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COVID-19 PANDEMIC AS A HARBINGER OF WIDER PROCESS OF DEGLOBALIZATION AND RADICAL REARRANGEMENT OF GLOBAL SUPPLY CHAINS

Abstract: The author describes in the text succinctly and briefly how the COVID-19 pandemic impacted the global economy. Special attention is paid to the pandemic's influence on the global supply chain system and the evolution of corporate management over the supply chains in light of the lessons and experiences learned after the pandemic. The author argues that the global economy has entered the process of deglobalization and that the Western economies are gradually decoupling from China and Russia. According to the author, the pandemic prominently contributed to the rise in global debt level. Last but not least, the author is deeply convinced that soon the world will face a massive economic crisis and the unprecedented collapse of the global financial system which will shake the foundations of the global economy even more and which will make a huge reshuffle in world politics and geoeconomics. The COVID-19 pandemic virtually shook the global economy bringing about a lot of serious and miscellaneous socio-economic effects across the globe. It resulted in various economic upheavals that undermined many economies worldwide. The text aims to briefly describe the most germane economic effects and trends that were either produced, accelerated, or intensified due to the pandemic and economic policies introduced by governments in response to the pandemic. The pandemic crisis was a kind of overture to a much worse economic crisis that lies ahead and that will lead to the collapse of the global financial system totally and unavoidably.

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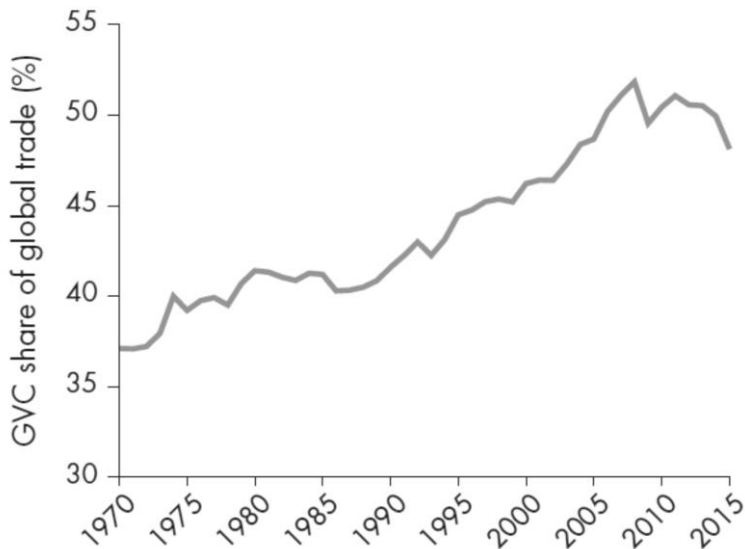
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Globalization and the global supply chains system

As a consequence of opening markets across the globe since the collapse of the communist bloc in 1989-91 as well as technical innovations and Deng Xiaoping's momentous reforms in China economic globalization materialized. The capital flows, including foreign direct investments, increased measurably in the last three decades on a world scale. Rising capital flows resulted in increasing transnational trade volumes. Corporations whose activities used to be focused exclusively on certain regions of the globe began to operate globally on all continents. As a consequence of a few decades of advancing globalization, presently the complex essence of industrial fabrication processes in the global economy ordinarily depend upon bewildering numbers of materials, parts and components as well as numerous stages of assembly. Managers of leading enterprises created very sophisticated and branchy global supply chains. Corporate managers across the world widely adopted strategies of outsourcing and offshoring. Widely touted by various corporate gurus so-called 'capital-light' models of doing business that came down to splitting design from actual production, became very fashionable amongst managers. In other words, to a substantial degree places of consumption were split from the places of production. The Western world experienced a far-reaching process of deindustrialization as the factories were relocated to China, Mexico, Poland, Vietnam and other less-developed states with lower wages and looser environmental protection regulations. The International Bank for Reconstruction and Development assessed that the global trade connected to global value chains increased from the level of roughly 37% of all global trade in 1970 to the level of 52% in 2008 as illustrated in Figure 1.

No wonder that a tightly interconnected global supply chain system with heightened specialisation amongst economies emerged in the recent three decades. On the downside of this phenomenon was the fact that this interconnected global corporate supply chain system had a truly low margin for error in the event of different possible supply chain shocks, which were so acutely exposed by the pandemic. As a result of the pandemic and the palpable rise in geopolitical rivalry, governments of major economies (like the U.S., China, and Russia) seem to begin to pursue a policy of self-sufficiency in crucial industrial sectors like the manufacturing of semiconductors, advanced batteries or medicines and medical equipment.

Figure 1. Global value chain share of global trade 1970-2015.



Source: *Trading for Development in the Age of Global Value Chains*, World Bank Group, 2020, p. 2.

Revision of the corporate supply chains and business approaches

The pandemic crisis led to a painstaking revision of the global supply chains of many enterprises operating transnationally. Managers of various international companies felt compelled to reject once thought as incontrovertible and fully justified approaches.

One can describe this process based on the example of a leading European automotive company – Volkswagen – a national champion of Germany. After the pandemic crisis erupted Volkswagen's management concluded that the corporation's supply chains ought to be above all shortened to make its business less reliant on suppliers situated in faraway countries².

Volkswagen's managers after the COVID-19 pandemic concluded that the undisturbed and sustained delivery of components and raw materials necessary for industrial output is more important than competitive, low pricing. That means that nowadays ensuring stable supplies of components and some of the raw materials used in the corporation's production processes has become more important than their low price. A supplier charging a higher price for their

² *Volkswagen Prepares for a Deglobalized World*, <https://www.wsj.com/articles/volkswagen-prepares-for-a-deglobalized-world-11648373580?mod=hp_lead_pos8> (27.03.2022).

supply may be preferred over a competitor charging lower prices but being more uncertain and at higher risk of failing in its deliveries. In other words, corporate priorities have been reshuffled and rearranged. Security and certainty became preferred over low prices. Volkswagen could no longer concentrate exclusively on receiving the cheapest components, however remote their producers were. Volkswagen managers also returned to the practice once commonly used – dual sourcing of certain essential parts. That approach ensures that in case of failure of one subcontractor, the firm would be able to raise the supplies order with the second sub-supplier.

Volkswagen's executives decided to diversify not only its sub-suppliers but also its main clients and markets. The geographic destination of Volkswagen sales needed to be diversified because the automotive concern was too dependent on one market – namely China – from where 40% of its sales come. In case of serious troubles in the Chinese economy, Volkswagen's business would suffer acutely. Therefore, the company's management decided to invest more in production and sales in the U.S. and emerging markets other than China. Moreover, Volkswagen's managers realized that their business is too dependent not only on the Chinese market but also on crucial Chinese components – semiconductors – import of which is necessary for uninterrupted, stable and efficient manufacturing in Volkswagen factories all over the world³. Being aware that deliveries of semiconductors from the Middle Kingdom or Taiwan to Europe are dicey in the event of geopolitical tensions and conflict even German politicians began to scramble for further development of the semiconductor industry in Germany and Western Europe.

Similar changes and evolution in corporate strategies can be noticed also in the case of other major global concerns. Greater resilience to supply chain shocks and disruptions became something not only desirable but also worth paying higher costs. Among means that can be done by corporate managers to bolster and futureproof their supply chains are: diversification of geographic output, shortening supply chains, devising more aligned procurement strategies⁴ as well and furthering the process of vertical integration by acquiring domestic and foreign suppliers⁵. Many corporations all over the world began to scrupulously identify potentially dangerous dependencies and bottlenecks in their supply chains, and even in the supply chains of their subcontractors. For

³ *Companies Ignore Major Risks in China*, <<https://www.spiegel.de/international/business/business-as-usual-german-companies-ignore-major-risks-in-china-a-27b66d20-f228-47d0-b2bf-95f3cc976e6c>> (04.11.2022).

⁴ J. Gattorna, *People powering contemporary supply chains*, [in]: *Global Logistics: New Directions in Supply Chain Management*, 8th Edition, ed. E. Sweeney and D. Waters, London & New York 2021, p. 287.

⁵ *The structure of the world's supply chains is changing*, <<https://www.economist.com/briefing/2022/06/16/the-structure-of-the-worlds-supply-chains-is-changing>> (18.06.2022).

instance, another major global automotive producer Toyota asked its sub-suppliers to present their supply chains to detect risks for potential interruptions.

Toyota and its way of managing supply chains has been especially closely watched around the world for decades since this is the company that revolutionized corporate logistics by introducing a new pioneering innovation – so-called just-in-time deliveries initiated for the first time in the 1950s. This approach vastly contributed to avoiding waste and reduction in operating costs. Toyota planned production and logistic processes in such an informed and well-thought-out manner that deliveries of different parts were transported to the specific assembly lines just in time in which they were needed in the production processes. Thanks to this approach substantial part of warehousing costs were omitted and cars could be produced cheaper. Of course in this logistics system, everything had to run like a Swiss watch but Toyota honed and perfected this skill. In consequence, it became a model example to follow for many other concerns – not only from the automotive industry – and went down in golden letters in the history of management. The Toyota just-in-time production system turned out to be so economical that literally every car manufacturing company that wanted to survive in the competitive world market had to adopt this approach and implement it. What is more, a multitude of companies representing other than automotive industrial branches adopted this just-in-time logistics system as well.

Nevertheless, the COVID-19 pandemic harmfully revealed that in the global economy with so numerous and so intricate supply chains the just-in-time production system had certain inherent risks in itself. It became too brittle. It could work very well only in case there were no external supply shocks. Toyota's managers began to reevaluate its world-famous approach to adapt it to modern times with increased geopolitical and geoeconomic risks. For instance, Toyota asked its suppliers to stockpile certain parts⁶. Toyota itself decided to expand – and in some cases create from scratch – inventories of certain vital though small in weight and volume parts like semiconductors. The cost of stockpiling and warehousing them are not as high as that of much bigger and heavier parts and they provide a kind of safety buffer that allows production to continue for some time by using stored stock in the event of interruptions and disruptions in supplies. Hence, we can sum it up to state that Toyota is replacing the just-in-time production system with a just-in-case production system. Obviously, this replacement does not encompass all components and parts but only some painstakingly selected ones. Therefore, it is not a full

⁶ *Auto Makers Retreat From 50 Years of 'Just in Time' Manufacturing*, <www.wsj.com/articles/auto-makers-retreat-from-50-years-of-just-in-time-manufacturing-11620051251?mod=hp_lead_pos5> (06.05.2022).

rejection of the just-in-time approach, but rather a partial and limited withdrawal from it. Nonetheless, Toyota's shift arguably is a harbinger of similar changes in the future. Once again Toyota's approach to logistics and production may be emulated worldwide as it used to be in the past. Moreover, Toyota convinced – or compelled – its suppliers to reveal who exactly sells them their parts and components⁷. Data gained in this manner was collected in a special large database used to identify potential bottlenecks and other problems in the supply chain.

Tellingly, Toyota also paid more attention to securing supplies of semiconductors. Together with another well-known Japanese firm Sony and a few other Japanese companies, it founded a new semiconductor factory in Japan⁸. This is the result of not only the COVID-19 pandemic but also the increasing trade clashes between China and the U.S. over primacy in the world semiconductor industry as well as worries about the stability of semiconductor supplies in case of eruption of Sino-Taiwanese military conflict.

Another signature change evoked by the pandemic in the management of global supply chains is making nearshoring widespread. Big global businesses are prone to relocation of output much closer to home than in the past. This is to a large degree the ramification of vastly rising freight costs provoked by the COVID-19 pandemic and ensuing lockdowns that heavily hit the harbours and maritime transport. The rise in maritime freight prices can be noticed in Figure 2. In the midst of 2021, the spot container-freight rate for the transport of containers from a Chinese port to a U.S. port situated on the East Coast increased nine times in relation to 2019. That was an immense rise indeed. The average price for a standard 40-foot shipping container made in China doubled in 2021 relative to 2016. Shipping costs in 2020 and 2021 hit records de facto becoming one of several drivers of increased global inflation. Hence, it became much more economical to transport materials, parts and components over shorter distances. So-called short-sea shipping became a wiser and more rational strategy for managers wanting to adjust and improve their supply chains⁹.

⁷ *Ibidem*.

⁸ *Toyota, Sony Set Up Advanced Chip Business in Japan*, <https://www.wsj.com/articles/toyota-sony-set-up-advanced-chip-business-in-japan-11668133504?mod=world_major_1_pos4> (11.11.2022).

⁹ To find out more about short-sea shipping see: T. A. Santos, C. G. Soares, *Assessment of transportation demand on alternative short-sea shipping services considering external costs* [in:] T. Vanelslander T., C. Sys, *Maritime Supply Chains*, Amsterdam-Oxford-Cambridge 2020, pp. 13-45.

Figure 2. Spot container-freight rates, from China to Europe and the U.S., 2017-2021.



The Economist

Source: www.economist.com

These factors made many managers seriously moot the relocation of production to low labour costs economies situated much closer to home markets or major consumer markets. A sudden and marked rise in maritime shipping by no means should be disregarded. If indeed reduced transportation costs lead to the fragmentation of industrial production on a global scale, as Venkatachalam Anbumozhi and Ji Hong Kim argue¹⁰, it is logical to assume that rising transport costs should cause the opposite process. To put it

¹⁰ V. Anbumozhi, J. H. Kim, *Complexities in Supply Chain Resilience Against Economic Shocks and Forming Public Private Partnerships: Korean Automotive Case* [in:] *Supply Chain Resilience: Reducing Vulnerability to Economic Shocks, Financial Crises, and Natural Disasters*, ed. V. Anbumozhi, F. Kimura, S. M. Thangavelu, Singapore 2020, p. 167.

differently, Mexico located very close to the U.S. became a much more attractive place of locating production for U.S. firms than faraway China. Transportation of goods from China via maritime route was much more expensive than transportation of the same goods manufactured in Mexico situated nearby. This phenomenon of relocating production closer to home gained the name nearshoring. A good example is Italian firm Benetton which after the pandemic shock made a decision to relocate fabrication to Serbia, Croatia, Turkey, Tunisia and Egypt – all these states are situated relatively not far from Italy and Western Europe which are the principal markets for the company¹¹. Benetton gradually reduced its manufacturing in South and East Asia relocating the production to the Mediterranean basin.

Overall, one may observe that after the COVID-19 eye-opening lessons corporations' push to minimize costs is to a certain extent replaced with a push to maximize the security and stability of deliveries and supply chains. Too complex webs of supply chains proved to be relatively vulnerable to disruptions and shocks of miscellaneous origins. In a modern-day global economy, the potential for disruption in manufacturing, transportation and distribution of manufactured and sold goods is simply too high to neglect. As analysts of the World Bank Group aptly remarked supply chain disruptions are particularly costly when companies effortlessly and handily resort to alternative suppliers¹². Thus, for corporate executives, it appears to be judicious to seek some alternative sources and routes of supply. Nearshoring may be one of the strategies aimed at the protection of complicated corporate supply chains. But this is not the only possible response to this issue. Another one is the so-called regionalization which basically brings down to manufacturing goods using delivered materials and components obtained exclusively from the region of the globe in which the produced goods are later sold.¹³ This response to the pandemic in fact leads to an increase in regionalisation instead of furthering pre-pandemic globalisation. By regionalisation possible supply chain disruptions and shocks would affect merely the functioning of the corporation in one region instead of its operations in the whole world.

Another strategy adopted by big business – though not the most popular – is simply reshoring, that is coming back with the manufacturing processes from overseas countries to the domestic market. This strategy is a particularly tantalizing option for U.S. corporations from the chemical industry because in the U.S. cost of natural gas and oil is generally lower than in the rest of the

¹¹ *How Companies Are Overhauling Supply Chains to Ease Bottlenecks*, <<https://www.wsj.com/video/series/current-features/how-companies-are-overhauling-supply-chains-to-ease-bottlenecks/A0C8DD54-B722-4CFF-A439-869514E66C3F>> (08.01.2022).

¹² *Trading for Development...*, p. 50.

¹³ *How Companies Are...*

world. The reason for that is quite simple – the shale oil and gas revolution. The chemical industry consumes vast amounts of hydrocarbons to produce goods. Such a strategy makes the corporation much more resistant to transportation problems outside the domestic market. This solution is also attractive from the point of view of politicians who incessantly advocate for bringing jobs back to their motherlands – mostly the wealthiest states, which were subject to the long process of appreciable deindustrialization over several decades. What is more, as accurately observed by Ralph L. Kliem, during the COVID-19 pandemic many corporate executives were surprised to find out that foreign sources of cheap labour may no longer be so easily available¹⁴. However, the downside of reshoring is that it is simply quite costly to move manufacturing back to the home market to the point that in practice only the largest firms enjoying the biggest capital pools can afford such a strategy. Furthermore, this strategy can be quite time-consuming as well. On top of that, friend-shoring appears to slowly gain popularity in corporate management circles not without encouragement from many politicians concerned about national security and vast industrial espionage practised by the People’s Republic of China, among other things. Friendshoring in principle comes down to the relocation of manufacturing and business activities to friendly or allied states. Put another way, U.S., Japanese, South Korean, and Australian firms are considering relocating part of their business activities and investments away from China – which is commonly regarded in the aforementioned states as the threatening and strengthening geopolitical competitor – to some other attractive low-wage economies treated as relatively friendly like Thailand, Indonesia, the Philippines, etc. This phenomenon is a result of not only the COVID-19 pandemic but also the increasing geopolitical tensions so prominent in recent few years.

COVID-19 impact on tourism sector in the global economy

The branch of the global economy that was most severely affected by the cause of the onset of the COVID-19 crisis was certainly tourism. Unquestionably, tourism-dependent economies were hurt the most by the pandemic. As a result of the pandemic, ensuing lockdown and restrictions in transborder travel as well as widespread fear among tourists, the global tourism industry was hit exceptionally hard. International travel and tourism plummeted as a result of the pandemic. According to the UN World Trade Organization, the number of international tourist arrivals in 2020 compared to the pre-pandemic 2019 declined by an eye-watering 74%, which makes it –

¹⁴ R. L. Kliem, *Political Risk Management for the Global Supply Chain*, Boca Raton-Abingdon 2022, p. 31.

undoubtedly – the harshest-ever global tourism crisis¹⁵. Asia and the Pacific experienced the deepest decline in international tourist arrivals – 84%. It is assessed that as a consequence of the pandemic global export revenues coming from international travel plunged by USD 1.3 trillion. Undoubtedly, this was a colossal economic blow for states with a bloated tourism sector. For comparison, in 2009 – a year after the Great Recession – the global loss of export revenues coming from international travel was 11 times lower than in 2020. That gives us the notion of how devastating was the COVID-19 pandemic for the global tourism industry. No other development affecting the global tourism business is comparable to the COVID-19 pandemic.

For some states, the sudden unprecedented loss of revenues derived from tourism meant an economic catastrophe. Perhaps the best example to support this thesis is Sri Lanka, for which tourism accounted for 12% of its GDP¹⁶. Sri Lanka went bankrupt after its economy took a strong hit by diminished tourism revenues. Although the causes of Sri Lankan default are manifold, doubtless crushing tourism can be considered as one of the most relevant. The vastly decreased international travel and international tourism in the years after the outbreak of the COVID-19 pandemic can rightly be interpreted as a symptom of progressing deglobalization. Hence, we can assume that the pandemic in practice resulted not only in economic deglobalization but also in social deglobalization, to a certain degree. Ultimately, fewer people travelling and crossing the borders is tantamount to less social globalization.

Post-pandemic fiscal stimuli and their influence on the global economy

To counteract recession major economies in the world in response to the pandemic crisis considerably loosened their monetary and fiscal policies. The Biden administration enacted the so-called American Rescue Plan which added a sudden demand boost of \$1.9 trillion. This immensely increased U.S. Federal budget deficits. In fiscal year 2020, the U.S. federal budget deficit totalled a record-high \$3.13 T – it de facto tripled with the last pre-pandemic fiscal year 2019. In fiscal year 2021, the federal budget deficit reached nearly \$2.77 trillion. In the fiscal year 2022, the US budget deficit is projected to hit \$1.38 T¹⁷. These deficits are illustrated in Figure 3. The injection of such huge

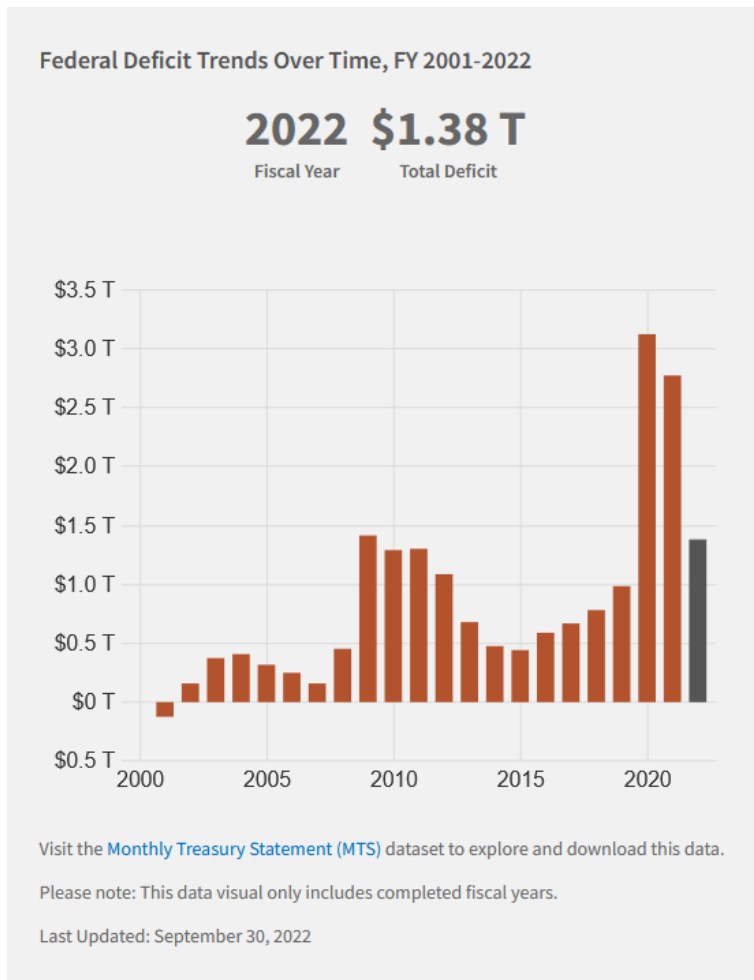
¹⁵ UNWTO *World Tourism Barometer and Statistical Annex*, Vol. 19, No. 1, January 2021, <<https://www.e-unwto.org/doi/epdf/10.18111/wtobarometereng.2021.19.1.1>> (29.12.2022).

¹⁶ *Sri Lanka's Economic Struggles Will Deepen Its Reliance on Foreign Funds*, <<https://cc.bingj.com/cache.aspx?q=%22Sri+Lanka%27s+Economic+Struggles+Will+Deepen+Its+Reliance+on+Foreign+Funds%22&d=4978485836316743&mkt=pl-PL&setlang=pl-PL&w=aGZLM516mJjX9Ag-nDgMW3TxUljOwngR>> (14.11.2022).

¹⁷ *What is the national deficit?*, <<https://fiscaldata.treasury.gov/americas-finance-guide/national-deficit/>>, (29.12.2022).

amounts of fiscal stimuli had to contribute to the risen level of inflation in the succeeding years on a global scale. Bear in mind, that increased demand in such a massive economy like the U.S. indubitably influences inflation in the entire world. Moreover, it noticeably increased the U.S. national debt.

Figure 3. U.S. Federal Budget deficit in fiscal years 2001-2022.



Source: *What is the national deficit?...*

Even before the onset of the pandemic crisis, U.S. firms were borrowing heavily taking advantage of very low interest rates. When, as the result of the COVID-19 pandemic and the Biden administration enacted lockdowns, the U.S. corporations still borrowed at even lower interest rates. Ergo nowadays not

only U.S. government debt is extraordinarily high, but U.S. corporate debt hit dangerous levels. The trend of ever-rising U.S. debt is presented in Figure 4. According to the Federal Reserve at the end of the third quarter of 2022, the aggregate business debt totalled \$ 19.8 T, the accumulated U.S. household debt reached \$ 18.8 T, the cumulative U.S. state and local debt hit \$ 3.26 T, whereas the combined U.S. federal government debt totalled \$ 26.6 T. For comparison, in the last quarter before the pandemic broke out, at the end of the fourth quarter of 2019 these debt levels amounted to, respectively: \$ 16.3 T, \$ 16.1 T, \$ 3.11 and \$ 19 T. That means that over the merely 11 quarters after the onset of the COVID-19 pandemic the overall U.S. business debt rose by \$ 3.5 T (21.5%), the aggregate U.S. household debt increased by \$ 2.7 T (16.8 %), the consolidated U.S. state and local debt surged by \$ 0.15 T (4.8 %), whereas the cumulative U.S. federal government debt swelled by \$ 7.6 T (40%). The tempo of a surge in U.S. debt (particularly federal government debt) is worryingly fast and heralds a gigantic debt crisis coming soon, much sooner than most people anticipate. In fiscal year 2022 U.S. net interest payments on its debt totalled \$475 bn¹⁸.

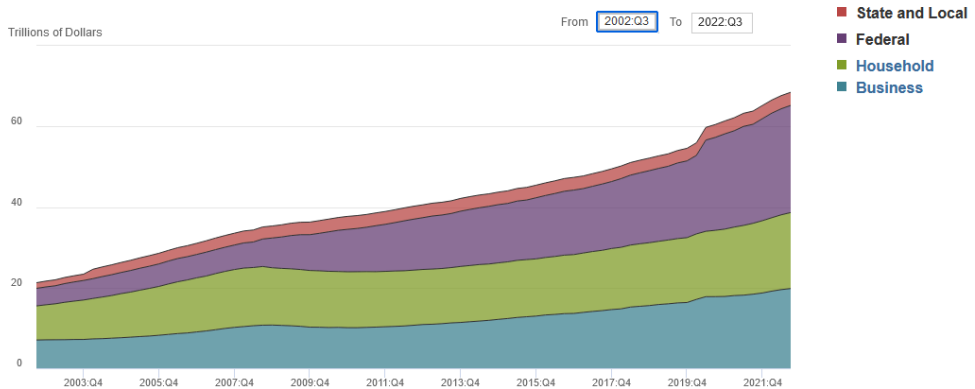
The rub of the immensely growing debt by far is not limited only to the U.S. It is estimated that at the end of 2022, the cumulative global debt will reach a mind-boggling sum of \$290 tn¹⁹. A substantive part of this debt was incurred during the pandemic years 2020-22. In addition, a considerable amount of this debt was incurred in U.S. dollars or euros, which means that the record-fast tightening of monetary policy by the Fed in 2022 and the slower tightening of monetary policy by the European Central Banks will surely result in increased debt service effects due to higher interest rates on the one hand and strong dollar appreciation against other currencies on the other hand. We should keep in mind that the rising of interest rates by major central banks was caused by growing inflation which in turn to some degree was caused by the snarled global supply chains because of the pandemic and restrictive lockdowns. Thus, the pandemic also contributed vastly to the global debt crisis we are going to experience in full scale in 2023-24 when a multitude of states worldwide would go bankrupt.

¹⁸ *Why the \$290 Trillion Global Debt Splurge Is Becoming Unsustainable*, <<https://www.wsj.com/video/series/dion-rabouin/why-the-290-trillion-global-debt-splurge-is-becoming-unsustainable/033CB864-D749-424C-A8EE-AF10D326D989>> (29.12.2022).

¹⁹ *Ibidem*.

Figure 4. U.S. state and local, federal, household and business debt, Q3 2002-Q3 2022.

All nonfinancial sectors debt



Note: Debt includes debt securities (commercial paper, Treasury securities, agency- and GSE-backed securities, municipal securities, and corporate and foreign bonds) and loans (depository institution loans, other loans and advances, mortgages, and consumer credit).

Source: *Financial Accounts of the United States*, <https://www.federalreserve.gov/releases/z1/dataviz/z1/nonfinancial_debt/chart/#units:usd> (29.12.2022).

One can even wonder whether the governments of at least certain countries do not intentionally pursue a policy of debt monetization. Indeed, it seems that monetization of debt is a strategy many governments are taking presently, although they do not announce it publicly due to obvious reasons. The national debts are simply too high for governments to pay them off in normal manners (through dynamic economic growth, increased national savings and socially unpopular budget austerity). It is worth accentuating that historically, the U.S. national debt used to significantly increase in times of war, but used to be paid off and decreased in times of peace. Now this pattern was put to an end in 2000 by consecutive U.S. administrations. U.S. debt in the last two decades – the time of relative peace – has swollen enormously. After 2000 U.S. government rose massively under George W. Bush, Barack Obama, Donald Trump and Joe Biden.

According to many economists, giant fiscal and monetary stimuli introduced widely in response to the onset of the COVID-19 pandemic are responsible for the vastly increased inflation that virtually the entire world has to struggle with. These stimuli had a colossal inflationary impact across the

globe. This argument was raised by, to name just a few, Tunku Varadarajan²⁰, Gerard Baker²¹, and "The Economist" journalist²², James Rickards²³.

Other signals of progressing deglobalization

Except for the pandemic other germane developments in the global economy both signal and conduce to a mounting process of deglobalization. The primary among them is the U.S.-China trade war started by the Trump administration and continued up to a point by his successor in the White House. Sometimes it is difficult to differentiate infallibly whether some trend resulted from the pandemic or rather from the trade or both of these egregious occurrences. Nevertheless, since the initiation of Trump's trade war with China in 2018 we can observe the growing imports to the U.S. from Southeast Asian states (like Vietnam, Indonesia and Thailand) as well as from nearby Mexico at China's expense²⁴. U.S. big business simply relocates parts of its supply chains from geopolitically uncertain China. Extremely drastic lockdown in the Middle Kingdom imposed on the Chinese citizens by Xi Jinping additionally makes it harder to import vital goods to the U.S. from this country. Hence, this must have been a further stimulus for U.S. companies to move at least part of their supply chains away from this increasingly unpredictable state.

As well, it is worth noticing the increasing and accelerating process of technological decoupling between the West (especially the U.S.) and China together with Russia on the other side. It seems that partly as a lesson learned from the pandemic the U.S., China, Europe, and even Russia are all pursuing self-sufficiency in key sectors such as semiconductors and batteries. The major economies endeavour to become less dependent on other states, especially their chief geopolitical competitors, in these strategic sectors of industry. Without a doubt, we are observing a growing relocation of production of semiconductor factories – the U.S. and Western Europe are trying to convince corporations to

²⁰ *How Government Spending Fuels Inflation*, <https://www.wsj.com/articles/government-spending-fuels-inflation-COVID-relief-pandemic-debt-federal-reserve-stimulus-powell-biden-stagflation-11645202057?mod=opinion_lead_pos5> (29.12.2022).

²¹ *The Price of Biden's Excuses for Inflation Keeps Rising*, <https://www.wsj.com/articles/biden-excuses-rising-putin-war-russia-ukraine-gas-prices-inflation-american-rescue-plan-build-back-better-stimulus-spending-11647275414?mod=opinion_featst_pos1> (29.12.2022).

²² *Why the Federal Reserve has made a historic mistake on inflation*, <<https://www.economist.com/leaders/2022/04/23/why-the-federal-reserve-has-made-a-historic-mistake-on-inflation>> (29.12.2022).

²³ *How Long Will Inflation Last?*, <<https://dailyreckoning.com/how-long-will-inflation-last/>> (29.12.2022).

²⁴ *Global Trade Is Shifting, Not Reversing*, <https://www.wsj.com/articles/global-trade-is-shifting-not-reversing-11672457528?mod=Searchresults_pos1&page=1> (29.12.2022).

produce less in China and more in the Western world. U.S. government under Joe Biden in 2022 decided to implement enormous (totalling \$369 bn) subsidies for manufacturing semiconductors and electric-vehicle batteries in the U.S. within the framework of the so-called U.S. Inflation Reduction Act²⁵. These moves are manifestly intended to prop up U.S. industry and to further encourage U.S. corporations to move back with fabrication activity to the motherland. It needs to be stressed that Washington implemented quite severe technological sanctions – aimed at inhibiting China’s technological progress, especially in the semiconductor business. We are witnessing the growing and precipitating process of technological decoupling between the major world powers and geopolitical as well as geoeconomically rivals. As relations between Washington and Beijing aggravate year by year, U.S. companies are inclined by the U.S. government to reorder their complex global supply chains away from China. The pandemic also gave a lesson for global concerns that being overly dependent on China is simply imprudent and unwise. Hard to explain the zero-tolerance approach to COVID-19 outbreaks imposed on the Chinese people by Xi Jinping contributed to the reshuffling of corporate supply chains too. Among firms that after the pandemic outbreak decided to precipitate plans to move some of their manufacturing out of China were a flagship U.S. firm – Apple Inc. Apple management told its suppliers to assemble Apple products elsewhere in Asia, especially in – treated as relatively friendly and more predictable than the People’s Republic of China – India and Vietnam²⁶.

Conclusion

First and foremost, it appears that the COVID-19 pandemic initiated a process of gradual deglobalization as it palpably laid bare the deep risks associated with maintaining the global supply chains or concentration of too much corporate industrial output in one country, such as the People’s Republic of China. The pandemic made corporate executives, politicians and normal people aware that global supply chains which once functioned smoothly and efficiently were not as effective and resilient to shocks as it was expected²⁷. The pandemic accelerated a process of rearrangement and relocation of industrial

²⁵ *Assessing Europe’s Concerns and Potential Response to the U.S. Inflation Reduction Act*, <<https://cc.bingj.com/cache.aspx?q=%22Assessing+Europe%e2%80%99s+Concerns+and+Potential+Response+to+the+U.S.+Inflation+Reduction+Act%22&d=1931195610166&mkt=pl-PL&setlang=pl-PL&w=6wTYIuuLfdJgpvNULrOGBcpLYVAj9xqi>> (20.12.2022).

²⁶ *China Increases Trade in Asia as U.S. Pushes Toward Decoupling*, <https://www.wsj.com/articles/china-increases-trade-in-asia-as-u-s-pushes-toward-decoupling-11672231684?mod=Searchresults_pos5&page=1>(20.12.2022).

²⁷ B. B. Adedeji, *Global Supply Chain: Using Systems Engineering Strategies to Respond to Disruptions*, Boca Raton-Abingdon 2022, p. 1.

production away from China. It is only a deepening of the process which was initiated before because of the U.S.-China trade war started by the Trump administration as well as rising costs of labour in the Middle Kingdom.

Among the most salient global economic results of the pandemic one can enumerate the following things:

- a. serious disturbances and delays in the global supply chains;
- b. relocation of production activity worldwide;
- c. revision of long-established global corporate supply chains;
- d. a considerable rise in global maritime trade shipping prices;
- e. a rise in inflation rates around the globe;
- f. nearshoring, reshoring and friend-shoring instead of offshoring;
- g. partial departure of just-in-time management which is replaced with just-in-case managerial approach;
- h. the collapse of the tourism industry in many states (like Sri Lanka);
- i. a rise in the global level of debt.

The global supply chains consist of tens of thousands of miscellaneous mutually interconnected supply routes and linkages. Any dependencies between supply chain entities (suppliers, partners, and clients) as well as shifts and modifications in the configuration of the extended supply chains (or in other words the suppliers to suppliers) potentially might bring about perturbation of different sorts in the supply of resources, goods and services²⁸. The COVID-19 pandemic made us realize that all too much. This experience proved acutely that highly complex and deeply interconnected global supply chains may disseminate disruptions rapidly across the world even generating the cascade effects. The stability, reliability, security and resilience of corporate supply chains were highlighted strongly by the pandemic crisis. Politicians and executives had to reevaluate, rethink, redesign and rearrange certain supply chains to make them more resilient and sturdy. These processes of reorganization of global supply chains started even before the unfortunate COVID-19 struck the planet with the initiation of Trump's trade wars. Later events only deepened and accelerated the above-mentioned processes. Even after 2022 the COVID-19 pandemic began to flag, other momentous developments like Russia's invasion of Ukraine and the ensuing Western-Russian economic war intensified the deglobalization by inclining business managers and political leaders to resign from partnership with certain states. The COVID-19 lesson teaches that supply chains ought to be not only efficient but even more importantly robust. With this end in view global business and political leaders especially in the Western world seem to focus at present much more attention on making their corporations and countries much more self-

²⁸ L. J. Krajewski, M. K. Malhotrap, *Operations Management: Processes and Supply Chains*, Harlow 2022, p. 592.

dependent in at least certain painstakingly selected strategic technologies and industries²⁹. Arguably, James Rickards is right when he shared the following thoughts with us:

*Anything as complex and as highly scaled as the global supply chain will always collapse; it's just a question of when. For 30 years, the goal of supply chain management has been efficiency, usually defined as the elimination of redundancy, inventory and latency. That's fine in the short run but it results in a system that is brittle and has no tolerance for even small disruptions*³⁰.

Indubitably, as a result of the pandemic states became even more heavily indebted than they were beforehand. The unbearably high national, corporate and household debt levels alongside tightening the monetary policies by major central banks at a record pace harbinger an extraordinarily hard financial and economic crisis. Furthermore, the global economy is about to face a major liquidity crisis³¹ compared to which even the Great Depression will pale. We can see huge economic troubles ahead. The excessively leveraged, highly opaque global financial system resembles a sort of gigantic Ponzi scheme ready for total collapse with all the associated dire economic, political and social ramifications. Admittedly, the COVID-19 pandemic did not create this inherently unstable and vulnerable to manipulation financial system, however it made it even more fragile and brittle. All that means that we have just entered the era of deglobalization, in which economies will at least partly split or decouple. It concerns particularly the United States and its prime foes – China and Russia.

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²⁹ *The structure of the world's supply chains is changing...*

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³¹ *On the Cusp of a Global Liquidity Crisis*, <<https://dailyreckoning.com/on-the-cusp-of-a-global-liquidity-crisis/>> (05.12.2022).

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