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Article

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European Industrial Policy in the 2020s: Rationale, Challenges and Limitations

By now, the claim that "industrial policy is back" is well-worn. As late as 2019, industrial policy was labelled by an IMF working paper as the "policy that shall not be named" (Cherif & Hasanov, 2019), and economists regularly tried to steer discussions of industrial policy towards broader and general growth-enhancing policies (Enderlein et al., 2019). Yet by 2024, we have not only ample evidence on the recent empirical spread of industrial policy actions around the globe (Juhász et al., 2022), but can also observe a new resurgence of economic research on the topic.[1]

In all large economies around the world, industrial policy initiatives abound. Already in 2015, China launched its "Made in China 2025" strategy, which shifted the country's long-standing activist industrial policy approach towards achieving technology leadership in important key sectors and replacing technologically advanced imports with domestically produced goods. In the U.S., the Biden administration's Inflation Reduction Act (IRA) as well as the CHIPS Act introduced a whole portfolio of instruments to promote investment and production in the sectors renewable energy and e-mobility, including batteries and semiconductors. The European Union and its member states have also reacted with initiatives such as the Net-Zero Industry Act, the expansion of subsidies and support for Important Projects of Common European Interest, and generally increased room for manoeuvre for national subsidies promoting single companies or specific sectors.

At the time of writing, the jury is still out on what sort of results these industrial policy initiatives will finally deliver. While a rigorous analysis of the impact of industrial policies faces severe identification problems (Juhász et al., 2024), evidence points to the initial success of the IRA, at least when it comes to promoting photovoltaics and battery installations as well as electric vehicle battery production in the United States (Bauermann et al., 2024). Moreover, the recent technological and export successes in China have often been attributed to the policies implemented under the "Made in China 2025" strategy.

However, sceptics point out a number of risks and challenges of these industrial policy initiatives. First, current industrial policy initiatives are fiscally expensive. In many cases, there is no proper cost-benefit analysis. Linked to the question of fiscal costs, there is always the danger of regulatory capture. Companies might try to get their respective sectors into industrial policy programmes. Businesses in targeted sectors may attempt to soften conditionalities and prolong industrial policy support indefinitely. Trade policies implemented with industrial policy goals in mind might increase consumer prices and create inefficiencies in the economy. Prioritising industrial policy over the integrity of the world trading system might lead to a deterioration of international institutions and ultimately to less international trade and losses of gains from trade.

This contribution looks into the reasons for the renewed interest in and growing use of industrial policy. It points out some of the challenges, outlines necessary conditions for a successful European policy, and indicates where the existing landscape of industrial policy is lacking against these criteria.

Why industrial policy and why now?

The traditional economic argument about when to employ industrial policy is based around the idea of economic efficiency: when market outcomes in the absence of government interventions were not optimal due to some market failures, government interventions were to be considered. If these government interventions could be expected to be less costly than the anticipated benefits from the correction of market failures, economists would support these interventions (Corden, 1974). Efficiency here was usually seen as Pareto efficiency. Vertical industrial policy in this framework was seen as just one among many government interventions, and often as an instrument that was near the bottom of the list of recommended interventions as the potential costs of industrial policy were perceived to be high and the perceived chances of success in correcting market failures were slim.[2]

1 For an up-to-date survey, see Juhász et al. (2024).

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2 For a discussion of this argument and its history, see Weiss (2020). The International Monetary Fund (2024b) still uses this framework.

Industrial policy was recommended for market inefficiencies that were often externalities, especially in the form of R&D, learning-by-doing spillovers or coordination (or agglomeration) failures (Juhász et al., 2024). Hausmann und Rodrik (2003) added to these more traditional externalities the concept of a cost-discovery externality. All of these externalities could in principle be addressed by industrial policies.

Already in the late 2010s, the idea of correcting market failures was supplemented by Mariana Mazzucato's concept of industrial policy creating markets, thereby increasing the scope of economic activity and creating additional economic growth (Cimoli et al., 2015).

After the COVID-19 pandemic and the Russian invasion of Ukraine, but also in the wake of rising geopolitical tensions between the USA and China, different types of externalities began to take centre stage. The COVID-19 pandemic showed that an individual firm's vulnerable supply chains might have negative external effects on other parts of the economy. If firms' foreign supply of protective equipment or antibiotics dries up in a pandemic, for example, the damage might go far beyond the sales lost by that individual firm. Similarly, if firms import key inputs to their production (such as energy) predominantly from single countries that cannot easily be replaced (as in the case of pipepline-delivered natural gas), the whole country might become vulnerable to blackmail and, as a consequence, lose its strategic autonomy (Dullien et al. 2022). In both cases, individual economic decisions cannot be expected to take these negative effects into account, and a purely market-based solution is difficult to imagine. Hence, resilience and strategic autonomy have become important arguments for industrial policy.

A final argument for industrial policy at the national level is securing welfare, incomes and jobs. Gomory und Baumol (2000) have shown that in a world with increasing economies of scale, transportation cost and spillovers, key industries will cluster in a limited number of locations. The countries where production takes place will see higher incomes (from monopoly rents), more research and development, faster technological progress and higher tax revenues. Hence, countries have an interest in attracting these key industries. If now some large countries engage in aggressive industrial policy to attract key industries, other countries will be forced to follow suit in order to prevent the relocation of firms and future losses in national welfare.

Of course, if industrial policy only determines the country in which the investment takes place without creating additional technological progress, from a global perspective, coordinated restraint from industrial policy would be economically superior. However, if non-economic considerations such as trying to become the world's largest economy (in the case of China) or preventing the ascent of another power (the United States' approach to China) are added to the equation, it is clear that such a negotiated restraint would be difficult to reach.

Hence the case for industrial policy intervention has become stronger with the recent shifts in the geopolitical environment, especially the experience of vulnerabilities in international supply chains, the growing importance of non-economic motivations in economic policymaking and the pivot towards more active industrial policies both in China and the USA.

What could possibly go wrong?

While the case for industrial policy is overwhelming given the societal and economic challenges outlined above, unfortunately, getting industrial policy right is not that straightforward. First, while the literature provides references to successful industrial policy cases such as the development of steel production and shipbuilding in Korea (Amsden, 1989), the industrialisation and technological updating in China, or the establishment of the airplane producer Airbus, there are equally numerous examples of failed industrial policy such as Brazil's attempt to establish a national computer industry (Luzio & Greenstein, 1995) or Malaysia's attempts to create a domestic automobile industry (Lee et al., 2021).

In the documented cases of failures, public money was often wasted and prices kept high at the expense of consumers without attaining the desired outcomes, lowering overall welfare. In addition to the fact that some projects always fail, one reason for at least some of the failures is seen in regulatory capture, situations in which the industries concerned managed to convince politicians to extend protection or support despite clear signals that the industries had failed to perform in a satisfactory manner.

In addition to pushing up prices, allocating domestic resources inefficiently and wasting public funds, another danger is that industrial policy leads to trade conflict and hence damages the international trading system. In the wake of trade barriers employed to reach industrial policy goals, trade partners might react with retaliatory measures, further distorting the market outcome (International Monetary Fund, 2024a).

Necessary conditions for a successful industrial policy

While there is no clear set of sufficient conditions for preventing industrial policies from failing and producing neg-

ative effects, the growing literature offers some lessons on necessary conditions for a successful industrial policy.

A first and important condition seems to be that the goals for specific industrial policy interventions need to be clearly defined. This holds especially for mission-oriented industrial policies, like those proposed by Mazzucato (2024), but is also true for all purpose-oriented industrial policies, as without a definition of specific goals, a monitoring of success is not possible. The assumption that some policy is implemented in order to boost economic growth in general or to unspecifically support jobs as well as combining too many goals seems to be detrimental to the cost-efficient success of industrial policy. In addition, and linked to this, industrial policy should be subject to a rigorous cost-benefit analysis (International Monetary Fund, 2024b).

Setting performance-related milestones for supported business and following through with sanctions in cases of missed milestones are linked to specific targets of industrial policy support. However, while milestones are important, the nature of industrial policy sometimes pushes business into unchartered territory, and this means that these milestones need to be flexible. A specific challenge here is to exercise adequate flexibility while not allowing regulatory capture and providing a meaningful performance control. To this end, an approach of "embedded autonomy" (Juhász et al., 2024) seems most promising. This term refers to government institutions setting targets, designing instruments and conducting performance control in close interaction with the business sector and the firms concerned, yet exercising autonomy when it comes to withdrawing support.

While it is obvious that "embedded autonomy" requires certain preconditions in the quality of governance, the examples of successfully exercising this type of autonomy in Juhász et al. (2024) from countries of different levels of development and from different regions hint that it should in principle be possible in the European Union.

Beyond performance criteria set and enforced by the public sector, effective market pressure is another mechanism which can keep firms from growing sluggish and develop so-called x-inefficiencies.[3] To this end, industrial policy should ideally be designed in a way that it allows incumbents in targeted markets to effectively challenge existing companies.

Finally, in multi-level political systems, lessons from the theory of fiscal federalism need to be taken into account. According to this theory, one factor in determining which level of government should be tasked with certain decisions is that externalities on other parts of the system should ideally be internalised. This principle also applies to industrial policy: it needs to be placed at the correct level of government. Or even better, different levels of government need to be included in the formation and implementation of industrial policy so that it does not create negative external effects for other parts of the system. Positive externalities also need to be taken into account and information only available decentrally can be included in the process of designing and implementing industrial policy. If competencies for industrial policy are placed at an overly low level of government (in the European context, national or regional), the danger is that policies will be geared mostly towards attracting investment from other locations within the federal system, and this will damage the Single Market and create negative externalities for other federal entities.

Current state of a European industrial policy strategy

European industrial policy has experienced some large shifts over the past decades (Dullien et al., 2022). The literature usually distinguishes three to four major phases for this policy field for the period after World War II. Up to the 1980s, national governments were involved in their own interventionist industrial policies, using instruments of vertical industrial policy, with the European Union (or more accurately, its precursors) exercising restraint in limiting the nation states' interventions. From the 1980s onwards, European institutions started to focus more on market liberalisation and market harmonisation, limiting national autonomy in industrial policymaking in order promote a single market. Increasingly, vertical industrial policies at the national level were limited, while the European level abstained from vertical industrial policy. This approach was followed through the 1990s into the 2000s.

In recent years,[4] a new shift towards a more pragmatic approach has been observed. The 2010s already saw a number of new initiatives, both at the European and member state level, such as the joint paper on industrial policy by the German and the French economy ministers in early 2019.

3 The term "x-inefficiency" refers to a situation in which a firm does not produce with allocative efficiency. For a discussion of the term and its history, see Perelman (2011).

4 The literature is not clear on when exactly these "recent years" started, as this policy shift has been less clear-cut. Yet, there is an agreement that more traditional industrial policy interventions have been creeping in during the 2010s. See for a more in-depth discussion Bianchi and Labory (2020), Landesmann and Stöllinger (2020) or Tagliapietra and Veugelers (2020).

Under the Commission of Ursula von der Leyen (from 2019 onwards), industrial policy initiatives mushroomed. Already prior to the COVID-19 pandemic, the Commission had presented its Green Deal to render the European economy climate neutral by 2050. In addition to setting the goal of reducing CO_2 emissions by 55% by 2030, the package "Fit for 55" included a number of specific instruments for reaching this goal, a significant share of which can be considered industrial policies.

Industrial policies were passed due to supply chain disruptions as well as a limited availability of protective gear and other medical products during the COVID-19 pandemic, followed by a major energy price shock resulting from the disruption of natural gas deliveries into the EU in the wake of Russia's aggression against Ukraine. In addition to European measures to increase the resilience of member states' energy supply, an important tool was to grant general block exemptions to member states to provide state aid without having to go through the full EU notification channel. The general block exemption regulation was extended in time and expanded in scope in 2020, 2021 and finally in 2023, increasing the ability of member states to provide state aid to the business sector.

Another important tool was the expansion of the EU's approach of Important Projects of Common European Interest (IPCEI). Since 2018, the EU had granted its member states exemptions to state aid rules in case several of them jointly wanted to support investment and innovation in projects deemed to have a common European interest or to remedy a serious disturbance in the economy. This tool was supercharged in 2021 by allowing member states to use funds from the Recovery and Resilience Facility (RRF) to support IPCEIs.

In 2023, the EU passed the European Chips Act, which allows member states to give state aid to semiconductor producers under certain conditions for investments and innovation, adds some European funds to the subsidies, and introduces a coordination mechanism between the Commission, member states and stakeholders.

Finally, in 2024, the EU passed the Net-Zero Industry Act (NZIA), supposedly as an answer to the US IRA. While the NZIA set targets for domestic production of clean tech equipment, in contrast to the IRA, it lacked large subsidies and financing provisions (Redeker, 2024).

Compared to the key principles for successful industrial policy outlined above, some gaps are evident. First, in contrast to, e.g. the "Made in China 2025" strategy, there is no clear overarching European industrial policy strategy with specific targets that has been communicated so far. As a consequence, key industrial policy initiatives such as the NZIA lack focus as well as specific instruments. As Redeker (2024) points out, the NZIA mainly streamlines regulation, but delivers very little in terms of tangible instruments or financing. The only real industrial policy tool in the NZIA is to give member states more options to use public procurement at the national level to promote net-zero technologies.

Targets under the NZIA are set on an aggregate level, but not at a firm or sector level, so a stringent framework for following up on performance criteria is not established. Given the limited analytical capabilities of the EU (Jäger, 2024), the vision of an "embedded autonomy" seems completely unrealistic at this point.

While the IPCEIs are in principle a promising tool for conducting effective industrial policy, they lack predictable funding and their governance is only partly aligned with the recommendations deducted from fiscal federalism as outlined above. The first round of these projects was financed primarily by national member states, which constrained the use of this instrument in member states with weaker public finances. For the second round of projects, this issue was mitigated by funding from the RRF. However, as the RRF was explicitly designed as a temporary mechanism, a larger share of financing requirements will be expected from the member states in the future. With financing mainly at the member states' level, there is a danger that national governments will mainly focus on national rather than European interest in deciding on projects, potentially undermining the Single Market and not making full use of the potential of a hypothetical fully European industrial policy.

The European Chips Act can be seen a bit more positively, as it contains specific funding promises and creates a structure from which over time an effective coordination between the private and public sector could arise. However, as all the other initiatives, the Chips Act also lacks a rigorous cost-benefit analysis.

Conclusion

There are good reasons for a more active European industrial policy, and the EU has both become much more active in implementing industrial policy measures and has expanded its member states' leeway for implementing such measures at the national level. However, compared to best practice, the European approach falls short. This does not mean that the EU's measures are misguided or deemed to fail. After all, an in-depth analysis of the IRA would certainly find large gaps between the Act's general design and lessons from the literature as well. Moreover,

even if the EU's approach is imperfect, in a world of growing industrial policy activism in other blocks, it might be better than a hands-off alternative. However, the contrast between an ideally designed industrial policy and the one actually implemented in Europe hints that there is ample room for improvement and increasing the chances of the EU's industrial policy becoming a success.

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