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Globalization 2.0: Rethinking global trade in light of sustainability imperatives

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Abstract

If we were to consider the negative externalities of international transport, it is doubtful that the flows of goods would remain the same as the current ones, re-shoring could perhaps not be decisive but help this probability. However, globalization confronts us with the advantages but also with the disadvantages that now follow at various levels. Environmental sustainability can represent a challenge to globalization, or an ally capable of involving global society which, through appropriate policies, achieves the ability to incorporate the costs of environmental protection and respect, for example, for human rights without substantial consequences for global production chains, and therefore for global transport. How can we effectively reduce the environmental and social costs associated with globalization without damaging our competitiveness and in the light of the recent war conflict still in progress and whose end it is not possible to predict?

Keywords: Globalization, Reshoring, Sustainability, Transport

1. Introduction

Economic integration implies the integration of national economies into a global, borderless world in which there is free movement of goods, services, labor and capital, and it entails benefits but also unavoidable consequences of which transportation holds the greatest negative externalities (Manolică and Roman, 2012).

The crucial importance of transport externalities stems from the consideration that, in a market economy, decisions depend to a large extent on market prices. However, when prices do not also take into account the scarcity of resources (clean air, environmental absorptive capacity, infrastructure, etc.) and go to the detriment of the overall social costs, the balance of an efficient and sustainable transportation system is brought down.

In 1995, the European Union's Green Paper

of External Costs estimated that traffic congestion represented an annual cost of about 2 percent of GDP, to which was added accidents equivalent to 1.5 percent, and air pollution and noise accounted for at least 0.6 percent.

Since then, global and European policies have proved increasingly articulate and stringent, despite which an EU statement in February 2017 called for further efforts to reduce concentrations of air pollutants such as PM10 and NO2. As many as 23 of the then 28 member states recorded exceedances of air pollutant levels in more than 130 European cities. The transport sector was counted among the most impactful, quality benchmarks now addressing not only GDP but also individual citizens' health problems related to environmental factors and in particular the state of the air (Senate of the Republic, 2018). One of the most relevant developments in the policies dedicated to the matter by the EU is the "Green Transport" package, which formulates measures to make the entire transport system greener by contemplating all aspects of sustainability (emissions, noise, land use, biodiversity) (Senate of the Republic, 2019). A consideration also of the consequences of Covid-19 on transport sees the entire world economy affected on the main indicators, international, economic, financial and maritime. Maritime transport is the mainstay of international trade, with 90 percent of goods traveling by sea, together with logistics expressing about 12 percent of world GDP (SRM, 2020). This paper analyzes the role of transport in economic globalization and the path toward environmental sustainability in light of new and more stringent policies and instruments adopted and being adopted, using a review of the literature and dedicated documents as the most appropriate method.

2. The Evolution of Globalization

The benefits of globalization are widespread and have been studied in detail for decades now, equally this can be said of its disadvantages (Kohut and Wike, 2008). Langhorne in 2001 called globalization a term that can express "new opportunities and new tensions", but what has become clear is that it can either reduce or exacerbate global inequality. In recent times, opposition to globalization aggravated by the 2008 financial industry crisis has intensified, and among the possible consequences and concerns Meyer (2017, p. 87) expresses is that "the anti-globalization movement may gain further momentum at the level of national governments, who then drive each other into a downward economic spiral". To counter this "closure" effect, scholars should develop solutions to the negative collateral outcomes so that the entire world population can benefit. Benoit Couré, a member of the Executive Board of the ECB, as part of the conference "Rethinking Capital Controls and Capital Flows", held in Paris in September 2016, in the opening words of his speech states thus: "The growth of globalization is a phenomenon that has been a hallmark of the past 30 years and in the aftermath of the financial crisis has stalled... it is unclear whether this recent episode marks a new era of less integration, indicating the beginning of a broader trend of 'deglobalization', or whether it is simply a pause" (Brundu, 2017).

A globalized world relies on international trade, as our economies and well-being now depend on global supply chains, and the pandemic with its effects has proven the interconnectedness between them. The EU still proves to be the largest trading bloc in the world with which it is profitable to trade (EC, 2021), more than half of European companies are, in fact, part of global value chains (Bienkowska, 2017).

The crisis or evolution of globalization, as it is to be defined, poses problems, or rather, challenges, on the compatibility between sustainable transportation and a growth-driven world economy, but also how to maintain the welfare of those in the world who have benefited from the phenomenon while reducing external effects. Globalization has been supported and expanded by the development of modern transportation systems. From large container ships to small delivery trucks, the entire distribution system has become tightly integrated, linking production activities with global markets through intermodality. The beginning of the 21st century, however, brings great challenges to the role of transportation in the global economy. The capacity of many segments of the transportation system has been

stretched by additional demands that constrain its long-distance modes. (Rodrigue et al., 2006). Transportation costs have also benefited from the global world, where conteinerization, ICT and logistical efficiency have contributed to the creation of new distribution chains and lower prices. As stated earlier, environmental issues, also generated by transportation activity in its various forms, culminate with climate change produced by emissions and factors attributable to additional activities (industry, fertilizers, plastics, etc.). These two processes, climate change and pressures from globalization, termed the most transformative of the 21st century, through their interaction can produce situations of "double exposures" and create vulnerability, inequality, unsustainable rates of development, etc.; such multiple pressures increase vulnerability to produce double losers. Different social groups, communities, ecosystems, etc., however, can become "winners" or "losers", depending on their adaptive capacity. One pressure can "offset" the other, or even create opportunities (Leichenko and O'Brien, 2008).

However, multiple stressors are important and realistic as recognized by the IPCC (2007). Alongside climate change stressors there are (heterogeneously) other pressures. These could include poverty, sanitation and food security issues, conflict, etc., but also pressures that pivot on globalization

Among these effects, poverty and the resulting inequality in transportation determine the social side of sustainability, highlighting the relationship between transportation provision, social exclusion and the disadvantages of transportation itself. Poverty is a problem that has been addressed globally for some time now (Millennium Development Goals, Agenda 2030), present in its absolute form especially in underdeveloped and developing countries, where the lack of basic infrastructure and roads are identified as characterizing factors. Thus, transportation holds a very important role in achieving economic development and poverty reduction but must be supported by sustainability initiatives to mitigate the challenges of rapid urbanization and all that it entails (Pérez-Peña et al., 2021).

3. The role of regulation

The Paris Agreement adopted during the work of the climate conference (COP21) held in Paris in December 2015 is the first universal and legally binding agreement on climate change.

The countries that ratified the agreement agreed to limit global warming to below 2ºC and continue with the adjustment of policies so that it can be further limited to within 1.5ºC. All sectors of the economy will have to participate in this, which will have to be fully decarbonized by 2050; urban pollution, loss of biodiversity and environmental degradation will come alongside this issue (CeSPI, 2015). All of this intersects with the "human factor": unemployment, demographic changes, migration, exploitation of the workforce, the need for training, and the lack of skilled workers.

According to the Confindustria report (2020a), the plan to meet the critical threshold of plus 2 will fail to be realized as per the commitments made in the Paris Agreement.

The only geopolitical area that appears sufficiently compliant with long-term climate goals is Europe where on December 11, 2019, the European Commission presented the European Green Deal (EC, 2019) with the goal of decoupling (decoupling) economic growth from resource use.

This is a plan that directs the design of future European policies, transforming the entire economic system further tested by the pandemic and targeting indispensable tools for its implementation: green transition and digitalization.

The European Commission flanked the New Deal with two Communications: climate 562/2020 ("A more ambitious 2030 climate target for Europe – Investing in a climate-neutral future in the interest of citizens") and biodiversity 380/2020 ("EU Biodiversity Strategy 2030 Bringing nature back into our lives"). Green transition and environmental restoration are also defined as fundamental to the postpandemic Covid 19, the financial instrument for recovery is the Next Generation EU funds, otherwise called Recovery Fund, which is based on investments in the three main

pillars: Supporting Member States in Recovery, Reviving the Economy and Fostering Private Investment, and Learning from the Crisis (Oikos, 2021).

4. New rules globally

Total man-made CO2 emissions worldwide in the transportation sector are around 23 percent, of which 30 percent belong to developed countries. (MISE, 2020). The Cologne-based New Climate Institute (2020), analyzing the climate protection activities of countries around the world, in a ranking of 61 countries places the EU27 sixteenth on the path to the Paris climate goals and notes gradual progress in almost every area, but too slow for the urgency now required by our planet.

In an address to the COP24 (2018) meeting, UN Deputy Executive Secretary for Climate Change Ovais Sarmad had stated that: "We urgently need sustainable and clean transport systems. The good news is that the prospect for this is promising as innovation and technological progress in recent decades have led to significant advances in e-mobility". Even new technologies, which support sustainability, are not always embraced or immediately viable by smaller companies in precisely sustainable supply chains. The sustainable supply chain, which is increasingly emerging as a success factor in the governance of most local and international companies, imposes strict standards with high costs (TCC, 2020). But to speak of global sustainable supply chains seems an oxymoron, as the rationale for global supply chains is not sustainability but efficiency and value for the customer, economic forces in the absence of regulation and limited customer demand for sustainability are, in fact, trying to ignore almost all sustainability concerns. In that case, the markets should express themselves accordingly (Figure 1).

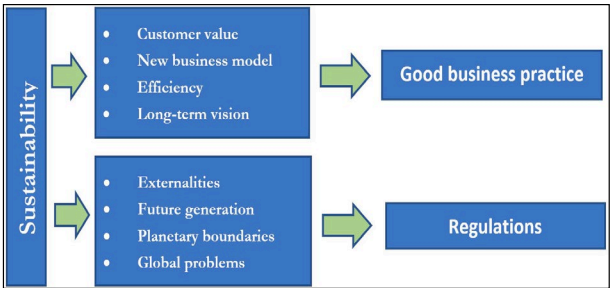

Figure 1. Best practices for sustainability.
Source: authors' elaboration.

5. The relationship between transport and the environment

The intense and fast-changing globalised world cannot now ignore the fact that, in the balance of sustainability, none of the three fundamental pillars can be less valuable than the others. Concern for the environment is the latest policy that has arisen, we can say with great delay compared to the present problems, to counter the idea that it can still be considered a gratuitous externality from which man, with his economy, has long benefited and even abused.

The organisation of the world economy into global supply chains, directly linked to the production and transport system, brings benefits and costs to society, only costs to the environment; every country, where possible, should take great care in implementing sustainability[1].

The multi-scalar nature of global environmental policies has seen the proliferation over time of increasingly advanced techniques and technologies, as well as increasingly stringent laws and directives aimed at safeguarding the planet and human health. The application and implementation of such practices often takes a very long time and suffers from "geographical diachrony", especially if consideration is given between developed and developing countries.

[1] The 2030 Agenda, signed in September 2015 by the governments of the 193 UN member states and approved by the UN General Assembly, consists of 17 goals, the Sustainable Development Goals. It represents the most comprehensive document to date for the planet, linking all 17 goals to form an "action agenda for people, planet and prosperity".

The European Union, which has been including environmental issues in its policies since 1973 through environmental action programmes, has devised a package of strategic initiatives, the European Green Deal (2019), which in its development model includes projects for sustainable infrastructure and transport as a focus for innovation, centred on the needs of society whose CO2 emission reduction targets are designed to counter climate change, the culmination of the global pollution process.

The European Union's Strategy for Sustainable and Intelligent Mobility (2020), as already enshrined in the Green Deal, confirms the transport sector as one of the most impactful and aims to transform the entire system into a green, intelligent, competitive and safe system.

The green transition of the whole of Europe was already clear even before the health crisis caused by the Covid-19 pandemic, which was immediately followed by the economic crisis and the "goods freeze" due to the disease[2].

The support measures proposed by the European Commission to stem the effects, not only health-related, of the post-Covid 19 pandemic are called the Next Generation EU (2020), and include the Recovery and Resilience Facility or Recovery Fund, a recovery and resilience plan that, in giving new impetus to the economies of member countries, proposes to use as much as 37% of the resources in projects aimed at ecological transition, contemplated in Measure 2 (Green Revolution and Ecological Transition). Measure 2 supports, among other topics, sustainable mobility, while Measure 3 is dedicated to Infrastructure for Sustainable Mobility, further demonstrating the urgency of a strong mitigation of the impact of transport regardless of the purpose of the transport itself (Governo Italiano – Presidenza del Consiglio dei Ministri, 30 November 2021).

[2] Commodity supply chains have suffered disruptions or blockages, highlighting the extreme fragility of the global socio-economic system at this juncture, dealing a further blow to what has long been referred to as the "crisis of globalization" and is increasingly being referred to.

6. Offshoring and reshoring, from global to local?

Reshoring, counted together with a broader range of motivations, can contribute to sustainability, as bringing individual production back to the country of origin with a drastic reduction in transport generates a positive impact on air quality by reducing CO2 emissions into the atmosphere.

Offshoring, the relocation of production activities to developing or newly industrialised countries, has been used for decades by western companies in corporate reorganisation processes (Baronchelli, 2008).

This practice, whose broader territorial vision turns to the global market, used to direct the activities of Western companies towards countries that had, above all, lower labour costs and a series of other facilities. The advancement of the economic profile of some of the host countries over time, and the consequent improvement of the social fabric as well, have made labour costs and wages higher, sometimes nullifying the pivotal advantage of offshoring. While offshoring has been an important and profitable advantage for the company, it has, on the other hand, represented a labour vacuum for the country of origin that has forced many workers to migrate or even retrain themselves in new activities. Bonaccorso (2022), speaks of an ethical problem not always attributable to the entrepreneur who relocates, the problem is much more complex, in fact it responds to the economic, political and geopolitical context of a given territory or country and to a correct regulation of the matter in the EU and also internationally.

Reshoring, or otherwise referred to as backshoring, is also an activity that is not as recent as one might think by sifting through the now increasingly dense literature; in recent years, the debate on this phenomenon has been reinvigorated by the appearance of the last two variables, the 2020 pandemic crisis and the Russian/Ukrainian conflict that began in February 2022 and is still ongoing. These shocks have, in some cases, accelerated the trend towards the return to their countries of origin of production activities previously located in other states and already prompted by the 2008-2009 financial crisis, putting global value chains under severe pressure (Noris and Sanguineti,

2022). However, global value chains (GVCs) have proven to be resilient[3] even though a new issue has arisen: the self-sufficiency of countries that also stems from the geopolitical insecurity that fuels the idea of deglobalisation. But can we define this historical moment as an era of de-globalisation, or should it rather be considered as a natural consequence of the slowdown in trade flows that developed in the last thirty years of the last century and that Antras (2022) has called "hyperglobalisation"? The same author does not speak of deglobalisation but frames the phenomenon as "slowbalisation", i.e. a slowdown in the openness of countries "and in the geographical fragmentation of complex systems of production, trade and investment" (s.n.p.). The article also points out that moving from one country to another would entail huge costs[4], only a permanent shock could act as a trigger for a restart from scratch by companies.

Reshoring, Forte stated in a 2015 article, is only becoming commonplace in recent years; companies return home driven by various reasons that are no longer represented by labour costs alone. Dachs and Kinkel, in a 2013 article, identify the reasons for backshoring with quality problems, lack of flexibility and lack of qualified personnel in the host country, problems that are especially identified in low-wage countries, but precisely because of the latter prerogative they were initially one of the main drivers for offshoring.

Even from these brief remarks alone, the debate appears to be very complex both as a topic and as an approach by various scholars. As already stated, the pandemic and the conflict between Russia and Ukraine have raised the idea of the end of the Age of Globalisation. In addition to the decrease in business suffered during the pandemic period, the ongoing conflict has generated transversal effects on the Italian economy, harming all categories of businesses, as it affects trade on global trade routes (Confindustria, 2022a, 2022b). EIM (Executive Interim Management) (2022), on the other hand, does not think of deglobalisation but that a major reorganisation of industrial processes precedes the two phenomena. In Europe and Italy, hi-tech manufacturing represents the first field, although it does not require backshoring of activity but suggests relocation to neighbouring countries (nearshoring) in order to counter concentration and production in single geographical areas.

Elia et al., already in a 2021 paper, state that the pandemic first prompted a rethinking of GVCs, and citing UNCTAD (2020), which identifies four alternative trajectories of international production, two of which, backshoring and regionalisation, defined them, in agreement with Barbieri et al. (2019), as a "second-degree relocation", the former as the return of already internationalised firms to their country of origin, the latter as a return to the macro-region of origin[5].

An issue that has been reinforced by the ongoing climate crisis concerns the environmental costs of highly fragmented GVCs and the environmental costs that models such as "just in time" bring with them, which have long been ignored and which do not include the prices of such externalities in their products. The environmental externalities of offshore production are substantial, especially those emitted by raw material-intensive heavy industries (European Parliament, 2021). Low-developing countries or emerging economies suffer from lower environmental standards as processes are less controlled, thus generating more pollution. International trade, which affects income distribution and employment, has other implications besides environmental sustainability, such as distributive justice, national security or security of supply.

[3] "Despite all these challenges, global value chains... are still undisputed leaders in the world economy". Approximately two-thirds of international trade involves transactions that take place within GVCs and data, after a decline in 2020, reveal growth in 2021 that exceeds pre-Covid 19 levels (Pietrobelli et al., 2022, p. 186).

[4] The cost of divestment processes disincentivises the international reallocation of production not only in the case of vertical reallocations but also in the case of reallocations between distant and closer suppliers (Barbieri et al., 2022).

[5] The two perspectives, backshoring and regionalisation, could coexist together with a third one, the resilience of global value chains capable of adapting to new conditions, geopolitical, economic, social and technological. Adequate digitisation would indeed make it possible to maintain the global dimension (Barbieri et al., 2022).

6.1. Empirical studies, data shortage

As stated, the literature is very thick but empirical data are based on few but interesting studies. A Confindustria study from 2020b reports that in the last 20 years, worldwide, reshoring cases have involved around 1430 companies, predominantly represented by European (58%) and American (32%) companies. Asian companies are currently employing this practice to a much lesser extent (8.5%), while the area that has suffered the most relocations is Asia, in particular China, with around 50% of companies relocated there returning to their country. Figure 2, based on the Fratocchi et al. database (p. 35), represents the above-mentioned realities and is based on the Confindustria 2020b reshoring macro-areas table.

Another study, among the most cited, is the European Reshoring Monitor, which contains a database, active from 2015 to 2018, and analyses European reshoring cases. Approximately 250 companies have undertaken reshoring in Europe or in their home country since 2011 and by 2017 there were already 140 companies that had completed this transition process. 86% of the monitored cases refer to the manufacturing sector, which, as previously stated, is mainly represented by high-tech. The size is that of large companies (60%), with more than 250 employees. Almost 50% of relocations come from the European Economic Area, 42% from Asian countries. The reasons for reshoring present a wide range of motivations such as: "global reorganisation of the company (24%), delivery times (22%), 'Made in' effect linked to brands and new trends (16%), increased automation of processes on site (20%), quality problems (19%), customs problems,.... proximity to consumers (17%) and local suppliers, increased labour costs in various countries" (reshoring.eurofound.europa.eu/; Savi, 2019; Domenighini, 2021).

At the national level, one of the latest studies is by Barbieri et al. (2022) in which backshoring choices are explored in depth, distinguishing between the return of production and the return of supplies, an aspect mentioned but still little studied in the relevant literature. The survey, which covers nine months between 2021 and 2022, involves the Confindustria System and 726 companies "on their choices of delocalisation (or offshoring) and relocation (or backshoring) of production and supplies" (p. 84).

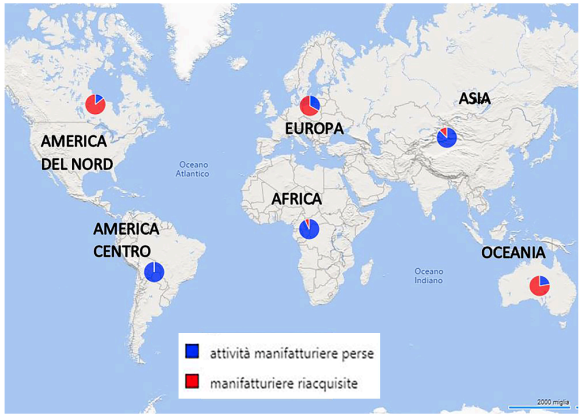

Figure 2. Figure 2 Reshoring cases in the world (2000-2020). In *blue*: manufacturing activities lost. In *red*: regained manufacturing activities.
This Figure is based on the Fratocchi et al. database (p. 35) and the Confindustria 2020b reshoring macro-areas table.

The results, which are interesting in several respects, indicate that as many as 121 companies had offshored to foreign countries and that 16% of them had implemented a backshoring choice. A further 12% may follow within the next five years. The motivation for offshoring, one of the most classic, was dictated by labour costs while backshoring considered the "reduction of delivery times" and the "improvement of the quality of services associated with the product" (p. 112). Finally, the authors state that "backshoring goes through policies for the attractiveness of territories, the competitiveness of firms and the attraction of foreign direct investment" (p. 84).

Finally, in order to favour the reshoring of strategic production chains, the European Union could favour EU strategies and regulations instead of having individual member states legislate in a scattered manner as France (2013) and the United Kingdom (2014), at that time still part of the EU. In Italy, there are "Motions concerning initiatives to encourage the return of Italian companies that have relocated production abroad" dated September 2018 and a bill dated October 2018, "Aid scheme and rules to encourage the repatriation of Italian companies and in favour of the redevelopment of disused industrial areas". However, it is clear that Italy too is moving towards planning what could

undoubtedly be both a social and economic resource and a driver of environmental sustainability. Despite all the ferment, the numbers still do not seem high enough to have a substantial impact on the national GDP.

National back-shoring mainly concerns the northern regions (Veneto, Emilia-Romagna, Lombardy). The North-West has basically attracted companies from Asian countries, while the North-East has attracted companies from Eastern Europe and the Balkans. The Centre and the South further show their backwardness also in this respect (Sabatino and Talamo, 2018)

The sectors most affected by the reshoring phenomenon are fashion (43.5%) and electronics-electrotechnics (18.6%) (Ainis, 2014).

The Italian companies that have practised reshoring generally belong to various types, some brands are represented by Beghelli, Faac, Piquadro, Nannini, Furla, returned from countries such as China, the Czech Republic, and Slovakia, basically a return for economic reasons attributable to the transport of goods, logistics accounting for about 92%. Other factors add up to transport, production costs, poor production quality and, last but not least, the image that Made in Italy holds worldwide (Mainolfi and Marino, 2009). Both Italian and foreign companies relocating to Italy want to portray an image of quality to which the path of sustainability is now inevitably linked, which would benefit from huge environmental savings from transport.

There is thus a relationship between reshoring, or global supply chain reconfiguration, and environmental sustainability that Orzes and Sarkis (2019) define as relatively unexplored. Environmental sustainability may be a motivation for reshoring but undoubtedly not the main nor the only one, this factor could nevertheless create a business case for organisational reshoring.

7. Conclusions

This brief excursus merely demonstrates that studies on reshoring, offshoring and nearshoring, linked to increasingly detailed and incisive issues and themes, even if they do not yet enjoy a systematic and standardised methodology, offer a multi-scalarity that could be a prelude to the regularisation of a topic of clear utility for planners, policy-makers and stakeholders. Indeed, the spatial repercussions of such practices involve various disciplines and bodies that study and manage the impacts of such wide-ranging phenomena. Globalisation, the cause and effect of these behaviours so much so as to decree if not the end at least the crisis of itself, engages the entire world in projects that show serious intentions to safeguard the founding pillars of sustainable development. If only we were able to realise the 17 goals that the 2030 Agenda lists, there would be no need to draw up new policies again and again, but human rights, inclusion, sustainability (environmental and economic) and all that is mentioned in the 169 sub-goals could satisfy all countries and components of society to which they are dedicated. (?).

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