

**Global and Sustainable Value Chain: What is the Future for Value Chains: Globalization
or Deglobalization?**

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Abstract

While global value chains have evolved with time as their future couples the dynamics of globalization and deglobalization with implications for reshaping international trade, business, technology, and sustainability, the inequalities and biases within and across regions are under scrutiny. The balancing of globalization and deglobalization can ensure future interventions while evolving economic blocs that will shape the future of value chains towards equity and sustainability in the international business landscape. This paper discusses how global value chains have significantly influenced international trade, environmental impacts, economic development and the future of value chains based on the dynamics of globalization or deglobalization. It also explores how the rise of deglobalization suggests a potential restructuring of value chains driven by economic shifts and political factors.

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Introduction

Global value chains are a vital part of trade and productivity determining how the world operates. These chains include the phenomenon of adding value to goods “from production to consumption phases” involving the division of production processes with contributions from actors located in different parts of the planet. The process of “division” of production leads to organizations pursuing “specific tasks rather than the entire product” where the value of the enterprise and its product stem from the resources and expertise of the actors across the globe. This fosters specialization and efficiency in various specific domains of the production process. From the past few decades, the rapid growth of GVCs has been a significant driver of globalization and they may dramatically change the outlook of GVCs with the cultural shifts in the global economy in coming years. Globalization accrued in regular amounts over time, particularly in the mid-2000s, spanning how production, participation, and trade reached a turning point, although the changes were ambiguous and vague during the time of the Great Recession. The transformative concepts like strong sustainability and system thinking within archeological principles of global value chains while shifting towards deglobalization can necessitate a deeper integration of economic linkages and may offer a new perspective on the development of sustainable value chains.

Overview of Global Value Chains

The term “Value Chain” is an economic phenomenon characterized by “a highly complicated interdependence” among different regions on the basis of international trade and

cooperation. It encompasses the process of “adding value to products” concentrating “on their specific links in the production process” and the “final goods are integrated through international cooperation” (Antràs and Chor, 2022). However, other modes of production disperse worldwide as enterprises enable countries to maximize their competitive advantage through the “acquisition of primary materials”, marketing, transportation, “manufacturing”, and design which “connect” all particular “links on a global scale” (Johnson, 2018). Through this mode of production in the GVCs, the pattern of “international trade” and business is altered due to technological advancements in logistics, transportation, and communication which allow enterprises to allocate global production links and connections with greater flexibility (Ruhmkorf, 2018).

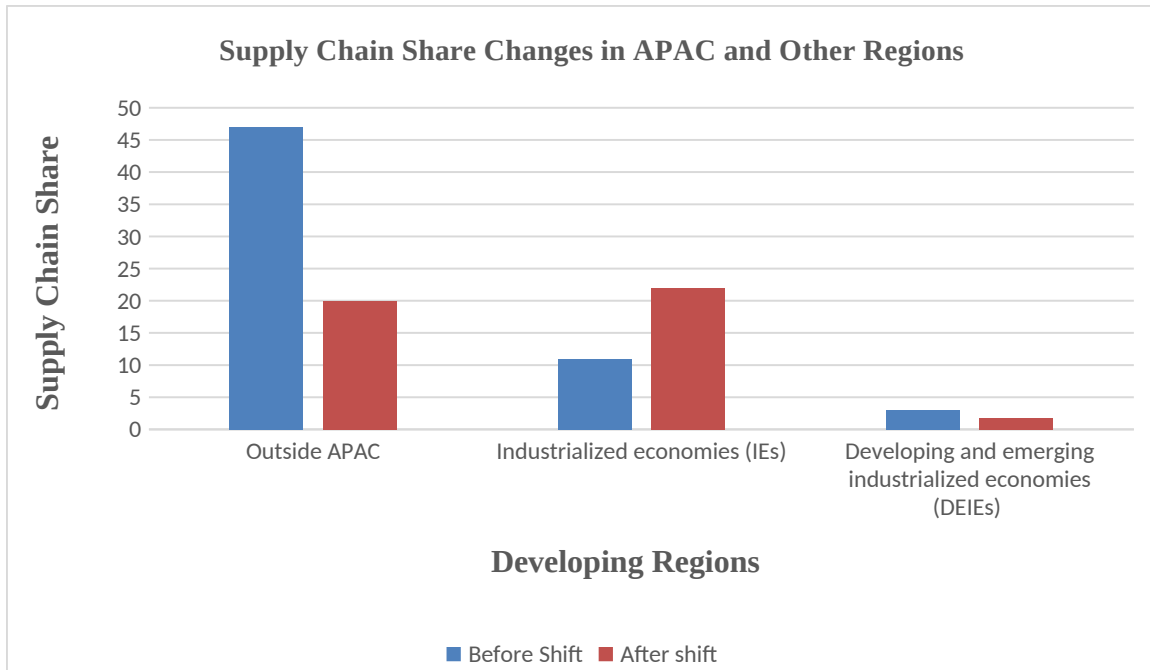
In addition, the rise of the production process through the liberalization of trade policies has also profoundly changed the developmental strategies and economic structure of various regions which have facilitated technology transfer and industrial upgrading. In the era of globalization, GVCs not only act as an “economic phenomenon” but also as a “theoretical framework” with certain links “concentrated in developed countries” as well as nations with lower value chain production processes. This theoretical framework was first proposed by Immanuel Wallerstein and Terence Hopkins in the 1970s illustrating the “transformation” of production and the “concept of commodity value chains” in the globalization era. The theory defined an “interconnected chain processes of labor production” involving numerous contributors and stages which surround the production of final consumable products (Hopkins and Wallerstein, 2016).

The method of value chain’s competitive advantage was further discussed in the 1980s by Porter who emphasized the interdependence of an enterprise’s “internal value creation” initiatives and the “external perspective” of the industry. Porter introduced this method of

disassembling the “value creation activities” within a firm, emphasizing the importance of the connection between the value chain of the enterprise and its suppliers (Porter, 2008). Deriving from Porter’s “Value Chain theory”, Korzeniewicz and Gereffi presented their “global commodity chain” theory which not only emphasizes the importance of “coordination” across enterprise’s “boundaries” but also focuses on the “new global brand” marketers and retailers (Gereffi and Korzeniewicz, 1993). This theory explicitly links the global buyers as key actors in the production and distribution processes within the fragmented organizations, connecting the notions of the “value-added chain” to the globalization of numerous sectors.

Geographical Clusters

A major shift has taken place in recent years in the geographical clusters following the movement of the world’s manufacturing and economic activities to China and other respective East Asian countries that increasingly rely on regional value chains. In the Asia-Pacific region, traditional supply chain actors are benefitted as more of the global manufacturing moves to China, boosting trade and productivity in the region. The Forbes “Global 2000” reports that the share of the supply chain in China dropped significantly from 47% to 20% outside the Asia-Pacific (APAC) region (SCHIFRIN", n.d.). However, in industrialized economies (IEs) as well as developing and emerging industrialized economies (DEIEs), the share of the supply chain of APAC doubled, ranging from 11% to 22% and 3% to 8% in APAC’s share of supplies for enterprises.



This development in the geographical clusters of the Asian-Pacific countries has positive implications as this eastward shift opens new economic opportunities and can balance economic as well as political power. However, this strategy can only be successful if China, the economic powerhouse of the APAC, is the center of the regional trade agreements. Geographic aggregation in other regionalized economies can subsequently lead to a broader geographical footprint along with the implications for the digital realm in order to achieve growth and sustainability. With the advancements in data and the digital world, the means of production, data protection, intellectual property, and data privacy can become more closely integrated into the global value chains, fostering interoperability to become the new competitive frontiers based on global standards for trade and sustainability (Gereffi, 2011).

Sustainable Value Chain Practices: Schneider Electric as an Example

One notable example of a global firm that follows sustainable practices in its value chain is “Schneider Electric” which is a well-known “European multinational energy and automation”

provider. The enterprise has been recognized as one of the most sustainable companies in the world and the leader in digital transformation which puts Schneider Electric in the lead of its competitors in terms of “fairer” and “sustainable” supply chains. The company has significantly reduced its carbon emissions in the supply chain “by more than 100,000 tons” and by the end of 2020, “80% of the company’s operations” will be powered by renewables, especially over the past three years (VENDRAMIN, n.d.). Schneider has set ambitious targets to reduce its carbon emissions, aiming to become carbon neutral by 2025 to become more energy efficient through its sustainability business. In the context of ongoing disruption in the supply chain mainly caused due to the Covid-19, Schneider Electric has its own sustainability impact initiatives to protect the planet from overheating by reducing the carbon emissions and footprints across its supply chain.

The STRIVE program (2021-23), initiated by Schneider Electric at the heart of its strategic planning in the current supply chain, plans to pursue carbon and energy efficiencies across all of its warehouse facilities in order to accomplish “70 net-zero carbon distribution centers by 2025” (“Schneider Electric Named as Best Global Sustainable Supply Chain Organization Spearheading Climate Action Throughout its Ecosystem | Schneider Electric USA,” n.d.). Additionally, Schneider Electric has received a climate score of “A” from the “Carbon Disclosure Project” to track performance and reduce emissions across its supply chain for 12 consecutive years. Schneider Electric also invests in local communities to promote social equity and to promote economic growth based on local efforts. As part of this commitment, the company will “partner with the top 1,000 suppliers” for its 2021-2025 sustainability goals to approach the value chain markets individually. This holistic approach of Schneider Electric is evident in its efforts to ensure greater access to energy through renewable and digital disruptors which makes the company a leading example in the industry.

The initiatives Schneider Electric collaborate with market stakeholders demonstrate the holistic approach to sustainability, ensuring that every domain of its value chain contributes to a more resilient future. Schneider Electric's factories such as those in Monterrey and Shanghai have been recognized as the "Lighthouses" by the "World Economic Forum" because the company aims to reduce its carbon footprint and help its customers do the same for their use of advanced technologies to enhance sustainability. The projects Schneider Electric have initiated implement digital technologies like autonomous robots and machine learning to reduce waste and energy efficiency while focusing on being efficient with resources by increasing the recycled materials for fostering a greener environment. The company collaborates with various stakeholders including Google and Intel to promote social equity and economic growth. This collaboration accelerates decarbonization efforts by investing in renewables and innovative solutions across the semiconductor value chain like "algae-based carbon capture" to promote sustainability and drive global decarbonization.

Future of Global and Sustainable Value Chains

The future of GVCs depends on the global value chain network where countries trade the know-how of lead suppliers and collaborate to produce services or goods more than just products. The global and sustainable value chains (GVCs) integrate this know-how across numerous offshore locations with services, goods, components, and raw materials crossing borders, regionally and internationally, multiple times. Therefore, the future of GVCs is undergoing significant shifts including "changes in the geography" of the "global demand", the "impact of new technologies on costs" across value chains in the world, and the "rise of domestic supply chains in emerging economies" in other parts of the globe (Gereffi et al., 2005). In the ever-emerging world of value chains, factors such as the recent Covid-19 pandemic, climate

change, and geopolitical tensions shape the shift and focus towards resilience over globalization. However, the future of GVCs is complex based on several trends and factors at play as some regions are deglobalizing while other sectors are still relying on global value chains, affirming globalization across various regions through the “reorganization” of GVCs in the changing world. Therefore, countries must rethink investment policies and innovation in the trade and productivity domains to enable long-term sustainability in the GVCs.

- **Future of Global Value Chains in the Post-Pandemic World**

The pandemic of Covid-19 has highlighted and accelerated various existing trends, reshaping the way how global value chains operate. It exposed vulnerabilities in global supply chains and prompted enterprises across the globe to rethink their strategies in businesses which means organizations or companies are looking for trends to diversify their supplier base while emphasizing diversification and resilience to mitigate risks. The advancements in digitalization have further changed the way how value can be created in the post-pandemic world and can open new windows of opportunity for businesses to establish the core of their supply chains. This also intensifies the relevance of investment in digital infrastructure critically favored by the skilled workforce to seek new production sites with improved and high-quality infrastructure. Moreover, the investment in human resources along with investment in digital skills is the key enabler of future participation in global value chains which can foster the possibility of positive “spillovers” from manufacturing to production in various other areas of the economy, surging the productivity in global value chains (Schilling-Vacaflor, 2021). The adoption of digital technologies is further accelerated in the post-pandemic realm across the globe which are being leveraged to enhance efficiency, transparency, and responsiveness in global value chains.

The discussions on local capacity and reshoring have been further prompted due to Covid-19, involving a complex interplay of localized strategies based on the regions of operations and globalization. In the post-pandemic world, there is a significant emphasis on shifting towards regionalization of supply chains, particularly in Asian-Pacific countries, so that companies can increasingly source materials and manufacture closer to their consumer markets. This shift towards regionalization would not only reduce dependency on distant suppliers but also increase regional trade agreements and economic activity in the APAC region which will minimize disruptions in GVCs. This transformation and development through investment in digital skills and infrastructure in both “small and medium-sized enterprises” can act as the focal point for public investment and the development of industrial policies. Moreover, the global megatrends after Covid-19 have created a new imperative of future directions for the value chains, revealing how the supply chain relationships in the business world and trade and investment patterns are connected. These megatrends in the post-pandemic world have heightened the focus of businesses on environmental responsibility and sustainability as organizations are under pressure to adopt sustainable practices which influence how enterprises design and manage their supply chains.

- **Future Challenges in the Sustainable Global Value Chains**

Although the post-pandemic shifts, technological advancements, and regionalization have provided enterprises with new competitive advantages in terms of GVCs, the “lack of corporate responsibility” and “due diligence” in global value chains have shown “little regard” for the social and environmental values other than “economic values” which obscure the sustainable value growth (McCall-Smith and Rühmkorf, 2019).

1. Climate Change

The planetary crisis of climate change resulting from biodiversity loss and pollution across the globe significantly endangers the new global value chain landscape and fosters the growing demand for sustainable production emphasizing new ways of doing business. This challenge forces a fundamental rethink of how global value chains are structured and managed in a certain way and how strategic planning and financial resources require critical implications for the future of the value chain. Many countries around the world are now shifting towards accountability as they introduce necessary “disclosure requirements” for enterprises to report on their carbon emissions and environmental impacts to adjust their regulations according to consumer sentiments and evolving global incentives. Unpredictable climate patterns affect raw material availability which is essential for global trade and business, creating volatility in the supply of the products and prices.

The environmental performance and impacts of the firms determine how they can move downstream, emphasizing the urgent need for a true accounting of firms’ performance along the entire global value chain. Companies, therefore, are required to invest in climate-resilient infrastructure in order to push for more adaptive and resilient practices. They should also invest in diversifying supply sources to enhance adaptive and predictive analytics while strategically planning for the supply and value chain while countering the substantial challenge of financial resources. This suggests that consumer visibility and the visibility of upstream products and processes can drive more sustainable business practices, minimizing the risk of obscuring the true environmental costs. The challenge of climate change is arguably the most pressing challenge for global value chains as it damages infrastructure, delays transportation, and halts production, drastically affecting the supply chain.

2. Supply Chain Transparency

Sustainable global value chains face several crucial challenges as they strive to balance environmental, social, and economic goals. Supply chain transparency is one of those future challenges across the entire supply chain which is resource-intensive and complex because firms need to track and verify the operational sustainability practices of their suppliers from raw material to finished product. This is a daunting challenge as many companies still rely on paper-based records especially when they deal with a vast network of dealers or suppliers spread across different regions, making it difficult to maintain real-time visibility for the enterprises to maintain supply chain transparency. The regionalization phenomenon of the Asian-Pacific region has specific implications for the other emerging economies that need to rethink competitive advantages in their regional value chains. Enterprises need to develop accountability for investment facilitation through a transparent system of industrial accounting to strengthen the investment in skill and infrastructure, in human resources and digital realms, and to develop a robust intellectual property regime.

To overcome this challenge, enterprises need to invest in modern technologies like blockchain to provide a robust record of each transaction within the supply chain. While the push for transparency and accountability is crucial for maintaining sustainability in the global value chains, implementing such advanced technologies requires significant coordination and investment to overcome barriers in the face of sustainability. It also requires overcoming regional, financial, cultural, and technological barriers to ensure smooth manufacturing and production processes in the supply chain and ethical regulatory environments to maintain real-time viable and sustainable solutions. Maintaining sustainability in the post-Covid world is a complex but essential step towards sustainable supply chains which can be incorporated through

the cultural shift towards openness and transparency which can be challenging in regions with less rigorous regulatory environments.

Conclusion

The analysis and research in this paper indicate that global value chains need to be revitalized and regional frameworks must be expanded aligning with the current technological advancements to reform corporate social responsibility and promote sustainable business transformations. The future of global value chains is likely to see more diversified, resilient, and regionally focused value chains, driven by supportive regional policies, digital transformation and advancements, and sustainability, particularly in the post-pandemic future. Robotics, automation, and advanced manufacturing as well as production techniques are likely to play a significant role in shaping a high-quality future landscape of GVCs. In the world of global trade, technological advancements are expected to continue without any disruptions to drive changes in global value chains. In response to the question investigated in the title “What is the future for global value chains: globalization or deglobalization?” it is evident that reorganization, regionalization, and revitalization of global value chains can overcome obstacles and foster sustainable growth that is truly socially and environmentally responsible. The “seamless integration” of regionalization and globalization can offer value chain participants a competitive advantage to develop an environment-friendly corporate image as well as foster sustainable value-added growth.

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