

Globalisation under pressure?

How current megatrends shape the patterns of international trade, capital flows and technology diffusion

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Deglobalisation, digitalisation, decarbonisation, and demographic change have already left their mark on the global economy. In the future the multiple transformations that the international patterns of specialisation undergo are likely to accelerate as the four megatrends mature and unfold their true disruptive potential. Whereas deglobalisation operates through the pandemic as well as through the global power competition – currently through the Russian invasion in Ukraine – triggering decoupling as well as supply chain reorganisation, digitalisation is likely to result in new economies of scale in investment capital but also in a further divergence of capital flows into the direction of the global North. The politically initiated decarbonisation clearly intends to steer capital flows into green investment projects while incentivizing technological innovations. Finally, the demographic change affects the relationship between interest and growth rates and shapes patterns of migration as well as of urbanisation. The sheer population density as reflected in the growth of mega cities does not necessarily constitute an advantage in international competition anymore. Superstar cities will rather be founded on the ground of very specific preconditions that attract people with a highly specialised human capital formation.

1 Introduction

In its long history, globalisation has come along in fundamentally different shapes and peculiarities. Depending on the geopolitical balance of power, different nations have pulled the strings of international technology diffusion, trade, and capital flows. Political regimes that allow or prevent people to migrate and to cross borders with their specific ideas and equipment have left their mark on global cooperation. Also, different technological quantum leaps have intensified the international exchange of goods, capital, and ideas. Reductions in transportation and communication costs have periodically accelerated globalisation.

The constant of globalisation, it seems, is constituted by a recurring change. Climate events, pandemics, political blockade, and wars have brought entire eras of globalisation to a halt. Simultaneously, reconstruction, innovation, as well as an inherent hunger to learn and earn from the unknown has driven people and institutions back into intense cross-border collaboration.

Most recently, globalisation has come under pressure. The Trump regency questioned the transatlantic partnership while at the same time drawing a red line between China and the West. In a period of self-reflection and reorganisation within the European Union, the US demanded a de-coupling between the

China dominated and the Western oriented values chains. The decelerating technological progress, the increasing tangible and intangible barriers to migration, the low investments in developing countries, and an escalating trade war suggested globalisation has become more and more exhausted (Hüther et al, 2018).

Today, the White House is reigned by a much less globalisation-hostile US president, however, the general situation remains unaltered. *Deglobalisation* – the first and most challenging megatrend – has proceeded through intense decoupling aspirations. Reducing the dependency on systemic competitors remains on top of the list of many Western policy makers. Technology diffusion is hindered through the violation of property rights and industrial espionage. In addition, the pandemic has disclosed the difficulties of private insurance against very unlikely tail risks. Clearly, the economic shock resulting from the 2020 pandemic revealed the instability of investments in areas of limited statehood. Especially in a crisis, unsettled investors tend to withdraw their capital to safe heavens. Finally, Russia's invasion of Ukraine has revealed that the fall of the Iron Curtain did not mark the "end of history" as Francis Fukuyama (1992) had once claimed.

As a second megatrend, *digitalisation* is affecting international cooperation. On the one hand, decentralised networks circumvent the power resources of states and manage to diffuse technological progress around the globe by scaling capital internationally. On the other hand, additive manufacturing (3D-printing) could trigger reshoring of formerly outsourced industries closer to the rich consumers in Europe and the US. For the already (too) low investments in the global South, such a trend could turn out disastrous.

Third, *decarbonisation* is developing a huge influence on the economy. Policy measures deliberately manipulate price mechanisms to incentivize less CO₂ intensive production. Increasing prices for non-sustainably produced goods and services, however, triggers "green inflation" that needs to be compensated to limit the effects on the purchasing power of lower income strata. To steer capital markets into green products and technologies, political actors need to take delicate decisions. In the end, international alliances are going to define common production and pricing standards. To defend their industries, however, there is a need to implement certain border adjustment mechanisms. Hence, these climate clubs will potentially trigger trade diversion effects away from non-members.

Finally, the *demographic change* influences varying patterns of migration. The hostility against immigrants is going to limit remittances that non-natives can send home to their relatives. At the same time, demographic aging leads to a specific saving and investing behaviour. At the same time, urbanisation has accelerated not only creating mega-agglomerations but also shaping very distinctive superstar cities that again attract very specific immigration flows.

Table 1: How current megatrends affect the patterns of globalisation

		Patterns of globalisation		
		Trade	Capital flows	Technology diffusion
Megatrends	1) Deglobalisation 1.1) Pandemic 1.2) Power competition	Supply chain Decoupling	Quality of institutions	Competition Interference/ obstruction Hierarchies
	2) Digitalisation 2.1) Platformisation 2.2) 3D-Printing	Reshoring	Economies of scale in investment capital Feldstein-Horioka	Networks
	3) Decarbonisation 3.1) Pricing/green inflation 3.2) Border adjustment	Trade diversion	ESG Capital diversion	innovation
	4) Demographic change 4.1) Aging 4.2) Migration		$r < g$ Remittances	Urbanisation (Superstar vs. mega cities)

Source: Own depiction.

2 Deglobalisation

Both the pandemic and the global power competition have hit the image of open and diversified value chains. While the systemic competition between the transatlantic West and China mutated into a system conflict, the pandemic nourished the feeling that national economies had lost control over the production of vital goods. Hence *decoupling* (from China or Russia) and *reshoring* to the Western shores have become intensely discussed policy options (Hüther et al, 2021).

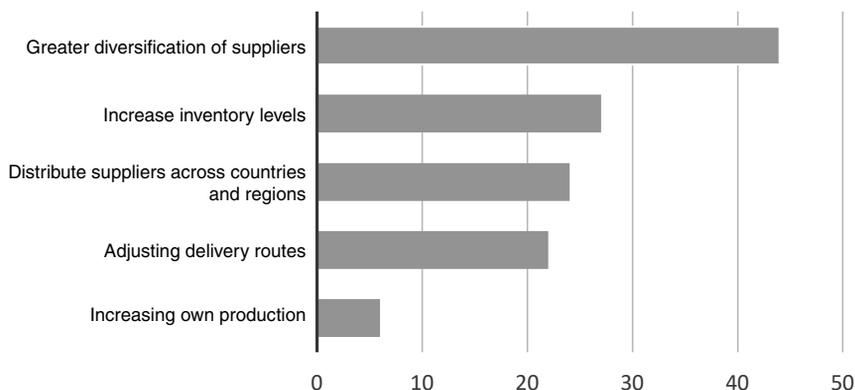
In general, protectionist reflexes neglect the role of global value chains not only to secure lower prices exploiting international patterns of specialisation and higher economic activity (ifo Institute, 2022) but also as a crucial tool to ensure against economic volatility (Caselli, 2019). Particularly, natural disasters have regularly disrupted value chains around the globe and enabled economists to trace the implications of such exogeneous events. Following the tsunami shock that triggered the nuclear disaster in Fukushima 2011, for example, diversified value chains have proven advantageous for economic recovery (Todo et al, 2013). Also, during the aftermath of the COVID-19 pandemic, companies

have followed this rationale. Figure 1 visualises a survey carried out among German businesses where 44% of companies tend to a greater diversification of suppliers, whereas only 6% reveal their preferences for an intensified production at home (Kolev and Obst, 2021). Despite the influence of political discussions, reshoring has played a minor role when strengthening the resilience of global value chains.

On a different note, decoupling is a powerful political weapon partly employed by the EU and US against the Russian economy due to their invasion of Ukraine. De facto declaring Russia a pariah state by enforcing far-reaching sanctions on all different sorts of economic transaction has the power to heavily weaken the systemic competitor's (and its allies') macro-economic balance. Without foreign currency inflow the Russian central bank remains unable to defend its exchange rate. Hence, rising inflation rates are the consequences of decreasing Russian exports of goods, oil, and gas. Unfortunately, economic sanctions will not force the Russian president into pulling back his troops from the devastating war that is financed mostly at home with Russian Rubel. If Putin does not pull back, however, a longer-run disconnect of the West from the Russian economy and an increasing dependency of Russia on China seems possible.

Economically, Russia does not play a major role for China, but it does in terms of power politics in contrast to the West. Should Putin pursue the idea of positioning his country on an equal footing with the USA and China, then this was already unrealistic before the war, and afterwards – ostracised, isolated, economically shattered – even more so. The turning point opens a view of a new era of bipolarity in our world. This not only raises questions about future geopolitical structures and challenges, but also questions about geoeconomic development perspectives. The turning point marks the farewell to the second globalisation of the industrialised world, which began with the opening of China under Deng Xiaoping to market-economy mechanisms and then picked up speed especially after 1990.

Figure 1: Measures implemented by German companies that have planned or are about to adjust their supply chains, in percent, 2021, survey of more than 4,500 German companies with branches and subsidiaries in over 70 countries



Source: DIHK/AHK, 2021.

Global power competition and the spread of COVID-19 around the globe are also affecting the patterns of international capital flows. Particularly in the beginning of the pandemic, emerging markets struggled to contain capital outflow or the sudden stop of capital inflows (Bank for International Settlement, 2021; Alfaro-Urena et al, 2021). The subsequent flight to security resulted in a downgrading of issuer ratings in 2020 and worsened the debt financing conditions for the respective countries. As China had just rolled out massive investments on the New Silkroad, Chinese creditors were hit hard by the rising risks of their lending contracts (Chinese loans of at least 90 bn USD were downgraded) (Diermeier et al, 2020). The capital flight from Russia triggering a devaluation of the Rubel constitutes another example how the exhaustion of peaceful global power competition spills over into worldwide capital allocation.

In the case that a decoupling (eg, through ‘secondary sanctions’) of the economic systems is carried forward, the global South would be forced into choosing between either the investments from the transatlantic bloc or from China. In general, Western investors are paying close attention to the quality of institutions in creditor countries. Whereas state driven investments from China come along with explicit geostrategic costs, private investors from the EU or the US are more easily scared away by a lack of long run political stability or open violations of basic human rights.

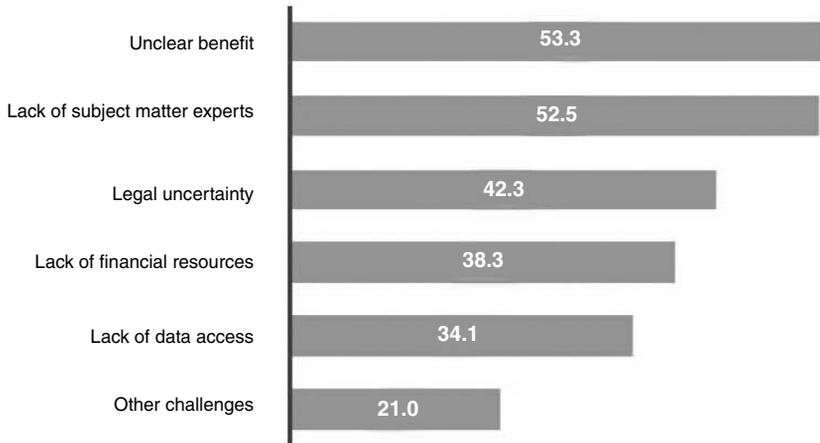
What is more, a major obstacle to technology investments and finally to cross-country technology spill overs is represented by the credibility of a country to prevent intellectual property violations. Since years, Western companies hesitate to employ their up-to-date technologies in China. In general, fruitful international cooperation and in particular, frictionless diffusion of innovative technologies is fundamentally based on common basic rules of economic activity such as private property, freedom of contract and accountability (Hüther et

al, 2021). The state organised industrial espionage attacks carried out by China and Russia violate such common standards and are poison for cross-border economic interaction (Federal Ministry of the Interior, Building and Community, 2020). For instance, between July 2020 and June 2021, 58% of IT attacks originated in Russia and 8% were tracked back to China (Microsoft, 2021).

3 Digitalisation

Decreasing communication and management costs due to digitalisation have initiated several waves of globalisation. In fact, just-in-time production in global value chains has only become feasible once every chain link from preliminary production to end-consumer delivery was attainable in real-time at reasonable costs. In this regard, further decreasing cost of data management and processing could revive international economic interaction. On the contrary, Figure 2 reveals that the major obstacle for German companies to implement data-driven business models are constituted by uncertain payoffs. Most probably, the complexity and the sheer limitlessness of data compiling overstrains many classical strategy reviews. The field is rather left to cutting edge highly innovative enterprises that disrupt classical markets.

Figure 2: **Share of companies that (rather) see the following obstacles for data-driven business models, in percent 2020, N = 1,054 to 1,228**



Source: German Economic Institute (Zukunftspanel).

Nevertheless, the most recent digitalisation of supply chains bears large potentials also for established industries. An *Industrie 4.0* like global value chain has the potential for a further reduction in transportation and storage costs. With 3D printing (additive manufacturing) having become market-ready also for industrial production, trade of physical intermediate inputs could be diminished if production migrates closer to rich Western consumers. Although reshoring is not yet on top of the agenda of businesses (Figure 1), a respective trend would

affront many economies of the global South whose developing strategy has become a stepwise integration into global value chains in line with their labour cost advantages (Diermeier and Hüther, 2021).

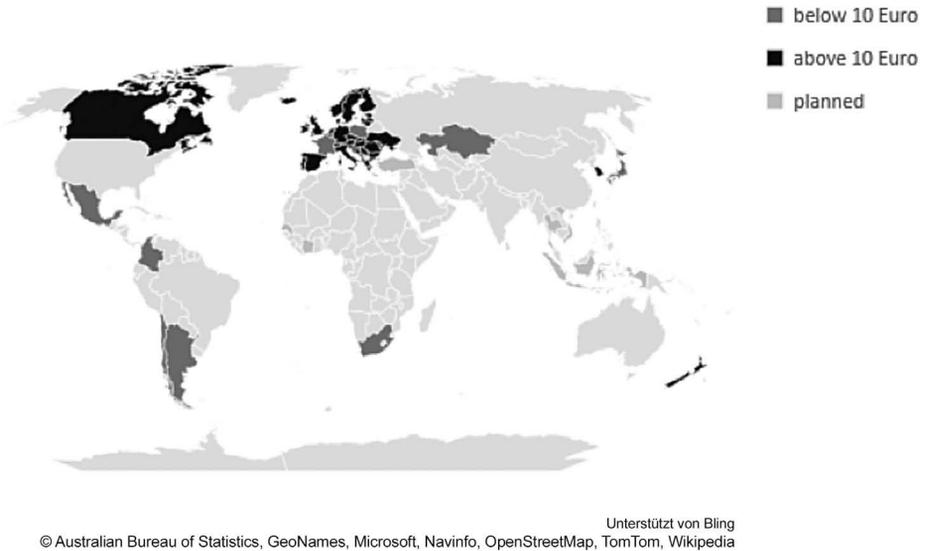
At the same time, digital platforms have successfully implemented drastic reductions in transaction costs and risen to some of the world's most valuable companies (Demary and Rusche, 2018). The success of platformisation is mostly based on data driven business models. By knocking down information asymmetries, investment platforms are exploiting economies of scale globally. Apart from several private companies, the US initiated Blue Dot Network followed this rationale by pooling infrastructure investment in developing countries through a platform that rewards an official investment quality label (US Department of State, 2020).

Clearly, the Blue Dot Network represents an example of how state hierarchies try to keep hold over investment streams in a world where platforms enabled decentralised actors to pursue their interests independently. Also, in terms of technology diffusion in a world where global scientific networks are advancing technological innovations, state hierarchies are being side-lined. On the contrary, the corporate power that globally acting private platforms have acquired demands prudent regulation and data protection legislations (Hüther et al, 2021).

4 Decarbonisation

Decarbonisation represents a major global coordination problem. Countries that implement particularly strict measures and reduce their CO₂ emissions the most, run the risk of losing competitiveness against economies with looser regulation. In his work "Overcoming Free-Riding in International Climate Policy" Nobel laureate William Nordhaus (2015) lines out a potential solution. In a nutshell, countries can leverage their climate policy on non-compliers through climate clubs that charge emission heavy goods at their borders. The German Chancellor Olaf Scholz puts Nordhaus' considerations on the agenda for the German G7 presidency in 2022, intending to incentivize more and more countries to enact similar regulation and pricing of CO₂ emissions (Figure 3).

Figure 3: **Direct price per ton CO₂ through tax and emission trading, by country***



* Note that some regions below the country level such as California or Chinese regions have also introduced CO₂ pricing.

Source: Worldbank (2020).

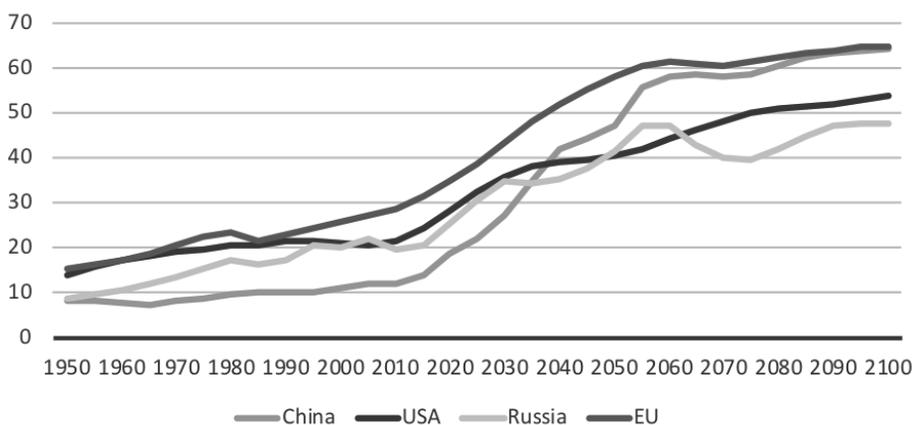
Figure 3 reveals the discrepancies between the different economies. Whereas the EU Emission Trading Scheme represents an ambitious policy tool to incentivize green production (the average CO₂ price climbed from around 30 to above 90 EUR per ton in 2021), many other countries remain much more reluctant. Hence, a border adjustment mechanism is key to prevent carbon leakage to less regulated production regimes. However, the commitment to common standards could represent prohibitive entrance barrier to a climate club for economies of the global South, at a time where for example African countries already bear disproportional climate mitigation spending (UNECA, 2017). Specific partnership agreements are necessary to enable the integration of the global South into global value chains and moderate trade diversion effects.

Apart from trade diversion, regulation is also intending to nudge capital into sustainable investments. The EU Environmental, Social, and Governance (ESG) taxonomy represents a potential policy implementation. By labelling certain technologies or production standards as sustainable, capital is supposed to be diverted away from politically defined non-sustainable industries. In such a set-up, everything is riding on technological progress and governments to set the right track for innovation. Only if businesses manage to become more efficient will they be able to cope with rising emission prices and selective investors, to comply with the necessary CO₂ emission reductions.

5 Demographic change

Demographic change is not only shaping industrialised economies secularly but also heavily hit important developing countries. The fading out of the one-child-policy in China triggers an increase of the old-age dependency ratio from below 20% today to above 60% within only 40 years. The aging of the Chinese population complicates Beijing's ambitious policy goals and illustrates how this great power is losing momentum as its window of opportunity is closing year after year.

Figure 4: Share of above 65-year-old of 20–64-year-old



Source: OECD.

Societies with larger shares of older and presumably retired people face not only changing patterns of consumption given their longer life expectancy, but individuals also need more savings for their longer retirement periods. A higher capital supply in combination with a lower need for investments and lower productivity gains then trigger both a decreasing real interest rate and decreasing growth rate. Until today, it remains unclear if the large amounts of necessary transformation investments can counteract the demographically decreasing capital demand.

Certainly, the lower potential workforce leads to wage premiums that result in higher inflation rates and aggravate the risk of moving into a longer period of stagflation (Demary and Hüther, 2021). Such a risk could be mitigated, however, by more liberal migration regimes. In contrast to the migration hostile attitudes that prevail in many industrialised economies, the labour market depends on the inflow of a much larger amount of skilled immigration as much as the developing countries depend on remittances of their comrades abroad. Unfortunately, the necessary net inflow of migration is most probably going to trigger hostile political reflexes in the aging countries.

What is more, migration networks are constituted in large agglomerations that function as melting pots for new arrivals. Increasing migration is inten-

sifying the urbanisation which is reflected in mega cities growing all around the globe. Despite these cities being hubs of globalisation, only a few places manage to convert their density into an innovation hub at the technology frontier. These unique superstar cities attract superstar companies and channel the respective immigration flows (Moretti, 2012). In contrast to the expectations that globalisation would level out economic differences, rather the opposite has taken place. The Silicon Valley is only one of the many examples where a specific eco-system turned into a magnet for very specific industries, their companies, and collaborators.

6 Turning to a bipolar world

The outlined megatrends show that we are at a turning point in globalisation. Hopes and expectations of a cooperative structure of political and economic division of labor have not been confirmed. The war of aggression between Russia and Ukraine marked a “turning point”, said German Chancellor Olaf Scholz in the German Bundestag on February 27, 2022: “The world after is no longer the same as the world before. The core question is whether power is allowed to break the law.” The historical dimension of this situation becomes clear from the fact that it is not about breaking the status quo for a more humane, freer world in the spirit of progress, but about returning to a world of fundamental conflict, disintegration, and division.

In recent years it has become increasingly noticeable that economic globalisation is not reflected in corresponding developments, either culturally or politically. Instead, the contrast between the transatlantic West and communist China, initially described in a friendly way as system competition, turned into a severe system conflict. This conceals conflicting interests, but also different value orientations. However, the longing view of the dynamics of state capitalist systems belongs in the archive of traditional views. We must stand up for our constitution and its values: intellectual, regulatory, material, political and defensible.

The new bipolarity of the world demands a return of the principle of consistent orders for the interaction of the political, legal, cultural, social, and economic spheres in the transatlantic West. The market economy in the West not only derives from the same roots as modern democracy in terms of intellectual history but is also related to it in essence. The starting point in each case is the principle that people have choices and that conflicts are systematically resolved without overburdening anyone. These disputes will shape the world.

7 Literature

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Globalisierung unter Druck? Wie aktuelle Megatrends die Entwicklung des internationalen Handels, der Kapitalströme und der Technologieverbreitung beeinflussen

Deglobalisierung, Digitalisierung, Dekarbonisierung und demografischer Wandel haben bereits ihre Spuren in der Weltwirtschaft hinterlassen. In Zukunft werden sich die vielfältigen Veränderungen, die die internationalen Spezialisierungsmuster erfahren, wahrscheinlich noch beschleunigen, wenn die vier Megatrends ausgereift sind und ihr wahres disruptives Potenzial entfalten. Während die Deglobalisierung sowohl durch die Pandemie als auch durch den globalen Machtwettbewerb – aktuell durch die russische Invasion in der Ukraine – wirkt und eine Entkopplung sowie eine Reorganisation der Lieferketten auslöst, dürfte die Digitalisierung zu neuen Skaleneffekten beim Investitionskapital, aber auch zu einer weiteren Divergenz der Kapitalströme in Richtung des globalen Nordens führen. Die politisch initiierte Dekarbonisierung zielt eindeutig darauf ab, Kapitalströme in grüne Investitionsprojekte zu lenken und gleichzeitig Anreize für technologische Innovationen zu schaffen. Schließlich wirkt sich der demografische Wandel auf das Verhältnis zwischen Zinsen und Wachstumsraten aus und prägt die Muster der Migration und der Urbanisierung. Die schiere Bevölkerungsdichte, die sich im Wachstum der Megastädte widerspiegelt, ist nicht mehr unbedingt ein Vorteil im internationalen Wettbewerb. Superstar-Städte werden vielmehr auf dem Boden ganz bestimmter Voraussetzungen gegründet, die Menschen mit einer hochspezialisierten Humankapitalbildung anziehen.

JEL Codes: F18, O16, O33, J11, R11