Box 1. Recent use of industrial policy measures – key coordinates

Industrial policy has recently gained in importance, as this approach has counted among the methods used by authorities to address the multitude of negative shocks that have occurred in recent years. This box aims to provide a brief overview of the characteristics of industrial policy, as well as of the specific measures that have been implemented recently at both the international and domestic levels.

Theoretical insights

From a conceptual perspective, industrial policy refers to those government policies that target the transformation of the structure of economic activity in pursuit of some long-term goal (Juhász, Lane and Rodrik, 2023)[1]. The goal is typically to stimulate productivity, economic growth, and development through innovation. However, in recent times, increasing importance has been placed on the diversification and resilience of supply chains, as well as on maintaining technological supremacy. Initially, industrial policy referred solely to the support of industry, but over time, its scope expanded to encompass any other economic sector.

The literature highlights that the rationale for the use of industrial policy can essentially be divided into two categories. The first category involves situations where the free market fails to deliver socially optimal outcomes, as assessed by the authorities, which intervene to create positive externalities. In this regard, a classic example lies in the arguments for supporting some economic sectors in their early stages of development, as they have the potential to become highly productive or generate significant positive spillover effects on other areas of activity (the infant industry argument). In the absence of intervention by national authorities, these sectors remain chronically undersized compared to those in market-leading countries; however, with the necessary support, they can reach the scale required to benefit from economies of scale and become competitive, ultimately benefiting the local economy as a whole. Another example, which is perhaps more relevant in light of recent developments, refers to a specific type of supply chain configuration for a local economic agent that relies heavily on imports to minimise its costs. Specifically, international logistical bottlenecks can lead to supply shortages on the local market, which may have, for certain products, far-reaching implications at the aggregate level.

The second category of industrial policy interventions focuses on providing public goods in a targeted manner – for instance, improving infrastructure in a specific geographical area, driven by the need to support an economic activity conducted there.

Indeed, the key question concerns the extent to which industrial policy works, delivering positive externalities and achieving its objectives, or, on the contrary, becomes a burden on public finances with rather limited beneficial effects.

[1] Similarly, Evenett *et al*. (2024) discuss targeted government interventions aimed at supporting specific firms, sectors, or domestic economic activities, identifying them as industrial policy measures – measures that ultimately result in structural reconfigurations.

Debates in the literature have yet to reach a point where they clearly favour either the supporters or the opponents, having long been locked in a state of relative stalemate (Irwin, 2023). From a theoretical perspective, models have been developed that support industrial policy (a discussion on this topic can be found in Harrison and Rodríguez-Clare, 2010), but their results are inherently dependent on the underlying assumptions. Operating in a fragile institutional environment will increase the likelihood of favouring entities whose support is not justified under industrial policy, thereby leading to a negative net benefit of the intervention at the aggregate level (IMF, 2024). Information asymmetry, in turn, limits the prospects for successful intervention by the authorities, as governments are not as well informed about the situation in a given sector as firms, which may seek to influence economic policymakers for their own benefit rather than for that of the economy as a whole. At the same time, phenomena aligned with the Lucas critique – whereby economic relations or the behaviour of economic agents following changes introduced by the authorities (under a new economic policy regime) are not necessarily similar to those *ex ante*, meaning that the parameters used in cost-benefit analyses may alter – could lead to counterproductive outcomes if not properly considered.

The literature cites two approaches to evaluating the appropriateness and effectiveness of industrial policy measures (Kemp, 1960, Harrison and Rodríguez-Clare, 2010, and Bown, 2023). The first approach, advanced by J. S. Mill, focuses on the area of activity that was targeted by incentives and considers the outcome of the support policy to be positive if, after its discontinuation, the sector remains competitive. The second approach, later formulated by C. F. Bastable, introduces an additional condition, requiring that the cumulative net benefits of the protection measure outweigh the costs associated with its implementation. Together, the two conditions are known as the Mill-Bastable Test, the intervention being justified only if both are met.

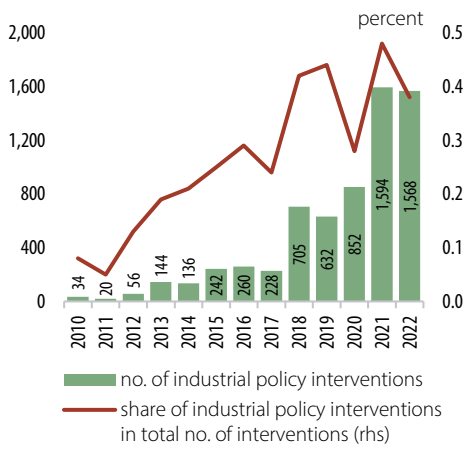
International developments

Market signals indicate a growing appetite for industrial policy at the international level in recent years, driven by motivations such as ensuring the resilience of supply chains for products deemed essential, managing geoeconomic fragmentation, and reducing carbon emissions, among others. However, accurately identifying relevant developments is hindered by the absence of a specific indicator (unlike other phenomena, for instance globalisation, which can be broadly tracked through the trajectory of the global trade-to-global GDP ratio); much of the literature, in fact, consists of case studies. Fulfilling this aim essentially requires the collection of economic legislative acts from a representative number of jurisdictions and their classification according to criteria consistent with the definition of industrial policy. In this regard, recent studies such as Juhász *et al.* (2023), Juhász, Lane and Rodrik (2023), and Evenett *et al.* (2024) make use of the Global Trade Alert – a comprehensive database of unilateral measures that negatively affect foreign trade interests[2], adopted by several countries since November 2008 – from which they extract industrial policy measures.

[2] In relation to international trade, foreign investment or labour force.

The first two aforementioned studies employ statistical classification techniques, producing a time series of the number of such measures (Chart A). The results indicate that the use of industrial policy remained relatively stable in the years following the 2008 financial crisis, but has intensified since 2018. At the same time, the findings highlight a shift in the intervention profile away from what might be considered a classical approach, namely measures introduced by developing countries (typically changes in import tariffs), targeting sectors where a competitive advantage is sought. Specifically, in recent years, advanced economies have made extensive use of industrial policy, deploying a comprehensive set of tools (state loans, grants, guarantees, financial assistance, etc.), while many of the beneficiary sectors already enjoyed a competitive advantage.

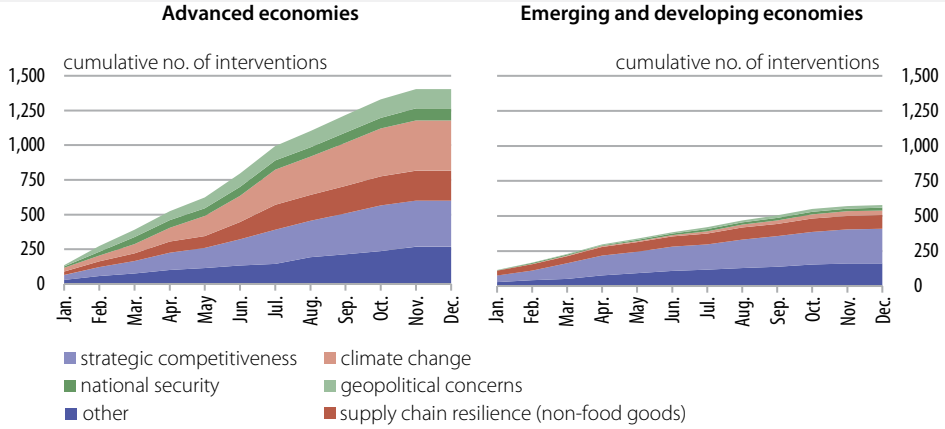
Chart A
Upward trend of industrial policy



Source: Juhász, Lane and Rodrik (2023)

Evenett *et al.* (2024) conduct an exercise focused on the recent period[3] and arrive at similar conclusions. Specifically, one of the reasons advanced economies[4] make extensive use of industrial policy is the implementation of provisions aimed at achieving climate change mitigation objectives, a concern that is less prevalent among emerging and developing economies (Chart B). Moreover, advanced economies have significantly greater resources than emerging and developing economies, with subsidies playing a more prominent role in the mix of instruments used (Chart C). At the same time, incentivising sectors that already hold a competitive advantage reflects a desire to preserve it, possibly fuelled by the actions of lobbying groups. However, beyond these motives, the authors point to retaliatory behaviour, given that measures target sectors in which other countries intervened in the past.

Chart B
Industrial policies implemented during 2023 (stated motives for implementation)



Note: The implementation date for each measure was taken into account.

Source: NIPO database, Evenett *et al.* (2024)

3 The study concerns industrial policy measures announced/implemented from January 2023 onwards. The vast majority of these measures (approximately 80 percent) result in deviations from free market mechanisms. Nevertheless, measures that promote liberalisation can also support industrial policy (e.g., duty exemptions for certain imported inputs necessary for a specific local sector).

4 A group established in accordance with the IMF classification.

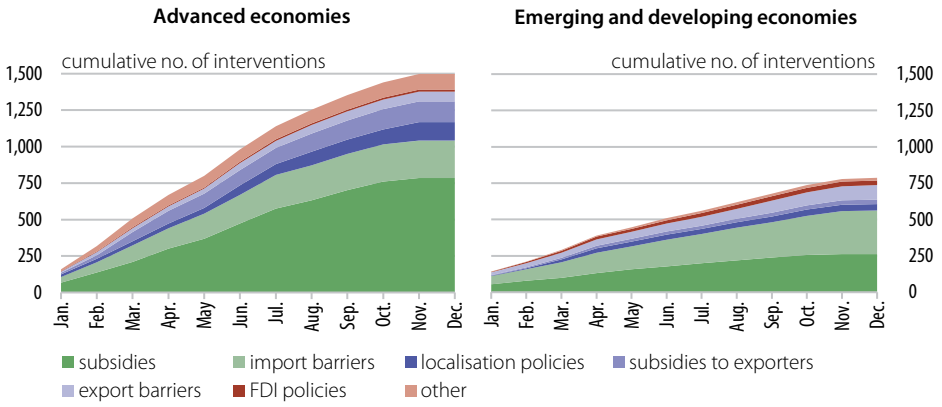


Chart C
Industrial policies implemented during 2023 (instrument used)

Note: The "Subsidies" category does not include those intended for exporters, which are grouped in a separate category. The implementation date of each measure was taken into consideration.

Source: NIPO database, Evenett *et al.* (2024)

Industrial policy measures in recent years have sparked controversy. Some decisions are less likely to provoke debate: for instance, the objective of reducing carbon emissions and addressing climate change enjoys broad international consensus in terms of commitment, and at operational level, the need for measures such as energy-efficient building insulation or the expansion of the electric vehicle charging network faces little opposition. By contrast, configuring the electric vehicle fleet is a more complex matter, at least for European countries, which are confronted with choices whose consequences are far-reaching. Specifically, opting for cheaper, heavily subsidised imports from China could potentially undermine the European automotive industry.

China's competitiveness in the field of electromobility is rooted in the inclusion of the sector under the umbrella of industrial policy[5], alongside six other strategic emerging industries (SEIs) – energy conservation and environmental protection, new generation of information technology, biologicals, high-end equipment manufacturing, new energy, new materials – all of which have benefited from substantial incentives (Xiao, Kuan and Zhiguo, 2022). For example, the subsidies provided to buyers by central and local governments were generous, covering, on average, nearly 26 percent of the production cost of an electric vehicle between 2015 and 2018 (based on a sample of 150 cities; Shanjun *et al.*, 2020). The incentive policy fostered the expansion of production capacities and the improvement of industrial processes. In this regard, Bown (2023) highlights notable results in the production of electric vehicle batteries, although the availability of certain new technologies also played a role; Shanjun *et al.* (2020) observe that the timing of the publication of some Tesla patents broadly coincided with major Chinese manufacturers entering the market.

Alternatively, European countries may opt to support domestic production, a move that, if pursued via customs policy, could strain relations with China (a market of importance for some European firms). In this case, domestic consumers would face

5 Decision to Accelerate the Fostering and Development of the Strategic Emerging Industries by the State Council (2010), a document considered to mark the inauguration of a comprehensive industrial policy framework (Xiao, Kuan and Zhiguo, 2022).

higher prices, or the price difference compared to the level prior to the introduction of the protectionist measure could be covered by the government budget, with the notable consequence of increasing the fiscal deficit and public debt.

Domestic developments

In recent years, Romania's stance towards industrial policy has aligned, in certain respects, with EU approaches, as EU's concerns regarding the acceleration of the green transition have been incorporated into the National Recovery and Resilience Plan, with a substantial portion of its allocations directed towards the green economy.

In addition, the national authorities continue to support other economic activities. Specifically, one of the longest-standing practices of this kind has focused on supporting the IT industry. In 2001, in response to low net wage earnings that were driving emigration, the government introduced a personal income tax exemption for programmers, whose scope was later extended, i.e. in 2013, to include several other categories of employees in this sub-sector. Manelici and Pantea (2021) suggest that this policy has been effective in promoting the development of the IT industry, with positive spillovers to industries that rely heavily on IT services as inputs. At present, the ICT industry makes a significant contribution to GDP formation, with the gross value added of "Information and Communication" to GDP climbing from 4.9 percent in 2000 to 7.1 percent in 2023. Moreover, it is a key contributor to the current account balance, accounting for 45 percent of net service exports in 2023. However, the measure introduced to stimulate this sub-sector has remained in place for over two decades, depriving the state budget of a substantial source of revenue long after the benefits of the intervention became evident.

New industrial policy measures, such as the provision of tax breaks (personal income tax exemptions and reductions/exemptions from compulsory social security contributions), were introduced in 2019 in construction and in 2022 in the agri-food industry. Subsequently, both sectors saw an increase in the annual growth rate of the number of employees and output. However, the precarious state of public finances called for a significant reduction in tax breaks as of end-2023. The authorities' decision suggests that, at least for the time being, this type of industrial policy intervention does not pass the Bastable Test.

Conclusions

Over time, industrial policies have been shaped depending on the economic, technological and social changes, requiring policymakers to continuously adapt to the new parameters of the macroeconomic framework. State intervention in the economy has remained a widely debated topic in the literature, with arguments both for and against it. Supporting strategic and/or emerging industries can generate positive externalities that justify government intervention. However, the financial resources needed to implement industrial policy measures can be substantial and unsustainable in the long run, fuelling budget deficit and public debt increases, which should be avoided, particularly in countries with fragile fiscal positions. In addition, the intensive use of industrial policy has the potential to

weaken the international economic environment, leading to a deterioration in the production possibilities frontier and furthering geopolitical tensions, although countries have, to a certain extent, accepted these negative consequences – often justifying their actions as safeguarding national security or simply responding to similar decisions by competitors in an escalating cycle.

In this context, where issues such as resilience and national security have gained increased importance, overshadowing the generally accepted economic logic based almost exclusively on value for money, it has become more challenging to assess competitive positions. Specifically, there are market leaders (seemingly robust firms with favourable positions in terms of indicators such as profitability or unit labour costs) that do not pass the Mill Test – these firms may appear healthy, but are particularly sensitive to any changes in the industrial policy framework. In practice, strengthening a competitive position essentially relies to an increasing extent on how a firm can benefit the most from industrial policy support.

References

Bown, C. P. – "Modern industrial policy and the WTO", *Peterson Institute for International Economics Working Pa*pers, No. 23-15, 2023

Evenett, S., Jakubik, A., Martín, F. and Ruta, M. – "The return of industrial policy in data", *IMF Working Papers*, No. 24/1, 2024

Harrison, A. and Rodrígues-Clare, A. – "Trade, foreign investment, and industrial policy for developing countries", *Handbook of Development Economics*, Vol. 5, 2010, pp. 4039-4214

IMF – *Fiscal monitor*, Chapter 2, April 2024

Irwin, D. – "The return of industrial policy", *IMF Finance & Development*, June 2023

Juhász, R., Lane, N. and Rodrik, D., "The new economics of industrial policy", *NBER Working Paper Series*, No. 31538, 2023

Juhász, R., Lane, N., Oehlsen, E. and Pérez, V. – "The who, what, when, and how of industrial policy: a text-based approach," unpublished manuscript , 2023, https://osf.io/preprints/socarxiv/uyxh9

Kemp, M. C. – "The Mill-Bastable infant industry dogma", *Journal of Political Economy*, No. 68, 1960, pp. 65-67

Manelici, I. and Pantea, S. – "Industrial policy at work: evidence from Romania's income tax break for workers in IT", *European Economic Review*, No. 133, 2021

Shanjun, L., Xianglei, Z., Yiding, M., Fan, Z. and Hui, Z. – "The role of government in the market for electric vehicles. Evidence from China", *World Bank Policy Research Working Papers*, No. 9359, 2020

Xiao, W., Kuan, S. and Zhiguo, X. – "Industrial policy and the rise of China's strategic emerging industries", American Economic Association, Annual Meeting 2023, December 2022 version