Al-Qadisiyah Journal for Administrative and Economic Sciences ISSN$_{Online}$: 2312-9883
QJAE, Volume 24, Issue 3 (2022) ISSN$_{Print}$: 1816-9171
Manuscript ID:

The Implications of the COVID-19 pandemic on the global supply chains

First Author[1] : Ali Salim Abdul-Hussain Second Author[2] Prof.Dr. Miami Salal Sahib
Department of Economics/College of Administration and Economics/ Al-Qadisiyah University email: Maiami.alshukri@qu.edu.iq
Department of Economics/College of Administration and Economics/ Al-Qadisiyah University email: aliselim810@gmail.com
Corresponding Author : Ali Salim Abdul-Hussain Affiliation : 2022 Email: aliselim810@gmail.com

Abstract : *In fact , the global supply chains are the key element in managing to flow the goods, data, the money that related to products or services, by processing the raw materials to deliver the product to its last destination, through contributing the transition from the informal to the formal economy. Whereas we found more than half of the imports of the manufacturing industry in the world are "intermediate goods", and more than 70% of the imports of services in the world are "intermediate services", so , after the outbreak of the COVID-19 pandemic, the movements of goods and services between different countries , exports and imports were paralyzed, that formed a supply and demand shock and a drop in GDP, which affected and disrupted global supply chains in some countries, as well stopping production and its engines in some industries , logistics services, and made the global economy seriously injured and severe consequences affecting all societies and individuals. Where is the pandemic diffusing ? It quickly crossed borders, causing a global health crisis and a global economic shock that hit the most vulnerable. Which led to the emergence of semi-fragile supply and supply chains, which may be due to the concentration of some global industries in a particular country and the monopoly of some countries on some other industries, on basis of that (low labor costs) in developing countries, which aim to become more integrated into international production networks that contributes to global supply chains, but faces challenges in other aspects. When it comes to imported industrial media, we noted that the dominance of China, as China is really the workshop of the world, it is central to the entire global trade and production network. Manufacturing inputs from China constitute more than 3.6% In light of the problems caused by the pandemic, a discussion has already begun about the future of "supply chains", and this future will be largely related to the future of economic globalization, given the strong relationship between the two.*
Keywords : *COVID-19 pandemic, the global supply chains, the goods and services , the world Trade*

1-An Introduction:

The COVID-19 pandemic started as a supply shock because the world has become more interconnected in recent decades after the production of goods in the world has become as part of global value chains, which means, for example, the car or mobile industry, is made from parts manufactured in more than A country in the world, and then it is aggregated in the last country, as the supply chains contributed to it by several factors, one of which is the organization's desire to achieve efficiency gains. middleware across more efficient producers. The emergence and then the outbreak of the pandemic led to factory closures that began in China and parts of Asia to disruption in the supply chain and concerns about dwindling stocks, and with the spread of the pandemic from Asia to Europe, the crisis shifted from supply fears to demand fears when measures were implemented to contain the spread of the pandemic (social distancing). travel restrictions, cancellation of sporting events, closing of shops and restaurants, and mandatory quarantine measures (which prevent all economic activity forms of work). This shutdown has produced many economic effects that are dominated by uncertainty and ambiguity, especially in the absence of severe crises of the type of the COVID-19 crisis, producers and large companies have not paid enough attention to building detailed maps around the supply chains feeding their production processes, where there is a great degree of uncertainty in The current time is about the extent of these effects and the length of their duration. Expectations have kept changing from month to month. These effects were represented by the contraction of the global economy, the impact of production chains in all regions, the decline in growth rates and a significant decline in the movement of international trade and the transport of goods due to global isolation and the preservation of intra-regional movements Among countries, about the danger of concentrating certain supply chains within China, especially those related to the health sector. The COVID-19 pandemic crisis has exposed the vulnerability of this sector in Europe in particular, due to its heavy dependence on Chinese supply chains. This crisis differs from its predecessors as it caused double shocks in supply and demand locally and internationally. Many expectations indicate a loss of a third of trade
International in the world by the end of 2020. The COVID-19 pandemic revealed the extent of the global imbalance, and the weakness of the coping mechanisms for such crises, especially as it put countries before two options, either obstructing economic activity by activating measures and measures to contain the virus to protect human health, or maintaining economic activities and supply chains and stimulating growth and lack of interest human health, forcing countries to implement policies and incur more costs to find the most appropriate combination that ensures a balance between both options.

2-The Research importance:

The importance of the research comes as a result of the outbreak of the COVID-19 pandemic of a set of economic and trade shocks at the global level and its reflection on global supply chains, intermediate goods and services, and on both sides of supply and demand with the low volume of global trade for international groups and on advanced industrial countries, which is what Such as starting a new phase of new commercial arrangements between the main partners in order to avoid the huge financial losses that afflicted the global industrial companies.

3-The Research problem:

The research problem is focused on how to deal with global supply chains between the main trading partners, with the effects of the pandemic on developed and developing industrial countries, on the movements of goods and logistics services between different countries between exports and imports, and on supply and demand in global trade.

4-Research Hypothesis:

The research is based on a main hypothesis that any shock in global supply or demand resulting from the pandemic affects the global economy through one of the channels of mutual influence, international trade through value chains.
International, especially intermediate goods and services. Two supporting hypotheses derive from this main hypothesis.
There is a negative and significant impact of the COVID-19 pandemic on the global supply chains of industrialized countries advanced.
There is a positive impact of the COVID-19 pandemic on the global supply chains of developing countries, enabling them to Joining these chains however, provided that it is at an appropriate level of production quality.

5-The Research's Aim :

The research seeks to achieve the following objectives:
1- Describe the knowledge and importance of global supply chains.
2- Seeing the global impacts on industrial trade caused by the pandemic through
Review the movement of goods and commodities across global supply chains.
3- Shedding light on the extent of the positive and negative effects of the pandemic on global supply chains.
Search method:
It uses the deductive method by subtracting the general features of industrial trade in global value chains and the impacts of the COVID-19 pandemic, on them. And then to reach special aspects with the use of descriptive analytical methods after reviewing the traditional and new features of these series.
The structure of the research: for the purpose of achieving the goal of the research, it was divided as follows:
Theme 1: Global supply chains and retail trade
First: global supply chains. Second: global supply chains and retail trade. Third: The challenges of developing countries' participation in global supply chains.
The second axis: the repercussions of the Corona pandemic on global supply chains
Axis III: Fundamental problems of supply chains in light of the COVID-19 pandemic
First: the absence of sufficient maps around the supply chain for each product. Second: Potential transformation trends in supply chains in light of the COVID-19 pandemic.
Theme 1: Global supply chains and retail trade

5-1First: global supply chains

The economic risks have increased in the recent period since the beginning of the spread of the COVID-19 pandemic in most countries , the world affected all sectors of industry and international trade, which affected global supply chains and disrupted them in some countries, in addition to stopping the wheel of production and its engines in some industries and logistics services, or slowing down the work of local production lines and disrupting import and export operations at times, which led to the emergence of supply and supply chains It is semi-fragile, which may be due to the concentration of some global industries in a particular country and the monopoly of some countries for some other industries. It is worth mentioning the increase in the difficulty of moving individuals and shipping products and all forms of goods and the difficulty of providing some medical, tourist and religious services as a result of the suspension of transport and its belly in general at the level of the majority of countries in the world . ([1])

A supply chain management (SCM) system can be defined as managing the flow of goods, data, and money related to products or services, from the purchase of raw materials to the delivery of the product to its final destination. Actually just a component of the supply chain, today's digital supply chain management systems include software packages and material handling for all parties that work together to create a product or service, fulfill orders, and track information, including suppliers, manufacturers, wholesalers, and carriers, Logistics providers, and retailers.

A Supply chain activities include procurement, product life cycle management (PLM), supply chain planning (SCP) (including inventory planning and maintenance of company assets and production lines), logistics (including transportation and fleet management), and demand management. It can also expand to include global trade activities, such as global supplier management and multinational production operations.([2])

[1]Ahmed Samir, "The Impact of the Spread of the Coronavirus on Supply Chains in Egypt", International Journal of Economic Studies, No. 2, - 2020, p.302
2-Ahmed Samir Ibid p.203

5-2 Second: The global supply chains and retail trade:

The fragmentation of the trade process is not a new phenomenon, as it has always been happening at the local level, except That its importance has increased at the international level with technological progress in the field of communications and transportation, which led to a reduction in the cost of international cooperation and coordination and developed from Adam Smith's theory of comparative advantage, which was limited only to international trade in finished goods that are the outcome of a production process distributed between a number of from countries of the world. This new form of international cooperation is the result of the phenomenon of globalization, and it provides a great opportunity for developing countries to integrate into the global economy by producing only parts of a product with international quality specifications and characteristics that correspond to global demand instead of producing a complete end product with a low quality level that is not acceptable at the global level. ([3])

There are a number of measures that enable developing countries to join global supply chains, such as the abolition of customs restrictions on trade in intermediate goods, and the provision of an investment climate capable of attracting foreign direct investment, which is accompanied by an appropriate amount of technology and knowledge, which enables developing countries to participate initially in value chains. The world has an adequate level of production quality. Although the contribution of developing countries to global supply chains is often in tasks that require relatively simple skills, developing countries may be able to develop their position in the production chain by moving to more complex tasks that require relatively higher skills, which It makes global value chains a means to achieve inclusive economic development, as the structure of domestic production in a country evolves with the development of its participation in supply chains.

Despite the positive effects that developing countries are likely to reap from participating in global value chains, there are a number of problems that developing countries may face as a result of this participation, on top of which comes the dependence and dominance of developed countries on global value chains. The problem of hegemony stems from the control of developed countries over production facilities that require special skills and an advanced level of technology, in addition to the control of developed countries over trade names (international brands) and product design, which are intangible assets that are difficult to replace with others or to obtain an equivalent easily and quickly. The developed countries obtained them through long-running production processes with continuous and intensive advertising. All these factors give the developed countries bargaining power with developing countries in supply chains, as the facilities with which they are assigned to developing countries .

In global supply chains, especially in the early stages of participation, as they are simple tasks with limited skills that a number of institutions in different developing countries can perform. ([4])

Figure (1) shows that the added value is relatively high during the two phases of Upstream Activities and Downstream Activities. The advanced countries in the tasks acquire the upstream and downstream activities, where the upstream activities include research, development and design functions, while the downstream activities include marketing and distribution functions and after-sales services. The developing countries are mostly entrusted with the relatively low value-added middle stage activities related to manufacturing and assembly tasks. The figure also shows that the value added for each stage in global supply chains, which at present differed from that in the seventies of the twentieth century, where increased The added value is relative to each of the upstream and downstream activities, while the added value of the middle stage activities decreased. This is due to three main reasons.

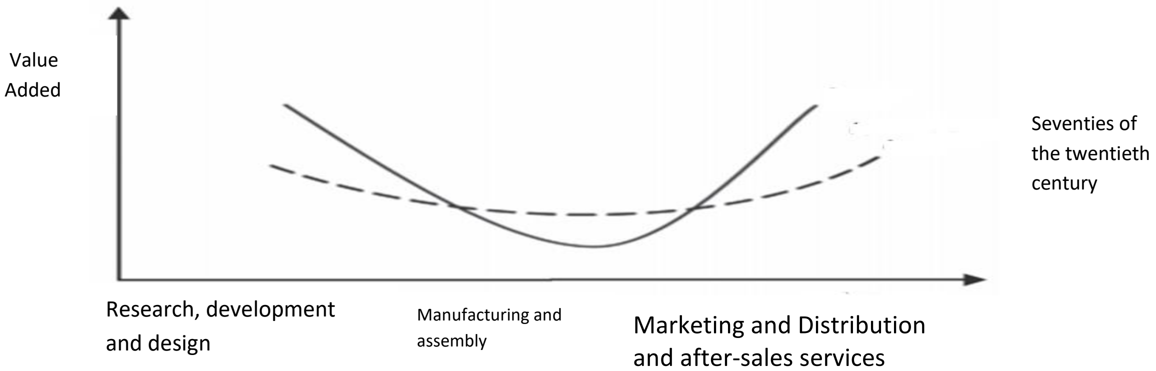
---

[3] Ashraf Helmy, "Participation in global value chains to reduce foreign trade problems in Egypt by applying to the industrial sector", Arab Economic Research Journal, Vol. 25, p, 80, 2019, pp. 155-190.

[4] Tamim Bayoumi, “Trade Interconnectedness: The World with Global Value Chains”, International Monetary Fund, August, 2013, p 28.

The first is the low cost of production in the countries to which manufacturing and assembly tasks are assigned. The second is the intense competition between developing countries to provide services Manufacturing and assembly. Finally, the technology transfer process that is used in the manufacturing and assembly process has become less expensive with the low cost of cooperation and coordination. International. This resulted in an unfair distribution of income global supply chains between developed and developing countries, which urged developing countries to develop and deepen their participation in global vein chains and try to obtain relatively high value-added activities in supply chains.([5])

Figure (1) The added value of the different production stages in global supply chains



Source: WTO, World Trade Report, 2014, p. 101

In addition to the state of dependence and dominance that developing countries may be exposed to in global value chains, and the resulting imbalance in income distribution, there are a number of risks that developing countries may be exposed to as a result of participating in global value chains, such as increased exposure to global business cycles. Global Business, increased exposure to the risk of supply disruptions and thus increased idle capacities, in addition to exposure to the risk of changing the location of production and exclusion from participation in value chains as a result of the decline in the comparative advantage of cost, in addition to the negative impact of some manufacturing and production tasks on the environment. Here, it must be noted that the shorter and simple the production chain and the more the industry modernizes and develops its role in the production chain and the cooperation between production partners according to the criterion of comparative advantage, the lower the negatives of participation in global supply chains.

5-3Global supply chains (GVCs) depend on some of the basic characteristics of the global economy represented in ([6]):

1- The increasing interdependence of economies in global supply chains of economic activities distributed among all Countries. Where we find that more than half of the world's manufacturing imports are intermediate goods (goods). primary, spare parts, components and semi-finished products), and more than 70% of services imports In the world are intermediate services, such as business services, trade in value-added increasingly between Countries that lead to an increase in total exports.

2- Companies and countries specialize in commercial tasks and functions. Different companies and countries specialize in specific functions that collectively make up global supply chains.

3- The networks of global buyers and producers. Companies control and coordinate global supply chains , Its activities are with networks of buyers and producers, and multinational corporations (MNEs) play a role

Major. Here, policy influences how these networks are formed and determines where their activities are located.

4 -New drivers of economic performance In global supply chains, trade and growth depend on efficient sources of inputs abroad, as well as on access to final producers and consumers abroad. Fragmentation of production in global supply chains is a way to increase productivity and competitiveness. and affect chains . The global supply chain also affects the labor market, mainly by influencing the demand for a group different skills.

[5]-Taglioni, Daria; Winkler, Deborah "Making Global Value Chains Work for Development: Case of Bulgaria". Trade and Development; Washington, DC: World Bank, 2016, p 46.
[6] Wissam Abdel-Fattah Suleiman Abdullah, "The application of global value chains in the economies of developing countries", Journal of Trade and Finance, No. 1, - 2019, pp. 492-520.

The fragmentation of supply chains has contributed to several factors, one of which is the institution's desire to achieve efficiency gains. Increasing competition in the local and international markets has made it imperative for institutions to increase efficiency and reduce costs, and the way to achieve this is to supply intermediate products through more efficient producers. Another reason is access to emerging markets and having strategic assets that allow the organization to exploit outside knowledge. Multinational companies divide production processes if they see that the process of transferring these processes is more profitable, and the development in means of transportation and communication and their lower costs have helped to fragment the production chain and distribute it internationally, making it possible to manufacture any part of the component parts of the commodity anywhere In a world where costs are low and profits are high, with the ability to ship and sell products quickly to the right places and on time. This has led to the emergence of cross-border production systems by contributing to global value chains. ([7])

5-4 Third: Challenges for developing countries' participation in global supply chains

An increasing number of developing countries are aiming to participate in global supply chains as shown in Table (1) and to become more integrated into international production networks. (i.e. the lower labor costs) enjoyed by this group of countries, they face challenges in other aspects, particularly in terms of policy design, as poorly defined policies can create barriers that undermine a country's participation. Global supply chains enable firms As developing countries become more integrated into the international production chain, policy makers should pay attention to the general business environment, which can encourage or discourage firm integration into global supply chains, as the drive to expand production or transformation processes has its origin in firms. Create an enabling environment by addressing policy, infrastructure and quality issues services and the like in a comprehensive and integrated manner.

The Brazilian aviation industry demonstrates that industrial policies implemented by governments (such as tax incentives for investments, incentives for research and development, and credits support public-private partnerships; Moreover, trade facilitation mechanisms can promote industrial development and encourage the participation of countries in global supply chains.

Whereas, the Productive Development Policy recently adopted by Brazil includes a specific program for the aerospace industry by financing industries in the aerospace production chain; aircraft marketing financing; tax incentives to attract raw material suppliers; tax incentives to attract foreign investment; improving customs procedures in order to facilitate the inclusion of industries in global chains; and encourage research including industry in international bilateral and multilateral agreements and incentives for SMEs in the chain. ([8])

Table (1) Ranking of the largest (25) developing countries in the rate of participation in global value chains

(from the downstream component)

Statement / the state	2010	2019
Singapore	1	2
China (Hong Kong)	2	3
Malaysia	3	4
China	6	5
The Philippines	8	7
Korea	4	1
South Africa	5	6
Turkey	18	19
Chinese Taiwan	10	8
Morocco	12	12
Chilean	13	11
Egypt	11	13

[7] Wissam Abdel Fattah Suleiman Abdullah, a previously mentioned source, p. 520.

[8] - Assessing Impacts of Productive Development Programs at the Firm Level in Brazil, Inter-American Development Bank, 2015, p 85.

Thailand	9	9
Vietnam	14	15
Indonesia	15	14
Ghana	7	10
Peru	17	16
India	23	22
Mexico	16	17
Pakistan	19	18
Brazil	22	21
Macau	21	24
Argentina	20	20
Colombia	25	25
Bangladesh	24	23

Source : UNCTAD, Based on Data from UNCTAD-EORA GVC Database

5-5The second axis: the repercussions of the Corona pandemic on global supply chains

Global supply chains are complex, diverse and fragmented. We find it in the textile and apparel, retail, footwear, automotive, food, agriculture, seafood, fisheries, electronics, construction, tourism, hospitality, horticulture, transportation and other sectors, the global supply chains are increasing today thanks to the development of technology. It has contributed to economic growth, job creation, poverty reduction and entrepreneurship, and it also contributes to the transition from the informal economy to the formal economy. It can be an engine for development by promoting technology transfer and adoption of new production practices in order to create higher value-added activities, which can enhance skills development, productivity and competitiveness. ([9])

We can infer the impact of the COVID-19 pandemic on global trade by reviewing the movement of goods through global supply chains shown in Table No. (2) below:

Through the matrix below, we get: China's dominance when it comes to imported industrial media. China is truly the workshop of the world, central to the entire global network of trade and production. Manufacturing inputs from China make up more than 3.6% of manufacturing output in every major country. For Korea, the figure rises to more than 16%. It is clear that the COVID-19 shutdown of Chinese manufacturing will have a major impact on manufacturing sectors globally. German manufacturing inputs are important for all other countries in Europe but also in Korea and Taiwan, as indicated by the many yellow cells in the German column (DEU). Note that Germany also relies on manufacturing inputs from a wide range of countries including the United States. US and China Inputs from the US are important in a number of countries such as China, but to a lesser level only for Canada and Mexico US manufacturing inputs are critical. In fact, the impact of the COVID-19 pandemic, has been greater and more evident on the part of suppliers After the transportation shutdown Due to the outbreak of the COVID-19 pandemic, suppliers in many industries have experienced significant losses, as their customers (manufacturers) have reduced or stopped production entirely.

In the automotive sector alone, by March 26, 2020, 41 of the 44 auto assembly plants in the country had closed United States of America. Aptiv, one of the world's largest car suppliers, a global technology company focused on making mobility safer and greener, has also announced a series of measures to further enhance the company's financial resilience in response to the unprecedented uncertainty related to the impact of the novel coronavirus pandemic. (COVID-19) has affected the global auto industry and economies around the world, and withdrew its entire $1.4 billion of credit facilities (Linton & Vakil, 2020). Today's supply chains are so complex that it is virtually impossible for Western companies to know exactly where they come from. Or everything you make is aggregated. Suppliers are only the first layer of the supply chain. Suppliers have their own suppliers, who in turn may have a third layer of suppliers." Michael Essig, a professor of supply management at the "Undeswehr" University of Munich, said that a multinational company Like Volkswagen, it has 5,000 suppliers (what They are called first tier suppliers), and each supplier has 250 second tier suppliers, meaning that the company)

[9] Muhammad Mahmoud Al-Imam, commenting on the research of Dr. Ismail Sabry Abdullah, “The Arabs and Globalization”, presented to a symposium on the impact of globalization on the Arab economy, -House of Wisdom, 2002, p. 108.

China's dominance when it comes to imported industrial media. China is truly the workshop of the world, central to the entire global network of trade and production. Manufacturing inputs from China make up more than 3.6% of manufacturing output in every major country. For Korea, the figure rises to more than 16%. It is clear that the COVID-19 shutdown of Chinese manufacturing will have a major impact on manufacturing sectors globally. German manufacturing inputs are important for all other countries in Europe but also in Korea and Taiwan, as indicated by the many yellow cells in the German column (DEU). Note that Germany also relies on manufacturing inputs from a wide range of countries including the United States. US and China Inputs from the US are important in a number of countries such as China, but to a lesser level only for Canada and Mexico US manufacturing inputs are critical. In fact, the impact of the COVID-19 pandemic, has been greater and more evident on the part of suppliers After the transportation shutdown Due to the outbreak of the COVID-19 pandemic, suppliers in many industries have experienced significant losses, as their customers (manufacturers) have reduced or stopped production entirely. For example, in the automotive sector alone, by March 26, 2020, 41 of 44 auto assembly plants in the United States had closed USA Aptiv also announced one of the world's largest automotive suppliers, a technology company

A global focus on making mobility safer and greener (i.e. green), has taken a series of actions to further enhance the company’s financial resilience in response to the unprecedented uncertainty related to the impact of the novel coronavirus (COVID-19) pandemic on the global auto industry and economies around the world, and has withdrawn the entirety of its $1.4 billion credit facility (Linton & Vakil, 2020). Today’s supply chains are so complex that it is virtually impossible for Western companies to know exactly where they come from or to assemble everything they make. Suppliers are only the first layer of the chain Suppliers have their own suppliers, who in turn may have a third tier of suppliers Michael Essig, professor of supply management at the Bundeswehr University in Munich, states that a multinational company like Volkswagen has 5,000 suppliers (what

They are called first-tier suppliers), and each supplier has 250 second-tier suppliers, meaning that the company already has 1.25 million suppliers, the vast majority of whom you don't know about. Weaknesses in the supply chain may only become apparent when there's a crisis. Dun & Bradstreet, a company data analysis company, indicates that about 51,000 companies around the world have one or more direct suppliers in Wuhan, China, and 5 million companies around the world have one or more second-tier suppliers in Wuhan, the source of the COVID-19 pandemic, Dun & Bradsteet reports. All 938 of the 1000 Fortune companies have a Tier 1 or Tier 1 supplier and according to Dum & Bradsteet reports, 938 of the entire 1000 Fortune has Tier 1 or Tier 2 supplier in the Wuhan region so when a crisis occurs it is of course very difficult to solve the problem Because companies are all looking for alternatives

At the same time the market simply does not have a lot of specialized companies that are able to start work if there is a problem elsewhere, for example the world's most powerful company Apple for the most powerful economy in the world (USA) the iPhone is the pinnacle of California's cool technology however the American device is linked Its components may have been designed in the US but assembled from Chinese suppliers, in search of low cost and labor intensity that Apple cannot .

Table (2) Global Supply Chain Matrix

Source : OCED, 2020, p:16

		North America			Europe								Asia							Other		
		USA	Canada	Mexico	Germany	Britain	France	Italy	Spain	Turkey	Neterlands	Switzerland	China	Japan	Korea	Myanmar	Taiwan	Australia	India	Brazil	Russia	Saudi Arabia
North America	USA		1.6	1.6	1.0								6.5	1.2	1.0							
	Canada	14.1		1.4	1.2	0.5							7.2	1.2	1.1		0.5					
	Mexico	15.5	1.0		1.7			0.6	0.6				14.3	2.3	2.6	0.7	1.1			0.6		
Europe	Germany	1.6				1.0	2.0	1.9	1.1	0.6	1.3	1.0	4.6	0.9	0.6						0.8	
	Britain	2.6	0.5		3.9		1.6	1.2	1.0	0.6	1.0		4.8	0.6	0.6	0.6						
	France	2.4			5.7	1.2		2.3	1.9		0.8	0.6	4.1	0.6							0.5	
	Italia	1.1			4.9	0.8	2.3		1.6	0.8	0.8	0.6	4.6		0.7	0.6					1.2	
	Spain	1.2			4.5	1.2	3.3	2.3		0.6	0.8		4.6	0.6	0.6	0.6						
	Turkey	1.1			2.1	0.6	0.8	1.2	0.8				5.0		1.3	1.0					0.2	
	Holland	1.8			5.0	1.2	1.2	0.9	0.7				3.7	0.7							0.9	
	Switzerland	2.4			8.2	1.6	1.9	3.1	1.1	0.6	0.7		5.2	0.9		0.5						
Asia	China	1.5			0.9									1.9	3.0		1.9					
	Japan	1.4			0.7								6.3		1.2		0.6					
	Korea	2.9			1.8			0.5					16.4	4.4		0.6	1.8				0.6	
	Myanmar	2.1			0.9	0.5							7.2	0.9	1.5		0.5				0.7	0.5
	Taiwan	2.7			1.3								13.2	6.4	3.4	0.6			0.8		0.6	
	Australia	1.8			1.0								7.1	2.2	1.5		0.5					
	Hind	0.9			0.5								7.4	2.1	1.9	0.6	0.7					
Other	Brazil	2.2			1.0								4.6	0.5	0.6	0.6						
	Russia	1.0			1.9		0.6	0.8					5.7	0.8	0.8							
	Saudi	1.3			1.8	0.9	0.5						3.8	0.6	0.6	1.0						

Compete globally without relying on Chinese suppliers (an iPhone without a Chinese supplier could be more than ten times its current price). According to statistics by The Economist, among the top 420 Apple suppliers, there are 357 suppliers in China while only 63 are in the United States. from other products (TVs, sneakers, even drones and defense equipment). This fact creates a glaring security irony, and therefore it appears that smart financial arrangements do not always create smart policies or safe systems. The globalization of the supply chain may make sense. business, but it has turned Western companies into weak geopolitical targets. ([10]) As a result of the concentration of the COVID-19 crisis, in China, during the period from December 2019 to February 2020, many of these chains stopped working, which led to a number of major companies, whether inside or outside China, stopping production, which raised the issue at the time. Questions about the feasibility of relying on Chinese supply chains.

But with the spread of the virus and its transmission to Europe, the United States and most other regions, the problem of supply chains has taken on a global character rather than a Chinese problem, and then the question moved from the feasibility of relying on Chinese supply chains to discussing the problem of supply chains in general. And the COVID-19 crisis, is not the first of its kind that affects the work of supply chains, as it has been preceded during the last decade by a group of crises, whether they were natural crises, such as the Iceland volcano, the 2010 Japan earthquake and the subsequent tsunami crisis, the Thailand floods, or related crises. An economic nature, such as the Chinese government's decision in 2011 to impose quotas on its exports of rare earths (17 elements, which are in some important industries, such as mobile phones, electric car batteries, turbine fans, and wireless routers in weapons), has led to a rise in The prices of these materials have reached record levels, especially in light of China's acquisition of more than 90% of the world's output of these materials. In addition, the (US-Chinese) trade war has affected the work of these chains inside China during the years 2018-2019. With the importance of these crises, it is worth noting two important observations: The first is that they were not on a large geographical scale, as they were mostly confined to countries or regions. Specific regions, and then its impact was limited to the supply chains operating within these regions. Second, none of these crises have been as severe and profound as the COVID-19 crisis, and these two factors have not prompted supply chains to try to cope with these crises. On the other hand, the COVID-19 crisis was characterized by severity and depth, affecting all economic sectors, and most if not the countries of the world, especially the major Asian, European and American economies, developed, emerging and developing alike, which affected both the demand and supply sides, as well as the lack of The existence of a specific time horizon for the end of the crisis. This severity and geographical and sectoral comprehensiveness revealed many of the shortcomings of the current structure of supply chains, and launched a broad discussion about the necessity of adapting this important phenomenon to this unconventional type of crises. Thus, the COVID-19 In severity and depth, it affected all economic sectors, and most if not the countries of the world, especially the major Asian, European and American economies, developed, emerging and developing alike, which affected both the demand and supply sides, in addition to the lack of a specific time horizon for the end of the crisis. This severity and geographical and sectoral comprehensiveness revealed many of the shortcomings of the current structure of supply chains , the traditional crises. And so the COVID-19 pandemic has faced governments around the world with the challenge of directing essential commodities, such as food and medical equipment, where they are most needed to tackle the immediate health crisis. The high demand for some health products, supply chain disruptions and logistical constraints made this difficult. In anticipation of the inability of their residents to obtain the goods needed to cope with the immediate health crisis, many governments have imposed new trade measures on these items. ([11])

---

[10] Abdelkader, Mooney, and others, The Impact of the Corona Virus on Global Supply Chains (The Crisis of Prospects), Algerian Scientific Journal, Volume: 19, No. 2, 2021, p. 380.

[11] - UNCTAD (Ed.). World Investment Report 2020: International Production Beyond the Pandemic.United Nations. https://unctad.org/en/pages/PublicationWebyer.aspx?publicationid=2769. 2020 ,p:18.

Early in June 2020, export bans and other restrictions covered 73 percent of global trade in virus-related products. A total of 93 countries are implementing temporary export measures related to the pandemic, such as bans or restrictions on the export of medical products and food, less frequently. The frequency and type of export restrictions varies by region. Few African countries are restricting the export of COVID-19 related goods, in large part due to the fact that they do not manufacture them. Most of the export restrictions around the world include masks, with 55 measures related to woven masks and 48 to masks with filters. These measures affect 90% and 76% of world trade in producers, respectively. The share of imports of pandemic-related goods affected by restrictions also varies by region. This share is highest in Africa at 74%, followed by 67% in Asia and the Pacific and 60% in the Americas. Although 105 countries have implemented temporary measures on imports related to COVID-19, most are aimed at

To facilitate access to essential medical supplies or food. Nearly three-quarters of developed countries have eliminated or reduced tariffs on medical products since the start of the crisis. Only 46% of developing countries and 18% of least developed countries have done so. ([12])

5-6 Third Axis : Fundamental problems of supply chains in light of the COVID-19 pandemic

The COVID-19 pandemic has revealed a number of weaknesses in supply chains; some of these , the problems were known before the onset of the current crisis, yet most companies did not address them for various reasons, but the severity of the current pandemic crisis made facing these problems very important, and these problems are:

5-7 First: Lack of Sufficient Supply Chain Maps for Each Product in the absence of severe crises such as the COVID-19 crisis, producers and major companies have not paid enough attention to building detailed maps around the supply chains feeding their production processes. The construction of these maps is based on three types of basic information. The first relates to building databases around the entire chain of suppliers related to the product, where the majority of companies and producers are satisfied with knowing only the first link of suppliers or the direct first row, while the other successive back links have been neglected. In other words, despite realizing that they depend on a cascading and interconnected chain of suppliers, and that this direct last link is only one penultimate link in a cascading process of supply chains, they neglect to build complete databases on these suppliers from the direct link to the private supply chain. The type is the second is information in building a database about parallel or alternative suppliers that can be relied upon if any of the supply chain links have a problem, including information about comparative advantages for each supplier, prices, technical specifications of the product, and lead times. The third type is related to building a database about geographical distribution of supply chains; In light of the reliance on electronic communication, producers did not pay enough attention build a database around this pattern of distribution. Thus, one episode of the supply chain had a problem, Or stop supplying for some reason, to the disruption of the work of the rest of the chain, and the inability of the following links to provide alternatives to these suppliers in a timely manner due to the lack of sufficient databases about alternative suppliers and the pattern their geographical distribution. A poll conducted by Resilinc in late January and early January revealed February 2020 On a sample of 300 companies affected by supply chain disruptions due to the COVID-19 crisis, 70%
Some of these companies are still in the stage of collecting information, assessing the situation, and trying to find out which of their suppliers , they work in crisis-affected areas and areas that have been on lockdown in China until the time the survey was carried out.

[12] ITC, COVID-19: The Great Closure and Its Impact on Small Enterprises, 2020, p. 67.

Several factors contributed to the failure to build these "maps" during the pre-pandemic stage; Some of these factors relate to In the absence of acute crises such as COVID-19, the “supply chains” are not exposed to severe crises about the dangers and costs of the absence of these "maps". Others are related to the high cost of building these detailed maps.

Its construction requires huge financial resources and many human elements. Some of them are also related to the concentration of part of this the information is in the hands of the employees of the procurement departments, who either did not realize the importance of this information and the importance of building this Maps, or their instability due to their movement between different companies. Some companies also pointed to another factor ,It is important that direct suppliers do not cooperate in providing sufficient information about previous supply cycles to them.

Because of the fear of revealing the true costs of the product, and in a way that may affect their true competitiveness.

Finally, an important factor related to the centrality of the cost variable in the decisions of producers can be mentioned in determining the chains of supply, which led to their dependence on relatively fixed suppliers, and their neglect of building a list of alternative suppliers in cases of crises, due to the high costs of these suppliers. The focus on the cost factor led to the production of another problem, which is the heavy dependence on supply chains of Chinese origin, which led to the development of the problem of geographical concentration of supply chains. ([13])

5-8 Second: Potential Transformation Trends in Supply Chains in the Light of the COVID-19 Pandemic

In the light of the previous issues revealed by the COVID-19 pandemic crisis, a discussion has already begun about the future of “supply chains”; This future will be largely related to the future of economic globalization, given the strong relationship between the two. But apart from the extreme trends that led to the end of globalization and the growing trend towards closure and self-sufficiency, which means the end of the globalization of production and “supply chains”, the most likely trend is to make some forms of correction and adapt many phenomena to this unconventional type of crises, on the To reduce losses and economic costs if they are repeated, and this is true of "supply chains". In this context, it can

Presenting the different directions to adapt the phenomenon of "supply chains" in light of the current crisis. (14)

5-9- Building detailed maps about supply chains:

Despite the difficulties encountered in the process of building these maps during the pre-crisis stage, it is expected that the largest percentage of companies and producers will build these maps, with their three dimensions previously addressed, regardless of their cost, and some companies specialized in building these maps may appear. Some have also suggested a number of

Mechanisms to overcome the problem of the failure of some suppliers to share the data available to them about the previous supply cycles to them, including the purchase of this data, and the reliance on technical systems that ensure that this information is not made available to a third party.

5-10- Wide geographical distribution of suppliers:

Although the spread of the COVID-19 pandemic, and exceeded the Chinese borders, which means that production chains are affected in all regions, this does not negate what the crisis has revealed about the danger of relying on a group of suppliers or a geographically concentrated “supply chain” in a country. or a specific geographic region, and hence the tendency to rely on a supply chain that is spread over a relatively wide geographical area. In this context, it is expected that the relative importance of the cost / price variable in determining producers to supply chains will decline, and more weight will be given to the factor of ensuring the flow of supply operations. However, this approach will face several difficulties, some of which relate to the expected changes in cost structures, especially in the event of high costs for alternative suppliers, and will depend on the extent to which alternative suppliers exist in alternative markets with the same technical requirements. In other words, it will depend on the degree of elasticity of the demand and supply sides.

[13] Moumni Abdel-Qader, Bin Shawat Somaya, Tarbash Muhammad, Burish Ahmed, “The Impact of the Corona Virus on Global Supply Chains (Horizons Solutions Crisis)”, Journal - - - Economic Studies, Volume 19, No. 2, 2021, pp. 375-387.

The main question will remain regarding the future position of China within the 'supply chain' markets. In its initial stage, the crisis created a trend in favor of the need to reduce dependence on Chinese supply chains, given the

The predominance of the Chinese character over the crisis during the first months, but with its expansion to include almost all economies and regions, this led to the decline of the Chinese identity of the crisis. However, it is not expected to exclude the tendency to reduce heavy dependence on Chinese supply chains for several reasons, most notably: (15)

(a) What the COVID-19 pandemic experience has revealed, in general, about the severity of the geographic concentration of supply chains; Despite the peculiarity of this crisis, the geographical distribution of supply chains will remain one of its main lessons.

b What the pandemic revealed about the danger of concentrating certain supply chains within China, especially those linked to the health sector. The COVID-19 pandemic crisis has exposed the vulnerability of this sector in Europe in particular, due to its heavy dependence on Chinese supply chains.

c What was related to the crisis as a result of the growing state of political polarization between the United States and China, and the ensuing controversy - between the latter and some European countries, about the extent of China’s responsibility for the expansion of the COVID-19 pandemic,

Globally because of its intentional concealment of some facts and information about the nature of the virus, its rates and methods of spread, as well as its impact, as the US administration has argued, on the performance of the World Health Organization. This polarization is expected to trigger the resumption of the US-China trade war. In this case, it is expected that supply chains - taking into account all the previous data - are an important arena for this war. - -

But with all of these considerations important, the decline in reliance on Chinese supply chains will not be

easy ; Even if political decisions are taken to reduce dependence on these chains, the matter will depend in the last analysis on a number of variables and determinants previously mentioned. In addition, Chinese supply chains have a number of important competitive advantages, both related to the business climate in general, and those related to China's dominance of the rare earths market. Beyond the case of China, monopolistic supply chains based on IP rights will be difficult to bypass. In other words, despite the importance revealed by the COVID-19 pandemic, to dismantle the problem of geographical concentration of supply chains, reaching this goal will require a period of time, and this will depend on a number of variables.

3- The trend towards self-sufficiency in some products:

Apart from economic motives and calculations, some governments may resort to making strategic decisions not to rely on Chinese, and foreign supply chains in general, in some sectors that may be classified as “strategic” sectors, and the health and medical products sector comes on top of these sectors. This trend was expressed by the French Minister of Economy and Finance, Bruno Le Maire, who explicitly indicated on February 21 the danger of relying on China and Asia to provide many commodities (90% of batteries, 80% of the active materials needed for the pharmaceutical industry). And he called for a detailed study of the strategic weaknesses in the various French industrial sectors, resulting from the intense dependence on external supply chains in China and Asia, and working to fix these problems, but reaching this goal or the required or safe reliability rates will certainly take time.

5-11- Building a strategic stock of intermediate goods:

The current crisis has revealed the importance of building a larger safe stock of intermediate or final goods that is sufficient to sustain

14 Ahmed Samir, a source previously mentioned, pp. 302-305.

15 Ahmed Samir, Ibid , p. 302.

The production process or the presence of the product in the market until the crisis is overcome or to switch to alternative suppliers, in a way that allows alleviating the pressures on producers during the management of expected crises in the future. This trend will be followed by the expansion of building these huge stocks and distributing them to different geographical areas. Finally, it can be noted the increasing possibilities of “digitalization” of supply chains; This “digitization” will take several dimensions, starting with building digital databases around these chains, ending with increasing the reliance on “3-printing” and robotic techniques in implementing production processes to reduce dependence on the human factor in times of crisis. Thus, it becomes clear The main trends in the adaptation of "supply chains" are mainly focused on the way they are managed rather than on reconsidering them as a mechanism or style of managing production "known".

6-Conclusions:

1- International trade is the source of profit for the economies of most countries of the world, and it expresses all aspects of activity Economic and the main engine of economic growth.

2- In early December 2019, the outbreak first occurred in Wuhan, China, and the World Health Organization officially declared on January 30 that the outbreak constituted a public health emergency of international concern, and confirmed the outbreak's transformation into a pandemic of COVIED-19 on March 11.

3- The pandemic has caused severe global industrial, social and economic damage, including the largest global economic recession since the Great Depression.

4- After the outbreak of the COVIED-19 pandemic, global supply chains have become, the movements of intermediate goods and intermediate services are almost paralyzed between the countries of the world between exports and imports, which formed a supply and demand shock and a decrease in GDP, and made the global economy seriously injured and severe consequences that affected all societies and individuals .

5- Recent literature confirms that new opportunities will be available to developing countries through their participation in global supply chains, provided that the challenges in those countries are overcome.

6- The concentration of the COVID-19 pandemic in China has resulted in many global supply chains having to stop
Work, which led to the suspension of a number of major companies, both inside and outside China, from production, but
With the spread of the virus and its transmission to Europe, the United States and most other regions, it took a problem Supply chains are more global in nature than a Chinese problem.

7-Recommendations:

1- As the COVID-19 pandemic, is greatly affecting people's lives and livelihoods and is placing severe stress on industrial, social and economic systems. Therefore, cooperation, coordination and international solidarity among all is a fundamental factor in overcoming this unprecedented global challenge.

2. Policy makers need to take a number of measures to ensure the facilitation of trade and the movement of goods
intermediate goods and logistics and mitigate the potential long-term consequences of the pandemic.

3- The COVIED-19 pandemic has affected the global supply chains needed to maintain many jobs in the industrial sectors on which modern society depends. Therefore, it is necessary to boost production and distribution of basic commodities needed to contain and control the pandemic (such as medical supplies and equipment) and to secure basic needs (including Food and Energy.

4- Governments need to adopt a common approach to address these issues across global supply chains to avoid widespread economic collapse and severe disruptions in supply chains. In the absence of urgent action, this could hamper the post-pandemic economic recovery, deteriorating long-term prospects for sustainable development, particularly for the poorest countries in the world.
the scientist .

5- The COVID-19 pandemic affected production chains in all regions, but this does not negate what the crisis revealed about the danger of relying on a group of suppliers or a “supply chain” characterized by geographical concentration in a country or a specific geographical region, such as China. Hence the trend towards a supply chain spread over a relatively wide geographical area.

6- That the challenges, increase and participation of developing countries in global value chains can be achieved in an age

The pandemic, but requires the need to develop a comprehensive strategy to raise capital through spending on . (Education, health services, infrastructure that support the digital economy, reducing the informal economy) Official, the necessary incentives for establishments to adopt standards of environmental safety and quality, in line with the standards (domestic and international). All of which are important conditions for participation in global supply chains.

8-References :

1- Ahmed Samir, “The Impact of the Spread of the Corona Virus on Supply Chains in Egypt”, International Journal of Economic Studies, second issue, 2020.

2- Ashraf Helmy, “Participation in global value chains to reduce foreign trade problems in Egypt
Applying to the Industrial Sector, Arab Economic Research Journal, Vol. 25, p, 80, 2019.

3- Abdelkader, Mooney, et al., The Impact of the Coronavirus on Global Supply Chains (Crisis of Solutions - -
Afaq), The Algerian Scientific Journal, Volume: 19, Issue 2, 2021.

4- Assessing Impacts of Productive Development Programs at the Firm Level in Brazil, Inter-American Development Bank, 2015.

5- International Trade Centre, COVID-19: The Great Closure and its Impact on Small Enterprises, 2020.

6- Muhammad Mahmoud Al-Imam, commenting on the research of Dr. Ismail Sabry Abdullah, “The Arabs and Globalization”, presented to a symposium on the impact of globalization on the Arab economy, House of Wisdom, 2002.

7- Moumni Abdel-Qader, Bin Shawat Somaya, Tarbash Muhammad, Burish Ahmed, “The Impact of the Corona Virus on Global Supply Chains (Horizons Solutions Crisis)”, Journal of Economic Studies, Vol.-19, No. 2, 2021.

8- Tamim Bayoumi, “Trade Interconnectedness: The World with Global Value Chains”, International Monetary Fund, August, 2013.

9- Taglioni, Daria; Winkler, Deborah "Making Global Value Chains Work for Development: Case of Bulgaria". Trade and Development; Washington, DC: World Bank, 2016.

10-Wissam Abdel-Fattah Suleiman Abdullah, “The Application of Global Value Chains in the Economies of Developing Countries”, Journal of Trade and Finance, No. 1, 2019.

11- UNCTAD, Based on Data from UNCTAD-EORA GVC Database.

12- UNCTAD (Ed.). World Investment Report 2020: International Production Beyond the Pandemic. United Nations. https://unctad.org/en/pages/PublicationWebyer.aspx?publicationid=2769. 2020.