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The medium- and long-term implications of the Covid-19 pandemic for the restructuring of global value chains and labour in developing countries

Arpan Ganguly

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About the authors

Arpan Ganguly is in the Department of Economics at FLAME University, and a Senior Research Associate at SARChI ID, University of Johannesburg.

CCRED: Centre for Competition, Regulation and Economic Development
6 Sturdee Avenue
Rosebank, 2196
E-mail: infoccred@uj.ac.za | www.competition.org.za
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1. Introduction

The Covid-19 pandemic has engendered much debate about a potential slowdown in trade flows and an impending restructuring of production and trade relations in the world economy. Indeed, in the early months of the pandemic, the slowdown of trade was driven by a sharp drop in global demand alongside supply-side disruptions, which led to widespread unemployment and displacement of labour, falling consumption levels driven by a decline in personal incomes, increased risks of doing business, and declining profitability of investment. However, though global trade flows have begun to recover since the second half of 2020, this has not been accompanied by a subsequent recovery in the quantity and quality of jobs. Moreover, it has disrupted specific channels between buyer and supplier countries or firms within global value chains (GVCs) that existed in the pre-pandemic period. To better understand this fractured dynamic associated with the recovery, it is imperative to identify the underlying structural factors that have motivated a restructuring in trade and production relations in the last two decades.

Since the 1980s, the world economy has witnessed a phase of 'hyper-globalization'. The fragmentation of production into sub-components and sub-processes that are offshored geographically, combined with the international division of labour, has led to the growth of GVCs. This process of restructuring or the reorganization of global trade and production has been driven by quantitative changes in trade and financial flows alongside qualitative changes in corporate strategy. While quantitative flows have taken a hit since the global financial crisis of 2007-08, it is the evolution of corporate strategy that has historically provided the key impetus for restructuring. A shift in corporate strategy, from maximizing long-term firm-level growth towards maximizing short-term shareholder returns has ushered in the offshoring boom and the subsequent fragmentation of production in the last two decades.[1] It is contended here that, while the pandemic has induced quantitative changes in trade flows, the extent to which this will restructure GVCs further through a shift in corporate strategy has not been sufficiently discussed in recent studies.

The ongoing health crisis has raised concerns among policymakers and academics alike, that the global economy has entered a phase of 'deglobalization' in which firms, countries, and consumers are increasingly severing their links with the international economy and reshoring and reorienting economic activities towards their domestic economy.[2] Historically, the world economy experienced a phase of deglobalization during the first half of the twentieth century due to the two world wars and the Great Depression in the US economy. Given this historical context, it is pertinent to ask whether the economic shock induced by the pandemic is disrupting inter-firm networks and employment relations structurally to bring about a similar phase, or are fears of deglobalization premature and hyperbolic?

This policy brief locates itself within this debate on the potential medium- and long-term consequences of the pandemic on GVC restructuring. The focus is on large developing economies, where policymakers often consider deeper integration into GVCs as a faster pathway to achieve industrial development. In this context, we discuss the implications of restructuring on inter-firm sourcing and production relations, and on labour embedded in

[1] Milberg, W. and D. Winkler. 2013. *Outsourcing Economics: Global Value Chains in Capitalist Development*. New York, Cambridge University Press.
[2] Antràs, Pol. 2020. "De-Globalisation? Global Value Chains in the Post-Covid-19 Age". NBER Working Paper Series. Working Paper 28115.

GVCs, using data on trade and labour statistics for a select sample of developing countries. On this basis, we argue that the slowdown in trade flows in the world economy during the pandemic is temporary and short-term. However, the extent of GVC restructuring and its adverse impact on labour markets is far more structural and historically conditioned by changes in corporate strategy, financialization, digitalization and state policy, rather than just being a consequence of the pandemic. A shift in corporate strategy towards the digitalization of tasks during the pandemic has certainly acerbated existing structural inequalities, particularly in the labour markets of developing nations. Nonetheless, the growing redundancy of less-skilled tasks due to technology, alongside falling demand and the increasing levels of informality for less-skilled labour in GVCs, is a long-term and systemic trend.

In addition, this policy brief reflects on two issues flowing from the main argument. First, concerns that the pandemic is leading to deglobalization are misplaced and more of a myth, as this argument is premised on trade volume, which has in fact witnessed a notable recovery since the second half of 2020. Second, contrary to the linear notion of upgrading maintained in traditional GVC studies, we argue that the displacement and redundancy of jobs caused by the pandemic have added to the structural constraints on economic and social upgrading for firms and countries embedded at lower nodes of supply chains.

1.1. Setting the stage: factors driving the restructuring of GVCs

The restructuring of GVCs embodies a process wherein lead firms rethink their sourcing strategies. It involves instances of reshoring, shortening, or the relocation of GVCs across countries. However, to understand the future configuration of GVC restructuring in the aftermath of the pandemic, it is important to identify the underlying factors that drive such restructuring. This section distinguishes pandemic-related factors from those that have been structural and endemic to global capitalism over the last two decades. In doing so, it highlights the structural roots of GVC restructuring, beyond the immediate impact of the pandemic which is more short-term and transitory in nature.

Short-term pandemic-related factors

The pandemic has brought about a new set of short-term challenges that influence corporate strategy and GVC restructuring. These factors have a short-term impact as they do not produce long-term disruptions and their duration and magnitude are tied to the containment of the pandemic.

First, the nationally varying lockdown measures disrupted transport and infrastructure logistics. The first half of 2020 saw the cancellation of 1,675 sailings, which amounted to a decrease of 13–17% of all consignments for major shipping companies.[3] Higher transport and transaction costs act as a barrier to cross-border trade flows, adversely affecting the offshoring decisions of firms. Gains from trade based on low transport costs have been disrupted by the pandemic as the maintenance of stable and on-time logistics and delivery became difficult – both for lead firms to enforce and for subcontractors to implement.

[3] The Maritime Executive. 2020. "Global Container Ship Trade Suffers Capacity Drop". The Maritime Executive web site. Available at https://www.maritime-executive.com/article/global-container-ship-trade-suffers-capacity-drop.

Second, the health crisis negatively affected the supply side of production. Workplace closures and the lengthening of production times have made redundant a section of the workforce whose work cannot be readily digitalized. This includes non-tradable services (like salons, restaurants, and tourism), manufacturing and production-related occupations, or informal labour in labour-intensive value chains (like apparel, footwear, electronics, or auto-components). Moreover, disruptions in public transportation have curtailed the movement of labour. Unskilled labour whose work cannot be readily digitalized has been more adversely affected than skilled labour.

Finally, a global decrease in the demand for goods and non-tradable services was the most significant short-term disruption caused by the pandemic. It has negatively affected export volumes, sales revenue, profit margin of firms, and income for labour, as orders were cancelled in several product chains.[4] For example, garment and auto-component factories in Southeast and South Asia, which are heavily integrated into GVCs, were impacted disproportionately, as a decrease in personal incomes sharply reduced the demand for clothing and vehicles globally.

The bulk of the decrease in demand came from advanced nations, which experienced a uniform decline in GDP in the first two quarters of 2020[5]. Large emerging economies also witnessed a similar decline in GDP. For example, by the second quarter of 2020, GDP decreased by 9.2% in Brazil, 16.6% in South Africa, and 25.9% in India. China stood out among developing nations, with a recovery of 11.6% in the second quarter, which can be attributed to the implementation of lockdown measures sooner than in other countries.[6] However, a general upturn in global demand and trade volume can be seen in Q3 and Q4 of 2020, which not only points to the short-term impact of the pandemic on economic growth and trade flows, but also the resilience of GVCs to economic shocks.

1.2. Medium- and long-term factors: structural and systemic changes in global capitalism

In the long term, GVC restructuring is determined by structural factors. First, the evolution of corporate strategy has historically provided the key impetus for offshoring and restructuring. Corporate strategy in the 1980s transformed from mass production techniques to flexible specialization, which ushered in vertically integrated enterprises and the offshoring boom.[7] Subsequently, in the past two decades, corporate strategy has further evolved in terms of maximizing profits through financial channels rather than through long-term firm-level growth.[8] It is such systemic changes in corporate governance that structurally motivates firms to rethink production relations.

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[4] Fu, Xiaolan. 2020. "Digital Transformation of Global Value Chains and Sustainable Post-pandemic Recovery". *Transnational Corporations Journal*, Vol. 27, No. 2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3692326

[5] Quarterly GDP in Q1 and Q2 of 2020 (relative to the previous quarter) declined by 1.9% and 10.5% in OECD nations, by 2% and 10.4% in G7 nations, and by 3.7% and 11.7% in the Euro area (OECD. Quarterly Growth rates of Real GDP, change over previous quarter. https://data.oecd.org/gdp/quarterly-gdp.htm).

[6] Ibid.

[7] Piore, Michael J. & Charles F. Sabel. 1984. *The Second Industrial Divide.* New York: Basic books.

[8] Milberg, W. and D. Winkler. 2013. *Outsourcing Economics: Global Value Chains in Capitalist Development*. New York, Cambridge University Press.

Second, financialization has influenced the offshoring decisions of non-financial companies (or lead firms) in GVCs. Firms increasingly raise profits through financial channels (or capital gains) at the cost of a decrease in domestic investments or capital accumulation.[9] This process of disinvestment in commodity production is more pronounced in Anglo-Saxon countries relative to developing nations, due to rising offshoring costs and the dominance of capital markets as a source of funds in the former.[10] On the other hand, the fractured growth of financial markets in developing countries is characterized by a reliance on trade gains (due to the transitory nature of capital flows) and unequal exchanges between small and large firms (in terms of access to financial gains). The withering away of state-sponsored development banks or financial institutions, along with preferential access to external commercial borrowings for large corporate groups, has accelerated the process of 'subordinated financialization' in developing countries.[11] Thus, the scale of GVC restructuring will depend on the extent to which higher profits through financialization ends up slowing down investment or capital accumulation.

Third, GVC restructuring is also influenced by technology, digitalization, and automation. The information and communication technology (ICT) revolution in the 1980s provided the initial stimulus to offshoring, by expanding the 'extent' of the market and allowing for easier management of GVCs, thereby increasing profits. Subsequently, growing competitive pressures, labour costs and protectionist trade policies have increased operational costs within GVCs, spurring lead firms to adopt labour-saving technological change. Theoretically, replacing labour with capital or technology increases the capital per unit of labour in production, which decreases surplus value (or the source of capitalist profit), in turn inducing a secular (long-term) tendency for the rate of profit to decline.[12] Greater adoption of technology in GVCs will come at the cost of redundancy of specific skill sets. This includes growth in 'gig' economy jobs like Uber drivers, restaurant workers, or part-time care providers in advanced nations, and the growth of 'footloose' labour[13] and informal employment in emerging nations.

Finally, the role of state policy architecture in managing a country's engagement with globalization has a long-term and path-dependent impact on restructuring. Neoliberal policies have pushed emerging nations into prematurely adopting liberalization, privatization, and the deregulation of trade and financial markets, which has shaped national development in unpredictable ways. While such policies have facilitated the offshoring boom, they have also accentuated uneven development across geography. Moreover, the rise of economic nationalism has led to a contradictory policy dynamic, where protectionist measures externally coexist with privatization and liberalization measures domestically. Thus, growing policy autonomy in some developing countries, protectionist trade policies, and the leveraging of regional trade linkages have dented offshoring gains for lead firms in

[9] Stockhammer, E. 2004. "Financialization and the Slowdown of Accumulation". *Cambridge Journal of Economics*, 28 (5): 719-741.
[10] Karwowski, E. and E. Stockhammer. 2017. "Financialisation in Emerging Economies: A Systematic Overview and Comparison with Anglo-Saxon Economies". *Economic and Political Studies*, 5 (1): 60–86.
[11] Bonizzi, B., A. Kaltenbrunner and J. Powell. 2019. "Subordinate Financialization in Emerging Capitalist Economies". Greenwich Papers in Political Economy 23044. University of Greenwich, Greenwich Political Economy Research Centre.
[12] Marx, K. 1867. *Capital: A Critique of Political Economy. Vol. I*, trans. B. Fowkes (1976), London, UK: Penguin/Vintage.
[13] Breman, Jan. 1996. *Footloose Labour: Working in India's Informal Economy*. Cambridge University Press.

GVCs. Such a complex dynamic of state policy is certain to drive the future implications of restructuring.

While the pandemic has certainly provided an additional push for firms to rethink their sourcing strategy and production relations, this policy brief argues that since the 1980s, structural factors have been having a long-term and path-dependent impact on GVC restructuring.

2. National and sectoral variations in global value chains and the pandemic

Before discussing the medium- and long-term implications of GVC restructuring, it is imperative to understand how the short-term impact of the pandemic on national development varies by geographical region, economic sector, and the specific type of product or supply chain.

Three factors interact to determine the impact of the pandemic: the contact intensity of an industry; the degree of fragmentation of a supply chain (in terms of product or location); and the type of quarantine measures instituted (rigid or flexible).[14] Sectors that transition from high- to low-contact intensity (e-learning, e-health, or online entertainment) will open new avenues of work for skilled labour. Highly fragmented buyer-driven supply chains (like electronics or auto-components) will show a stronger impetus to relocate compared to less fragmented producer-driven chains. Finally, lead firms will seek to relocate production away from countries with rigid lockdown protocols.

This section presents evidence on trade volume and composition, which highlights the differing impact of the pandemic by country and economic activity, and the transitory and short-term nature of the slowdown in trade flows.

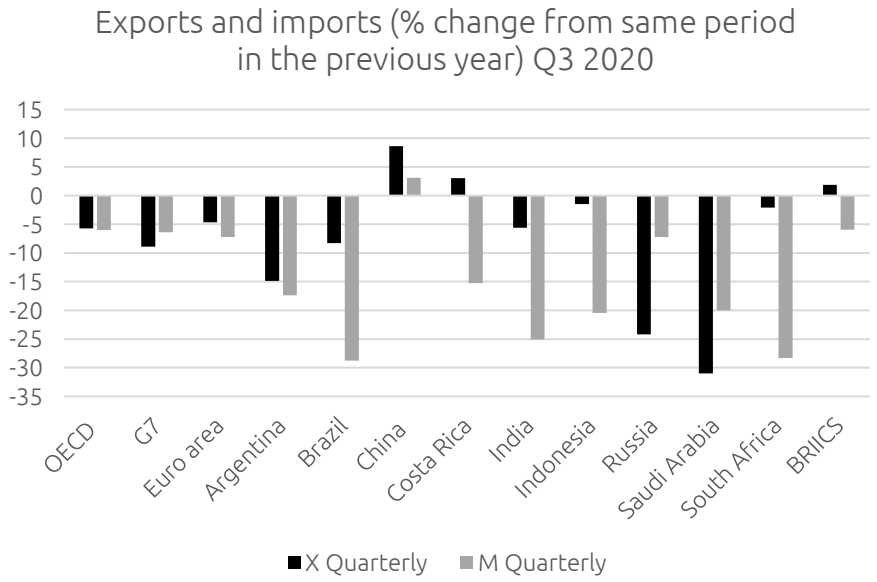
2.1. National variations

Figure 1 shows the impact of the pandemic on the volume of exports and imports for a select sample of advanced and developing nations.

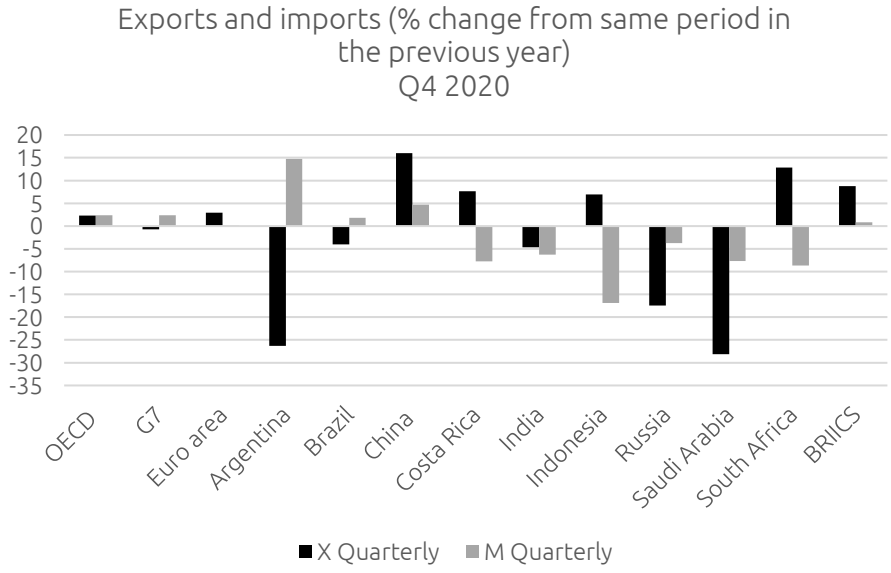
[14] Fu, Xiaolan. 2020. "Digital Transformation of Global Value Chains and Sustainable Post-pandemic Recovery". *Transnational Corporations Journal*, Vol. 27, No. 2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3692326

Figure 1: Percentage change in exports and imports

Panel (A)



Panel (B)



Source: International Merchandise Trade Statistics, OECD

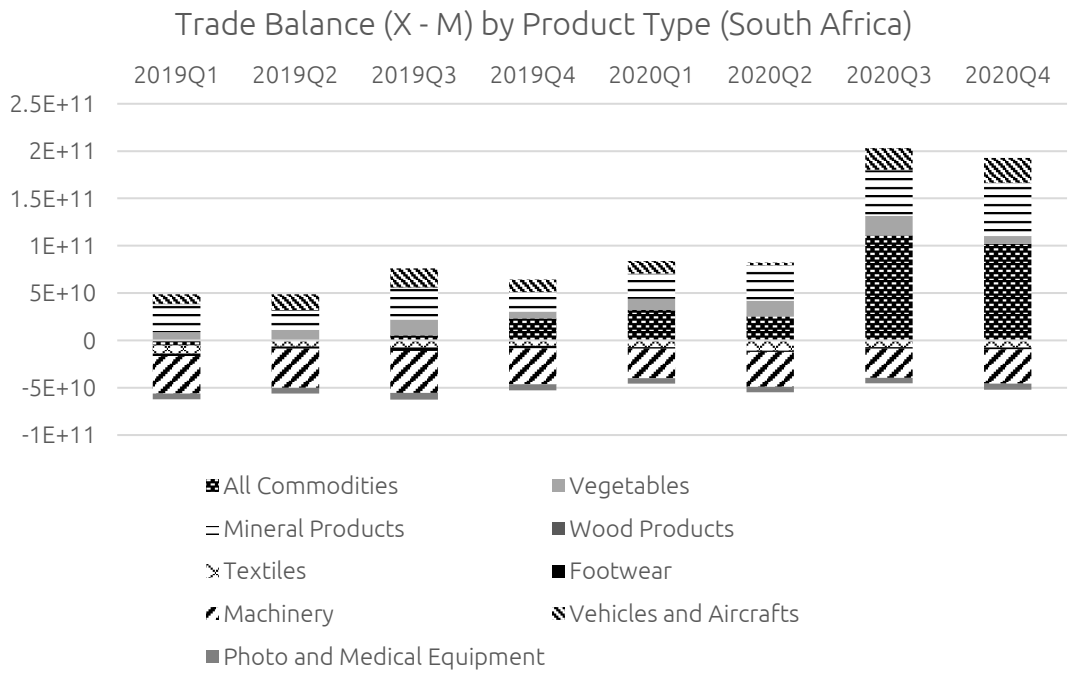
OECD countries, the G7 countries, and the Euro Area saw an overall decrease in exports and imports in Q3 of 2020, despite an increase in GDP. This suggests that economic growth was entirely driven by domestic demand and not by the external account. A small recovery was evident in G7 nations in Q4, with rising import dependence. In developing countries, exports and imports declined unanimously except for China in Q3. Imports increased again in the next quarter, except in China, Costa Rica, and South Africa. Recovery in BRIICS nations[15] in Q4 was entirely driven by China. As for South Africa, exports increased by 13% while imports decreased by 9%, suggesting falling import dependence in the second half of 2020.

[15] BRIICS includes Brazil, Russia, India, Indonesia, China, and South Africa.

2.2. Sectoral variations

GDP growth in advanced and developing countries has been driven by specific domestic sectors or economic activities. It has been well documented in the trade literature that the size of trade gains accruing to a country depends more on the composition of trade (what a country exports or imports) rather than the volume of trade (how much a country exports or imports).[16] Given the paucity of quarterly data on trade composition in the year 2020, we focus on the specific case of South Africa to highlight the sectoral variation in outcomes due to the pandemic.

Figure 2: Current account flows by select product categories for South Africa



Source: Quantec EasyData (2021), RSA Trade, HS 8-digit

Figure 2 shows the quarterly change in trade balance by specific product groups (or economic sectors) in South Africa before and after the pandemic. The trade balance for the 'all commodities' group matches the aggregate trend for exports and imports in Figure 1, with a worsening of the trade balance in Q2, followed by an increase in Q3 and a decrease again in Q4 of 2020. Between Q1 and Q4 of 2020, the trade balance worsened for vegetables (agricultural goods), remained unchanged for textiles, marginally declined for footwear, and marginally increased for medical and photographic equipment. Importantly, mineral products, machinery, vehicles, and aircraft industries (or producer-driven chains) saw a trade surplus during this period, which points to an increase in capital intensity. Thus, economies reliant on knowledge-intensive service sectors, will typically have a weaker impetus to restructure, given their dependence on skilled labour whose work can be easily transitioned to the online environment without disrupting production.

[16] Hausmann, R., Hwang, J. and Rodrik, D. 2007. "What you export matters". *Journal of Economic Growth*, Springer, Vol. 12(1), pages 1-25, March.

3. Medium- and long-term implications of GVC restructuring: two dimensions

In the aftermath of the pandemic, the medium- and long-term implications of GVC restructuring are expected to play out at two levels. First, restructuring entails a rethinking of inter-firm networks or sourcing strategies on the part of firms, which involves reshoring, shortening, and diversification of GVCs, or redundancies at specific nodes of the chain. Second, restructuring will structurally impact the labour market by inducing adjustments in the demand and supply of labour.

3.1. Restructuring of inter-firm production networks and the possibilities for economic upgrading

GVC theories propose that integrating into global supply chains or production networks allows developing countries an opportunity for economic upgrading, by repositioning themselves within value chains and by moving from low to relatively high value-added production.[17] Moreover, economic upgrading allows firms to upgrade their core competencies and production capabilities (like capital intensity, investment in innovation, and skill development), thereby moving away from hierarchical inter-firm networks to market, relational, and trust-based networks.[18] However, small and less competitive producers find it hard to achieve economic upgrading, as they struggle to meet commercial demand and quality standards imposed by buyers, often adopting cost-cutting labour market strategies to survive and remain competitive. The extent to which GVC restructuring will allow for economic upgrading in developing countries depends on how production relations change between lead firms, subcontracting firms, and suppliers lower down the chain.

Inter-firm production logistics and differing paths to restructuring

Change in production logistics entails readjustments in sourcing relations, underlying manufacturing networks, and the delivery or post-sales services.[19] For lead firms, restructuring decisions would depend on import dependency, risks of doing business in supplier nations, capital intensity in subcontracted stages, and regulatory requirements. These factors can give rise to distinct paths of restructuring: first, revised supply chains that see a limited change in manufacturing and sourcing networks due to cost and access constraints; second, migrated supply chains that see radical manufacturing shifts to new locations to counter geopolitical risks; and third, regionalized supply chains, wherein production and sourcing move closer to end markets, often supported by government policy. Automation and digitalization, independently affect the path of restructuring. If

[17] Economic upgrading can take different forms – product, process, functional, or chain upgrading. (See Barrientos, S., Gary Gereffi, and Arianna Rossi. 2010. Economic and Social Upgrading in Global Production Networks: Developing a Framework for Analysis. Capturing the Gains. Working Paper 2010/03).

[18] See Gereffi et al. (2005) for a detailed discussion on five types of inter-firm networks, or what is also referred to as governance structures in the GVC literature. (Gereffi, Gary, John Humphrey, and Timothy Sturgeon. 2005. The governance of global value chains. *Review of International Political Economy* 12 (1): 78-104).

[19] Yosie, F. Terry. 2020. How sustainability reshapes post-pandemic supply chains. Greenbiz. https://www.greenbiz.com/article/how-sustainability-reshapes-post-pandemic-supply-chains

automation makes certain offshored tasks redundant it will spur the regionalization of GVCs, while digitalization might lead to revised supply chains if technology is labour-augmenting.

Prospects for reshoring and the myth of deglobalization

The reshoring of GVCs back to the home country by lead firms has been cited as evidence for deglobalization in the world economy in many studies.[20] We contest such claims on the following grounds. First, reshoring is a complex and uncertain process that imposes large economic and social costs on the local economy. Reshoring increases fixed (and sunk) costs significantly as firms need to set up new factories or operations to do those tasks in the production process that was previously offshored. In this context, it is highly unlikely that firms will reshore multiple offshored components or the entire product chain back to the home country. Only those tasks that see a loss in competitiveness abroad, and for which reshoring ends up reducing the per-unit costs of production or increases economies of scale in the home country, due to automation, will be reshored.[21] Second, the lack of information on suppliers lower down the chain (leading to hidden subcontracting), the lack of desire or need to automate some parts of a chain, and the inability to get skilled or unskilled labour at low wages in the home country (increasing production costs) limit the process of reshoring. Finally, as the demand for labour-intensive goods increases in the aftermath of the pandemic, firms might relocate closer to end markets where unsophisticated labour know-how might render automation undesirable.

What is more likely, however, is the relocation of GVCs from one developing country to another, as this depends on the relative cost-competitiveness offered by different offshoring locations. For instance, a 2021 report by the World Economic Forum argues that low-cost countries like Bangladesh, Cambodia, Vietnam and Myanmar are rapidly displacing India (where labour costs have been rising) as the global garment manufacturing hub.[22] The pandemic has certainly provided an impetus for the relocation of GVCs in the short term, but it also tends to be historically conditioned by the evolution of corporate strategy over the long term.

In this sense, concerns over an impending phase of deglobalization did not merely arise after the pandemic started. Events over the last two decades, such as the slowdown of trade flow in the aftermath of the global financial crisis of 2007-08, trade and currency-related disputes between the US and China, and the UK's exit from the EU (Brexit), have fuelled the proposition of deglobalization.[23] However, the potential for deglobalization in the long term is unlikely and more of a myth as it confounds the actual dynamic at work, as many of the big-picture realities have not changed. China's continued dominance as the factory of the world remains intact, and the growth of intra-regional trade does not imply a retreat from global sourcing, but instead a growth in Chinese consumer demand supplied by domestic firms.[24] Moreover, digitalization has the potential to counteract the process of

[20] Antràs, Pol. 2020. "De-Globalisation? Global Value Chains in the Post-Covid-19 Age". NBER Working Paper Series. Working Paper 28115.
[21] Ibid.
[22] See World Economic Forum. 2021. *Shifting Global Value Chains: The India Opportunity*, for evidence on the relocation of apparel and footwear GVCs across developing countries.
[23] Ibid.
[24] Butollo, Florian. 2020. "Covid-19 and Global Value Chains: Trigger for a Sound Economic Order?". WZB Berlin Social Science Center. https://www.wzb.eu/en/research/coronavirus-and-its-impact/covid-19-and-global-value-chains-trigger-for-a-sound-economic-order

deglobalization by improving the coordination of highly fragmented supply chains, as seen in the unprecedented success of e-commerce, e-entertainment, and e-learning companies such as Amazon, Netflix, or Zoom, during the pandemic.

Diversification and the regionalization of GVCs

The slowdown in trade during the peak months of the pandemic is also seen to reinforce and deepen the trend of diversification and regionalization of GVCs in the long term. Such modes of GVC restructuring are influenced by structural factors like the growth in digitalization driven by the fourth industrial revolution (4IR) and trade protectionism driven by the growth in economic nationalism.[25]

Diversification of GVCs occurs both at the micro and macro levels. At the firm level, diversification will depend on whether technological change is labour- or capital-augmenting, in turn differently affecting dynamics in producer- versus buyer-driven chains. At the country level, diversification becomes intricately tied to the process of structural change. With a handful of exceptions in East Asia (of 'catch-up industrialization'), structural change since the 1980s has been a highly fractured process with evidence of 'stalled industrialization' in India and Brazil or 'premature deindustrialization' in Latin America and Sub-Saharan Africa.[26] Particularly for firms in developing countries, the ability to move labour and resources from low to high value-added exports or from traditional sectors to modern and digitalized ones will continue to be a challenge in the future. Firms that fail to upgrade their core competencies, innovation capabilities, and diversify their production process or product-mix, will not be able to undertake economic upgrading or benefit from it. Industrial policy can play an important role in sustainably guiding diversification.

Regionalization of GVCs, on the other hand, is more strongly influenced by the rise in economic nationalism and the regulatory regime of the state in both advanced and developing countries, rather than by technology. Economic nationalism seeks to achieve economic self-sufficiency rather than economic efficiency, which is typically operationalized through protectionist trade policies or preferential state support to specific industries or corporate groups. Though the growth of economic nationalism strongly challenges neoliberalism, it will not bring about the end of liberalization or a new phase of deglobalization.[27] Not only has the share of South-South trade exceeded the share of North-South trade in the last decade, but there has also been a growth in regional trade agreements. Regional trade offers an avenue for the state to expand the '*extent*' of the market and manage its engagement with globalization on strategic terms. Regionalization is seen to foster industrial development as it allows firms to diversify risks, enhance resilience, and reduce vulnerability to the changing global architecture, thereby warding off any threat of relocation or reshoring directly resulting from the pandemic.

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[25] Fu, Xiaolan. 2020. "Digital Transformation of Global Value Chains and Sustainable Post-pandemic Recovery". *Transnational Corporations Journal*, Vol. 27, No. 2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3692326

[26] Rodrik, Dani. 2015. "Premature Deindustrialization". NBER Working Paper Series. Working Paper 20935. February.

[27] Rodrik, Dani. 2020. "Will COVID 19 remake the world?" Project Syndicate, April 6.

3.2. Implications for labour and the possibilities of social upgrading

The reconfiguration of production relations and trade networks in the long term has significant implications for the labour market, both in terms of the quantity (volume) and quality of jobs within GVCs. In other words, restructuring will impact the nature and extent of social upgrading in GVCs. Social upgrading refers to "an improvement in the rights and entitlements of workers as social actors, and enhances the quality of their employment".[28] This includes access to better work as a consequence of economic upgrading (through the upgrading of skills), improved working conditions, protection, and rights.[29] Contrary to the assertions in traditional GVC studies, contemporary evidence suggests that economic and social upgrading do not go hand in hand. Firms that adopt cost-cutting strategies to remain viable are unable to transition from 'low-road' models of labour (characterized by the poor quality of jobs, informality, or the lack of social security benefits) to 'high-road' models (characterized by high-skilled, secure, and higher value-added jobs).[30] This leads to the further fragmentation of labour markets and growing wage inequality between high- and low-skilled workers, and worsens the distributional conflict between workers and capitalists.

The following discussion serves a dual purpose. It looks first at the impact of the pandemic on the demand and supply of labour in the short term, and second, at the implications of GVC restructuring for labour markets in the long term. Using labour statistics, the analysis shows that the pandemic has only had a short-term impact on the determinants of labour demand and supply during the second and third quarters of 2020. In most of the advanced and developing countries (with some exceptions), measures of labour demand and supply follow a path-dependent trajectory, which suggests that the long-term impact of GVC restructuring on labour is driven by structural factors.

The supply conditions of labour

The initial shock to labour supply caused by the pandemic in terms of direct loss of labour (due to sickness and death) has waned over time and will decrease further as the pandemic is fully contained.[31] Instead of looking at the direct loss of labour, we focus on the amount of labour that is exiting the labour market due to physical distancing, the extent to which workers can perform their tasks from home, and how likely they are to come to work due to closures in non-essential industries.

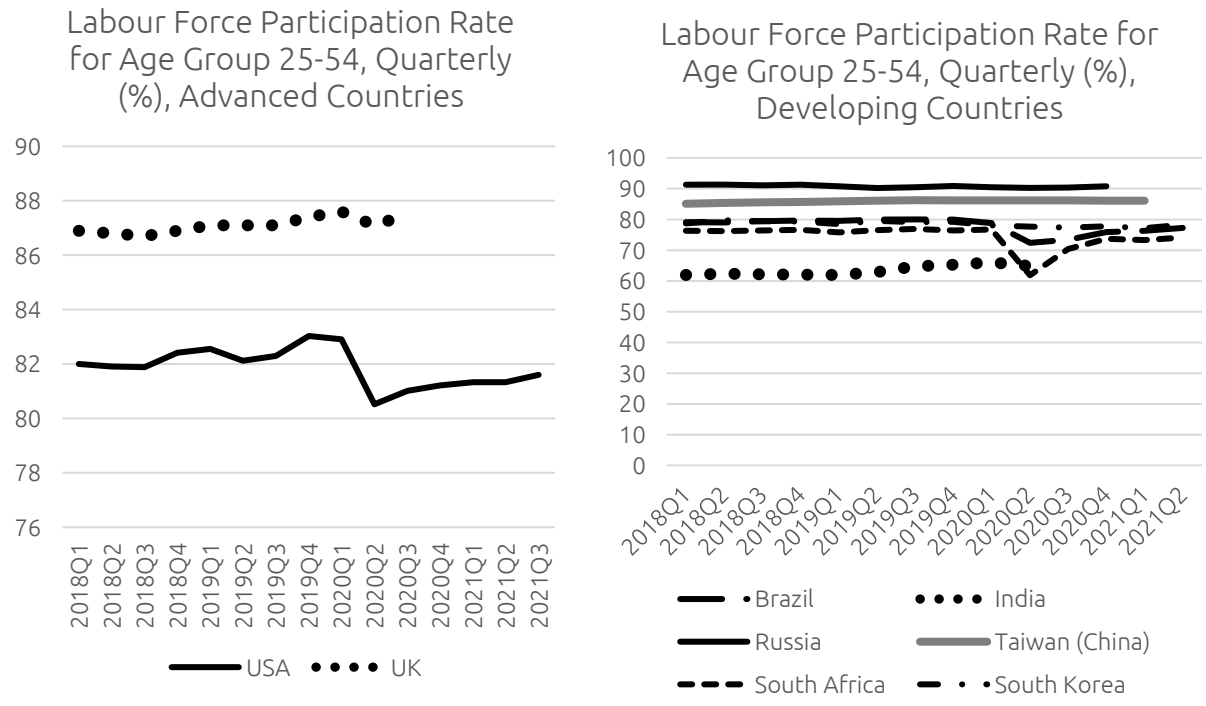
Several studies have highlighted the short-term impact of the pandemic on labour supply, especially in terms of workers' ability to work from home, which will vary by skill, occupation, and country. Surveys conducted in the peak months of the pandemic found a 20–70% variation by skill and occupation in the USA and UK[32], while in China, over 50% of the labour force was found to be either not working or working from the office.[33] Del Rio-Chanona et

[28] Barrientos, S., Gary Gereffi, and Arianna Rossi. 2010. "Economic and Social Upgrading in Global Production Networks: Developing a Framework for Analysis". Capturing the Gains. Working Paper 2010/03, p. 7.
[29] Ibid.
[30] Knorringa, Peter and Lee Pegler. 2006. "Globalisation, Firm Upgrading and Impacts on Labour". *Review of Economic and Social Geography*, 97:5, 470-79.
[31] McKibbin W. J., and Fernando R. 2020. "The Global Macroeconomic Impacts of Covid-19: Seven Scenarios". CAMA Working Paper No. 19/2020.
[32] Adams-Prassl A., Boneva T., Golin M., and Rauh C. 2020. "The Large and Unequal Impact of Covid-19 on Workers". *VoxEU.org*, 8 April, https://voxeu.org/article/large-and-unequal-impact-covid-19-workers
[33] Zhang S. X., Wang Y., Rauch A., and Wei F. 2020. "Health, Distress and Life Satisfaction of People in China One Month into the Covid-19 Outbreak". 10.1101/2020.03.13.20034496.

al. (2020) developed a Remote Labour Index (RLI) for the USA by occupation and industry to monitor working patterns during the pandemic.[34] They found that workers in activities such as education, training, analytics, or consulting were able to perform the majority of their work from home with very little disruption, while 43 occupations including production workers, transport workers, or packagers were unable to do any work from home (RLI rank of zero). Moreover, workers in the agriculture and allied sectors like farming, fishing, forestry, construction, and extraction were adversely affected, as the closure of non-essential activities due to lockdowns massively disrupted production. Unsurprisingly, people in higher-wage or highly skilled occupations are more able to work from home. Additionally, working remotely is only possible when technological infrastructure and resources are in place.

However, in the long term, the impact of GVC restructuring on labour supply is structurally determined. This is evident in the unemployment rate and the labour force participation rate (LFPR). LFPR and unemployment rates are commonly used to measure labour supply as it shows the proportion of the labour force that is working.

Figure 3: Labour force participation rate by age and country, quarterly (%)



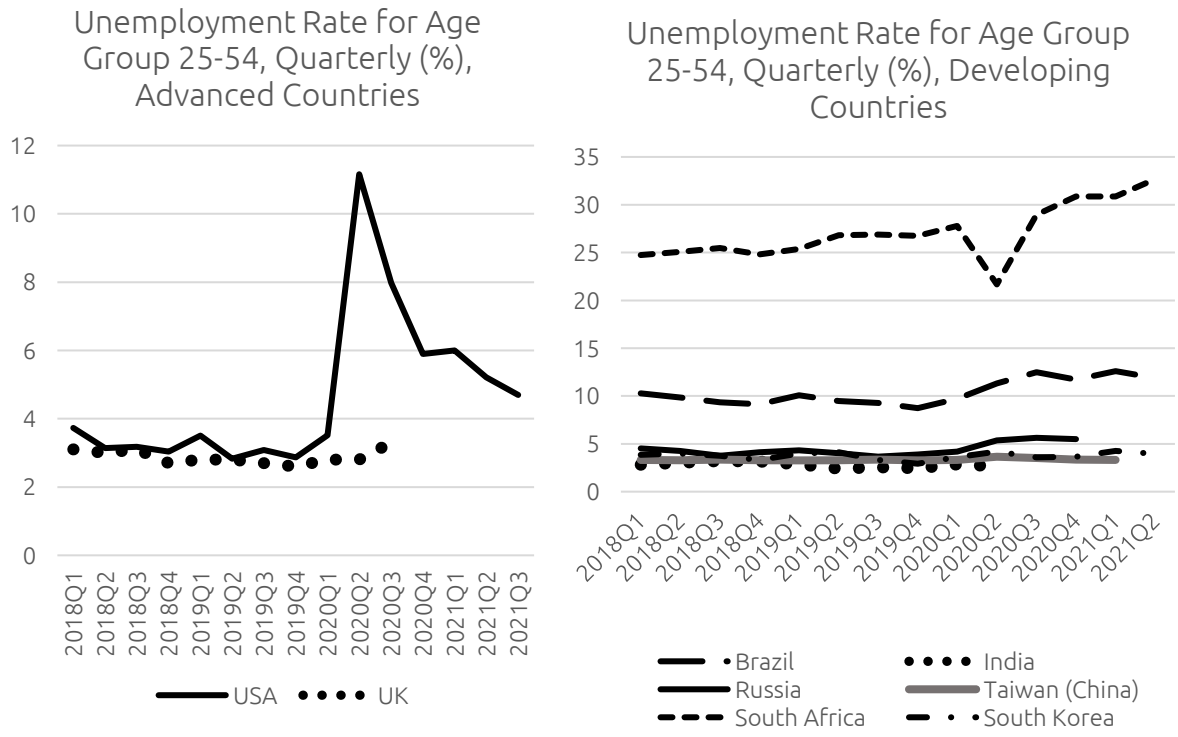
Source: Author's calculation using ILO Stats database.

As Figure 3 shows, among advanced countries, the health crisis had a large negative impact on the LFPR in the USA, decreasing from around 83% in Q1 to 80.5% in Q2 of 2020. Subsequently, the LFPR has shown a recovery, rising to 81.6% in Q3 of 2021, which is still below the pre-pandemic peak of 83% in Q4 of 2019. In contrast, the impact has been much smaller in the UK, with a decrease of a mere 0.5% between Q1 and Q2 of 2020. For developing countries, the decrease in the LFPR during the pandemic is only evident in South

[34] del Rio-Chanona R Maria, Penny Mealy, Anton Pichler, François Lafond, and J Doyne Farmer. 2020. "Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective". *Oxford Review of Economic Policy*. August 29. Published online.

Africa, and to a lesser extent, Brazil. The short-term impact was particularly severe in South Africa, decreasing from 77% in Q1 to 62% in Q2 of 2020. However, for all the other developing countries in the sample (and the UK), the pandemic had a negligible short-term impact on the LFPR, which has continued to follow the long-term, path-dependent trajectory since Q1 of 2018.

Figure 4: Unemployment rate by age and country, quarterly (%)



Source: Author's calculation using ILO Stats database

Moreover, unemployment rates for those in the 25–54-year age range (Figure 4) show the shock to labour supply during the pandemic and the significant variation in outcomes across advanced and developing countries. The pandemic also had a significant impact on unemployment rates in the US, increasing from 3.5% in Q1 to a staggering 11% in Q2 of 2020. Thereafter, the unemployment rate declined to 4.7% in Q3 of 2021, which is still much higher than the rate of 3% in the pre-pandemic period (Q1 of 2018).

Among developing countries, the pandemic increased unemployment rates in some countries but had little to no impact in others. In Brazil and Russia, the pandemic had a notable impact, setting unemployment rates on an upward trajectory. The unemployment rate in South Africa, however, shows a countercyclical tendency, decreasing from 28% to 22% between Q1 and Q2 of 2020, but rising thereafter to reach 33% in Q2 of 2021. Upward pressure on unemployment rates caused by the pandemic appears to worsen such a structurally rooted problem in these countries. In contrast, the short-term impact on unemployment has been negligible in India, followed by Taiwan, and South Korea (to a lesser extent).

To summarize, the impact of the pandemic on the labour force participation rate has been particularly short-term, while its impact on unemployment has been more prolonged and

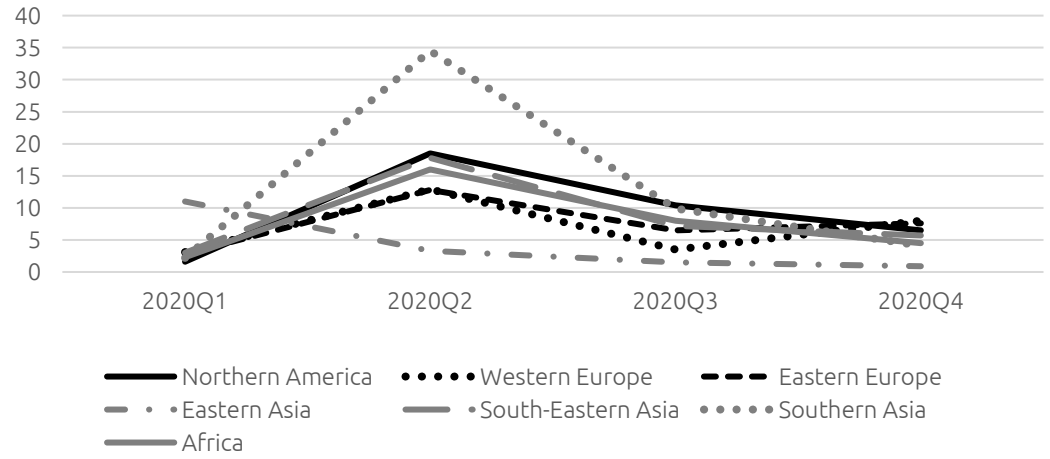
significant in some developing countries. Such cross-country differences can be attributed to the underlying structure of labour markets and the type of lockdown and quarantine measures that were imposed.

The demand conditions of labour

Since the start of the pandemic, high contact-intensive industries like hospitality, entertainment, and transport saw a sharp decline in consumer demand and the demand for labour, followed by smaller declines in manufacturing and business services sectors.[35] The size of the demand shock to labour depends on how the underlying components of demand (consumption, investment, and trade balance) respond in the short term. Falling consumption demand can come from a change in preferences or wealth shocks due to lower asset values.[36] Cash flow reductions and uncertainty make investment move in pro-cyclical ways thereby negatively affecting labour demand.[37] In terms of trade balance, growing excess capacity or import reliance will decrease the demand for labour. As a result, the largest wage and job losses will be borne by workers with wages in the bottom quarter of the wage distribution relative to those in the top quarter.[38]

The shock to labour demand can be captured by the working hours that were lost due to Covid-19 in the world economy by geographical regions (see Figure 5). A decrease in working hours can be due to changes in both the demand and supply of labour. Higher death rates due to the health crisis can decrease labour supply, thereby also decreasing the number of working hours. On the other hand, lower demand for goods can decrease production or output, thereby decreasing the demand for labour on the part of firms and the number of working hours.

Figure 5: Working hours lost due to Covid-19 in 2020



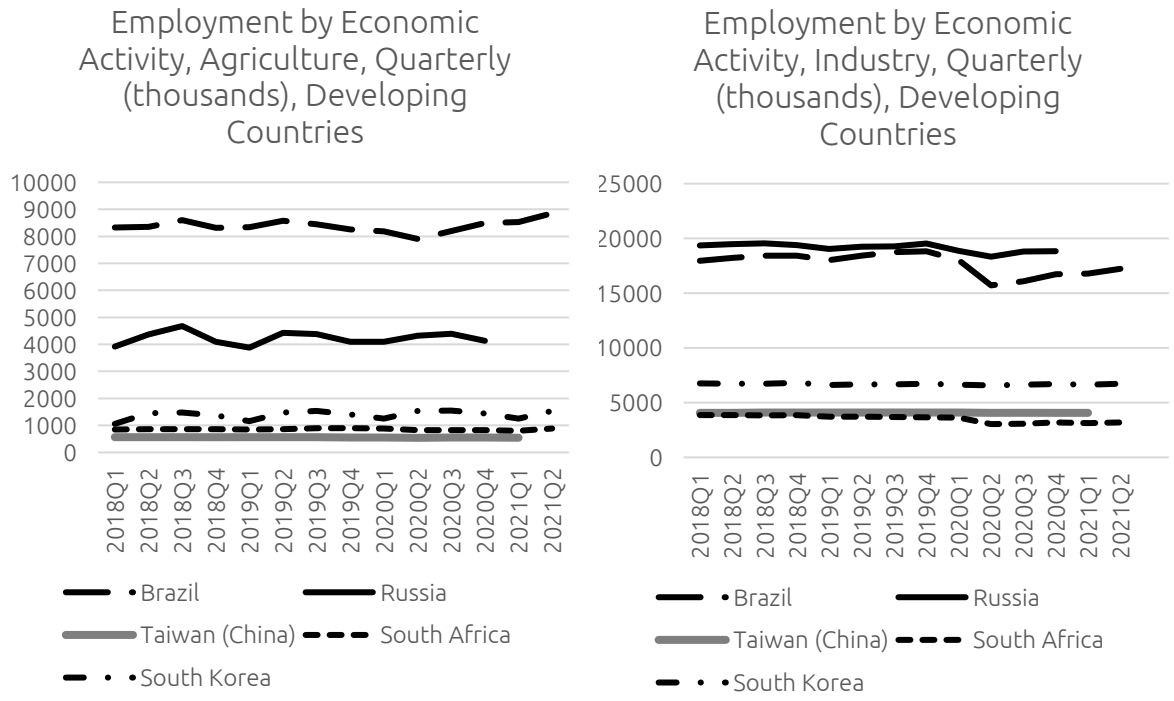
Source: Author's calculation using ILO stats database

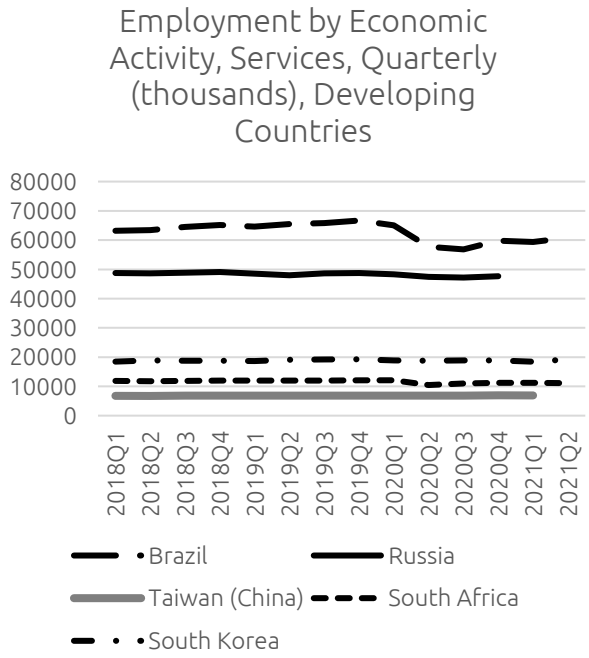
[35] Muellbauer J. 2020. "The Coronavirus Pandemic and US Consumption". *VoxEU.org*, 11 April. https://voxeu.org/article/coronavirus-pandemic-and-us-consumption.
OECD. 2020. *Evaluating the Initial Impact of Covid-19 Containment Measures on Economic Activity.* OECD Technical Report, March.
[36] Muellbauer J. 2020. "The Coronavirus Pandemic and US Consumption". *VoxEU.org*, 11
[37] Boone L. 2020. "Tackling the Fallout from Covid-19". Ch. 2 in Baldwin R. and Weder di Mauro B. (eds), *Economics in the Time of COVID-19*, London, CEPR, 37–44.
[38] del Rio-Chanona R Maria, Penny Mealy, Anton Pichler, François Lafond, and J Doyne Farmer. 2020. "Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective". *Oxford Review of Economic Policy*. August 29. Published online.

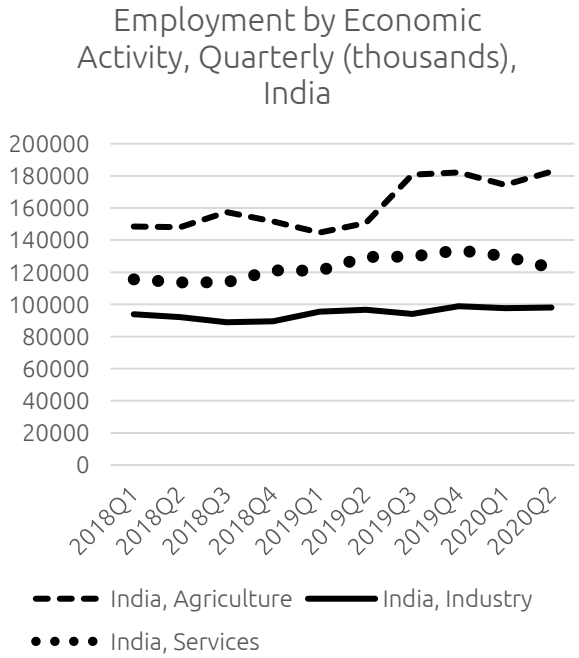
Figure 5 shows that all regions of the world saw a loss in working hours during the second quarter of 2020. In Western and Eastern Europe, while working hours lost reached their peak at the same level, the recovery was faster in Western Europe. The figure stood at 18.5% in Northern America during Q2 of 2020, which was the second-highest among all regions after Southern Asia. Southern Asia, on the other hand, was most severely hit, with the loss in working hours reaching its peak at 35% in Q2 of 2020. Since countries in this region are heavily integrated into buyer-driven supply chains, the fall in global demand significantly decreased production and labour demand in subcontracting firms. Eastern Asia witnessed a countercyclical trend, with a decrease in working hours lost from 11% to 3.3% between Q1 and Q2 of 2020 and continued to decrease thereafter. The increase in working hours can be explained by higher intra-regional trade and the containment of the pandemic by the second quarter of 2020 in East Asian countries.

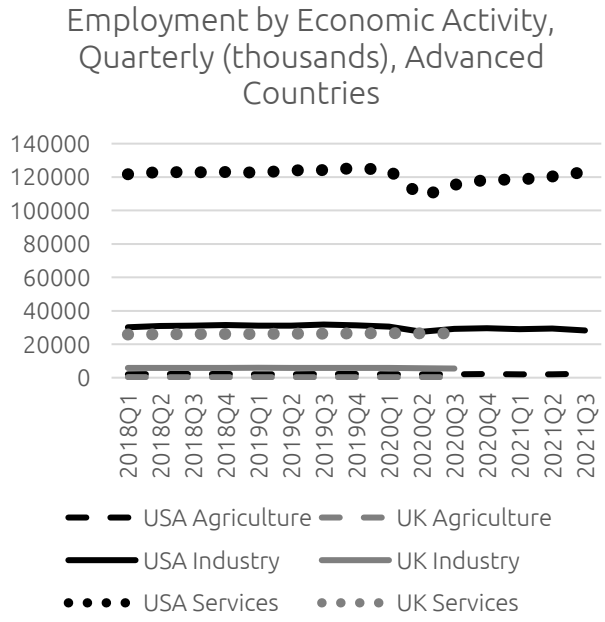
However, the long-term impact of GVC restructuring on labour demand can be illustrated by trends in sectoral employment, as higher sectoral employment is indicative of an increase in the demand for labour on the part of firms, and vice versa. There is no consistent evidence of a decrease in agricultural employment in the peak months of the pandemic in both advanced and developing countries (except for Brazil to a small extent). Employment increased in India and Russia in Q2 of 2020, which can be attributed to the continued global demand for food products throughout the pandemic. Similarly, there is no discernible negative effect on industrial employment, except for South Africa, where it decreased by nearly 17% between Q1 and Q2 of 2020, followed by Brazil (13%) and Russia (3%). Service sector employment, however, decreased significantly in the short term, not only in Brazil, India, and South Africa but also in the US. This is a serious concern for labour markets in developing countries like South Africa, where service sector jobs have not recovered to the pre pandemic levels, as it additionally burdens the ongoing process of deindustrialization.

Figure 6: Employment by broad economic sectors, quarterly (thousands)









Source: Author's calculation using ILO stats database

Thus, the evidence presented in this section supports the notion that the pandemic has had a short-term impact on labour demand and supply in advanced and developing countries (with some exceptions). Even in instances where the pandemic has had a prolonged impact beyond the immediate short term, it only ends up deepening the already existing structural constraints and inequalities in the labour market. In other words, the long-term impact of GVC restructuring (in terms of relocation or reshoring) on labour tends to follow a path-dependent trajectory.

4. GVC restructuring and the state: potential policy responses

This policy brief discusses the long-term implications of GVC restructuring for production and sourcing relations between firms, and on labour, in the aftermath of the Covid-19 pandemic. Though the pandemic has had a notable impact on firms and labour in the short term, there is no clear evidence that the ongoing health crisis will set the world economy on an entirely new trajectory or bring about a phase of deglobalization. Rather, it is likely to deepen and reinforce structural trends that existed in the pre-pandemic period.[39] In this sense, the long-term impact of GVC restructuring on inter-firm networks and labour will depend on structural factors such as corporate strategy, financialization, digitalization and the role of the state. Additionally, this policy brief highlights the constraints to economic and social upgrading for subcontracting firms and labour in developing countries, that may result from the restructuring of GVCs.

The pandemic aside, the role of an active and interventionist state with a long-term developmental vision becomes imperative in addressing the negative effects of GVC restructuring discussed in the brief. Broadly, it requires coordinated state policy that aligns external orientation with local developmental concerns or goals. Specifically, policy responses in developing nations need to be structured at multiple levels.

- Strengthening regional GVCs by identifying horizontal and vertical linkages with firms in neighbouring economies alongside promoting associations with favoured suppliers with existing links in the chain.[40]
- Persuading firms (through incentives or regulations) to internalize the costs of negative externalities from investment or innovation decisions which tends to generate significant socioeconomic costs on communities. Particularly, policy needs to address the cost to labour in sectors that are less digitalized where redundancies will remain high even after the pandemic is contained.
- Strengthening development institutions, re-employment programmes, and safety nets for the dispossessed sections of the labour force. This is important as the traditional approach of empowering corporate social responsibility has not translated into increased investment in skill development of labour or high-road models at the firm level.
- Identifying sectors or product chains where the negative impact is most acute and then instate tri-partite committees involving the firm, state, and labour groups to assess localized challenges and constraints accurately. This will allow for targeted sector-specific policy responses.

[39] Rodrik, Dani. 2020. "Will COVID 19 remake the world?" Project Syndicate, April 6.
[40] Fu, Xiaolan. 2020. "Digital Transformation of Global Value Chains and Sustainable Post-pandemic Recovery". *Transnational Corporations Journal*, Vol. 27, No. 2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3692326