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Industrial policies for global commons: why it is time to think of the ghetto rather than of the moon

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Abstract

This paper posits that what has been currently understood as a new return of industrial policies is actually a vague and rhetorical usage of the notion, as the current framework lacks the proper understanding of industrial policies as instruments to firstly, orient the rate and direction of technical change; secondly, govern and shape the direction of collective answers to major challenges; thirdly, promote alliances beyond different and possibly conflicting interests, bringing together actors and institutions with the ability to undertake social coordination at the benefit of society. Overall, this contribution advocates a new political economy of industrial policies, going beyond simple and mostly ineffective "incentives", such as tax deductions.

Keywords Industrial policies · Global commons · Decarbonization · Social planning

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To the memory of Dick Nelson, whose intellectual perspective has enormously influenced our scholarship in general, and this contribution in particular. To give voice and justice to the ghettos of the world.

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1 Introduction

What are industrial policies? Is a new return of industrial policies actually in the making? Are the current industrial policies going to be effective in terms of objectives? This paper addresses such questions by providing a theoretical conceptualization of industrial policies, and their different features in terms of scope, domains of interventions, and actors involved.

By leveraging on selected empirical evidence, we assess the current re-emergence of industrial policies mainly focussed on the international competitiveness of the US and Europe, facing the consolidation of China as the new industrial and innovation hub worldwide. The paper posits that what has been currently understood as a new return of industrial policies is actually a vague rhetorical usage of that notion, as the current framework lacks the proper understanding of industrial policies as instruments to firstly, orient the rate and directions of technical change; secondly, govern and shape the collective answer to societal challenges; thirdly, promote alliances beyond different and possibly conflicting interests, bringing together actors and institutions with the ability to undertake social coordination at the benefit of society. Overall, this contribution advocates a new political economy of industrial policies, able to go beyond simple and mostly ineffective incentives, such as tax deductions.

Proper industrial policies, we argue, should be understood as informed by direct political objectives, and not simply economic ones. On the contrary, we shall define fictitious industrial policies as those interventions that privilege the interest of business profits rather than achieving societally beneficial goals. They should be able to create coalitions of actors characterised by different interests. Last but not least, in a phase marked by exploding unilateral interests, they should be conceived as *global policies* addressing global public goods (Rodrik, 2024), and even more important, protecting *global commons* (Dolcerocca & Coriat, 2016), such as health and nature. The road to global commons implies staying away from beggar-thy-neighbour policies, currently proposed to regain countries' productive competitiveness, possibly sweetened by objectives of "trade security", as the European agenda on Open Strategic Autonomy does (Mariotti, 2024). If industrial policies continue to be just means to rejuvenate a single country's competitiveness against the rest of the world, they will clearly miss the objective of tackling the global scale poly-crises we are facing. Industrial policies for the commons are instead defined as public interventions meant to satisfying the provision of public goods and commons.

Given the increasing tendencies towards protectionism and nationalism, muscular competition and wars, we argue that there exist paths alternative to militarism and techno-feudalism, well beyond neo-liberal globalisation. Note that hyper-globalisation also bears detrimental effects on within-country inequalities in terms of accelerated deindustrialization (Dosi et al., 2021), income losses for the working class (Riccio et al., 2025), and weakening of democratic systems (Rodrik, 2011). As such, it is one of the major causes of the backlash toward protectionism and trade wars.

In the following, we propose industrial policies as instruments to promote social objectives, rather than simply looking at them as channels to foster economic upgrading and competitiveness, and more broadly, we advance a proposal of industrial policies for global commons, primarily addressing social equality, knowledge accu-

mulation, and the protection of health and nature. This is not to reduce the relevance and responsibility of each country. On the contrary, industrial policies for global commons have a "win-win" nature: every country is going to gain from them, even if the burden of such policies ought to be proportional to the resources available in different countries. Around forty years ago, Nelson (1977, 2011) was asking why the American society found it much easier to send men to the moon than solve the problems of the ghettos. The question continues to dramatically apply nowadays. It is time to reverse a pattern in which it is easy to undertake "missions" with space or military objectives but it is nearly impossible to have socially focused missions, notwithstanding the worldwide crises concerning health, the environment, poverty and inequality.

Historically, industrial policies underwent different vicissitudes. They have been a fundamental ingredient of all episodes of industrialization, accompanying the enthusiastic *great transformations* and the formation of modern industrial nation-states (Dosi et al., 2009). They were also part of the *Glorious Thirty* after WWII, both in the technologically and politically leading country - the US - and in the catching-up ones, under the benign umbrella of the Bretton Woods regime. Thereafter, they quickly become terrible vices in the phase of neoliberal fury and the Washington Consensus. More recently, industrial policies in some forms came back, mostly put forward within mainstream and pro-market approaches ultimately meant to "save capitalism", and in particular industrial and financial interests, from its self-cannibalization (Fraser, 2023). The European Report on Competitiveness is an exemplary case of such a perspective, advocating a "new strong Europe" (Draghi, 2024), which actually never politically existed.

On the contrary, we should think of industrial policies as instruments to save the planet from the negative consequences of neo-liberalism, and possibly imagine a structure of societies able to go beyond the current techno-capitalistic division of labour and property rights, especially in the knowledge domain.

The paper is structured as follows: Sect. 2 defines the nature of industrial policies. Section 3 discusses the purported return of industrial policies, premised on the transformation from a US-centric world, toward a mostly Sino-centric one. Section 4 discusses the architecture of some recent interventions and plans, which, in our view, fail to be genuine industrial policies but rather simply reinforce corporate power. Finally, Sect. 5 advances a proposal of industrial policies for global commons.

2 What are industrial policies?

In order to provide a clear definition of what industrial policies, written large, are let us define their three theoretical pillars.

First, industrial policies and related institutional architectures determine the boundaries between market and non-market forms of organisation, and the ensuing provisions of public vs. private goods and services. Second, they define the governance structures shaping the rate and direction of learning and accumulation of capabilities and productive capacities. Third, they have or should have the potential to address more than one objective, and particularly to conjugate technological and

social goals. The first two pillars are discussed in Cimoli et al. (2009), but it is urgent to extend their scope to the third one, in order to address the governance of the global commons, including our natural environment and global health.

Let us start with the first pillar, which is the definition of the boundaries between market and non-market activities, pinpointing what can be privately produced and exchanged and what cannot be. Together with the *what*, this pillar includes the definition also of the *who*, that is the actors involved.

With respect to the "what", that might concern strategic goods, such as military ones, and public services such as education, healthcare and justice. Regarding the "who", Cimoli et al. (2009) discuss the role of *non-market institutions* in providing non-marketable goods and services, establishing also the activities whose marketisation is deemed as ineffective or socially undesirable. Such institutions also limit and constrain the behaviour of private actors, or putting it in Amsden and Singh (1994) language, such institutions *discipline* capital and more generally private economic motives.

A crucial domain that public institutions have protected until recently from market intrusions has been the *scientific commons*, as Paul David puts it (see among other contributions David (2004) and the discussion in Coriat et al. (2025)). That is, they have protected Open Science and the pursuit of curiosity-driven search, and with that the expansion of the "endless frontier" of knowledge (Bush, 1945), upon which also the major technological innovations over the last centuries have flourished.

Moreover, public programs fostering research and development in many "strategic sectors", such as the biomedical and the information-processing ones, have added to the pool of general "open" knowledge even when such programs come under the second pillar, namely the governance of the rates and directions of *technological learning* (see also below).

Exemplary cases are the role of public programs in fostering research and development in many strategic sectors, such as biomedical, pharmaceutical and health. Similarly, the role of public actors has been strategically relevant in the construction of heavy transport goods such as ships and aircraft.

Another domain where public actors have played until recently a paramount role has been the provision of infrastructure and network of coordination, such as roads, railroads (in many countries), electricity grids, and ICT networks. Just recall that the origin of the internet was milnet, a network constructed by the US military for communication emergencies, and the WEB rests upon a breakthrough innovation at CERN.

Last but not least, public institutions act to prevent potential self-cannibalization driven by profit-seeking behaviours, and together create and influence the structure of market relations, even when the distribution of production and property rights mostly pertains to private actors.

As convincingly argued in Hirschman (1982), markets left to themselves might well become self-destructive. This is not due to the Marxian forecast of "success which has the seeds of its own destruction" but to the weakening of "moral sentiments" (Smith, 1759) which curb the self-seeking drives of *homo oeconomicus*. To quote Hirsch (1976):

> As individual behavior has been increasingly directed to individual advantage, habits and instincts based on communal attitudes and objectives have lost out. The weakening of traditional social values has made predominantly capitalist economies more difficult to manage (Hirsch, 1976, p. 117–118).

The second pillar of industrial policies concerns the governance of the accumulation of technological knowledge. In principle, knowledge, rather than a "good", shows many traits of a *common*. It has the attributes of being non-rival and non-excludable and together bears the characteristics of a common (Hardin, 2013): it is a human-generated resource based on individual and collective cognition and driven by search-and-problem solving heuristics, which serve many serendipitous purposes. Contrary to the traditional "tragedy of the commons", supposedly due to overuse lacking property rights, the threat knowledge faces is its *overappropriation*, both via legal barriers to its own generation and use, and other forms of private appropriation - as a corollary of its partly tacit nature (Dosi, 2023). Knowledge should be seen as a *primus inter pares* among the drivers of growth and development. Its generation displays typically varying balances between public and private sources, conditional on the characteristics of different technological paradigms and different historical phases.

However, precisely its (partial) appropriation by profit-seeking actors makes for the endemic possibility of divergence between the rate and direction of knowledge accumulation (or lack of it), which private actors left to themselves would undertake, and those which society would like to pursue. In that, industrial policies enter as instruments able to foster and nurture the creation of national systems of innovation and to direct accumulation of both knowledge and production capacity (Freeman, 1995).

Industrial policies have deep historical roots in the early construction of the whole socio-economic fabric of industrial society, particularly in their development phase. Here let us just mention Hamilton (1791) "Report on the Subject of Manufacturers" arguing for infant industry policies to support the creation of a national production capacity in the US. Similarly, List (1856), in his *National System of Political Economy*, identifies in the protection and development of internal industrial structures one of the key elements of England economic success and a pre-condition of German catching-up (Oqubay, 2020). More on industrial policies and development in Cimoli et al. (2009).

It happens that industrial policies, whether called as such or not, are also crucial in the development and diffusion of new technological paradigms, which often are at the core of novel phases of economic growth. This is particularly the case in the last hundred years or so, with public missions which have led to knowledge accumulation (Mazzucato, 2021), most often involving military and space objectives (e.g. the Manhattan Project, the Apollo program, etc.).

But here comes the (possible) third pillar, which is the capacity of industrial policies to address societal challenges. Let us go back to the original Nelson (1977) question: why industrial policies, and the institutions involved in their attainment, have been successful in sending humans to the moon, but not at solving societal problems, in primis social injustice, showing a persistent lack of capabilities able to address the ghetto problem? As Nelson (2011) puts it:

> "If we can land a man on the moon, why can't we solve the problems of the ghetto?" The question obviously is a metaphor standing for a variety of complaints about the uneven performance of the American political economy in meeting different classes of wants. In an economy with such vast resources and powerful technologies why can't we: educate ghetto kids, provide medical care at reasonable cost to all that need it, keep the streets, air, and water clean, keep down crime, provide decent and low cost mass transport, halt the rise in housing and services costs, have reliable television and automobile repair service. (Nelson, 2011) pp. 376.

In the understanding of what the problems of the ghetto are enters a crucial aspect of political economy and of the definition of the interests at stake. While the two previous dimensions of industrial policies may look socially-neutral, indeed they are not. Whose interests are such policies meant to address? Reintroducing the objectives and the underlying political interests behind industrial policies is of paramount importance if we intend to promote policies that are possibly meant to benefit society and not only particular socioeconomic groups.

A clear recent example is related to the instruments directed toward the so-called decarbonization of the economy. In many of such instances, the actual beneficiaries of these policies are the actors who bear the highest responsibility in terms of CO_2 emissions, particularly Oil and Gas companies in the energy sector. This occurs for example in the case of hydrogen projects financed by public investments (Vezzoni, 2024). Here the recipients of public money include BP, Shell, Snam etc. This evidence illustrates how such policies, even when formally conceived to obtain potential societal goals, as climate change containment, are deeply and inherently affected by the actual distributions of interests and power structures.

The question that arises is therefore how and who should bring into the scene the interests of the ghetto? With reference to the green growth approach, the notion of a *just* transition has been put forward, at least formally, in order to embrace interests beyond corporate ones, and social and environmental justice in particular (Newell & Mulvaney, 2013). However, the weakness of such interests immediately emerges in the elaboration of the technical recommendations or plans which are themselves the result of the existing distribution of power structures and spheres of influence. Witness the recent Draghi (2024) report. Consider the number of multi-national corporations, and economic and financial actors behind the "technically-oriented" Draghi's document. Simply looking at sheer numbers from the list of contributors allows to infer the asymmetric distribution of the power structure, with more than 80 companies and business groups, 70 Trade and business associations, 5 Professional consultancies, but only 8 NGOs and just 1 Trade Unions representative.[1]

Problems of representation of alternative interests beyond corporate ones, specifically societal ones, become more and more urgent. A strategy that looks to be effective, notwithstanding the very low degree of scalability so far, is the activation of social conflict practices meant to orient political decision-making: see the recent

[1] https://commission.europa.eu/topics/strengthening-european-competitiveness/eu-competitiveness-looking-ahead_en.

worldwide atlas on environmental conflicts (Temper et al., 2018). Political discourse and actions here face a clear bifurcation between the technological fix and the needs of environmental and climate justice, often sustained by grass-root movements. In that place-based industrial policies might represent a potential policy instrument able to integrate top-down and bottom-up measures.

In order to govern all the above objectives, the public requires appropriate governance institutions and capabilities at all the foregoing levels: public research facilities (e.g. NIH, CERN), public production facilities in strategic goods (e.g. pharmaceutical), state-owned enterprises, development banks, governance/procurement agencies. Each of these institutions acts via distinct policy instruments to reach distinct but complementary targets.

In addition, whenever the role of industrial policies operates also via financing, the provision of public money should not come as sheer transfer, but under conditionality agreements (Mazzucato & Rodrik, 2023). Conditionality implies, for example, limits to delocalization, activation of new and good employment, and preservation of labour and social rights. Concerning specifically the environment they ought to imply the upgrading to the best available techniques and process standards, meeting environmental requirements and adopting "end-of-pipe" technologies. In all cases, conditionality must involve specific objectives going beyond loose targets, such as increasing the generic innovative rates through R&D subsidies or adoption of specific technologies via incentive schemes.

We summarize the taxonomy of targets, instruments and actors of industrial policies in Table 1. In the following, we shall discuss the (very limited) correspondence of a few current policies with the foregoing taxonomy.

Having adopted such a taxonomy, we distinguish true from fictitious industrial policies based on both the objectives that are pursued and the mechanisms of benefit creation that they entail. So, as clear from Table 1, industrial policies are classified along a multi-dimensional approach; in this respect the criteria behind their identification are quite stringent as both objectives and mechanisms should be satisfied.

In a nutshell, what is relevant for an industrial policy is not prioritizing objectives vs. mechanisms, or the other way round, but rather being shaped by the aim of first, defining the boundaries between market and non-market forms of organisation; second, defining the governance structures of the rate and direction of learning and accumulation of capabilities; third, addressing more than one objective, and particularly conjugating technological and social goals.

3 The fictitious return of industrial policies: rhetoric and motives behind

A growing role for industrial policies in a narrow sense has seemed to emerge in recent years, particularly after the Great Recession (Wade, 2015; Cherif & Hasanov, 2019), and the pandemic crisis (Cherif & Hasanov, 2021). The US oriented its "America First" strategy to rebuild internal industrial capacity (Mazzucato & Rodrik, 2023). More recently, even the European Union has been considering the importance of coordinated investment plans, as in the case of the Green Deal and the Clean

Table 1 A taxonomy of industrial policies and institutions

Targets	Instruments	Institutions
	NURTURING THE "ENDLESS FRONTIER" OF SCIENCE	
Opportunities of scientific and technological innovation	Science policies, graduate education	Universities, research centers and public laboratories
	MISSION-ORIENTED POLICIES	
Development of specific technologies and products	Mission-oriented projects (the Manhattan Project, the Apollo Program, etc.)	Public procurement agencies
	SECTORAL - VERTICAL - INDUSTRIAL POLICIES	
Socially distributed learning and technological capabilities	Broader education and training policies (apprenticeships, learning on the job)	Professional schools, business associations, trade unions
Structure, ownership, modes of governance of business firms	Corporate control, participation, conditionality clauses, golden share	State owned enterprises, public development banks
	TECHNOLOGICAL - HORIZONTAL-INDUSTRIAL POLICIES	
Firm-level technological adoption and use, search and direction of new discoveries	R&D policies, incentive schemes, tax deductions	Ministers of finance and economic development
	MARKET REGULATION AND GOVERNANCE POLICIES	
Economic signals and private incentives (prices, profit rates, appropriability)	Price regulations; tariffs and quotas; energy policy, IPRs regimes	States, international organizations
Selection mechanisms	Anti-trust and competition; entry and bankruptcy; allocation of finance; capital markets	Anti-trust authorities, bank regulatory authorities
	INSTITUTIONAL ARCHITECTURES	
Governance and regulation of conflictual interests among different actors	Policies for social justice, environmental justice, climate justice	Public committees for industrial policies, NGOs, grass-roots movements, civil society, trade unions, business associations

Hydrogen Strategy (Wolf et al., 2021). Particularly, in a phase of rapid transformations, industrial policies supporting the transition from GHG-emitting technologies (Rodrik, 2014) might represent an important instrument for both developed and developing countries.

But, are these programs actual industrial policies? Let us go back to the very definition of industrial policies. The one offered by mainstream economics, much narrower than ours, is that they represent "any type of selective government intervention or policy that attempts to alter the structure of production in favour of sectors that are expected to offer better prospects for economic growth in a way that would not occur in the absence of such intervention in the market equilibrium" (Pack & Saggi, 2006, pp. 267–268). In fact, a recent IMF report (Evenett et al., 2024) includes subsidies (in developed countries), and tariffs or quotas (in developing ones) among the main forms of industrial policy. However, this definition clearly de-emphasises some of the most important aspects of industrial policies, that is, *agency* and *mechanisms* through which they operate.

According to our reading, more than an actual return of industrial policies, such interventions are still homeopathic departures from sheer competition policies, motivated by *market failures* - in particular, supposedly unfair trade retaliations against trade distortions.

The basic analytical framework remains that inherited from the neo-liberal vision. Markets, left alone, generally yield the best of the possible worlds - the story goes - except for some market failures rare to find and very difficult to prove. Of course, things change if there is some harmful political interference, which inevitably induces a "market distortion" to which policy responses are well justified as a sort of second best. Obviously, here the main culprit is China to which the US, in primis, but also Europe are bound to respond.

A recent case is the official anti-subsidy investigation into electric cars in China in October 2023 conducted by the EC and further investigations related to the subsidies toward wind turbines (Bickenbach et al., 2024). Noteworthy, in the last decade China has been one of the countries mostly exposed to anti-dumping trade measures since its accession into the WTO (Lu et al., 2018). The growing role of Chinese imports in the world production of goods and the corresponding increasing share of China's exports in international markets have also fostered the recent "trade war" launched by the US in 2018 (Jiang et al., 2023). The second 2025 Trump's term has just started with an unprecedented protectionist stance, with the US imposing massive tariffs against Europe, China and South-East Asia.

Needless to say, behind these patterns stand profound structural changes in the world economy and impressive catching-up by the Chinese industry (Yu et al., 2024). Let us look at some details and ask whether the observed patterns are indeed the result of "unfair" trade practices by China.

The OECD I-O tables and the Penn World Table offer an empirical account of some facts which represent the actual motives behind the new plea for industrial policies. Figure 1 presents the worldwide penetration in international markets of Europe, the US, and China, from 1995 to 2020. Foreign forward linkages represent the contributions to intermediate production of worldwide exports of the three countries/areas. The dynamics clearly show the dramatic penetration of China, from 1 to 8% in twenty-five years. The Chinese penetration reached the US and Europe worldwide contributions after 2008, and remained stable at higher levels thereafter. The increasing Chinese share is just one of the many indicators signalling the recomposition of international production, with losing Europe and the US versus a winning China.

Participation in export markets may occur in many different product segments. China, even if abundantly endowed with natural resources, did not rely on them in its export strategy, as shown by a stable worldwide share of around 1%, contrary to the US which reached more than 8% of worldwide natural resources exports in 2020 (Fig. 2).

The dynamics of the labour share, shown in Fig. 3, testify the now consolidated position of China as a developed industrial country. Note that the labour share is not only a measure of the functional income distribution, but also of the development level of a country. In fact, advancing over development stages implies higher labour absorption in the modern sector of the economy, which tends to map into a growing labour share. In the period under analysis, while the worldwide labour share declined

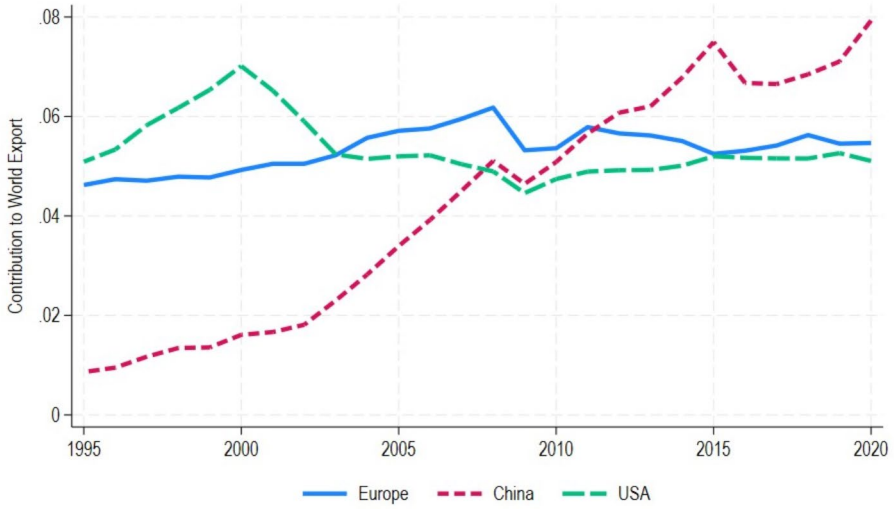

Fig. 1 Foreign forward linkages contributions as a percentage of World Export for Europe, China, and the United States from 1995 to 2020. Europe: Austria, Belgium, Bulgaria, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Ireland, Italy, Lithuania, Latvia, Malta, The Netherlands, Poland, Portugal, Slovenia, Slovakia, Sweden, Cyprus, Romania.
Source: OECD-ICIO (2023).

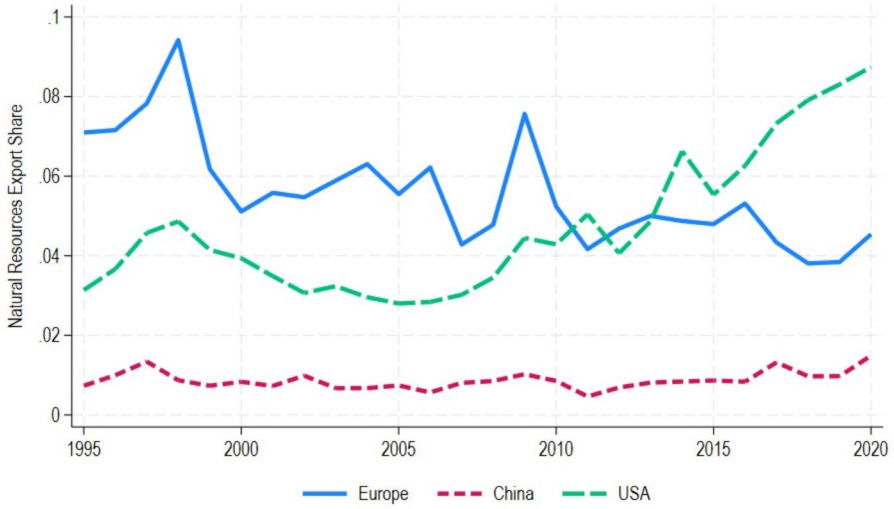

Fig. 2 Share in the world export market of Natural resources for Europe, China, and the United States from 1995 to 2020. Natural resources are defined as Mining and Quarrying economic activities (B in the 1-digit NACE Rev. 2 classification). Europe: Austria, Belgium, Bulgaria, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Ireland, Italy, Lithuania, Latvia, Malta, The Netherlands, Poland, Portugal, Slovenia, Slovakia, Sweden Cyprus, Romania.
Source: OECD-ICIO (2023).

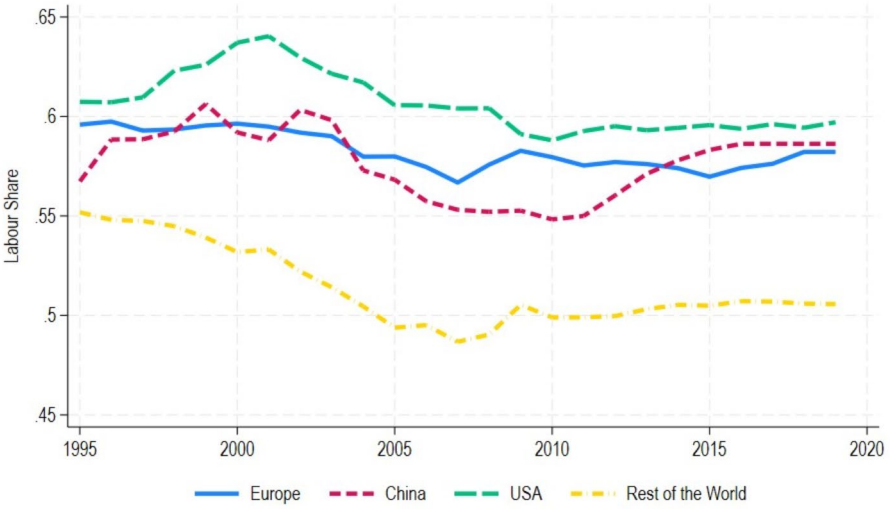

Fig. 3 Labour Share dynamics in Europe, China, United States and the Rest of the World from 1995 to 2020. Aggregations for Europe and the Rest of the World are weighted using employment levels. Europe: Austria, Belgium, Bulgaria, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Ireland, Italy, Lithuania, Latvia, Malta, The Netherlands, Poland, Portugal, Slovenia, Slovakia, Sweden Cyprus, Romania. Rest of the World: the remaining countries covered in the PWT.
Source: Penn World Table 10.1 (2023).

from 0.55 to 0.5, the Chinese labour share remained roughly stable at 0.6, near the European levels.

What has been the role of Government direct consumption during the last twenty-five years? As China is commonly considered as a state-led economy, one in principle would imagine a large share of government consumption in total output. According to the statistical definition provided by the OECD, general government (GG) has two functions, namely the production of non-market services (education, health care, defence, policing, etc.) and the redistribution of income (social benefits, subsidies) (Lequiller & Blades, 2024). Figure 4 shows that government expenditure under these headings reached 24% in Europe, 17% in China, and around 15% in the US in 2020. Notably, China and the US, although presenting comparable shares, show opposite trends, an increasing Chinese trend vs. a decreasing US one since 2010. The two patterns also show the different roles that the state has assumed in the last decade, with a significant retrenchment of the welfare system towards a progressive exclusion of part of the population and the commodification of public goods in the US (Dosi et al., 2024). This of course has nothing to do with "distortive" forms of government intervention, but rather with attempts to tackle quite unjust social conditions (in China) or to objectively make them worse (in the US).

Another, indirect, positive evidence of the effects of public policies concerns the CO_2 emission content of Chinese production (Fig. 5), an important sign of the more general upgrading of the Chinese industry (Yu et al., 2024). Over twenty-five years, China has reduced by more than one-third its emission factor reaching the level of the

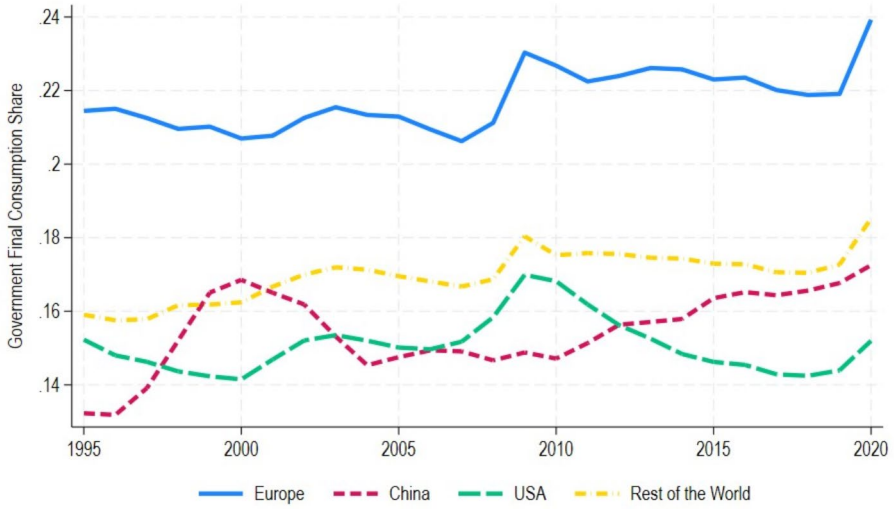

Fig. 4 General Government Final Consumption (GGFC) as a share of country final demand for Europe, China, United States, and the Rest of the World from 1995 to 2020. Europe: Austria, Belgium, Bulgaria, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Ireland, Italy, Lithuania, Latvia, Malta, The Netherlands, Poland, Portugal, Slovenia, Slovakia, Sweden Cyprus, Romania.
Source: OECD-ICIO (2023).

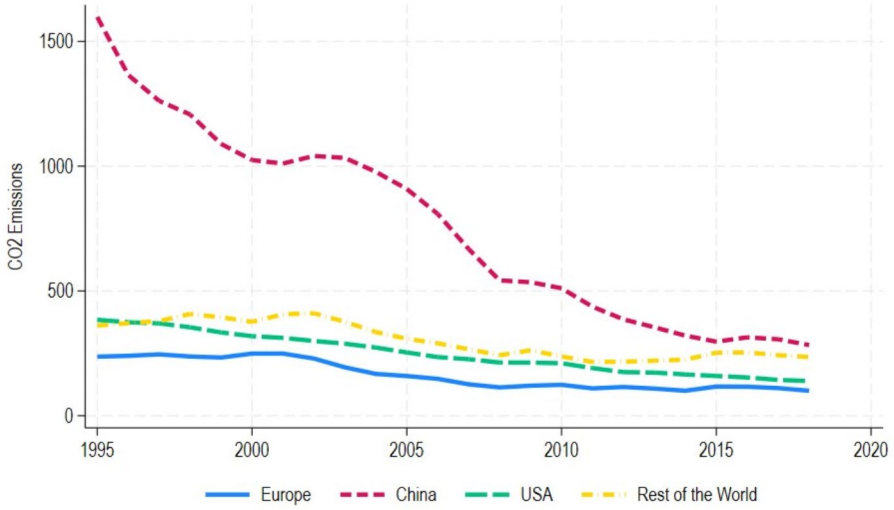

Fig. 5 Country-wise production emission factor expressed as Tons of CO_2 emissions per 1000 US$ of production (CO_2 emission factors) for Europe, China, the United States and Rest of the World from 1995 to 2018. Europe is the EU28 aggregate.
Source: OECD Greenhouse Gas Footprint Indicators (2021).

US and European production. Figure 6 presents the disaggregation across different industrial sectors, showing a decreasing emission factor in all of them, including the most intensive in terms of emissions, that is energy.

Again, nothing in these policies implies unfair trade. Rather, we must acknowledge that we live in a multipolar, increasingly Sino-centric, world, wherein US leadership and its unquestioned dominance are now deeply challenged. If this is the case, the purported return of industrial policies just masks protectionist policies meant to regain lost terrain by the (ex-)leaders.

4 Recent policy interventions: consolidation of old corporate powers and new asset managers

Let us consider in greater detail the policy interventions meant to spur national production both in the US and in Europe.[2]

The Chips and Science Act and the Inflation Reduction Act in the US have been among the most ambitious measures in terms of resources and objectives (Tyson & Zysman, 2023). The former, spurred by the global supply chain risk which emerged after the pandemic, was meant to curb the progressive retardation of US manufacturing in the production of a strategic, multi-purpose, and pervasive electronic component - the microprocessor. The latter is in fact largely produced by the Taiwan Semiconductor Manufacturing Company (TSMC), responsible for roughly 50% of the world's semiconductor production. The urgency to regain positions in the production of this strategic good, but more generally in high-tech sectors, like quantum computing, materials science, and human spaceflight has boosted an investment of 280 billion dollars in 2022. The investment was modulated via a mix of instruments, from subsidies to tax benefits, loans, and grants. Grants have been allocated but many projects are still in progress. The opening of a new plant by TSMC in Arizona has been delayed to 2026, with non-trivial problems in finding US skilled labourers in construction, maintenance, and installation of the site. According to independent observers, 37 projects have been launched under the act, involving 272 billion dollars and approximately 36 thousand jobs by November 2024.[3] Concerns have been raised in terms of conditionality of the funds. Many sites are opening in "Right to Work" states, limiting unionisation capacity. Conversely, explicit requests not to finance stock buybacks have been put forward and included as forms of conditionality (Bulfone et al., 2024).

The Inflation Reduction Act, passed in 2022, is a plan combining taxation policy, particularly in terms of corporate taxes, health policies, and climate change policies, including the creation of a "green bank". The objective is to accelerate the process of decarbonization of the US economy, reducing emissions by 40% with respect to 2005 by 2030. The Act allocates $891 billion, mostly devoted to energy security.

[2] With reference to Europe, we would like to also mention the report by Letta (2024), which however does not specifically address what we defined as competitiveness policies, but rather the future of the single market.

[3] https://www.jackconness.com/ira-chips-investments.

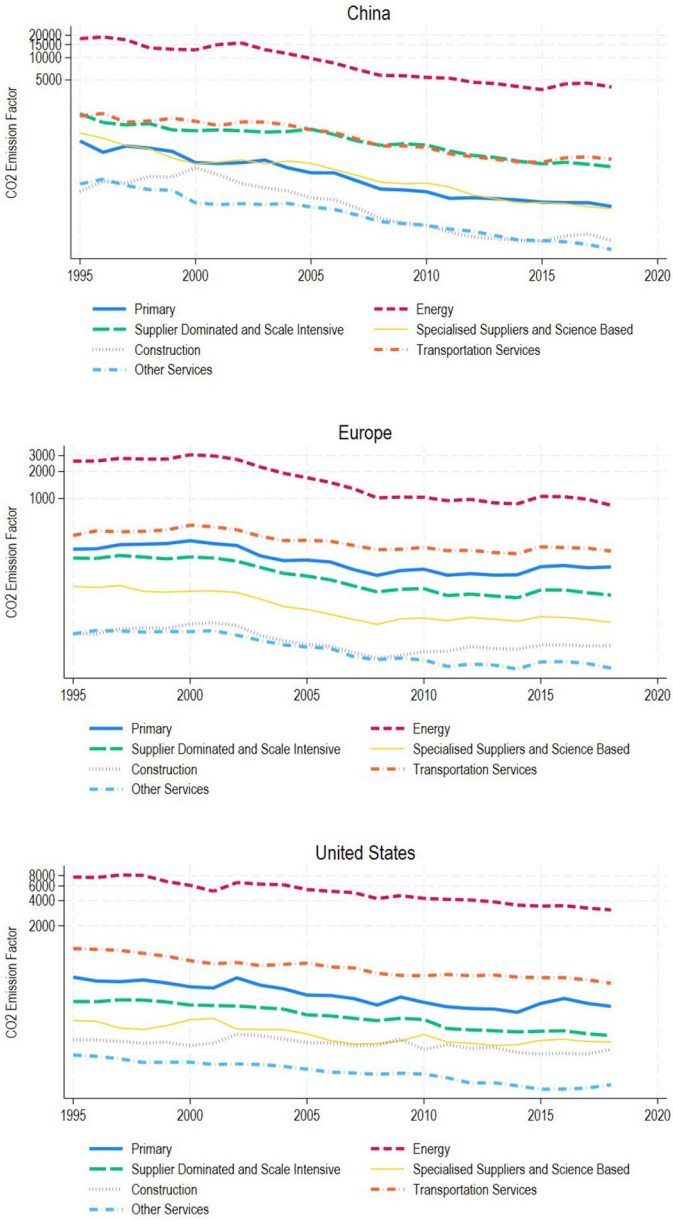

Fig. 6 Emission factors by aggregate sectors expressed as Tons of CO_2 emissions per 1000 US$ of production (CO_2 emission factors) for Europe, China, United States and the Rest of the World from 1995 to 2018. Industry-level emission factors are aggregated using gross output as weight. Europe is the EU28 aggregate. Aggregate sectors are constructed as follows (NACE Rev 2 classifications): Primary: section A+B; Energy: D+E; Supplier Dominated and Scale Intensive: 10T12+13T15+16+25+31T33+17T18+19+22+23+24+29; Specialised Suppliers and Science Based: 20+27+28+30+21+26; Constructions: F; Transportation Services: H; Other Services: G+I+J+K+L+M+N+O+P+Q+R+S+T. Source: OECD Greenhouse gas footprint indicators (2021).

Other areas include transport, manufacturing, building retrofitting, and energy efficiency. The motivation behind the Act is curbing energy prices and obtaining energy security, coupled with decarbonization and the creation of new jobs. By November 2024, 181 projects have been announced, involving 116 billion and approximately 99 thousand jobs. Most of the projects so far are related to battery production and have been planned to take place in historically Republican states, cheaper in terms of labour costs, where, again, "Right to Work" laws hold. The Act also allocates funds for climate justice.

Reactions over the program have been diverse, with trade unions raising concerns about good jobs in the hiring strategy, and environmental NGOs about the provisions of financing also to small entities. The Act represents the largest public investment in trying to reduce emissions. However, the crucial question is how much this plan is actually connected with climate change or rather simply with energy security.

What is clear is that both plans are meant to create a new international order (very much alike the older one) in which the US would not lose ground against China. As such, the Acts, beyond their stated objectives, in fact, represent measures within "trade wars".

In addition, when looking at the projects financed under such programs and the actors involved, including major international corporations such as Toyota, Hyundai, Tesla, Stellantis, TSMC, Intel, Samsung, and IBM, what is immediately clear is the big amount of public financing provided to large multinational corporations, without any form of public control, let alone participation in the ownership structure. In this respect, the plans largely risk turning public programs into sheer financing to private companies, which will continue to pursue their own profit strategies. For example, in the environmental domain, their sole effect is rendering private electric mobility a profitable market opportunity. In fact, battery production does not represent the most effective means to reach overall decarbonization objectives. However, in the case of IRA, 68% of projects regards battery production, while renewable energy is certainly under-financed, even if on paper, it represents the area with the highest spending target (around 600 billion).

Let us look at Europe. The *Open Strategic Autonomy* is framed under the headings of energy security, national security, and defence-motivated reasons. The problem of "strategic autonomy" emerged as a consequence of the pandemic crisis, which revealed the enormous dependence that Europe has vis-à-vis external providers of critical raw materials. There is no single European Act or Initiative, but rather a constellation of them, trying to target different areas - raw materials, batteries, active pharmaceutical ingredients, hydrogen, semiconductors, cloud technologies. Europe has fostered the construction of alliances as platforms to facilitate interactions among interested partners in a set of strategic areas, including zero-emission aviation, small modular reactors, raw materials, photovoltaics, clean hydrogen, and batteries. The alliances do not receive specific financing but mostly represent public-private arrangements to secure collaboration, and possibly markets. The only Act comparable to the IRA is the Net-Zero Industry Act (Gabor, 2023). The European Hydrogen Bank is supposed to be a major financing actor in the process. Notably, the EU rather than providing tax deductions or grants, mainly intends to foster the creation of markets for renewables by securing trading initiatives among already well-financed

actors, in many cases Oil and Gas companies, as in the case of the winning projects for hydrogen production. The Hydrogen Bank should foster the "matching of supply and demand", attract imports of renewable hydrogen into the EU market, and promote a European auction.

One of the areas wherein Europe has foreseen a new direct budget allocation has been the defence industry. In particular, the Commission has established a specific fund, the European Defence Fund (EDF) meant to support primarily SMEs in the defence industry, particularly fostering research and innovation, but also development in military and dual use applications, via grants, for a total financing of 8 billion in the period 2021-2027. The projects financed in 2023 are 61, for a Union funding of 1.15 billion. With respect to the scale of each single project and the number of participants, they entail small-to-medium scale financing and involve universities, research centres, but also defence companies like Leonardo, Rheinmetall, and "dual" companies, like AIRBUS or Fincantieri. The escalation towards military spending and the reorientation of the European Industrial strategy toward a war economy looks to be the most clear path undertaken by member states, first as a result of the Russia-Ukraine conflict, and subsequently because of the military support to Israel. Leonardo and Rehinmetall have just launched an initiative to create a new joint venture (Leonardo Rheinmetall Military Vehicles (LRMV)) meant to develop the Main Battle Tank (MBT) and the new Lynx platform for the Armoured Infantry Combat System (AICS) programme as part of the Italian Army's programme for land systems.[4] In 2021, the two companies were part of a consortium financed under the EDF called INDY.[5] To sum up, the EDF represents the only initiative more clearly resembling a mission-oriented strategy, mostly devoted to rearm Europe. In 2025, a further proposal has been launched under the ReArm Europe Plan/Readiness 2030, which foresees an investment of 800 billion euro directed toward the military industry.[6]

What is the role of institutional investors, considered to be the new actors of the state-private relationships, in financing green strategic investments via de-risking strategies (Gabor, 2021)? They are both the recipients of state loans and grants, and guarantors via their participation in the ownership structure of firms receiving public finance. It is well known the strategy of the most influential global asset manager, Blackrock, of pushing toward "sustainable finance" (Glowik et al., 2024). The articulation of the strategy is repeatedly recalled to the CEOs of the companies owned by the fund. In the 2022 annual letter of Larry Fink to CEOs, titled "The Power of Capitalism", the advice to CEOs was that "we focus on sustainability not because we're environmentalists, but because we are capitalists and fiduciaries to our clients."[7] In addition, the search of public money as a guarantee for risky infrastructure investments is announced as well:

[4] https://www.leonardo.com/en/press-release-detail/-/detail/15-10-2024-new-player-in-european-tank-production-leonardo-and-rheinmetall-establish-joint-venture.

[5] https://defence-industry-space.ec.europa.eu/document/download/f2fefde8-bdef-4c76-914b-b7b040a2a988_en?filename=Factsheet_EDF21_INDY.pdf

[6] https://defence-industry-space.ec.europa.eu/eu-defence-industry/introducing-white-paper-european-defence-and-rearm-europe-plan-readiness-2030_en

[7] https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.

> Capitalism has the power to shape society and act as a powerful catalyst for change. But businesses can't do this alone, and they cannot be the climate police. That will not be a good outcome for society. We need governments to provide clear pathways and a consistent taxonomy for sustainability policy, regulation, and disclosure across markets. They must also support communities affected by the transition, help catalyze capital for the emerging markets, and invest in the innovation and technology that will be essential to decarbonizing the global economy. It was the partnership between government and the private sector that led to the development of COVID-19 vaccines in record time. When we harness the power of both the public and private sectors, we can achieve truly incredible things. This is what we must do to get to net zero.

The expectation that the new strategic investments should progressively target what in this article we consider global commons is made explicit also in Larry Fink's 2024 *Annual Chairman's Letter to Investors.*[8] Pension schemes and decarbonization are the areas of profitable investments. In both cases, the public-private partnership is strongly advocated. Governments should support the creation of capital markets in these areas, Fink suggests. And when coming to the energy transition, the great discovery is "natural gas":

> Germany is a good example of how energy pragmatism is still a path to decarbonization. It's one of the countries most committed to fighting climate change and has made enormous investments in wind and solar power. But sometimes the wind doesn't blow in Berlin, and the sun doesn't shine in Munich. And during those windless, sunless periods, the country still needs to rely on natural gas for "dispatchable power." Germany used to get that gas from Russia, but now it needs to look elsewhere. So, they're building additional gas facilities to import from other producers around the world.

However, the asset management fund is also investing in solar, wind, battery, and in carbon sequestration with the STRATOS project allocating 550 million in collaboration with the energy company Oxy, opening a new plant in Texas in 2025. It is remarkable that his advocacy for governments becoming the supporters of capital markets, paving the way to penetration of massive private capital funds in financing (ex) public goods provision, is well in tune with the *Europe's Plan for Competitiveness* written by Mario Draghi. In Table 2 we report a simple keyword search for "capital markets" in Draghi's plan, citing some representative statements. Capital markets are addressed in the report in many dimensions. First, their relative weakness is considered among the reasons for Europe lagging behind the US: the lack of an adequate development of European capital markets is considered one of the major causes of Europe's backwardness. Second, European savings ought to be better channelled to capital markets. Third, Europe has to create a strong capital market by sponsoring pension funds, undertaking the emission of a common debt instrument, and supporting capital markets integration. Overall, the role of the public, in the

[8] https://www.blackrock.com/corporate/investor-relations/larry-fink-annual-chairmans-letter.

Table 2 Content analysis of Mario Draghi's *Plan for a competitive Europe*. Selected statements including "capital markets"

Statements
First, while Europe must advance with its Capital Markets Union, the private sector will not be able to bear the lion's share of financing investment without public sector support
There are two key implications for the EU. First, integrating Europe's capital markets to better channel high household savings towards productive investments in the EU will be essential
While the defence sector overall will benefit from measures to deepen EU capital markets, innovative defence SMEs will need additional support
A key reason for less efficient financial intermediation in Europe is that capital markets remain fragmented and flows of savings into capital markets are lower
EU capital markets are also undersupplied with long-term capital relative to other major economies, owing largely to the underdevelopment of pension funds
To unlock private capital, the EU must build a genuine Capital Markets Union (CMU) supported by a stronger pension
To increase the flow of funds into capital markets, the EU should encourage retail investors through the offer of second pillar pension schemes, replicating the successful examples of some EU Member States
Finally, the EU should move towards regular issuance of common safe assets to enable joint investment projects among Member States and to help integrate capital markets
Common issuance (common debt instrument) should over time produce a deeper and more liquid market in EU bonds, allowing this market to progressively support the integration of Europe's capital markets

transition toward a "better", more competitive Europe, is confined to the emission of public debt to secure private investments. This approach to industrial policies is quite the opposite of any notion of industrial policies for global commons, that we advocate in this paper.

There has been a growing literature questioning the boundary between the role of the state and private actors in recent years, discussing the realms and objectives of industrial policies (Bulfone et al., 2024), but also putting forward the notion of de-risking (Gabor, 2021), and the use of public money to back corporate interests. In such configurations, conditionality and mechanisms for disciplining private capital (Amsden, 1991) look to be even more weakened. Farnsworth (2013) has focused on the notion of corporate welfare and the need to structurally acknowledge the continuous existence of state money provisions to corporations, in parallel to social welfare. Acknowledging the existence of such financing channels, according to the author, allows to reconsider the role of the state as solely a provider of passive fiscal support whenever social welfare is implemented. Accounting for corporate welfare also allows to pinpoint which are the interests involved in state financing. Given the existence of corporate welfare, there exists a tight relationship between the state and corporate interests. We are probably on the edge of a backward transformation where the state passively accepts big corporations' requests.

5 Some conclusions: the urgent need for policies addressing the global commons

Times are changing fast but not necessarily for the better. Half a century ago, it would have sounded like a plain truth that the balance between public and private power had changed in favour of the former (Shonfield, 1965). In such mixed economies, even the provision of basically ordinary goods - such as steel or ships - in some countries was normally shared between public and private actors. Many European countries had agencies for planning the entire economies (the French, for example, had indicative planning as a general principle for policies). The generation of scientific knowledge was run as a common - even if the word was not used at the time - whose intrinsic features prevented any "tragedy of the commons." A pasture may be overgrazed, but on the contrary, the more knowledge is used and refined, the more it grows. Industrial policies were a normal ingredient of catching up in Europe, Japan and developing countries. Major *missions*, especially in the US, were undertaken, although mainly limited to military and space objectives.

Activities in domains like health and education were considered, at least in Europe, as concerning the fulfilment of *universal rights*, rather than providing (marketable) goods and services. Of course, all was not a bed of roses. Conflicting interests remained. Nature continued to be considered - indeed at an accelerating rate - just "a source of raw materials and a sink for human waste" (Brock & Taylor, 2005). And, last but not least, the "moon vs. the ghetto" problem continued to be there with its dramatic strength. Still, the power of politics somewhat curbed the disruptive power of the unbridled pursuit of profits.

Soon thereafter, however, markets (that is capitalists, old and new) came back with a vengeance. What had been universal rights– at least at national levels– such as health, education and welfare became goods to be privatized and turned into a major source of rents (Dosi et al., 2024). Intellectual Property Rights (IPRs) increasingly expanded their domain, massively infiltrating the domain of open science too.

The environmental emergency exploded, but the (timid) attempts to address it have been largely put in the hands of those who were responsible for it in the first place.

Indeed, we have argued in this paper that there are no such things as *socially neutral* industrial (and within that, environmental) policies. On the contrary, we have tried to show that current "industrial policies" are market-friendly measures which largely benefit existing corporate interests of big oil, big tech, asset managers and military conglomerates.

A part of the rhetoric is on the just transition, but there are no explicit plans to reconvert decaying areas, retrain left-behind workers, and no specific attention to impede accelerating extractivism. Very little is meant to ensure the security of landscape and nature, rather than military security. With a widespread and growing poisoning of water and land, the massive recurrence of fires, floods, hurricanes, water scarcity, and droughts, the lack of any direct intervention for landscape and nature preservation is stricking.

On the contrary, now more than ever, it is urgent to re-orient industrial policies addressing the protection and provision of *global commons*, namely knowledge, nature, health, and equality.

The ghettos of the world, after forty years of neoliberal order, are sharply multiplicating. The adverse effects of climate change are already manifesting at an unprecedented speed, particularly in the Mediterranean area. Facing all that, one cannot just think of curbing the damages humanity is creating while continuing the over-exploitation of nature. In a context progressively signed by global tensions and the "naturalization of wars", conflicts and genocides, business as usual means that the probability of global catastrophes massively increases.

Alternative routes exist which, in our view, focus on the provision and preservation of global commons and the redefinition of the beneficiaries of "industrial policies" written large —from the carriers to the moon to the ghettos.

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