

اختناقات سلاسل التوريد الدولية وانعكاساتها على الاقتصاد الكلي (مع إشارة خاصة إلى العراق)

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المستخلص:

تلعب سلاسل التوريد دوراً رئيساً في الاقتصاد الدولي الحديث، وتمثل مجموعة العمليات المنفصلة المرتبطة معاً لتحقيق هدف تسليم المنتج النهائي للمستهلكين. تشمل أنظمة إدارة سلسلة التوريد الرقمية حزم البرامج ومعالجة المواد لجميع الأطراف التي تعمل معاً لإنشاء منتج أو خدمة وتنفيذ الطلبات وتتبع المعلومات، بما في ذلك المستوردين والمنتجين وتجار الجملة وشركات النقل ومقدمي الخدمات اللوجستية وتجار التجزئة. إذ أصبحت مشكلة اختناقات سلسلة التوريد واضحة خلال جائحة كوفيد-19، حيث بدأت العديد من الدول التي تعتمد على القطاعين الصناعي والزراعي تعاني من نقص في إمدادات المواد الخام والوسيط، مما تسبب في ارتفاع المستوى العام للأسعار. أثرت جائحة كوفيد-19، بالإضافة إلى المتغيرات السياسية (مثل أزمة أوكرانيا) على حجم الطلب الكلي وتراجع أداء النشاط الاقتصادي العالمي، وأسهمت في تغيير أنماط الطلب على سلاسل التوريد الدولية من خلال تقليل الطلب على السلع الرأسمالية والوسيط ومدخلات الإنتاج، وزيادة الطلب على المنتجات الاستهلاكية والتكنولوجية، وخاصة من خلال منصات التسوق الإلكتروني وأدوات الشراء الرقمية المختلفة. من ناحية أخرى أشار البحث إلى إن الموقع الجغرافي للعراق يعطيه أهمية اقتصادية كبيرة ليكون حلقة وصل بين قارات العالم ومراكز الإنتاج والاستهلاك العالمي في الغرب والشرق ويسهم في تحقيق ميزة نسبية تعزز القدرة التنافسية للاقتصاد العراقي.

الكلمات المفتاحية: سلسلة التوريد ، تفكيك خطوط الإنتاج ، كوفيد-19 ، الروابط الخلفية والأمامية ، الطاقة الاحتياطية

International Supply Chain of Bottlenecks and their Macroeconomic Implications (with Special Reference to Iraq)

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Abstract

Supply chains play a major role in the modern international economy and represent the set of separate processes linked together to achieve the goal of delivering the final product to consumers. Digital supply chain management systems include software packages and material handling for all parties working together to create a product or service, fulfill orders, and track information, including suppliers, manufacturers, wholesalers, transportation companies, logistics providers, and retailers.

The problem of supply chain bottlenecks became clear during the COVID-19 crisis, as many countries that depend on the industrial and agricultural sectors began to suffer from a shortage of supplies of raw and intermediate materials, which caused a rise in price levels. The COVID-19 crisis and the other political circumstances; like the Ukraine crisis, have affected the size of aggregate demand and the decline in the performance of economic activity, but they have contributed to changing the patterns of demand for international supply chains by reducing the demand for capital and intermediate goods and production inputs, and increasing the demand for consumer and technology products, especially through e-shopping platforms and various digital purchasing tools. The geographical location of Iraq gives it great economic importance to be a link between the continents of the world and the centers of global production and consumption in the West and East and contributes to achieving a comparative advantage that enhances the competitiveness of the Iraqi economy.

Keywords: Supply chain, production line dismantling, Covid-19, backward and forward linkages, spare capacity

1- Introduction

Supply chains are a very important phenomenon and an inevitable consequence of globalization, due to cost constraints and the dismantling of the single production line to be transcontinental. Supply chain management is related to economic activity starting from information all the way to the final product, through several rings that represent job, moving across the seas to globalize economic activity. The global integration between continents, whose borders no longer represent a limitation to economic activity, to give priority to job migration instead of labor migration, as it was in the middle of the twentieth century. It was called productive assembly lines, which also aim at reducing the cost of production. The supply chain contributed to benefiting from the reserve capacities of investment projects and achieving the competitiveness of the original producing country and the host country. At the right time, at the right cost, we can conclude that supply chain is the continuous change and development of management and philosophy of the various production processes in order to achieve the optimal size of the project, without being restricted to a specific place, so that the management is efficient and achieves the maximum possible profit in light of the limited resources.

2- Importance of the Study:

Importance of the current study springs from the importance of supply chains that contribute significantly to the international exchange of goods and services, the creation of added value in economic activities, addressing unemployment and inflation, and an influential factor in stimulating and optimizing the use of resources.

3- Problem of the study:

Although supply chains have achieved vertical and horizontal integration of investment projects related to private companies, they have caused great damage to the economies of major countries such as the US economy and the economy of the eurozone through the migration of jobs overseas, so we ask the following question: What are the economic repercussions of supply chains on different countries? What are the effects of supply chain bottlenecks on the global economy? How can Iraq benefit from international production assembly lines if it joins them?.

4- Hypothesis:

The study is based on the following two hypotheses: (The phenomenon of supply chains in the international economy and their complexity that leads to the optimal allocation of resources, and contributes to the creation of new jobs and generate economic gains).

5- Objectives

the study aims at the following:

- 1-** Demonstrate the importance of supply chains in international economies, including developing ones.
- 2-** Clarify the role of development and the information revolution in the multiplicity of supply chains.
- 3-** The role of supply chains in the international economy and their impact on achieving economic growth.

Section One: The economic implications of international supply chains (indications and indicators)

1-1: The concept of international supply chains

Supply chains are defined as a sequence of projects and organizations with the facilities and activities that they need and include projects in the production, marketing, distribution and delivery of the product or service, where the sequence starts from suppliers of raw materials and extends the scope of the supply chain until reaching the final customer, to include (warehouses, factories, operation centers, centers distribution, back offices to display goods electronically), and the supply chain is based on a set of functions that consist of forecasting, warehouse management, information management, scheduling, production, distribution and delivery. **(Rifai, 2008: 7)**

Supply chains play a major role in the contemporary international economy, and then in building the economies of countries in general, and in the development of industrial and service organizations in particular, as they express a group of separate operations linked together in order to achieve the goal of delivering the final product to consumers, through a complex network that extends between continents and multiple different countries to provide and supply goods and services with supply chains, or assembly lines through which goods are delivered for final consumption purposes through product innovation, raw materials, components assembly, final product testing, and shipment to the final consumer. **(Cordero & Hansen, 2022: 54)**

It refers also to the process of moving goods and products from production centers to consumption centers, and it represents all activities related to the flow of raw materials, goods and services from sources of supply to the final consumer, i.e., it expresses the level of integration between these activities by improving relations between the elements of supply chains, whether they are Representing individuals or companies, leading to outstanding performance. **(Abu Khashaba and Sultan, 2019:**

28) It connects a set of different links from the supplier to the consumer within the manufacturing, services and manufacturing industries so that there is a flow of resources, money and information that is managed effectively to meet the needs. (**Al-Taweel and Al-Abadi, 2018: 18**) It consists of six main elements: (**Dent: 2021: 52**).

a-Raw materials: Where the material inputs are necessary for the continuation of the production process and the manufacture of final products, from raw materials or semi-finished materials, raw materials are the main input in the manufacturing system.

b- Suppliers: who have a very important role in every stage of the product life cycle, starting from sourcing raw materials to helping to increase production, and the role of a supplier in a business is to provide high quality products from the manufacturer at a good price to a retailer for resale.

c-Factories: Today we are talking about the Fourth Industrial Revolution, where new technologies are being used in the field of manufacturing. In this new direction, technologies such as artificial intelligence, machine learning, automation and sensors are changing the way companies manufacture new and conservative products and services, them and distribute them.

d- Distributors: Those who cover the market comprehensively, whether with the quantities of goods they carry, or the percentage of the market that enjoys their services, and that obtaining outlets or channels in the market is the essential offer that they provide to the supplier by covering most or all of the channels that the supplier needs to reach through commercial relations. There are usually many competing distributors in the market, which contributes to creating an environment where competitive prices prevail.

e-Retailers: These fulfill the market demand through the supply chain, and thus are a commercial entity responsible for the final sale of goods to the final consumer.

f- The final consumer: He represents the most important element in the supply chain that starts and ends with him, by knowing what he wants? when does he want to? And the speed of delivery of products to him, in the sense of identifying the desires of the consumer, the time in which he needs the products, and the speed of delivery of these products.

1-2: Logistics services in the framework of supply chains

There are number of tools that supply chains use logistically for the purpose of multi-axial linking between the supply chain links, which would give the greatest degree of flexibility and effectiveness, and this falls within the concept of logistics services, as logistics services are one of the components and tools of the supply chain, and supply chain management systems Digital includes software packages and material handling for all parties that work together to create the product or service, fulfill orders, and track information, including suppliers, manufacturers, wholesalers, carriers, logistics service providers, and retailers. The end to one goal is to get rid of material, human and temporal losses of economic activity, with cost pressure and increase efficiency, it is the art of provisions to control the flow of supply chains that cover the whole world, which consists of three types of supply chains. (Kafi, 2021: 12)

a-The supply chain that transports raw materials and semi-finished goods to factories, which is what is called the inbound supply chain.

b-The supply chain that transports materials within the geographically dispersed production process.

c-The supply chain that transfers finished goods to the consumer through the wholesaler and retailer, by means of land and sea transportation, which is called the outgoing supply chain, which can be illustrated in.

This contributed to the significant expansion in the use of economies of scale in production processes and distribution using advanced technological innovations. And made the vast absolute differences in the wages of unskilled labor between developed and developing economies, driven by differences in the

availability of factors of production, through the sharing of production across borders, so we note the spread of the production unbundling line that clarifies the nature of the supply chain and aims to reduce production costs through the supply chain for investment projects Which changed from an assembly line to a production dismantling line, a chain that extends across many directions between countries scattered on the surface of the globe, and since the beginning of the twentieth century, the job journey began in search of production factors that were called job migration. **(Michael:2006:391)** Henry Ford revolutionized the world of supply as he followed the method of globalizing supply chains, and prepared all the materials and components needed to manufacture the Ford car, whose production line was scattered into more than a thousand pieces spread over three continents with the aim of reducing the cost of production, and every step of the production process became It is like a link in the supply chain within a flexible chain connected to other parts that reduced the cost of production by about (65%) of the cost of production before dismantling the production line **(Chea: 29:2006)**. Historically, supply chains were characterized by their simplicity, especially in light of the simple production followed by producers and the possibility of obtaining all components of the product, from a location close to the place of consumption of the final product. Today, producing companies obtain production inputs from various countries of the world in order to be able to benefit from the most suitable components. needed to assemble their products. **(Cerdero & Hansen, 2022: 54)**

The steam revolution, especially the railways and steamships, made it possible to separate production and consumption spatially beginning in the 1830s and accelerating in the 1870s, and once this was possible, economies of scale and comparative advantage made separation of operations profitable. As a result, the world witnessed major shifts in the field of production. **(Baldwin, 2013:13)**

This is consistent with what Adam Smith, the pioneer of the traditional school in classical economics, emphasized, that the state should not move towards concentrating wealth within it, but that the state's effort should focus on finding markets for the distribution of products, and for this reason (Smith) cared about dividing Work, as the fragmentation of the productive process leads to specialization in a specific part or parts of it, which contributes to the acquisition of skill and experience over time, which is reflected in the development of productive art and thus an increase in production that requires wide markets to dispose of surplus production. (Abdul Reza, 2015: 114) Proceeding from the freedom of trade, which he used to call for, according to his saying, "If a foreign country is able to provide us with a commodity that is cheaper than if we produced it, then let us buy it from it with some of the production of our industry." He believes that it is sufficient to have a difference between the cost of production in two countries for trade to take place between them (Shehab, 2007: 29), in the sense that each country specializes in producing the commodity that it can produce at lower costs, and exchanges it for goods produced by other countries at lower costs, taking into consideration the issue of absolute superiority in production expenditures, while the relative superiority among countries in production expenditures is the basis In the economic analysis of (David Ricardo) (Hatem, 1993: 93) where the exchange of final products between countries is based on comparative advantage, or the difference in factors of production according to (Heckscher-Ohlin), as countries specialize in the production and export of "tasks" that use a factor Relatively abundant production relatively intensively, holding that a relatively unskilled and labor-abundant developing economy would export relatively unskilled labor-intensive tasks and products, and similarly a capital-intensive or relatively skilled-labour-intensive country would export intermediate products, such as capital goods and services Design, research and development died (Park et al., 2013: 29)

In the theory of international values of (John Stuart Mill), the value of the commodity depends on the expense of obtaining it, meaning that the value of the imported commodity is determined by the cost of producing the exported commodity in payment for the imported commodity (**Abdullah and Ibrahim, 1998: 50**), while (Heckscher-Ohlin) indicated) and within the framework of the marginal benefit theory, that international exchange takes place not on the basis of differences in comparative production costs, and on the basis of the difference in the prices of the most abundant and cheapest factors of production (**Al-Hajjar, 2003: 33**), and with progress in both technology, institutions and policies that made room In front of commercial companies to divide their production operations, this contributed to the flourishing of international trade in production inputs and thus the integration of the economies of different countries into international supply chains, benefiting from the international trade agreements that made predicting trade easier. The extensive trade within industry between industrialized countries has been explained by the fact that participation in international markets provides firms with an opportunity to achieve economies of scale. Trade within an industry often involved the buying and selling of parts and components by companies located in different countries. Therefore, it is argued that in this context, global supply chains have long existed between developed economies, trade between the United States and Canada in the automotive industry and trade within the European Union in machinery being two notable examples (**Park et al, 2013: 32**).

Section Two: Factors affecting the functioning of international supply chains

The most stable and shock-absorbing supply chains are those have tools enable them to continue to work flexibly during periods of shock, and this is what makes them superior to other supply chains whose capabilities are limited only to ways trying to avoid shocks. The emergence of international supply chains is much more than just extra trade in parts and components. The

heart of 21st century trade is an interwoven mix of trade in commodities, especially parts and components, international investment in production facilities, training and technology, and long-term business relationships. The flexibility of exchange before the twenty-first century was little flexible, and in the first decade and the beginning of the second decade it turned into an infinitely flexible supply chain. The flexibility was (0.3) in the year (2005), then it rose to (5.6) in the year (2014), and then to (8.2) in (2016) (**Robert: 2016:75**) As well as using infrastructure services to coordinate dispersed production, especially services such as telecommunications, the Internet, express parcel delivery, air freight, trade-related finance and customs clearance services, cross-border technical knowledge flows such as formal intellectual property and more tacit forms, such as managerial and marketing knowledge. (**Richard, 2013: 13**) Before the emergence of international supply chains, the country had to build a strong, cohesive and broad industrial base before this country could become competitive, which is what actually happened in the United States of America, Germany and Japan, so countries could turn to industrialization by joining international supply chains (**Baldwin, 2013: 24**), and two main factors contributed to this, which helped in the involvement of some economies, particularly those emerging from them (the fastest growing economies in the world), in supply chains, which are:

2-1:Increasing the international mobility of technology

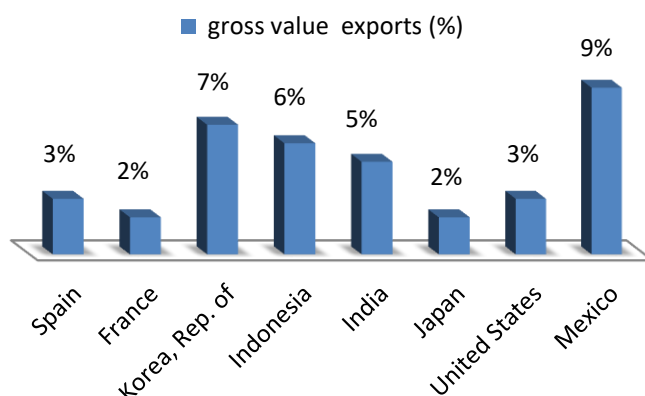
The scientific achievements achieved in various fields and the resulting economic advantages have had a great impact among the economic forces in the world, through information fields, vital technologies, and the substitution of resources and knowledge for money in terms of the ability to move the economy and its joints depending on the flow of information, this flow that brought about a change Significant in the organic composition of capital, as the movement of capital has increased by seven times during the period (2000-2015), so the amount of

moving head from Europe to East Asia was approximately (10030) million euros in the year (2006), and it rose to (80067) million euros in the year (2010), and after that the American and European investment increased to be (267810) million euros in the year (2016) in India and China (**Terry and David: 2016:42**)

So that the new formula does not depend on the intensive use of labor and capital, but rather on scientific knowledge and then control over material production. (**Al-Takriti, 2009: 118**), through the link between technology and the work element in the production process, due to the information, knowledge, skills, inventions, machines and materials provided by technological progress. On the other hand, through the close link between technology and the optimal use of capital to obtain competitive production, and despite the fact that the transfer of technology from a developed industrial country to a less developed country is still not completely available (**Abdul Reda, 2013: 176**), However, the development of international supply chains has strengthened the interaction between transnational foreign companies and local companies in emerging as well as developing countries alike. Then, increasing the volume of its exports (**Al-Harazi, 2017: 180**), before the information and communication technology revolution, most of the international supply was between mature economies, such as the United States and Canada. An equal in the automotive industry or as in the intra-EU trade in machinery. With the late 1970s, Asia's participation in international supply chains began to flourish, and by the late 1990s, Asia had surpassed the economies of the North Atlantic, for example in 2007 most of the industry inputs for major supply chain traders were from China, amounting to (9%) of the total value of exports in Mexico from intermediate inputs purchased from China, and (5%) of the total value of India's exports and (3%) for the United States of America and Spain, on the other hand, China's back links with these countries were lower in the total value of China's exports, as shown in the figure- 1-, which shows the backlinks of a number of large supply chain traders with China for the year 2007, and Figure-3,

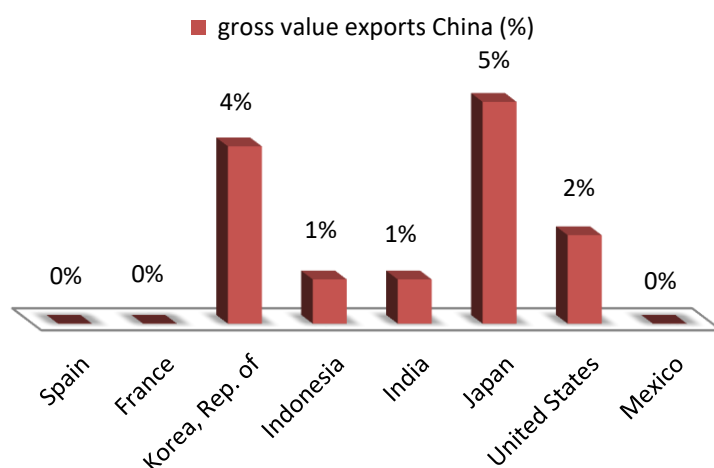
which shows the backlinks of China with a number of large supply chain traders for the year 2007.

Figure-1- Backlinks of Top Supply Chain Traders with China for 2007



Source: Baldwin, Richard .(2013). Changing features of global value chains, Fung Global Institute (FGI), Nanyang Technological University (NTU), and World Trade Organization (WTO), P21.

Figure-2- China Backlinks with Number of Top Supply Chain Traders for 2007



Source: Baldwin, Richard .(2013). Changing features of global value chains, Fung Global Institute (FGI), Nanyang Technological University (NTU), and World Trade Organization (WTO), P21.

2-2:Transferring labor-intensive manufacturing stages abroad

The migration of jobs and capital was motivated by reducing costs and increasing profits. In the year (2006) the Ford Motor Company paid American workers (27) dollars for working for one hour, and with the cost of insurance being (52) dollars, and when Ford established A special supply chain for the manufacture of its cars in Mexico, the cost per hour of work decreased to approximately (12) dollars, which led to the spread of forward and backward links to supply chains that made the global economy surprisingly interdependent. **(Joseph: 284: 2006)**

Trade liberalization and technological progress contributed to the fragmentation of the production process. Strategies to reduce costs to a minimum resulted when intermediate inputs originating from multiple countries were used in the production process. Hence, trade in goods and services increased, and supply chains became dominant in some sectors. The existence of a large difference in wages between developed and developing countries supported the transfer of the location of some production processes from developed countries to developing countries, especially since some consider international supply chains as opportunities for development, based on the fact that countries do not have to develop the capabilities necessary to produce a complex final product. All you need is to be able to compete internationally in the production of some of its components, as shown by the supply chains of the forward and backward links to the industry in China and showed the amount of growth in the gross domestic product, as the growth rate was (4%) before the establishment of the forward and backward links in its

current form, and after the intertwining Supply chains The growth rate of GDP in China has increased to (9%) (UNCTAD, 2013: 7). This was reinforced by the huge amount of relatively low-cost labor in developing economies, which shows the relationship between tweed chains and the rate of Economic growth.

3- Reasons of the shift in the work of supply chains

The international economy has witnessed a shift in the form, nature, and essence of the work of supply chains, due to a group of factors on the one hand, and on the other hand, these factors overlap with each other in order to affect the development of supply chains, and they naturally represent challenges that countries face or possibilities for them to integrate into the international market. The most important of these factors:

3-1:Natural factors

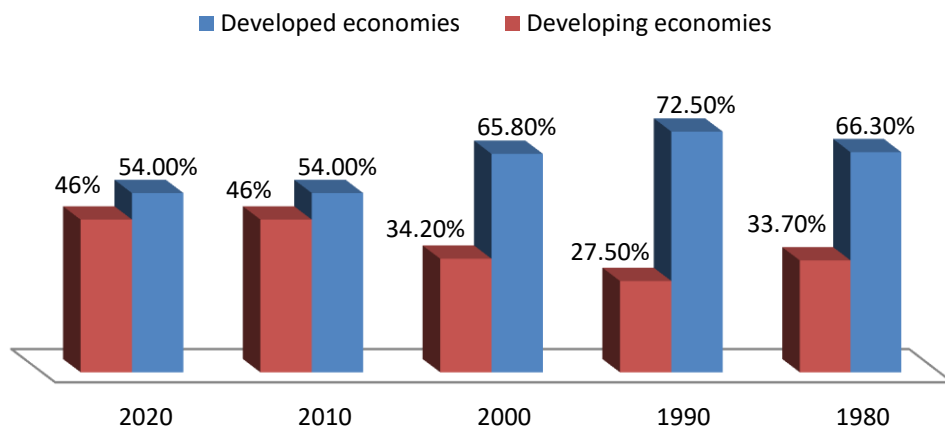
Climate changes greatly affect international supply chains, as extreme weather events would affect supply chains in an unpredictable way, directly affecting production and delivery times, in addition to the threat faced by some coastal roads, which is the threat caused by high seas. Sea level, especially in low-lying areas, and natural disasters such as floods, all of which together have severe impacts on the various supply chains and the smooth flow of goods and services, which will actually affect prices in the future. (Khaled, 2022: 1)

3-2:Economic factors

More specifically related to markets and competition, growth and contraction in international markets lead to a change in supply chains. With the existence of international markets for many products, companies seek to develop international production platforms that can be adapted and produced regionally (MacCarthy & others, 2016: 18), and for this we find calls for the merger of local companies in developing countries with multinational companies under the pretext of the latter's ability to develop local technology and absorptive capacity and

strengthen the competitiveness and growth of those companies, and this explains the change in the positions of several developing countries on foreign direct investment despite the common criticism directed at the practice of multinational companies Citizenship by focusing its investments in developing countries in extractive industries or infrastructure without developing the manufacturing industry in line with the new international division of labor (Abdul Ghaffar, 2002: 267). Here it should be noted that although the economies of developed countries have accounted for the largest share of total exports of goods over the past two decades (1980-2000), the economies of developing countries during the decade (2010-2020) witnessed remarkable developments, as global exports were distributed in shares They are relatively close, and as shown in Figure-3, which shows the relative importance of the exports of developed and developing countries for the period (1980-2020).

Figure -3-The relative importance of the exports of developed and developing countries for the period (1980-2020)



UNCTAD, Handbook of Statistics.(2018, 2020). **Source:**

3-3:Factors related to global health/ (COVID-19) crisis

This crisis has two different impacts on international supply chains. In the first stage, the general closure measures and restrictions on freedom of movement led to severe interruptions

in the various supply chains, causing shortages of supplies in the short term, while in the second stage of the crisis, the various supply chains witnessed new bottlenecks, the most severe bottlenecks affecting raw materials. and intermediate manufactured goods and freight transportation. This is due to the necessary preventive measures to contain the crisis, which directly affected international supply chains, as international trade witnessed a significant decline when the COVID-19 crisis and the associated closure measures affected a large proportion of the world's population, as shown in Figure-4, which shows the volume of international trade for the period (2019-2020) (Agarwal and Kimball, 2022: 25). It should be noted here that the large expansion in exports in 2021 is largely due to the expansion of exports in new markets, as companies benefited from the new trade routes that arose due to the COVID-19 crisis, although this crisis affected the volume of consumer demand and the decline in The performance of the industrial sector, however, has contributed to changing demand patterns for international supply chains by reducing demand for capital and intermediate goods and production inputs, and increasing demand for consumer and technical products through online shopping platforms and various digital procurement tools.

**Figure-4-International trade volume
for the period (2019-2020) billion dinars**



Source: world Trade, Studies and Statistics, Belgian Foreign Trade Agency. (2019-2021).

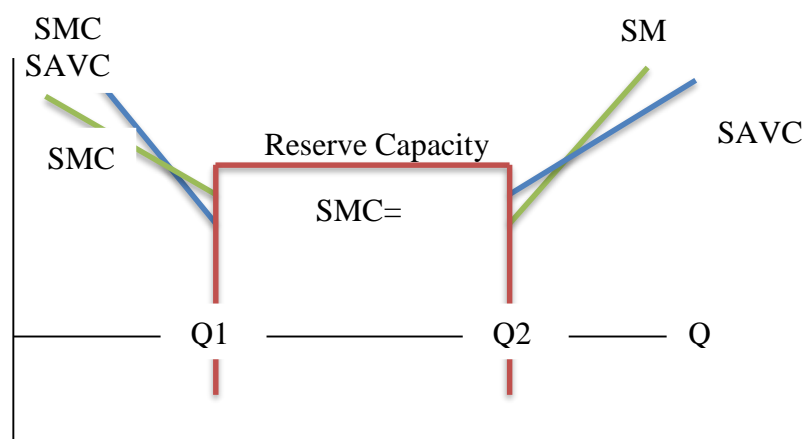
3-4: Political factors (wars and international conflicts)

Supply chain bottlenecks have significant economic effects on the movement of the international economy. For example, high freight rates and low levels of production will result in a large shortage of supply, especially in light of the large expansion of international trade through exports and imports. Bottlenecks in supply cause the inability of companies to meet Demand for its products, and here requires the supply chain to have flexibility, meaning the ability of supply chains to continue operating even when exposed to crises, whether health (such as the COVID-19 crisis), political (such as the Ukraine crisis) or economic (increased demand for products). This means that there should be a quick response, which may take the form of reaction or initiative to the opportunities and threats posed by market conditions.

4- Reserve capacity (flexibility) for supply chains

From Figure -5-, we can briefly explain the nature of cost elasticities by using the average variable cost curve in the modern theory of costs in the short run, as in the following chart:

Figure-5- Average cost curve in differential cost theory



a certain range of output. Expansion of its production without

leading to an increase in the average variable cost, and therefore the distribution can be within the geographical boundaries of the company, or it can be through establishing a link in the supply chain to be a production pillar, as did (General Motor) and the (American ready-to-wear) industry, as it transfers White and blue collar jobs are overseas in India and China, and from the figure the (SAVC) curve is decreasing until it reaches the level of production (Q1), where the point of intersection represents the optimum point of production, then the average cost as well as the marginal cost are fixed at the production range of (Q1) to (Q2), then when the company exhausts its reserve capacity, the curve rises again, and here it should be noted that the decrease in the (SAVC) curve is due to the better utilization of the fixed factor of production with the increase in the variable factor of production, in addition to, This is due to the improvement of workers' skills, as well as to the reduction in cases of wastage and loss that occur in the resources used in the production process due to the development of production and administrative skills and their high efficiency. (Al-Omari, 245: 2022)

5- Iraq Position in the international supply chains

The geography in Iraq reflects the traditional trade routes through which the movement is north-south, through the Tigris and Euphrates rivers, as well as the land and railway road, which runs parallel to the Tigris through the city of Mosul to northern Syria, and the other road parallels the Euphrates to the center of Syria. The Basra-Baghdad-Mosul route is considered the special route for international trade before completing the Suez Canal route, where the products of the East reach Basra and then to Baghdad by means of large boats, and then the goods coming from the West are exchanged through Antakya on the Mediterranean, so Iraq can To be an important link in the global supply chain due to its geographical location that connects the world's continents through land and sea (Abdul Razzaq: 2020:365) . After the migration of European industries from Europe to Asia and India, which transfers part of its products to European markets, the number of medium and large investment

projects that have settled in Asia and the Indian subcontinent is estimated at more than (1500) investment projects that produce visible goods, and more than that produce services to be A back office for European industries, which are sold through communications offices in India and Asia, and selling stores and commodities on shelves in the United States of America. The number of American companies that have settled in India and China is estimated to be approximately (689) medium and large companies, of which approximately 125) A company specialized in the manufacture of cars and electronic devices (**Meredith, 2009: 228**).

Therefore, the various international experiences have proven the possible positive effects of integration in international supply chains that Iraq can benefit from in light of its great economic potential, especially the benefit from international investment in production facilities, training, technology and long-term trade relations. In light of Iraq's economic problems, especially within the framework of infrastructure, which represent major obstacles to economic growth, it is necessary to work on an economic approach based on development and modernization to include:

- 1- **Infrastructure Modernization:** Infrastructure in Iraq is outdated, as Albert Hirschman calls infrastructure social public capital. Hirschman has set a number of conditions for the activity to fall under the scope of infrastructure, as the services provided by the activity would facilitate the legalization of a large and diverse number of economic activities. These services are also provided by public or private institutions regulated by the state. Investments that provide such services are characterized by a high capital-output ratio, so the availability of infrastructure will lead to a decrease in the cost of projects in general. Thus, Iraq suffers from a lack of infrastructure due to the fact that infrastructure

requires huge investments to give direct results despite the fact that Iraq has spent billions of dollars to establish infrastructure, but many of them have been destroyed by the wars fought by Iraq and the subsequent economic sanctions (Zaini, 2009: 91). Therefore, it needs to develop not only physical infrastructures such as roads, ports and electricity networks, but also digital infrastructures in order to manage logistics services by investing in high-quality infrastructures that contribute to reducing transport costs and time, thus improving the overall performance of the supply chain.

- 2- **Adopting Advanced Technology:** By transferring and localizing technology and embracing digital technologies and blockchain , which greatly contributes to benefiting from international supply chains by employing its economic potential, this requires a number of steps that can enhance this, such as strengthening public-private partnerships that can accelerate innovative treatments and solutions, as well as the possibility of benefiting from international economic cooperation to contribute to the modernization of the supply chain infrastructure in Iraq.
- 3- **Improving the Regulatory Environment:** This contributes to improving the supply chain. A simplified regulatory environment not only facilitates business processes to be smoother, but can also attract foreign direct investments. Simplifying customs procedures and implementing specific regulations can significantly accelerate the movement of goods and thus contribute to reducing operational bottlenecks.
- 4- **Participation in International Trade Agreements:** Especially in the membership of the World Trade Organization. Iraq applied for accession as an observer member in February/2004. In the same year, the General Council of the Organization unanimously approved the

application. After Iraq obtained observer status, the "National Committee on Iraq's Accession to the World Trade Organization" was formed under the chairmanship of the Minister of Trade and the membership of representatives of Iraqi ministries and agencies related to Iraq's accession, in addition to representatives from the private sector by preparing the necessary accession requirements through the provision of the so-called foreign trade system for Iraq. The matter does not depend on the limits of legislation of the relevant laws, whether in the trade of goods or trade in services. It requires the need to understand the general framework of agreements and legal documents of the World Trade Organization in general. Here comes the role of the negotiator who can produce the best results that lead to maximizing benefits. Therefore, economic openness imposes a series of structural reforms and institutional adjustments, including the review of laws enacted by the state that can change the pattern of the existing economy.

Conclusions and Recommendations:

Conclusions:

The study concluded the following:

- 1- The liberalization of international trade and technological progress contributed to the fragmentation of the productive process through international supply chains and transport abroad. Strategies to reduce costs to a minimum resulted in the use of inputs originating in multiple countries in the production process. Hence, commodity trade increased dramatically, and supply chains became dominant. in some sectors.
- 2- The growth of international supply chains, due to several factors, contributed to the high rates of global economic

growth by linking developing countries with the economies of developed countries, through the international market and then benefiting from the advanced technology provided by the process of transport abroad.

3- Supply chains resulted in the creation of a large number of productive jobs in the expanding export sectors. However, it requires them to implement economic policies that contribute to enhancing their competitiveness by increasing productivity and reducing costs in a way that ensures the continuity of the supply chain flow.

4- Iraq's abundant supply of raw and primary materials in the energy and other sectors provides an opportunity to diversify global supply chains, thus the possibility of expanding its relationship with the international supply chain.

Recommendations:

- 1- The need for developing countries to implement economic policies that contribute to enhancing their competitiveness by increasing productivity and reducing costs, in order to ensure the continued flow of supply chains.
- 2- The need to avoid factors leading to bottlenecks in supply chains such as economic and political factors, even related to international health. Through the development of infrastructures in order to improve logistical performance, thus contributing to gains in productivity and value added.
- 3- The need for Iraq to work on restructuring and developing local industries, which contributes to improving the ability of Iraqi local companies to generate added value in the economy or create local jobs as a result. Because Iraq is one of the developing countries that have the ingredients in being a link in the supply chain, whether it is a link through which goods pass or works to localize industries that need the natural raw

materials available in Iraq, such as petrochemical industries or hydrocarbon industries.

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