



## Pushing the technology frontier in the 21<sup>st</sup> century: a curse for international instability?

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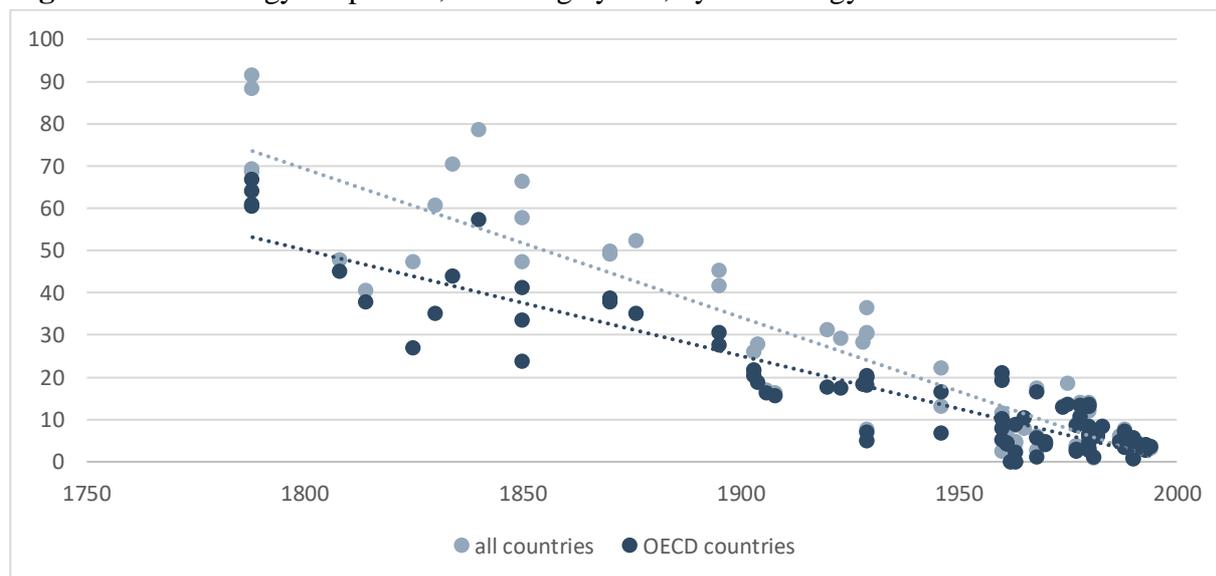
The post-World-War II period saw the rise and fall of multilateralism. The Bretton Woods institutions, originally founded to enable cooperation between nation states on a level playing field, raised hopes that international conflicts could be resolved in an inclusive and peaceful manner. As a major tool to support political stability (and liberal democratization) around the world, the World Bank, the International Monetary Fund (IMF) and the General Agreement on Tariffs and Trade (GATT) were founded to pave the way for the integration of economically less developed countries and to eventually trigger their democratization (*modernization hypothesis*). The prospect that transatlantic democracies offered was one that focused on economic prosperity and political stability through an adaptation of their liberalized business model.

Finally, during the 1980s, the *Washington Consensus* established the narrative that only when economies knocked down their barriers to trade and their capital controls, they would be able to have their own share of globalization that the industrialized European and North American countries profited from so heavily. Indeed, a strong empirical relationship between economic prosperity and democratic stability was revealed, in the sense that prosperous democracies developed a strong resilience against any sort of political, economic, or ecological crisis (Przeworski, 2018). First, however, economic growth also stabilized authoritarian regimes. And second, the Feldstein-Horioka-Puzzle (1980) fuelled doubts on the key premises of economic growth through liberalization: Amongst others in Latin America and Asia, the free market experiments of non-competitive economies did not only result in disastrous capital flights or a sudden stop crisis in times of economic distress, but also failed to provide the urgently needed investments in local infrastructure, the welfare state, and capital intense production sites.

As the capital market integration in our times never returned to an intensity know from the imperialistic world order before WWI and as it became clear that this dimension of globalization would remain a rich-rich affair, the *efficiency illusion* became apparent (Hüther, Diermeier and Goecke, 2018). In fact, emerging markets' growth and stability did not result from stable investments from North to South. To kick-off the most recent globalization period, something more extensive was needed to connect affluent and poor economies: technological progress. Revolutions in communication technology had brought the world closer together in the past. The digitalization of communication in recent years, however, enabled a cost-efficient management

of truly global value chains. In light of a massive acceleration of the adoption of new technologies around the world (see Figure 1), emerging markets were finally able to play out their competitive advantage in investment-heavy production sites commissioned by international companies. Labour cost advantages in combination with decreasing shipping costs became the “world beater” (Baldwin, 2016), creating a new business model based on standardized production in developing countries and a sophisticated logistic industry that enabled cheap consumption in rich economies.

**Figure 1:** Technology adaptation, in average years, by technology



Source: Hüther, Diermeier and Goecke (2018)

### Domestic tensions instead of systemic convergence

Again, this development triggered a normative impetus within the transatlantic West that was keen to spread its successful combination of capitalism and (liberal) democracy. Especially Fukuyama’s (1992) declaration of “the end of history” spread the expectation that countries would naturally converge into the “Western way.” Former U.S. President, George W. Bush, followed this route when he claimed: “Trade freely with China and time is on our side” (quoted in Acemoglu and Robinson, 2012). Recently, the same rationale was echoed by the former German minister for economic affairs, Peter Altmaier, who stated: “I share the opinion that through trade a certain change is achievable” (quoted in Hüther, Diermeier and Goecke, 2021). Since China’s impressive rise, reflected by the country having become the world’s industrial hub, did not at all trigger institutional political reforms, most Western decision makers became humbler regarding the *modernization hypothesis*.

Despite failing to initiate the democratization of authoritarian regimes, globalization has lifted billions of people from poverty – where developing economies managed to integrate into the world’s value chains. Not capital market integration, but rather trade in goods, eventually profitable around the globe due to technological innovation, paved the way to the desired catch-up growth path. On the other side of the globe, *out-sourcing* and *off-shoring* came at economic,

and eventually political, costs in regions where industries failed to compete with the new rising stars in Eastern Europe and Asia. In the U.S. rustbelt, in the British Midlands, and in Northern France, economic decline triggered political repercussions as voters protested their governments' failure to protect traditional industries. A scholarly debate evolved over to what extent governments were hamstrung given the international pressure to keep markets open. Dani Rodrik famously labelled the situation where nation states and their independent democratic decision making is limited due to global power structures the "globalization paradox." Once democracies become rule-takers of the international order, they are inherently limited in independently exercising legislative, executive, or judicial power.<sup>1</sup>

Rodrik (2018) even understands the rise of populism as a protest against intensifying globalization. In his stylized model, economies that are hit hard by international competition turn to left-wing populism and demand sovereignty over their capital markets and tariffs to protect national industries. The preferred economic strategy in this case is protectionism. On the other hand, Rodrik also understands right-wing populism as a backlash against globalization – namely against immigration. Immigrants constitute a threat in liberalized labour markets and evoke "insider protest" and compete for scarce state resources in generous welfare state, where the protest hence stems from "labour market outsiders" (Manow, 2018). As a result, relevant shares of the population demand closed borders for immigrants and elect particularly nativist political representatives.

The argument is worth paying attention to because it enables an understanding of how *democracies are destabilizing from within*. In contrast to the commonly shared diagnosis, both populist globalization backlashes do *not* constitute a threat to democracy per se. If populism is understood as "a thin-centred ideology that considers society to be ultimately separated into two homogeneous and antagonistic groups, 'the pure people' versus 'the corrupt elite', and which argues that politics should be an expression of the *volonté générale* (general will) of the people," (Mudde, 2007) its main goal can be reflected in what Manow (2020) calls "democratization of democracy." Populists might even narrow the elite-electorate divide through closing representational gaps and significant mobilization of non-voters; however, such a development comes at the cost of stability as traditional political institutions come under pressure. Certainly, populists constitute a very lively threat against *liberal* democracy. As a matter of fact, the friend-foe divide that populist politics is based on, as well as the belief in the ultimate legitimacy of *the peoples' will*, tackle the roots of liberal democracy: minority protection and the rule of law.

*Brexit and the presidency of Donald Trump have revealed that only if we manage to resolve our internal struggles will we be able to address pressing issues on the international level.* Meanwhile, polarization also arrived at the shores of the German political system: A low appetite for deliberative methods of conflict resolution is particularly present among populist voters. In Germany, nearly 80 percent of AfD supporters would accept foregoing pluralistic parliamentary processes to "deal with immigration" (Diermeier and Niehues, 2021). Interestingly, a similar

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<sup>1</sup> For a critique of Rodrik's perspective see Hüther, Diermeier and Goecke (2021). In fact, democracies are able to coin globalization and the institutions of international cooperation in line with their constituencies' interests.

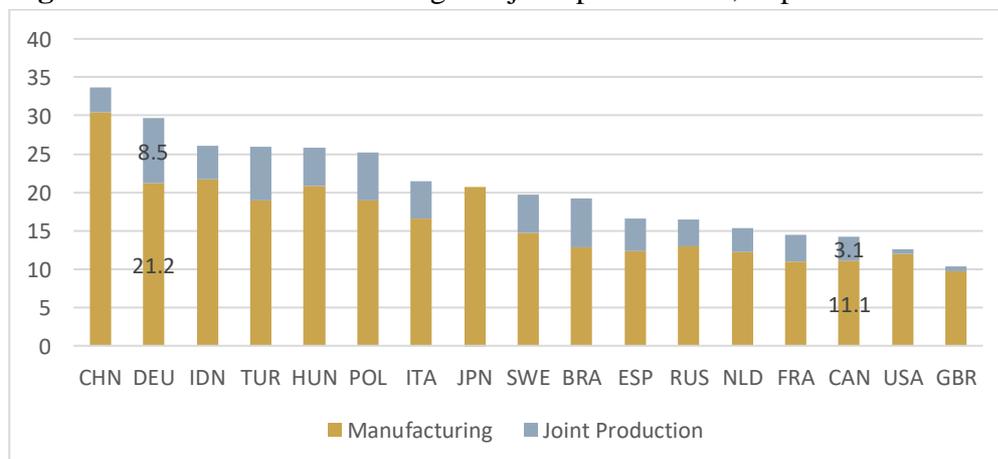
trend can be observed among supporters of the green party: two third would accept foregoing pluralistic parliamentary processes to “deal with climate change.” The age of polarization and moralization has left its mark on the political culture beyond purely populist parties, it seems. Evidently, the green party and the populist radical right also constitute political antagonists on the climate change issue.

**Creating clubs with exclusive common standards: addressing climate change and digitalization**

Indeed, *de-carbonization* is one of the technological trends that not only has the power to transform into a deep societal cleavage, but it also implies a far-reaching economic structural change. The impact of an entire de-carbonization of the economy could have more significant consequences than any offshoring and outsourcing that many working-class persons have already protested so intensely. *In fact, the transition into a zero-emission economy that is totally based on renewable energy contains a strong disruptive power in itself. The ambition to carry out such a massive conversion in only the coming one and a half or two decades provokes side effects that can today only be adumbrated.*

Settled democracies are still struggling to pacify their societies and the protest that emerged on the political right against immigration as well as on the political left against free trade. The de-carbonization cleavage will enrage the irreconcilable political antagonists. France’s *gilets jaunes* movement and the upheaval against the currently rising energy prices might only have been a precursor for the massive conflicts awaiting us once political actions accelerates. Democracies are in danger of destabilizing further from within if they fail to revive their economies’ business models and design compensation plans for affected societal strata. Partly, this finding explains the bulk of industrial policy programs that have appeared in most Western democracies: The US “Endless Frontier Act,” “Made in China 2025,” the “Made in Germany: Die Industriestrategie,” Canada’s “Innovation and Skills Plan,” the “Industrial Strategy – Building a Britain fit for the future,” the South Korean “New Deal,” and many other state programs all aim at pushing the technology frontier forward, in order to gain technological leadership in artificial intelligence, machine learning, additive manufacturing, or robotics.

**Figure 2:** Share of manufacturing and joint production\*, in percent of GDP



\* Joint production is the sum of intermediate supplies purchased by the manufacturing sector from the national services sector minus the sum of intermediate supplies sold by the sector nationally to the services sector.

*Source: own calculations based on FIGARO-Database (EU)*

Particularly, the German manufacturing sector seems well equipped for the age of Industry 4.0: It's strong share of GDP (21.2 percent) is complemented by another 8.5 percent of GDP from joint manufacturing service production (Figure 2). In general, the numbers are significantly lower in North America as the net service input into manufacturing industries amounts to just 3.1 percent of Canadian GDP. Further cooperation in this regard is facilitated through different German-Canadian initiatives (e.g. NRC IRAP and ZIM) that intend to foster technological cooperation for SMEs (German Federal Ministry of Education and Research, 2021).

Through the ongoing digitalization of industries, services will become even more important to the future of trade because a significant value added is hidden in the services intermingled with physically sold goods. Hence, the rationale behind costly industrial strategies is that competitiveness in the 21<sup>st</sup> century will, on a broad scale, rely much less on labour market advantages and much more on making national industries fit for a reshuffling of *green* value chains – including a significant scaling-down of transportation. Once Industry 4.0 applications and 3D-printing become the norm in global production sites, those technologies will spill over into a whole variety of different industries. Such a new wave of digitalized manufacturing, however, comes at the cost of significant disruptions. The standard setters will dominate the standard takers. Who produces the high-tech machines and who controls the languages of machine-to-machine communication will be the determinant of who achieves economic success. Rising shipping costs due to carbon pricing will start to dominate labour cost and production sites could re-shore back to agglomerations of wealthy consumers in the West. This is what national industry strategies try to prepare their economies for – and for good reason. *Also, modern bilateral free trade agreements such as CETA – still waiting for ratification – intend to facilitate service trade e.g. by non-customs clearance of digital products or the application of WTO norms to e-commerce. What is more, industrialized economies such as Germany consider the foundation of a “Climate-Club” that defines climate friendly trade rules and protects the economies by establishing a specific border adjustment mechanism. The goal of such an institution is to incentivise more and more countries to adopt the new rules of international trade and reduce their carbon footprint.*

For high-tech industrialized economies, such developments could be good news as their manufacturing sectors will finally be able to adjust to reliable rules of the game and become more efficient. Possibly, even new production capacities might be needed on the ground. Established industries and their high skilled workforce will probably be able to adapt to the new situation. Nevertheless, a reshuffling of centralized clusters decentralizing into the direction of cities is to be expected. In contrast, left-behind regions with low purchasing power are unlikely to profit from this wave of technological progress. *Location decisions will rather be made on the basis of consumers and the qualification of the labour force. Already structurally weak regions, particularly if located far away from mayor cities, will run into difficulties.* Geographically, this

finding will have more severe implications in remote regions of North America in comparison with the more densely populated European Union. Place-based regional politics will be necessary to ensure regional social cohesion. Otherwise, the recent rise of populism that is based in rural regions might only be the beginning.

Furthermore, for aspiring developing countries, the technological trend could turn into a nightmare. For decades, economic development strategies have been built on the intention to integrate remote production facilities into the global value chains. Economies exploited their labor cost advantages and scaled up the complexity of their industries. If production moves entirely or partly away from these countries because of preferential treatment negotiated in FTAs such as CETA, excessive transportation costs, high CO<sub>2</sub>-emissions from shipping, or additional tariffs caused by a border adjustment mechanism of a climate club, established business models will have to be fundamentally questioned. And if new technologies reach a *tipping point of market readiness*, this process could turn out to be more dynamic than expected. In any case, the fiscal room to maneuver will be much more limited than during the comparatively slow de-industrialization of regions in the US, the UK, or France. Structural change could hit the most vulnerable participants of the international division of labor.

A German-Canadian agenda will need to take these spill-over caveats into account when intensifying their bilateral cooperation. The Ottawa Group already provides important groundwork regarding the multilateralization of modern bilateral service trade rules. It will be important to understand the nationally specific reasons why certain clusters of political economies opt out from certain aspects of global trade integration. What is more, a strategy needs to be carved out as to how to address climate change institutionally without excluding developing countries. A “Climate-Club” is a tempting and efficient tool to reduce global CO<sub>2</sub> emissions, but mechanisms need to be implemented to ensure that it accounts for the divergent levels of economic development and industrial performance.

In general, the coming period of globalization could see a significant reduction in physical trade. Once 3D-Printing is available and cost-competitive, authorities might become unable to protect uncompetitive industries through tariffs. In this scenario, Rodrik’s (2011) globalization dilemma would become real and threaten nation states’ ability to conduct independent economic policy. *After the efficiency illusion in the face of lacking investments, a broader market-Integration-Illusion would be looming. By transforming the second dimension of globalization into a rich-rich affair, Western democracies would have fooled developing countries once again and would further drive them into the arms of its systemic competitor: China.*

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