29.7 | 29.5 | 57.1 | 64.6 | 21.7 | 33.0 |
| Japan | 16.8 | 5.8 | 38.3 | 36.5 | 44.9 | 57.8 | 13.1 | 24.5 |
| Germany | 19.0 | 3.4 | 43.9 | 37.1 | 37.1 | 59.6 | 12.8 | 29.7 |
| Russia | 17.0 | 3.1 | 36.6 | 22.8 | 46.4 | 74.1 | 21.5 | 47.7 |
| Indonesia | 12.4 | 5.5 | 39.6 | 34.3 | 48.0 | 60.2 | 18.3 | 29.4 |
| Brazil | 10.1 | -0.4 | 31.4 | 20.6 | 58.6 | 79.8 | 26.6 | 48.9 |
| France | 22.7 | 4.9 | 45.1 | 35.6 | 32.2 | 59.5 | 9.8 | 27.0 |
| U. K. | 20.4 | 4.6 | 44.0 | 38.2 | 35.7 | 57.1 | 12.7 | 21.3 |
| Italy | 20.7 | 10.0 | 47.1 | 42.4 | 32.2 | 47.7 | 8.7 | 18.0 |
| Mexico | 9.2 | -0.2 | 33.5 | 21.5 | 57.4 | 78.7 | 26.1 | 46.9 |

# Table 6. Bottom 50% to Top 10% income gap

## Source: World inequality report (2022)

| Countries | Bottom 50% to Top 10% income gap |
|---|---|
| France | 1 to 7 |
| Italy | 1 to 8 |
| United Kingdom | 1 to 9 |
| Germany | 1 to 10 |
| Japan | 1 to 13 |
| South Korea | 1 to 14 |
| China | 1 to 14 |
| Russian Federation | 1 to 14 |
| USA | 1 to 17 |
| Indonesia | 1 to 19 |
| India | 1 to 22 |
| Brazil | 1 to 29 |
| Mexico | 1 to 31 |

# Five central trends in the 2000-2022 years

- **Five central trends or events have deeply influenced the global economic order in the 2000-2022 years.**

- **First, the rapid development and vast exploitation of shale oil and shale gas in the United States has reduced, and then practically eliminated, the US energy dependence from foreign sources, though heavily increasing the pollution in the extraction zones and reducing the US propensity to expand renewables. In the same period, up to the Russian invasion of Ukraine, most EU countries have, on the contrary, strongly increased their gas and oil dependence from Russia and other energy exporting countries and have too slowly increased the recourse to renewables.**

# Environmental changes

- **Second, the rapid growth of $CO_2$ emissions and other forms of pollution has led to global warming, water scarcity, devastating weather perturbations and other disruptive effects, contributing to reduce global economic growth and augment famine and migrations. The attempt to reduce *global warming* has been timid, and partly ineffective. One reason is that poor countries and some emerging ones usually have low per capita emissions and need more energy in order to grow and this will increase emissions, while several richer countries are not substantially decreasing their very high per capita emissions. *Table 7* gives an idea of how the global situation both for total and per capita emissions have continued to worsen in the 2000-2021 period. In 2021 rich countries such as the USA, South Korea, Japan and the EU 27, plus the main energy-exporters, such as Saudi Arabia, Russia and Iran, had per capita $CO_2$ emissions much higher than the world average, though their trend in the 2000-2021 period has been different (somewhat diminishing in the USA, EU 27 and Japan while rising in all the other countries listed in Table 7).**
- **In the 2000s Africa had very low and stagnating per capita $CO_2$ emissions (1.04 t. in 2021), but very heavy consequences of global warming in terms of drought, water scarcity, bad crops, weather turbulences, famines and migrations.**

# Table 7. CO2 Emissions in selected countries (2000-2021)

## Source: Our World in Data (2022)

| Countries | Total emissions Billion tonnes | | 2000-2021 % change | Countries | Per capita emissions (tonnes) | | 2000-2021 % change |
|---|---|---|---|---|---|---|---|
| | 2000 | 2021 | | | 2000 | 2021 | |
| ***WORLD*** | ***25.45*** | ***37.12*** | ***+46%*** | ***WORLD*** | ***4.14*** | ***4.69*** | ***+13%*** |
| China | 3.64 | 11.47 | +215% | Saudi Arabia | 13.75 | 18.70 | +36% |
| USA | 6.02 | 5.01 | -17% | USA | 21.30 | 14.86 | -30% |
| EU (27) | 3.60 | 2.79 | -22% | Russia | 10.07 | 12.10 | +20% |
| India | 0.98 | 2.71 | +177% | South Korea | 9.40 | 11.89 | +26% |
| Russia | 1.48 | 1.76 | +19% | Japan | 9.97 | 8.57 | -14% |
| Japan | 1.26 | 1.07 | -16% | Iran | 5.63 | 8.52 | +51% |
| Iran | 0.37 | 0.75 | +103% | Germany | 11.03 | 8.09 | -27% |
| Germany | 0.90 | 0.67 | -25% | China | 2.88 | 8.05 | +179% |
| Saudi Arabia | 0.30 | 0.67 | +127% | EU (27) | 8.44 | 6.28 | -26% |
| Indonesia | 0.28 | 0.62 | +124% | Indonesia | 1.29 | 2.26 | +75% |
| South Korea | 0.44 | 0.62 | +40% | India | 0.92 | 1.93 | +109% |

# Three great shocks

- **Third, the 2008 financial crisis and the "Great Recession", the Covid-19 pandemics and the Russian invasion of Ukraine have been three great shocks to the world economy and in particular to Western countries, with important consequences also for emerging and developing countries.**
- **Four great lessons from these crises have been largely forgotten. The 2007-8 US financial crisis and the consequent great recession are  basically due to the de-regulation of the financial system since the 1990s and to decades of excessive financialization of the world economy. Little has been made to structurally face these two problems.**
- **Moreover, the "austerity" measures followed in most countries at the start of the "great recession" have proved to be as fuel thrown on the fire of the economic crisis. Therefore we must device mechanisms which can sustain the economies during the crises and restore stability during the expansions.**
- **The COVID-19 pandemic has shown how a well organized and well financed public health system is important to avoid, or significantly reduce, great pains in terms of deaths, long and sorrowful hospitalizations and economic disruption. The budget cuts made in the 1990s and 2000s in several countries in their public health system have backfired contributing to severely reduce the possibility to promptly and effectively react to the pandemic.**

# The consequences of wars

- **The brutal Russian invasion of Ukraine and all the other wars or harsh social-political conflicts raging in the last two decades in Afghanistan and several parts of the Middle –East, Africa, America and Asia remind us the inner fragility of an international order essentially based on economic and military strength and full of nationalistic, or ethnic and religious impulses amplified by power-seeking political leaders.**
- **The impotence of the United Nations in solving international conflicts is crying for a radical reform of this institution.**
- **Wars badly contribute to destroy lives, communities, housing and infrastructures and to create poverty and massive migrations.**
- **The rapidly increase of war drones, missiles and other lethal instruments operating at distance and so decoupling the attacks from the direct sacrifice of soldiers, constantly raises the risk of wars and terrorism.**
- **What to do?**

# The slowing down of globalization

- **Fourth, the lack of regulation of globalization and, since 2008, the slowing down of the process of globalization, partly due to the three great shocks, has contributed to produce economic crises, the disruption or weakening of several global value chains and, in 2022, the rapid rise of inflation pressures. It has also increased the feeling that, in turbulent or war-time periods, remain too dependent from other countries for strategic materials, such as energy sources, rare earth, chips, batteries and food, can be very dangerous. Severe bottlenecks in the global supply chain can lead to shortages in production and inflation spurts, which the usual restrictive monetary policies cannot easily face without determining severe economic recessions and the rise of unemployment, economic and social inequalities, poverty and famine.**
- **Globalization is not finished, but is slowing down and the global economy is more and more fragmented.**

# References


- **Global firepower (2022), https://www.globalfirepower.com/countries-listing.php, retrieved on November 2, 2022.**
- **OECD (2022), Gross domestic spending in R&D as % of GDP, retrieved on November 21, 2022.**

  **< https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm >**
- **Our World in Data (2022), < https://ourworldindata.org/co2-emissions > retrieved on November 10, 2022.**
- **UNDP (2022), Human Development Report 2021-22, < https://hdr.undp.org/content/human-development-report-2021-22 >**
- **Valli V., (2018),*The American Economy from Roosevelt to Trump*, Palgrave-Macmillan, London.**
- **WID (2022), World Inequality database, < https://wid.world/ > retrieved on November 9, 2022**
- **WIR (2022), World Inequality Report, < https://wir2022.wid.world/ > , retrieved on November 9, 2022.**
- **World Bank (2021), *Global productivity. Trends, Drivers and Policies*, World Bank Group, Washington D.C.**
- **World Bank (2022 a), GDP in PPP in current international $. Retrieved on November 6, 2022, https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD**
- **World Bank (2022 b). Market capitalization of listed domestic companies, Retrieved on November 8, 2022. https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?locations=US**