Global Supply Chain Jenga – "the tower has fallen"

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COVID-19 as an impulse to reassess supply chain globalisation (part 1)

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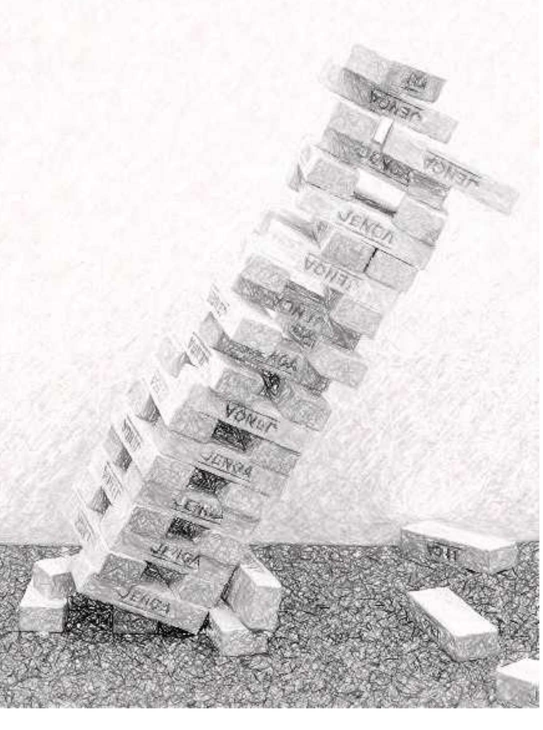

According to the World Economic Forum (WEF) "*Global Risks Report* 2020", infectious disease was ranked above average in terms of impact, but as the third most unlikely global risk to happen (WEF, 2019a). Earlier in 2019 the WEF in a White Paper stated that "*health systems worldwide are still underprepared for significant outbreaks of other emerging infectious diseases*" (WEF, 2019b). In the same year the Nuclear Threat Initiative (NTI) found that "*no country is fully prepared to handle an epidemic or pandemic*" (NTI, 2019). Despite a wide institutional acknowledgment of increased risk for society and business, recommendations and warnings on the need "*to understand current and emerging infectious disease threats and mapping their potential impact on a firm's supply chain*" and to mitigate them, have been widely ignored or tacitly accepted.

Fourteen month later, the expressed concerns have not only become reality, but already triggered unprecedented and still incalculable economic and social effects. COVID-19 revealed not only new, but also reminded us of already known limits of supply chain globalisation (cf. Goldin and Mariathasan, 2014), bringing many global supply chains to "fall".

As COVID-19 is spreading across the planet, the idealized concept of globalisation has been interrupted, not only by re-establishing physical borders, but also by cutting global supply chains via political, (often) unilateral, decisions, prioritising national interests over a global solidarity. Referring to *force majeure,* managerial decisions are following similar pathways. This cutting limits equal access to markets, fabricates an excessive vision of risk for business and society, and promotes hoarding and backlogs on the one hand as well as excessive inventory levels on the other hand.

Until today, global supply chains were already effectively hit twice: **first** by the effects of the China lockdown, which revealed the significant dependencies on Chinese finished and intermediate products and components; **second** by the elimination of demand on the markets successively impacted by COVID-19 and going into shutdown. The results demonstrate an artificially initiated divide in high demand increase (e.g. hoarding effects, health sector supplies) and substantial demand decrease (e.g. tourism, accessories, fashion).

The economic effects through the reduction of purchasing power and focus on essentials as well as a reorientation of consumerism (i.e. less quantity and diversity, a more local /national product and service geography) are starting to emerge. The current crisis also showcases the patterns and effects of two well-known concepts: a) the *bullwhip effect*, and b) the *pig cycle*. These phenomena are reflecting the companies‘ unpreparedness and impotence to react adequately to disruptions in global supply chains (see NTI, 2019). Calling almost immediately for government support as a reaction to current disruptions might underline such structural weaknesses and fragilities.

Previous infectious disease outbreaks, e.g. SARS in 2003, were mostly geographically limited to one region and occurred at times of less global connectivity. By way of example, a) China's participation in global exports during the SARS outbreak was 4% (2003); in 2017, that share reached 15% in terms of value (OEC, 2020), or b) took place in countries less integrated in global supply chains, like in the case of the Ebola epidemics (2013-2016, West Africa, 2017-2020 DR Kongo) (WHO, 2020).

COVID-19 first spread among the most globally connected regions, followed by a general cascading effect from more towards less globally integrated countries, which is somewhat similar to the patterns seen during the financial crisis in 2008. Latin America, Africa and the less advanced economies of Asia being the regions, which are increasingly getting into the focus on how to respond to the crisis. In these regions, virus containment efforts have immediate and even more direct socio-economic impacts than in other regions due to limited or fragmented social protection systems (The World Bank, 2020). Additionally, informality in such emerging economies is often still a significant and integral attribute of global supply chains in search for cost reduction, agility in volatile contexts (ILO, 2016), affecting these populations by job and income losses without sufficient social security nets in case of disruptions.

The complexity of global supply chains and its lack of transparency and collaboration, has led to little or no control over disruption causes and even less capability to trace the unfolding consequences and their underlying relationships, particularly in emerging economies (cf. Richter, 2011; Foroohar, 2014; Barbieri, 2016; Medhora, 2017). Shifting from globalization idealism to national protectionist realism leaves emerging economies chasing shadows of the fallen *Global Supply Chain Jenga* tower (cf. Bloom, 2020).

After substituting former robust global supply chains, with a system of increased complexity, fragility and in-transparency, the question emerges, if COVID-19 represents the removal of the final brick causing the hollowed out *Global Supply Chain Jenga* to implode (cf. for the use of Jenga example see Isenberg, 2015)? These recently appearing structural fragilities and dependencies should lead to the general reassessment of the pre-COVID global supply chain structures and the limitations of agility and resilience when applied at a global level.

Since the financial crisis evidence has shown a slowdown in the growth rates of the free movement of people, goods, capital and ideas, already hinting at a changing pattern and structure of globalisation (Goldin and Mariathasan, 2014; García, 2020). In a scenario of relaunched national silos and biosecurity motivated protectionism, what is the future of globalised supply chains and the role of emerging economies? And if the pattern of globalisation as we lived it, is less likely to continue, what are the feasible options for new or adapted supply chains? Putting the emergency brake on trade volumes and mobility (people and goods) should be interpreted as a symptom, where the cure of the causes will lie in redesigning supply chain structures and strategies.

Referring to the metaphor of the Jenga-tower, the future of supply chain globalisation will require decisions on how to (re)design them: bold or thin, small or high, hollowed out or robust, complex or simple, in greater or less proximity to customer markets, supply markets and to each other?

Such new design should also consider a shift from (only) cost-dominant to emphasizing other characteristics and attributes: security of supply, time, quality, robustness, transparency, dependency levels, ecological footprints, and social impact.

In the second part of this work we will discuss possible supply chain design scenarios to contribute proactively to the ramp-up of economic activities.

** We are looking forward to receiving your ideas and feedback on the future of our global supply chains.*

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