

Full length article

A critical analysis of the impacts of COVID-19 on the global economy and ecosystems and opportunities for circular economy strategies



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ABSTRACT

The World Health Organization declared COVID-19 a global pandemic on the 11th of March 2020, but the world is still reeling from its aftermath. Originating from China, cases quickly spread across the globe, prompting the implementation of stringent measures by world governments in efforts to isolate cases and limit the transmission rate of the virus. These measures have however shattered the core sustaining pillars of the modern world economies as global trade and cooperation succumbed to nationalist focus and competition for scarce supplies. Against this backdrop, this paper presents a critical review of the catalogue of negative and positive impacts of the pandemic and proffers perspectives on how it can be leveraged to steer towards a better, more resilient low-carbon economy. The paper diagnosed the danger of relying on pandemic-driven benefits to achieving sustainable development goals and emphasizes a need for a decisive, fundamental structural change to the dynamics of how we live. It argues for a rethink of the present global economic growth model, shaped by a linear economy system and sustained by profiteering and energy-gulping manufacturing processes, in favour of a more sustainable model recalibrated on circular economy (CE) framework. Building on evidence in support of CE as a vehicle for balancing the complex equation of accomplishing profit with minimal environmental harms, the paper outlines concrete sector-specific recommendations on CE-related solutions as a catalyst for the global economic growth and development in a resilient post-COVID-19 world.

1. Introduction

The world woke up to a perilous reality on the 11th of March, 2020 when the World Health Organization (WHO) declared novel coronavirus (COVID-19) a pandemic (Sohrabi et al., 2020; WHO, 2020a). Originating from Wuhan, China, cases rapidly spread to Japan, South Korea, Europe and the United States as it reached global proportions. Towards the formal pandemic declaration, substantive economic signals from different channels, weeks earlier, indicated the world was leaning towards an unprecedented watershed in our lifetime, if not in

human history (Gopinath, 2020). In series of revelatory reports (Daszak, 2012; Ford et al., 2009; Webster, 1997), experts across professional cadres had long predicted a worldwide pandemic would strain the elements of the global supply chains and demands, thereby igniting a cross-border economic disaster because of the highly interconnected world we now live in. By all accounts, the emerging havoc wrought by the pandemic exceeded the predictions in those commentaries. At the time of writing, the virus has killed over 800,000 people worldwide (JHU, 2020), disrupted means of livelihoods, cost trillions of dollars while global recession looms (Naidoo and Fisher, 2020). In efforts to

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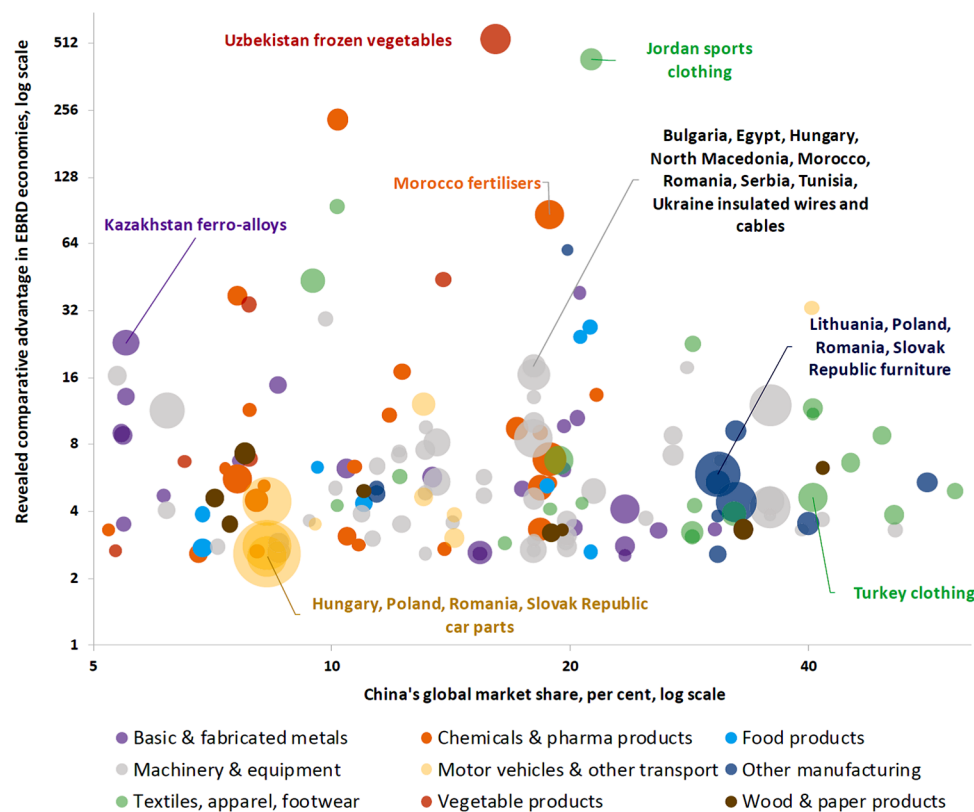


Fig. 2.. A summary of how some Eastern European / Mediterranean countries have advantages over China on certain exports – based on the Harmonized Commodity Description and Coding System from 2018, where export volume is represented by dot sizes in millions of USD; Source: Javorcik (2020).

impacts on the global economy, environment, and society is presented.

4.2.1. Negative macroeconomic impact of COVID-19

Undoubtedly, COVID-19 first and foremost, constitutes a ferocious pandemic and a human tragedy that swept across the globe, resulting in a massive health crisis (WHO, 2020b), disproportionate social order (UN DESA, 2020), and colossal economic loss (IMF, 2020). It has created a substantial negative impact on the global economy, for which governments, firms and individuals scramble for adjustments (Fernandes, 2020; Pinner et al., 2020; Sarkis et al., 2020; Sohrabi et al., 2020; Van Bavel et al., 2020). Indeed, the COVID-19 pandemic has distorted the world's operating assumptions, revealing the absolute lack of resilience of the dominant economic model to respond to unplanned shocks and crises (Pinner et al., 2020). It has exposed the weakness of over-centralization of the complex global supply and production chains networks and the fragility of global economies, whilst highlighting weak links across industries (Fernandes, 2020; Guan et al., 2020; Sarkis et al., 2020). This has had a direct impact on employment and heightened the risk of food insecurity for millions due to lockdown and border restrictions (Guerrieri et al., 2020). To some extent, some of the interventional measures introduced by governments across the world have resulted in the flattening of the COVID-19 curve (as shown in Fig. 3). This has helped in preventing healthcare systems from getting completely overwhelmed (JHU, 2020), although as at the time of writing this paper, new cases are still being reported in different parts of the globe. Fernandes (2020) and McKibbin and Fernando (2020) reported that the socio-economic impact of COVID-19 will be felt for many months to come.

Guan et al. (2020) submitted that how badly and prolonged the recession rattles the world depends on how well and quickly the depth of the socio-economic implications of the pandemic is understood. IMF (2020) reported that in an unprecedented circumstance (except during the Great Depression), all economies including

developed, emerging, and even developing will likely experience recession. In its April World Economic Outlook, IMF (2020) reversed its early global economic growth forecast from 3.3% to -3 %, an unusual downgrade of 6.3% within three months. This makes the pandemic a global economic shock like no other since the Great Depression and it has already surpassed the global financial crisis of 2009 as depicted in Fig. 4. Economies in the advanced countries are expected to contract by -6.1% while recession in emerging and developing economies is projected (with caution) to be less adverse compared to the developed nations with China and India expected to record positive growth by the end of 2020. The cumulative GDP loss over the next year from COVID-19 could be around \$9 trillion (IMF, 2020).

With massive job loss and excessive income inequality, global poverty is likely to increase for the first time since 1998 (Mahler et al., 2020). It is estimated that around 49 million people could be pushed into extreme poverty due to COVID-19 with Sub-Sahara Africa projected to be hit hardest. The United Nations' Department of Economic and Social Affairs concluded that 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 instruments (UN DESA, 2020). The adoption of detailed universal social protection systems as a form of automatic stabilizers, can play a long-lasting role in mitigating the prevalence of poverty and protecting workers (UN DESA, 2020).

4.2.2. Impact of COVID-19 on global supply chain and international trade

COVID-19 negatively affects the global economy by reshaping supply chains and sectoral activities. Supply chains naturally suffer from fragmentation and geographical dispersion. However, globalisation has rendered them more complex and interdependent, making them vulnerable to disruptions. Based on an analysis by the U.S. Institute for Supply Management, 75% of companies have reported disruptions in their supply chain (Fernandes, 2020), unleashing crisis