**Unpacking the possibilities of deglobalisation**

**Abstract**

The interpretation of the global economy has been framed as an inevitable journey towards ever greater integration – a story of hyper globalisation. This article discusses the nature of manufacturing in order to understand whether this interpretation holds and to investigate the possibility of deglobalisation at the level of physical goods trade in the coming decades and what that may imply for other non-physical elements of globalisation.

**JEL codes**: F02, F1, F6, L6

**1. Introduction**

The framing we use for our research and commentary on contemporary affairs affects the questions we ask and the assumptions we bring to providing analysis and advice to government. The current framing of globalisation, trapped between the rough economic nationalism of President Trump and the zeal of those who believe globalisation is almost a moral imperative, is obfuscating the changes that are happening in the global economy. Specifically, the heat and light generated in these arguments hides the fact that we are seeing some elements of globalisation go into reverse.

This article discusses the broad definition of globalisation in order to look in detail at the changes that are occurring in the production of physical products. Broadly using the emergence of global value chains (Gerrefi 2014) as the starting point for many decisions on the location and span of company activities, this article argues that we are seeing early signs of deglobalisation for the making and supplying of physical products across a number of industries.

The process of physical deglobalisation has the potential to change the expressed pattern of trade, that is the aggregate set of decisions between consumers and producers that come together to form the flow of goods in the global economy. As companies face different economic conditions, either in terms of costs or in terms of the feasible scales of activity, they will change the footprint of their activities. This primarily could lead to a deepening of the regionalisation of trade and in the longer term a possible fall in the relative volume of trade when compared to global economic activity.

If there is a process of physical deglobalisation this has implications for other elements of globalisation, specifically for the flow of capital in the global economy. Depending on how countries decide to treat the profits of subsidiaries of multinationals, as the footprint of production and consumption come closer together, this may create pools of capital exacerbating for multinationals issues of offshore profits and the inability to reshore these funds to their home territory. Rather than being isolated, physical deglobalisation has links through to other aspects of globalisation and brings into question the narrative of the inevitability of hyper-globalisation.

Finally, there is a risk for developing economies who have either reached a deindustrialisation point, through growth of their service sector or via premature deindustrialisation (Rodrik 2016), or who have not developed a significant manufacturing sector that they may not be able to be part of the global trade in manufactured goods. Such a pathway creates further possibilities of losses to the weaker economies but in the future from the retreat rather than the spread of globalisation.

Whether globalisation is a force for positive change and progress (Potrafke 2015), or a regressive exploitation of poorer nations and individuals (Harrison 2006) is a separate argument. There are many fronts on which supporters and detractors have debated, including the impacts on employment (Spence 2011), changes in the numbers of individuals living in extreme poverty (Bergh and Nilsson 2014), and whether there is an implied loss of sovereignty as the process of globalisation occurs (Rodrik 2011), to list a small number of the possible debates.

**2. Is globalisation inevitable?**

**2.1 What is globalisation?**

Before discussing whether globalisation is increasing or decreasing we need to stop to be clear on what we are including in the term and to ask whether this is a meaningful question. Many commentators have made the point that the definition of globalisation is itself important but is often missing in analysis of the trajectory or the impacts of globalisation. As Giddens (1996) noted “There are few terms that we use so frequently but which are in fact as poorly conceptualized as globalization. The word seems to have appeared everywhere from nowhere.” Globalisation as a term is a relative newcomer. While its origins may stretch back centuries, the term itself can be dated to the late 1950s, entering dictionaries at the end of the decade (Scholte 2008).

The most important issue to note at the outset is the multidimensional nature of globalisation. “Globalisation is a complex process which leads to an increasing connectedness and interrelatedness in the political, economic, social and cultural, technological, and environmental domain on many different scales” (Figge and Martens 2014). The complexity of globalisation has to be confronted especially if we see elements of the world economy integrating while at the same time other elements are separating.

Can we have a singular, composite measure of globalisation and track whether this is increasing or decreasing? One such effort is the Maastricht Globlization Index (MGI) which was first compiled in 2003 and has since been updated to give data for 2000, 2008 and 2012 for 117 countries (Figge and Martens 2014). The index has 11 indicators ranging from the number of embassies in a country, through the levels of trade and on to mobile phone subscriptions. The evolution of this composite version of globalisation is summarised by Figge and Martens (2014) as follows:

“On average, countries have been globalising between 2000 and 2012 ...The most significant driver has been the technological domain ... [t]his, however, should not be surprising, given that the indicators for this domain are internet users and cell phone subscriptions. Further, on average, globalisation has been slower between 2008 and 2012 than in the period before, with an absolute decrease in the economic domain.”

This highlights the key problem with this discussion – that the composite indicator subsumes elements of the world which may be disentangling and therefore misleads us when discussing whether globalisation is ever increasing or not.

**2.2 Inevitability of globalisation?**

This discussion also appears to have an in-built bias. Much of the analysis and discussion of globalisation is carried out within a narrative of inevitability. From the 1990s onwards global leaders have characterised globalisation as an unstoppable force, something that had to be accommodated and could not be stopped. Kofi Annan, then Secretary General of the United Nations wrote in 1999 “Globalisation is an irreversible process, not an option” (UN 1999). Tony Blair, the then Prime Minister of the United Kingdom stated that “the global economy is a fact ...” and that the question was how to manage “... what I believe is an irreversible and irresistible trend” (Blair 1998).

More recently the pro-globalisation framing has come under attack from the economic nationalism of President Trump who used his inaugural address to assert a new course for the United States. “We must protect our borders from the ravages of other countries making our products, stealing our companies and destroying our jobs. Protection will lead to great prosperity and strength” (White House 2017). In the same week at the annual World Economic Forum in Davos, the President of the People’s Republic of China Xi Jinping was planting the Chinese flag at the front of the tide of globalisation. “Whether you like it or not, the global economy is the big ocean that you cannot escape from” (WEF 2017).

Others have made this point before. As Hay (2000) commented at the turn of the century many early studies of globalisation “… can be characterised … by [their] appeal to a series of often overblown, distorted, uncritical and seldom defended assertions about the inexorable and immutable globalization of capital, culture and communications.” However, the continued reinforcement of the rhetoric from most world leaders biases us away from critical readings of how companies operate and the choices that they are likely to make. The inevitability argument has morphed into an argument which does not allow for reversals in global flows.

We should not be surprised that different elements of globalisation can rise and fall, move forward or retreat. As Crafts and Venables (2003) have shown dominance or leadership in industrial production has moved around the world over the past centuries. In 1750 the country with the largest share of industrial production was China, with North America having yet to emerge as an industrial power. Contrast this to much of the twentieth century, with the United States as the dominant producer and relative decline for the United Kingdom and for Chinese industrial production. The latest figures on manufacturing value added (MVA) from UNIDO put China again at the top of the league table with over 24% of world MVA, the United States second (16%) and the once workshop of the world the United Kingdom tied with Brazil at ninth (1.84%) (UNIDO 2017). Any reading of the history of production and trade shows that while there has been a long and sustained period of growth in both, circumstances, technologies and political decisions can all put these indicators into reverse.

There is no inevitability to globalisation. “Politicians, journalists, and market analysts have a tendency to extrapolate the immediate past into the indefinite future, and such thinking suggests that the world is irreversibly headed towards ever greater levels of economic integration. The historical record suggests the contrary” (O'Rourke and Williamson 1999). Taking the concept and the possibility of deglobalisation seriously is a necessary step so that our theories, analysis and advice on the future of the global economy are not overloaded with optimism bias for the continuing integration of countries and regions.

**2.3 The physical aspects of globalisation**

While we broadly speak of globalisation in terms of economic integration we can also think of the physical and non-physical aspects of such integration. The movement of physical goods between countries as trade is a clear example of the former, as are the movements of people in successive waves of immigration (Czaika and de Hass 2015). The non-physical elements of globalisation include increasing volume of communications (Palm 2002), cross-border finance (Kose, Prasad et al. 2009) and the sharing and co-mingling of cultures (Conversi 2010).

In the physical domain, there has been a significant shift for companies as they have structured complex global value chains (GVCs). A GVC can be defined as the “... full range of activities that firms and workers do to bring a product from its conception to its end use and beyond ...” (Gerrefi and Fernandez-Stark 2016). As companies have moved towards GVCs the structure of trade has changed, which now means “... more than half of world manufactured imports are intermediate goods (primary goods, parts and components, and semi-finished products), and more than 70 percent of world services imports are intermediate services” (De Backer and Miroudot 2014) which has led to the term ‘made in the world’ given the number of countries involved in producing most products. These changes in the physical space have led the changes in the non-physical world, as the rise in physical trade as a percentage of global GDP has been rising since the 1970s (see section 4) while the rise of foreign direct investment (FDI) does not kick in until the mid to late 1990s (UNCTAD 2010).

These elements, in the physical and non-physical domains, have complex interlinkages. “These flows seem to reinforce each other. For instance, increasing trade, investment, communication, and international aid links appear to reinforce migration links and/or vice versa, at least in the short run” (Czaika and de Hass 2015). If there are pressures which are leading to regionalisation and localisation of production activities, these are then likely to have impacts on the other non-physical elements of globalisation.

**3. Taking the perspective of the firm**

The decisions that lead to the pattern of trade we see in our macro level data are those taken by companies on how they structure their global operations. Whether a company decides to single source its products for all of the markets it services, or to be in a set of regional hubs, or in the most localised version to have capacity to make in each market it serves, each of these decisions impacts on the pattern of trade. The summation of these decisions, especially in terms of intermediate trade, is the foundation of the trade flows we measure and wish to understand.

Such decisions will be moderated by the landscape of political decisions on tariffs and support for exports from various governments, but the first order decisions will include an analysis of the economics of production, strategic considerations on access to materials and skills, as well as possibly a consideration of market access. These manufacturing location decisions have been addressed from a number of perspectives including internationalisation theory, the resource based view of the firm, and transaction cost economics (see the essays linked to Ellram’s editorial (2013) on how different perspectives have or have not been used by academics to analyse and understand the changing patterns of manufacturing).

The framing of the deindustrialisation of the West, with companies either moving or outsourcing their production activities to the Far East, is usually characterised as a search for cost reduction. However that story may not hold any more. “Companies initially moved to certain regions because the draw of low-cost labor overwhelmed most other considerations. However, understanding the cost differential and aligning cost savings with the potential of disruption may paint a different picture” (Ellram, Tate et al. 2013). This section takes elements of the decision that companies face as they structure their production and supply network and highlights those changes that imply a change in the location of activities or a fall in the overall volume of trade.

**3.1 New approaches to making**

A key element of where making will occur depends on the technical processes used in manufacturing. Production systems have moved over centuries from the cottage system, to factory based production and now on to global value chains (see for example (Hounsell 1984) and (Mokyr 2000)). Each progression in production technologies and organisational innovations leads to very different patterns of production and hence trade flows.

As different processes are invented or as other processes are refined and evolved companies can achieve different levels of minimum economic scale and specificity. An ultra-flexible production line, which can produce a very wide set of differentiated products with little to no downtime or adaptation, is still in the realms of science fiction. However, techniques such as additive manufacturing (AM), or to use the popular term 3D printing, have evolved over the past 40 years and are challenging traditional approaches to the organisation of manufacturing. The advent of AM has many potential benefits, which include the absence of tooling requirements which reduces production time and expense, the ability to have small production batches, quick design changes, customised products become economically viable, reduced waste, and the simplification of supply chains (Holmstrom 2010). These benefits have been predicted but not realised in many industries to date, but this appears to be changing (Deradjat and Minshall 2017).

New production technologies are key to a new geography of making, and hence significant changes in trade patterns, because of these changes but also because AM and other techniques reduce the number of components that need to be made. The growth in global value chains has led to a significant rise in trade in intermediate goods (that is unfinished goods that are used as inputs to produce a finished product). In discussing their surveillance work on competitiveness the IMF commented in 2013 that they had a problem as previously calculations of the real exchange rate assumed all trade was of finished goods – “Given that trade in intermediate goods is now more than two thirds of total trade, this may be problematic” (IMF 2013). As the number of components, assemblies or unfinished goods falls, there will be a knock-on effect on the volume of trade within global value chains implying a relative fall in trade over time.

**3.2 Everything automated**

There has been a vibrant and at times hysterical discussion on the automation of work in recent months. “Researchers’ estimates on the scale of threatened jobs over the next decade or two range from 9 to 47 percent. For context, every 3 months about 6 percent of jobs in the economy are destroyed by shrinking or closing businesses, while a slightly larger percentage of jobs are added ...” (EOP 2016). As one example, the US Department of Commerce estimates that “15.5 million U.S. workers were employed in occupations that could be affected (to varying degrees) by the introduction of automated vehicles. This represents about one in nine workers ...” (Beede, Powers et al. 2017).

In manufacturing and the structure of the location of supply chains the question is not whether those who have their job affected by automation will find work elsewhere. The question for location decisions is how much labour content will be needed in production. If automation is significantly reducing the need for human labour, models of location based on wage differentials have less and less applicability. The automotive sector has led the way in terms of automation with according to some estimates every second industrial robot sold working in the automotive sector and 80% of the work done in making a car carried out by machines (Knight 2012). As an example of what can be expected when a factory in China moves from human-centric manufacturing towards high levels of automation, the first robot led plant in Dongguan built by Guangdong Everwin Precision Technology was reported to plan to use 1,000 robots to replace 90% of the labour required in the factory.(Zheng 2015).

Where are industrial robots being installed? As Figure 1 indicates the largest share of shipments of new industrial robots is taken by Asia with steady growth since the global financial crisis and nearly 200,000 units shipped to Asia in 2016.

[**Figure 1 about here**]

This region grouping of shipments hides the concentration of automation in five countries – China, the Republic of Korea, Japan, the USA and Germany together account for three quarters of industrial robots shipped in 2016. What is not clear is whether these installations are producing for domestic demand or for export markets. Assuming a mix, this again implies some relative reduction in trade flows between the large manufacturing nations of the world.

**3.3 The demanding consumer**

Rather than being a victim or passive recipient of the choices that companies are making, consumers are attempting to impact how companies operate. This can be altruistic or selfish but the expressed preferences of consumers can have an effect on how companies structure their production network which again will impact the expressed patterns of trade.

A key input into the decisions companies are making on structuring their production network is the sourcing time from production to customer. The majority of consumers in the United States now consider anything less than two-day shipping to be slow service whereas in 2015 two-thirds of consumers considered three to four days as fast, according to Deloitte’s annual survey of consumers (Deloitte 2017). This pressure to be able to deliver on such short timescales is forcing companies to consider more local sourcing and assembly, enabled by Internet of Things (IoT).

At the same time many consumers are expressing their preference for environmentally friendly products, either in their making or in the product and its material usage. The concept of the circular economy (Stahel 2016) is a relatively simple one at first pass – to connect all of the input and output streams of our economy so that there is zero waste and that we reuse as much of our materials as possible. There is a potential coming together around the circular economy, as companies and countries could benefit from a strong implementation of the concepts. Scenario planning from the Ellen MacArthur Foundation and McKinsey claimed that to 2030 for Europe a circular economy would increase resource productivity by 3% annually with total benefit of 1.8 trillion Euros, increase Gross Domestic Product (GDP) by 7% over their baseline model and have a positive employment impact (Ellen MacArthur Foundation 2015). This interaction with the environment is especially sharp when it comes to the transportation of unfinished or finished goods around the world. In 2012 aviation and maritime transport accounted for around 4% of world emissions but on current demand trajectories and with weak climate change interventions “… their CO2 emission shares in global CO2 emissions may rise substantially to 22 % for international aviation and 17 % for maritime transport by 2050, or almost 40 % of global CO2 emissions if both sectors are considered together” (Cames, Graichen et al. 2015). The bringing together of the potential economic benefits of a circular economy with the emissions reductions achieved through fewer product miles (in terms of trade) again indicates that there is a likelihood of reductions in trade flows at least at the greatest distances around the globe.

**4. What are the signs of deglobalsation?**

Are these effects apparent in the decisions of companies around the world? And have the changes that are implied in this discussion come to light in the current statistics collected on international trade? There are many cases where companies are making decisions that are hyper-local and contrary to the model of global value chain production. For example, Adidas has created the *SpeedFactory* in Bavaria making 500,000 pairs of customised shoes using robots and 3D printing. Being in Germany allows the company to shorten the time it takes to supply a store from six to eight weeks down to a week or less (Manthorpe 2017).

Beyond the single company case studies what macro indicators might we use to see if there is deglobalisation? The most accessible indicator to see if there is degloblisation at the scale of the world economy is the ratio of world trade to world gross domestic product (Figure 2).

[**Figure 2 about here**]

Between 1972 and 2009 there is a general trend where global trade is growing faster than global output (with obvious drops in the mid 1970s, 1985, and at the turn of the century). However the global financial crisis appears to have ushered in a new normal, where global trade is growing at a slower pace than global GDP. This falling back of the ratio of global trade to growth may be a passing phase, a repercussion of the global financial crisis playing out over the decade since. However it may also be the leading edge of a physical deglobalisation, where we make closer to the end user and move relatively fewer products around the world.

In the short term though we could still see a relatively high ratio of trade to growth at the world level even with significant changes in company decisions on location for production and suppliers. This is because this coarse indicator will not capture a shift to a more regionally based trading structure, as once a good crosses any border it will count towards the world totals. So using global trade to GDP as our primary indicator may hide these changes from us until the changes have already kicked in.

Regionalisation should be the first change that we see and so we should look at how regionalised the trading structure of the world currently is and how that has changed over time. As Figure 3 shows the world is more regionally based than the hyper-globalisation framing may lead many to believe.

[**Figure 3 about here**]

Roughly 50% of merchandise trade originating in Asia terminates in Asia. The figure is approximately the same for North America and is even higher for Europe at just under 70%. As the combined pressures of new production technologies, automation, demands for speed and environmental constraints come to bear on companies, the pattern of regionalisation is likely to deepen on the path to some localisation for some types of manufacturing.

**5. Is deglobalisation happening?**

The aftermath of the global financial crisis (GFC) brought into question many certainties of the past decades. Key amongst these was the inevitability of continuing globalisation – that a process of ever increasing economic and social integration had begun at some point towards the end of the 20th century and could not and should not be halted. With the increasing popularity of politicians espousing economic nationalism the threat that appeared following 2008 appears to have spread into the political realm and embedded itself in the leading economy of the world.

At the same time as these events have been playing out, the landscape that companies who make or who outsource the making of physical products has begun to radically shift. A set of trends including the emergence of new production technologies, increasing use of automation, risks of higher environmental regulation and consumer demands both for a reduction of environmental impact and reduced time to delivery all point to a shortening of global value chains. This means that while the politics of globalisation have become even more contentious, there is a contextual change which is leading to a form of deglobalisation happening at the same time. The challenge is not to conflate or confuse the two. Companies making rational choices based on a landed cost model may choose to localise their supply chain, but this does not mean the political rhetoric of economic nationalism is being followed.

This article argues that we are seeing the early stages of relative deglobalisation in the manufacturing sector and that this will have knock-on effects into other sectors and the flow of capital in the global economy. Given that between a half and two-thirds of trade happens within value chains, as companies change the patterns of their value chains we will see significant changes in the flows of foreign direct investment (FDI). Also if final markets and the production of goods to serve those markets become highly similar we may see a rise in the level of offshore profits unable to be repatriated or reused by the companies involved where they may wish to deploy those funds.

A final and very important issue is the interaction of a deglobalising economy with development. According to the World Bank, two-thirds of all jobs in the developing world are susceptible to automation (World Bank 2016). If developing countries cannot use manufacturing to grow their economies, deindustrialising even before they have industrialised, what does this mean for the least developed economies in the world? As the World Bank commented “The Internet of Things, advanced robotics, and 3-D printing are shifting the criteria that make locations attractive for production and are threatening significant disruptions in employment, particularly for low-skilled labor. These trends raise fears that manufacturing will no longer offer an accessible pathway for low-income countries to develop” (Hallward-Driemeier and Nayyar 2017).

While developing economies may be shut out of manufacturing led growth, there is more and more attention being paid to the possibility of the increases in manufacturing in leading economies like the United States. The latest positive painting of this scenario by the McKinsey Global Institute claims that “A successful revitalization will not restore 1960s-style mass employment on assembly lines. But it can raise manufacturing GDP by more than $500 billion annually above the current trend, spurring income growth, new jobs, local investment, and ripple effects across other industries” (Ramaswamy, Manyinka et al. 2017). If the effects of deglobalisation impact developed and developing nations in this opposite manner, there is a new set of issues that must be addressed to compensate the losers in the further development of the global economy that look radically different from the challenges we have faced to date.

Is a world that has all physical goods produced at a relatively close distance to the customer or end user but with dense digital connectivity globalised or not? The binary version of the question is not answerable in a rigorous manner, rather there is a question of types of globalisation, the degree to which each is in force, and how each type of globalisation interacts. This article has unpacked the definition of globalisation and then discussed the pressures that are on companies that are changing how they think about the location decisions they are taking in relation to manufacturing. These changes imply at least a regionalisation if not an absolute deglobalisation in trade in goods. Such changes are still emerging but if we do not update our framing of the global economy as being inevitably headed towards hyper-globalisation we will miss these changes with significant negative consequences for many of the poorest countries in the world.

*Figure 1 – industrial robot shipments by region 2007 -2016[[1]](#footnote-1)*



*Figure 2 – World trade as a percentage of world GDP (WTO 2017)*



*Figure 3 – patterns of regional trade 2000 to 2014[[2]](#footnote-2)*



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2. Data from the World Bank online at <http://data.worldbank.org/> (accessed 10th November 2017). [↑](#footnote-ref-2)