

THE NEED TO ADOPT THE CIRCULAR ECONOMY AS A SUSTAINABLE AND INNOVATIVE ECONOMIC MODEL

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Summary

The impact of the Coronavirus pandemic on companies has highlighted the need to transform traditional supply chain models, their vulnerabilities, especially those that are highly dependent on raw materials or finished products in areas severely affected by the pandemic. The purpose of the article is to assess the negative impact of the COVID-19 pandemic, as well as the policies adopted to combat it, with a focus on the global supply chain and international trade. In this context, the pressure to which the elements of global supply chains and demand have been subjected has triggered a cross-border economic disaster due to their interconnection. Thus, this article proposes the adoption of the circular economy as a sustainable and innovative economic model, which can be used to decouple economic growth from resource consumption, waste management and create added value.

Keywords: pandemic impact, resilience, global supply chain, transition, circular economy.

JEL: O12, Q50, Q53.

UDC: 330.341

Introduction. The outbreak of the COVID -19 pandemic has led to the identification that various economic, public health, cybernetic, etc. systems, whose complexity and interdependence are high, become vulnerable due to their widespread use and record an irreversible and cascading failure. With the aim of achieving maximum efficiency, the design of these systems has neglected resistance to disruptions, the shocks of which may leave countries in a weak position. More specifically, the concentration of industrial capacity and economic activity in smaller and more efficient sectors, up to the international level, has produced extremely profitable but fragile supply chains and economic exchanges whose disruptions could have mature effects in unexpected areas.

The Covid-19 pandemic declared by the World Health Organization (WHO) on March 11, 2020, has spread rapidly in dozens of countries, and has led us to understand that we are part of a complex system of environmental, socio-political systems. and economic that we must constantly reconfigure.generated by the non-financial business sector.

Literature review. A whole series of authors Baker et al., 2020; Basilaia and Kvavadze, 2020; Devakumar et al., 2020; Kraemer et al., 2020; Thunstrom et al.,

2020; Toquero, 2020) showed that the effects of the pandemic ranged from a severe contraction in GDP in many countries to multidimensional environmental and social problems. In many respects, socio-economic activities have stopped because many countries have been quarantined; borders have been closed, car / air industry, production and tourism have been paralyzed.

The COVID-19 pandemic has distorted the world's operational assumptions, revealing the lack of resilience of the dominant economic model to respond to shocks and crises (Pinner et al., 2020). She highlighted the weakness of over-centralization of complex global supply and production chain networks and the fragility of global economies, while highlighting the weak links between industries (Fernandes, 2020; Guan et al., 2020; Sarkis et al., 2020). This has had a direct impact on employment and increased the risk of food insecurity for millions of people due to roadblocks and border restrictions.

The socio-economic impact of the COVID-19 pandemic will be felt for a long time, and how severe and prolonged the recession will be depends on the depth of its socio-economic implications. The IMF (2020) reported that in an unprecedented circumstance (except for the Great Depression), all economies, including developed, emerging and even developing, are likely to experience a recession. In the World Economic Outlook of April 2021, the IMF reversed its early forecast of global economic growth from 3.3% to -3%, an unusual downgrade of 6.3% over three months. This makes the pandemic a global economic shock that cannot be compared to any other since the Great Depression.

The cumulative loss of GDP in 2022 due to the COVID-19 pandemic could be around \$ 9 trillion, coupled with massive job losses and excessive income inequality, global poverty is likely to rise for the first time since 1998 (Mahler et al., 2020). It is estimated that approximately 49 million people could be pushed into extreme poverty due to the COVID-19 pandemic.

The United Nations Department of Economic and Social Affairs has concluded that the COVID-19 pandemic may also increase exclusion, inequality, discrimination and global unemployment in the medium and long term if not properly addressed using the most effective policy tools. The adoption of detailed universal social protection systems as a form of automatic stabilizers can play a long-term role in alleviating the prevalence of poverty and protecting workers (UN DESA, 2020).

The impact of the Covid-19 crisis on supply chains. The pandemic crisis has put pressure on the elements of global supply chains and demand, triggering a cross-border economic disaster due to the highly interconnected world. The concentration of industrial capacity and economic activity in smaller and more efficient sectors, up to the international level, has produced extremely profitable but fragile supply chains and economic exchanges whose disruptions could have major effects in unexpected areas. Countries with a 65% share of global production and exports (eg China, USA, Korea, Japan, France, Italy and the United Kingdom) were found to be the hardest hit by the pandemic. Also, as a result of the psychological impact of the pandemic due to uncertainties at the national level (for example, for limited equipment) and at

the individual level (for example, for everyday consumer products), it was bought in a panic.

In both cases, the fragility, profitability and unsustainability of the existing supply chain model were exposed. Difficult access to goods and services are also good reasons for reassessing economic models.

Based on an analysis by the US Institute of Supply Management, 75% of companies reported disruptions in their supply chain, triggering crises that stemmed from a lack of understanding and flexibility of several elements of their global supply chain, such as and the lack of diversification in strategies. These disruptions affect both the exporting countries due to the lack of production for their local companies and the importing countries due to the unavailability of the procurement of raw materials. A first consequence of this is a significant decrease in the production of that country, region or city, which becomes a restricted area to supply anything other than essential products such as food and medicine.

This is due to the side effect of increasing China's dominance and importance in the global supply chain in the economy. As a result of the COVID-19 pandemic, the World Trade Organization (WTO) has estimated a 32% drop in global trade. For example, global trade has declined sharply due to declining imports from China and the subsequent decline in global economic activity, which is also reflected in global trade, which has fallen to more than 4%, contracting only for the second time since the middle of the year 1980 (McKenzie, 2020). Along with the decrease in global economic activity, there was also a decrease in greenhouse effect emissions (Figure 1), which are the basis of climate change.

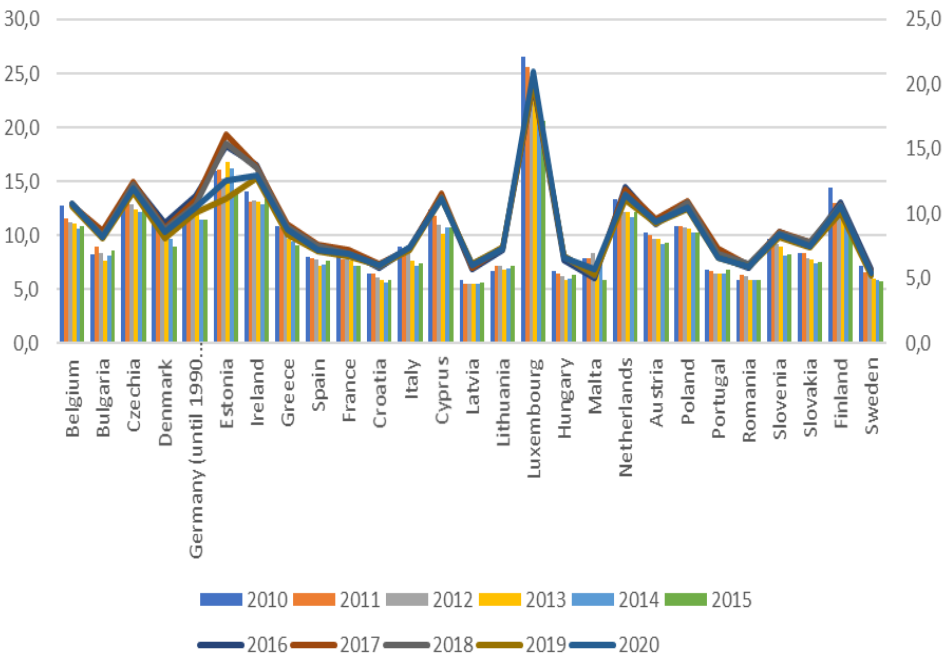


Figure no 1: Decrease in greenhouse effect emissions

Sources: IEA, 2021

Disruptions in their supply chain have triggered crises in their global supply chain, but there have also been declines in energy consumption, increases in air quality, a reduction in ambient noise and the consumption of raw materials. Thus, there have been significant decreases in energy consumption, for example in EU member states. (Figure 2). These reductions are beneficial for both the environment and human health.

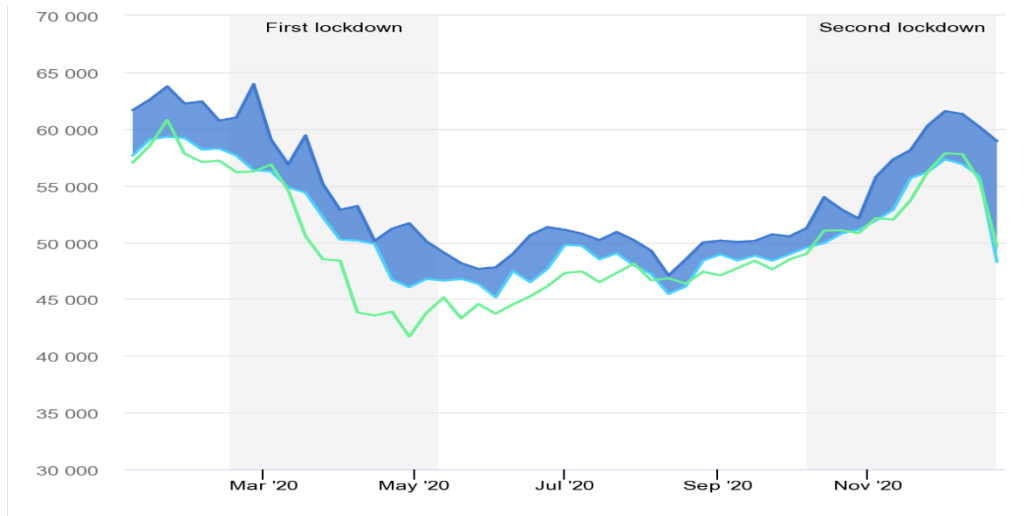


Figure no 2: Weekly electricity net generation in the European Union, 2015-2019 range compared with 2020

Sources: IEA, 2020

Ways to achieve decisive and fundamental structural changes in the current model of global economic growth. Rethinking the current model of global economic growth and moving from a system of linear economy and sustained by processes of profit generation and energy consumption, to a more sustainable model, recalibrated in the framework of the circular economy (EC), which plays multiple roles: decoupling economic growth from resource consumption, waste management and wealth creation was considered the best viable solution.

In Table no. 1 presents ways to move to a circular and viable economy, in the main sectors of activity.

Table no. 1: Ways to move to a circular and viable economy, in the main sectors of activity

Sector	Measure
Electricity	Expand and modernise grids Accelerate the growth of wind and solar PV Maintain the role of hydro and nuclear power Manage gas- and coal-fired power generation
Transport	New vehicles Expand high-speed rail networks Improve urban infrastructure
Buildings	Retrofit existing buildings and more efficient new constructions More efficient and connected household appliances Improve access to clean cooking
Industry	Improve energy efficiency and increase electrification Expand waste and material recycling
Fuels	Reduce methane emissions from oil and gas operations Reform fossil fuel subsidies Support and expand the use of biofuels
Strategic opportunities in technology innovation	Hydrogen technologies Batteries Small modular nuclear reactors Carbon capture, utilisation and storage

Sources: European Commission, 2019

Consequently, in order to achieve a climate-neutral, resource-efficient, resource-efficient and waste-reducing circular economy, it is necessary to establish principles of sustainability and other appropriate ways to address the following issues:

- improving the sustainability of products and the potential for reuse, updating and repair, controlling the presence of hazardous chemicals in products and increasing the efficiency of products in terms of energy consumption and resource use;
- increasing the content of recycled materials in products, while ensuring their performance and safety;
- ensuring that products can be remanufactured and recycled at a high quality level;
- reducing the carbon footprint and the environmental footprint;

- restricting disposable products and combating premature obsolescence;
- the introduction of a ban on the destruction of durable goods that have not been sold;
- stimulating "product-as-a-service" business models or other models in which manufacturers retain ownership of the product or are responsible for its operation throughout the entire product life cycle;
- mobilizing the potential for digitization of product information, including solutions such as passports, labels and digital watermarks;
- rewarding products based on their sustainability performance, including providing incentives for high levels of performance.

Priority will be given to electronic products, ICT products, textiles and intermediate products with a high environmental impact and high circularity potential, such as steel, cement and chemicals.

Conclusions. The Covid-19 pandemic crisis has shown how important it is to maintain resource reserves, given the interdependence of economies and social systems.

An integrative, circular economy helps to identify the key factors in the interactions and dynamics of the economic, social and environmental mix. Thus, the importance of the system's resistance to a variety of shocks and stresses allows the systems to regain lost functionality and adapt to new conditions.

Thus, there is a need for structural change, an acceleration of the transition to a circular economy, because the dependence on globalization and economic growth, ways of green investment and sustainable development are no longer considered viable solutions.

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