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Procompetitive Industrial Policy – Note by the European Union

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1. Competition and industrial policies

1. The competitiveness, growth, and fairness of the EU economy in the years to come relies on deploying the right set of economic policies today to grasp the opportunities offered by the digital and green transitions in an increasingly challenging geopolitical context. Well-designed competition and industrial policies can contribute to transform the economic opportunities into successes while avoiding risks turning into failures, for the EU economy to achieve its competitiveness potential and improve the welfare of EU citizens.

2. There is no contradiction between active policies in support of the EU industry and competition policy enforcement in the EU single market. The competitiveness of the EU economy depends to a significant extent precisely on conjugating these two economic policies. Antitrust, merger control and State aid control, alongside new policy tools like the Digital Markets Act and the Foreign Subsidies Regulation, are essential policy tools that enable and ensure the effective design and deployment of pro-competitive industrial policies.[1]

3. Competitive markets are a source of industrial competitiveness and economic growth, by contributing to productive and allocative efficiency, by ensuring competitive supply of intermediate inputs, by fostering investment, by incentivising entrepreneurs and firms to innovate, adopt new technologies and create new business opportunities to the benefit of workers and consumers, and by rewarding value creation. EU competitiveness requires its businesses to efficiently utilise available resources, innovate and deliver value to consumers in markets worldwide. Competitiveness is not achieved by undermining competition. Firms that put their main strategic efforts into avoiding competition struggle to be competitive. Firms that face intense rivalry in domestic markets and compete, especially through innovation, tend to be more competitive and successful on the world stage.[2] Competition policy, by keeping markets competitive, directly contributes to industrial competitiveness.[3]

4. Industrial policies can further contribute to industrial competitiveness, especially when markets on their own are unlikely to produce efficient outcomes in terms of prices, output, quality, innovation, or use of resources, either from a short-term static perspective or a long-term dynamic perspective. Markets can fail at delivering efficient outcomes for instance in the presence of positive or negative externalities, informational asymmetries, moral hazard, miscoordination, public goods, or market power.[4] An encompassing notion

[1] The notion of 'pro-competitive industrial policies' is essentially equivalent to the notion of 'efficiency-enhancing industrial policies' proposed by Piechucka et al. (2023): Industrial Policies, Competition, and Efficiency: The Need for State Aid Control. Journal of Competition Law & Economics 19 (4).

[2] Sakakibara and Porter (2001): Competing at Home to Win Abroad: Evidence from Japanese Industry. Review of Economics and Statistics, May 2001, 83(2): 310–322.

[3] See OECD (2014): Factsheet on how competition policy affects macro-economic outcomes.

[4] There is an ongoing debate in the economic literature about the limits of market failures to identify the need for industrial policies and whether there should be scope for intervention beyond the existence of market failures. (See Rodrik (2022): An Industrial Policy for Good Jobs. The Hamilton Project, Brookings; or Mazzucato (2018): Mission-oriented innovation policies: challenges and

of market failure can cover not just traditional static market failures, but also dynamic inefficiencies, including missing markets and public inputs, and entrenchment of market power.

5. While the objectives of industrial policies are not always formulated directly in terms of market failures but in terms of political objectives, market failures often can be found at the root of such political objectives.[5] For instance, catching up with the technological frontier can require addressing positive externalities of innovation and miscoordination of interlinked investment decisions. Increasing resilience and security of supply can require addressing moral hazard or coordination problems. Other political objectives can go beyond traditional market failures, like objectives of regional cohesion that require localised policies of industrial development.

6. Both competition policy and industrial policies are policy tools that can foster industrial competitiveness and economic growth. They are not substitutes because one cannot achieve the results that the other can deliver. They are complementary because industrial policy interventions are more effective when deployed on competitive markets and because industrial policies can, on the one hand, address market failures to improve the functioning of competitive markets and, on the other hand, unintendedly undermine competition and competitiveness of poorly designed. Hence the need for pro-competitive industrial policies.

1.1. Pro-competitive industrial policies in the EU single market

7. Efficiency, which in a dynamic perspective accounts for the evolutive nature of competition, markets, and society, remains at the heart of pro-competitive industrial policies. The importance of efficiency when designing and deploying pro-competitive industrial policies plays out in two dimensions.

8. On the one hand, the efficiency of the *policy design*. Basic principles of good public policy design must be met for an industrial policy to be seen as pro-competitive: a well-identified policy objective related to a static or dynamic market failure, evidence of the necessity and appropriateness of the policy intervention to achieve the policy objective[6], an incentive effect that actually modifies the conduct of market participants in a way conducive to the attainment of the policy objective[7], and proportionality that keeps the public cost of the policy and the financial advantage of its beneficiaries to the minimum

opportunities. Industrial and Corporate Change, 27(5)) While using narrow interpretations of the notion of market failure might lead to unnecessarily restrictive industrial policies, a broader interpretation of the notion can be more encompassing. For instance, market creation may be formulated as addressing an extreme form of market failure, that is, some markets may not emerge or may emerge too slowly without public intervention. This can often be caused by exacerbated coordination failures, asymmetric information, or failures in capital markets.

[5] See Piechucka et al. (2023).

[6] This assessment should consider the least distortive policy tool or mix of policy tools that can effectively address the market failure identified amongst the many potential tools available, for example, regulation, taxation, and subsidies.

[7] This requires an understanding of the likely factual and counterfactual scenarios. The factual scenario describes how the firms are expected to act if they receive the subsidy and the counterfactual scenario describes instead how the firms would act absent the intervention. The comparison of the factual and counterfactual scenarios provides a view of the likely effectiveness of the policy at addressing the market failure.

necessary to ensure the incentive effect.[8] Even when designed in accordance to such basic principles, any policy intervention can fail at achieving its objective due to exogenous factors that are not under the control of the policy maker. This dimension refers to the cost-efficiency of the policy intervention.

9. On the other hand, the efficiency of the *market outcome* resulting from the policy intervention. Public interventions are likely to create unintended distortions to competition, for instance altering the process of firm entry and exit, reinforcing the market power of incumbents and undermining market contestability by more efficient rivals. The assessment of the likely impact of industrial policies cannot be restricted to the attainment of the policy objective and the short-term direct financial cost, but it needs to take a dynamic and longer-term perspective, explicitly accounting for the indirect costs, especially in the form of unintended distortions to competition and inefficient market outcomes.

10. Public intervention leading to more efficient market outcomes that foster productivity and competitiveness takes place in various forms. Regulation shapes markets, establishing the necessary rules for their functioning according to important policy objectives, including safety and fairness. Regulation can also unintendedly undermine competition, interfere with firms' entry and exit process, and increase transaction costs inefficiently. Hence the importance of a procompetitive regulatory framework that can achieve its policy objectives with the minimum possible loss of efficiency. Integration of the EU single market has been and will continue to be a fundamental driver of efficiency gains for the EU industry, improving resource allocation, allowing for synergies and complementarities across borders, reducing risks of market power exercise in national markets, and overall fostering productivity and competitiveness of the EU economy. Competition policy makes a fundamental contribution to competitiveness by preventing the inefficient emergence and abuse of market power, and undue distortions of competition in the EU single market to the benefit of consumers. These structural, non-selective interventions are necessary components of any strategy for industrial competitiveness in the EU economy and are discussed more extensively in section 3 of this note.

11. Alongside structural reforms and competition policy, public intervention is also needed in the form of direct incentives and support to specific economic activities, including in the form of subsidies and tax breaks. The challenges that our economies face justify such industrial policies. They come with additional risks of causing unnecessary competition distortions and wasteful use of public resources if not properly designed. The dual green and digital transitions, as well as the objectives of open strategic autonomy and economic resilience, require the mobilization of public resources to address the underlying market failures. These necessary interventions must be properly designed, accounting for inevitable trade-offs: achieving efficiencies by effectively addressing well-identified market failures and minimising unintended inefficiencies introduced by the intervention, notably in the form of competition distortions. For instance, these competition distortions can undermine EU competitiveness by reinforcing market power of incumbents, inefficiently interfering in firms' entry and exit process, crowding out private investment, or misallocating resources by deviating investment towards less valuable activities.

[8] Taking the case of subsidy quantification, the minimum necessary subsidy corresponds to the funding gap or the net extra cost to the firm of following the conduct that leads to a more efficient market outcome instead of the conduct it would follow absent the subsidy. The funding gap is at the same time the minimum amount of subsidy needed for the measure to have an incentive effect on the firm and the maximum amount of support proportionate to the attainment of the objective of the policy. Competitive tendering has proven to be a powerful tool to reveal the funding gap and allocate subsidies efficiently whenever there are multiple potential beneficiaries that can contribute to addressing the market failure.

Industrial policies can only be pro-competitive, and hence contribute to the competitiveness of the economy, if these trade-offs are resolved through design choices ensuring that overall the benefits of the intervention exceed its costs.

12. In the EU, State aid control rules provide a harmonized framework of assessment of national public support for firms, enforced by the European Commission, that responds to these efficiency principles. In particular, the so-called compatibility assessment under State aid rules relies on the principles of necessity, appropriateness, incentive effect, proportionality, and avoidance of undue distortions to competition, as well as a requirement to balancing the direct benefits of the public support against the unavoidable distortions to competition that it likely causes.[9]

13. The EU single market is based on the idea of establishing a level playing field between economic operators where goods, services, persons, and capital can circulate freely between EU Member States and where discrimination between economic operators is prohibited. If certain economic operators are unfairly favoured over others by selective State (aid) measures, the playing field becomes uneven, and competition is inefficiently distorted. State aid control as provided for in the Treaty of Rome was therefore conceived as a necessary element of the EU single market that prevents the risk of wasteful, inefficient subsidy races between EU Member States.

14. Hence, the EU State aid control framework enables the design and deployment of pro-competitive industrial policies that are compatible with the EU single market and contribute to the efficiency and competitiveness of the EU economy.

1.2. Pro-competitive industrial policies in a globalised economy

15. Industrial policies in the EU single market are formulated in a globalized setting and must consider the interdependencies through global supply chains, capital flows, trade relations, and policy responses in other jurisdictions.

16. Pro-competitive industrial policies by any jurisdiction, within or outside the EU, that build on potential efficiencies of an economy, address well-defined market failures, provide objectively justified levels of security of supply, or promote regional cohesion in transparent manner, are compatible with open economies that mutually benefit from interdependencies. Because they seek to realise potential efficiencies and mitigate vulnerabilities of the economy, these industrial policy interventions tend to reveal the comparative advantages of each economy and to contribute to overall welfare.

17. However, current developments come with a growing concern about protectionist policies and global subsidy races, where third-countries jurisdictions deploy publicly financed policies that merely try to use public financing to support (inefficient) domestic firms to the detriment of foreign firms, or to attract investment not based on their

[9] The point of departure of EU State aid control is laid down in Article 107(1) TFEU. This article provides that financial support granted by Member States, which favours certain undertakings (or the production of certain goods), distorts the internal market, and negatively affects trade between Member States, and, as such, is therefore, prima facie, prohibited. Under Article 108 TFEU, the Commission is given the task to control State aid. However, the principle of incompatibility does not amount to a full-scale prohibition. Articles 107(2) and 107(3) TFEU specify situations in which State aid could be considered compatible. In exercising its powers, the Commission has developed specific approaches depending on the sector or industry concerned, the objective of the aid, etc. To ensure transparency, predictability and legal certainty, the Commission has made public the criteria it uses when deciding whether aid measures qualify for exemption in the form of guidelines, communications or block exemption regulations.

comparative advantages, but on their fiscal capacity. Such beggar-thy-neighbour policies are a form of protectionism, leading to iterative strategic interactions between countries in the form of inefficient global subsidy races. They are not just costly, but trigger mirroring responses by other jurisdictions that develop into global subsidy races, undermining economic openness and trade, and producing suboptimal outcomes for all.[10]

18. In addition to EU State aid rules, the European Commission's toolbox to address global subsidy races includes the Trade Defence Instruments (TDIs) that allow the EU to react to unfair competition in terms of injurious imports of goods which are unfairly priced below their normal value (anti-dumping instrument) or subsidised (anti-subsidy instrument). These are part of a broader set of existing tools, for instance on foreign direct investment (FDI), or of new possible tools, for instance on outbound investments. All such policy tools, including industrial, trade, and competition policy tools, have their limitations and complement each other.[11]

19. Since the entry into force of the Foreign Subsidies Regulation ('FSR') on 12 July 2023, a new set of rules enables the European Commission to address distortions caused by foreign subsidies and ensure a level playing field for all companies operating in the EU single market, while remaining open to trade and investment. In recent years, foreign subsidies appear to have distorted the EU's internal market, including by providing their recipients with an unfair advantage to acquire companies or obtain public procurement contracts in the EU to the detriment of fair competition. The FSR addresses such distortions and closes a regulatory gap, complementing previous tools regarding foreign subsidies. Prior to the FSR, subsidies granted by non-EU governments went unchecked, while subsidies granted by EU Member States were subject to scrutiny under EU State aid rules. The FSR includes new tools to effectively tackle foreign subsidies that cause distortions and undermine the level playing field in the internal market, thereby contributing to neutralise beggar-thy-neighbour policies by other jurisdictions without preventing pro-competitive industrial policies.

20. Since the amendment of the EU State Aid Temporary Crisis and Transition Framework (TCTF) on 9 March 2023 (and applicable until end-2025), to further accelerate investments in key sectors for the transition towards a net-zero economy, EU Member States may in exceptional cases, provide support in the form of "matching aid" to individual companies where there is a real risk of investments being diverted away from the EU because of subsidies in other jurisdictions. Paragraph 86 of the TCTF requires that such exceptional response does not exceed the subsidy, which the beneficiary could demonstrably receive for an equivalent investment in a third country jurisdiction outside the European Economic Area (EEA) and does not exceed the minimum amount needed to incentivise the aid beneficiary to locate the investment in the area concerned in the EEA (the funding gap). This double condition ensures that the European response only retains

[10] In April 2024, the IMF warned that a subsidy race with US and China would harm Europe's ailing economy. The IMF Regional Economic Outlook for Europe of April 2024 concluded that "subsidies deployed at the national level similar to current US policies under the Inflation Reduction Act would undermine the single market and, by leading to a less efficient allocation of resources, on net lower real incomes by about 0.6 percent. Instead, Europe should build on the single-market strengths."

[11] The EU anti-dumping and anti-subsidy rules apply to the import of goods and do not cover services or other financial flows in relation to undertakings operating in the EU. The EU's anti-subsidy rules in principle only apply to subsidies to companies in the granting (third country) jurisdiction. As regards the EU's anti-dumping rules, unfair price practices of a third country exporter (dumping) need to cause material injury to the EU industry. See OECD Roundtable Subsidies, Competition and Trade. Contribution from the European Union. 5 December 2022.

the investment within the EEA if such location reflects a comparative advantage compared to the location outside the EEA. The TCTF takes a deliberately defensive approach compatible with pro-competitive industrial policies but seeking to neutralise the beggar-thy-neighbour policies of other jurisdictions, without further triggering global subsidy races. At the same time, it contains safeguards to incentivise investments in less developed areas of the EU to preserve cohesion objectives.

21. The FSR and the exceptional use of matching aid are policy interventions that seek to neutralise and disincentivise aggressive industrial policies by third-country jurisdictions that could trigger global subsidy races and protectionist slippery slopes. Instead, these defensive policy interventions are compatible with pro-competitive industrial policies that contribute to realize potential efficiencies according to the comparative advantages of each economy without undermining the economic openness and international trade that support long term economic development and growth.

2. Pro-competitive industrial policies for digitalisation, decarbonisation, and resilience

22. Externalities, miscoordination, information asymmetries and uncertainty are pervasive in the digital and green transitions. Externalities arise when the actions of one market participant affect the costs or benefits of another who did not choose to incur that cost or benefit. Firms acting in their own private interest tend to have little or no incentives to take the externalities arising from their economic activity into account when they choose a particular technology or when they decide on their output level. Coordination failures may prevent the development of a project because of misaligned interests and incentives amongst investors, for instance when multiple actors in different parts of the value chain must simultaneously invest and ramp up production to commercialize a new technology. Informational asymmetries may occur when there is a discrepancy in the information available to the two sides of a commercial exchange, limiting for instance access to financing. Uncertainty on the future potential of a new technology may make it difficult to assess the costs and risks of an investment and private investors may be unwilling to incur them irrespective of the opportunities.

23. Public intervention is required to unlock the private investments needed to achieve the opportunities that digitalisation and decarbonisation offer for the competitiveness of the EU economy, but that would not materialise without public support. Addressing these market failures to unlock the potential for efficiencies of the EU economy delineates a wide scope for pro-competitive industrial policies in both areas, as much as there is scope for pro-competitive digitalisation and decarbonisation in other jurisdictions. Given the positive spillovers of such policies beyond borders, pro-competitive industrial policies everywhere contribute to sustainable development and growth worldwide.

2.1. Catching up on digital innovation and technology adoption

24. Technological progress and in particular digitalisation have profoundly transformed production and commercial processes, business models and markets, over the last decades and will continue doing so at a rapid speed in the years to come. Productivity and economic growth are driven to a large extent by technological progress, especially in economies that are already at an advanced level of technological and economic development. Europe has contributed significantly to global technological progress, but in some fields the European industry has not kept pace with it.

25. Understanding where the European industry has not yet exploited its potential and why markets have not generated sufficient incentives for private initiative to leverage such

potential is necessary to identify where public intervention could foster industrial innovation and competitiveness, ensuring that the opportunities offered by new technologic advancements will not be missed.

26. Externalities are particularly acute in digital technologies, that have the potential of being used in a broad range of economic activities, hence establishing positive linkages across sectors. While intellectual property rights (IPR) remain a cornerstone of innovation policies, they do not address all the reasons that lead to sub-optimal investment in innovation and technology adoption, including miscoordination, information asymmetry, and uncertainty. The attainment of an optimal level of R&D&I and technology adoption requires a mix of public policies to create an adequate institutional context, ensure the adequate provision of public goods and incentivise optimal investment decisions by private actors. This includes educational institutions providing high-quality training, state-of-the-art research and promoting entrepreneurship; financing available not only to large firms and traditional SMEs but also to innovative start-ups; independent competition authorities eliminating artificial barriers to entry, amongst others.[12] The mix of policies to foster R&D&I and technology adoption includes the use of subsidies to mobilise additional private investment.[13]

27. The design of public policies to support R&D&I and technology adoption, notably in the form of subsidies, is crucial for its success. First, precisely because innovation can deliver value to innovators in the form of business success, markets and IPR enforcement provide the most powerful incentives for private investment in innovation. Public subsidies should build on those incentives, without undermining them and without crowding out private investment. Second, public support should focus on sectors that have the potential of becoming efficient and competitive in the mid- and long-term once learning-by-doing and eco-system effects materialise. When selecting sectors and projects to be supported, it is important to understand why their potential has not yet been realised and identify the bottlenecks that public intervention may unlock. Third, the outcome of innovation is uncertain and any project that may be supported with public funds is subject to a probability of failure. This calls for a degree of diversification when selecting sectors and projects, as well as acknowledging that a share of supported projects may fail.

28. EU State aid rules enable support for Important Projects of Common European Interest (IPCEIs) that can make a very important contribution to sustainable economic growth, jobs, competitiveness and resilience for industry and the economy in the EU and strengthen its open strategic autonomy, by enabling breakthrough innovation and infrastructure projects through cross-border cooperation and with positive spill-over effects on the internal market and the society. IPCEIs make it possible to bring together knowledge, expertise, financial resources, and economic actors from across the Union, in a bid to address important market or systemic failures or societal challenges that could not otherwise be addressed.[14] The revised IPCEI Communication that entered into force in January 2022 enhances the European and open character of IPCEIs, by providing that IPCEIs must ordinarily involve at least four EU Member States and by requiring that

[12] See Tirole (2017): Economics for the Common Good, Chapter 13: Competition Policy and Industrial Policy. Princeton University Press.

[13] Acemoglu et al. (2012): The Environment and Directed Technical Change, American Economic Review, 102(1).

[14] Communication from the Commission. Criteria for the analysis of the compatibility with the internal market of State aid to promote the execution of important projects of common European interest (2021/C 528/02).

IPCEIs are designed in a transparent and inclusive manner, facilitates the participation of small and medium sized enterprises (SMEs) in IPCEIs, stresses the requirement for IPCEIs to deliver significant positive spill-over effects across the EU, and maintains strong safeguards to ensure that aid has an incentive effect, is limited to the minimum necessary and does not create undue distortions of competition.

29. Until today, in the microelectronics value chain two IPCEIs have been launched. The first one was approved in December 2018 with the objective of enabling research and develop innovative technologies and components (e.g., chips, integrated circuits, and sensors) that can be integrated in a large set of downstream applications.[15] In June 2023, the European Commission approved a second microelectronics IPCEI with the objective of enabling the digital and green transformations by creating innovative microelectronics and communication solutions and developing energy-efficient and resource-saving electronics systems and manufacturing methods.[16] These IPCEIs comprise approximately 100 projects in fourteen EU Member States including up to €10 billion State aid which is expected to unlock more than €20.2 billion of additional private investment.

30. In December 2023, the European Commission approved the IPCEI Next Generation Cloud Infrastructure and Services (CIS). It concerns the development of the first interoperable and openly accessible European data processing ecosystem, the multi-provider cloud to edge continuum. It will develop data processing capabilities, and software and data sharing tools that enable federated, energy-efficient and trustworthy cloud and edge distributed data processing technologies and related services. The innovation provided by IPCEI CIS will enable a new spectrum of possibilities for European businesses and citizens, advancing the digital and green transition in Europe. Seven EU Member States will provide 19 companies up to €1.2 billion in public funding in the coming years, which is expected to unlock an additional €1.4 billion in private investments.[17]

31. These are examples of pro-competitive industrial policy measures in support of digital innovation and technology adoption, addressing the associated market failures to develop the potential of the EU industry, contributing to its mid- and long-term competitiveness, while preserving competition in the EU single market and the level playing field.

32. The emphasis on preserving competition is crucial because it contributes to dynamic innovation at least in two ways. First, firms compete to be the first to innovate and as a result enjoy the expected profits from temporary exercise of market power. IPRs precisely amplify this incentive by granting temporary exclusivity to foster innovation efforts (the appropriability principle). Second, effective competition contributes to innovation and long-term efficiency by keeping markets contestable and ensuring that market power is a temporary reward to innovation (the contestability principle).[18] Market power, even when it is a reward to successful innovation and efficiency, must remain

[15] See https://ec.europa.eu/commission/presscorner/detail/en/ip_18_6862 (last accessed on 13/05/2024)

[16] See https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3087 (last accessed on 13/05/2024)

[17] See https://ec.europa.eu/commission/presscorner/detail/en/ip_23_6246 (last accessed on 13/05/2024)

[18] Shapiro (2011): Competition and Innovation: Did Arrow Hit the Bull's Eye? NBER Chapters, in: The Rate and Direction of Inventive Activity Revisited.

contestable to ensure that innovators continue innovating and to avoid entrenched market power leading to potential exclusionary and exploitative abuses.

33. Digital markets are characterised by innovation, scale economies, two-sidedness, and network effects. The evidence from the past years has shown that they are prone to entrenchment of market power, lack of contestability, and potential exclusionary and exploitative practices. The European Commission has led in the enforcement of competition law in digital markets, with several antitrust decisions adopted to put an end to anticompetitive conduct and merger decisions to prevent the anticompetitive effects of digital mergers.[19] Since March 2024, the entry into force of the Digital Market Act provides a complementary *ex ante* regulatory framework to make the markets in the digital sector fairer and more contestable. Large digital platforms providing so called core platform services, such as online search engines, app stores, messenger services, and having been designated as gatekeepers are obliged to comply with several obligations and prohibitions.[20] The DMA applies without prejudice to the application of antitrust and merger control rules, that continue to be necessary to maintain effective competition in digital markets.[21]

2.2. Gaining competitiveness and resilience through energy and industrial decarbonisation

34. A net-zero economy offers opportunities for enhanced competitiveness by leading in the development and adoption of clean technologies, reversing the energy costs disadvantage of the EU industry, and reducing the strategic dependency of the EU economy on foreign fossil fuels, mainly gas and LNG. Achieving these efficiencies involves profound transformations, including research, technology adoption, infrastructure development, and energy efficiency improvement, that require significant upfront private and public investment. Public intervention is needed to address the market failures involved, mainly the optimal provision of public goods, the correction of externalities, the coordination of interdependent investment decisions, and the mitigation of excess uncertainty. Such public intervention, albeit necessary, is not exempt of risks if badly designed.

35. Financing the transitional costs must take into consideration the fiscal capacity of the public sectors, the short-term impact on industrial competitiveness, and the social legitimacy of the transition and its distributive impacts. Trade-offs between the long-term efficiency of decarbonisation and its short-term affordability arise. On the one hand, this

[19] See Beaudouin et al. (2022): Merger Enforcement in Digital and Tech Markets: An Overview of the European Commission's Practice. Competition Policy Brief, European Commission. See McCallum et al. (2023): A dynamic and workable effects-based approach to abuse of dominance. Competition Policy Brief, European Commission.

[20] Regulation (EU) 2022/1925 of the European Parliament and the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act).

[21] Article 1(6) of the DMA states: "This Regulation is without prejudice to the application of Articles 101 and 102 TFEU. It is also without prejudice to the application of: (a) national competition rules prohibiting anti-competitive agreements, decisions by associations of undertakings, concerted practices and abuses of dominant positions; (b) national competition rules prohibiting other forms of unilateral conduct insofar as they are applied to undertakings other than gatekeepers or amount to the imposition of further obligations on gatekeepers; and (c) Council Regulation (EC) No 139/2004 (23) and national rules concerning merger control."

calls for reinforcing the focus on the cost-efficiency of the energy transition. It implies prioritising policy interventions that address well-defined market failures in energy markets, because this is where greater potential for efficiencies lies. It requires also using policy tools that can deliver most value for money. For instance, the experience from the past decade shows that competitive tendering has significantly contributed to reduce the amounts of subsidies per unit of installed capacity, delivering more RES capacity, faster and at lower cost.[22] On the other hand, the financing of the transition costs must be at the same time efficient and fair, to preserve the broad social consensus about the energy transition.[23]

36. The use of financial charges and levies on electricity to provide price signals or finance the transition is a case in point. Energy-intensive sectors highly exposed to international trade may have an incentive to relocate outside the EU to locations where environmental disciplines are absent or less ambitious, if they are exposed to these costs or levies to an extent that compromises their competitiveness. Both the ETS and the State aid framework acknowledge this risk of carbon leakage and foresee free ETS allowances, the EU ETS State aid guidelines allow compensation for indirect carbon costs embedded in electricity prices[24] and for reductions on taxes and levies for the industries at risk.[25] As of 2026, the Carbon Border Adjustment Mechanism (CBAM) will be phased in gradually, in parallel to the phasing out of the free ETS allowances. The CBAM is intended to ensure a balanced treatment of imports fulfilling the high climate standards applicable in the EU, enabling a level playing field within full respect of WTO's rules and encouraging trade partners to join the EU's climate efforts.[26] These policy interventions are efficiency-enhancing, and hence pro-competitive, by contributing to reduce carbon emissions in the EU, while avoiding carbon leakage and encouraging decarbonisation elsewhere.

37. The European Commission adopted in January 2022 the new Guidelines on State aid for climate, environmental protection and energy (CEEAG).[27] The new rules adapt the core principles of EU State aid control to the specificities of climate, environmental, and energy in a very challenging context, in order to attain the goals defined by the European Green Deal, the competitiveness of the European economy and the need to preserve social fairness in the green transition. The revised rules aim at providing an economic and legal

[22] European Commission, Directorate-General for Energy (2022): Study on the performance of support for electricity from renewable sources granted by means of tendering procedures in the Union 2022.

[23] See https://ec.europa.eu/commission/presscorner/detail/en/AC_23_3426 (last accessed 13/05/2024).

[24] Communication from the Commission. Guidelines on certain State aid measures in the context of the system for greenhouse gas emission allowance trading post-2021 (2020/C 317/04).

[25] Communication from the Commission – Guidelines on State aid for climate, environmental protection and energy ((2022/C 80/01).

[26] See Ambec (2022): The European Union's Carbon Border Adjustment Mechanism: Challenges and Perspectives, TSE Working Paper No. 2, that provides a discussion of the different incentives provided by ETS free allowances compared with the new CBAM.

[27] See Communication from the Commission – Guidelines on State aid for climate, environmental protection and energy ((2022/C 80/01).

framework to enable the necessary public support to reach the European Green Deal targets in a cost-efficient manner that minimises distortions to competition.[28]

38. Since 2019, two IPCEIs on batteries have been approved by the European Commission, involving ambitious and risky R&D activities to deliver beyond the state-of-the-art innovation across the batteries value chain, from mining and processing the raw materials, production of advanced chemical materials, the design of battery cells and modules and their integration into smart systems, to the recycling and repurposing of used batteries.[29] These IPCEIs include 59 companies in twelve EU Member States including up to €6,1 billion state aid which is supposed to trigger more than €13.8 billion of additional private investment.

39. Similarly, three IPCEIs in the hydrogen value chain have been approved by the European Commission. All three of them cover a wide part of the hydrogen technology value chain, with different focuses. The first one is expected to contribute to the development of important technological breakthroughs, including new highly efficient electrode materials, more performant fuel cells, innovative transport technologies, among which first time roll out hydrogen mobility ones.[30] The second one is expected to boost the supply of renewable and low-carbon hydrogen, thereby reducing dependency on the supply of natural gas.[31] The third one is expected to contribute to the deployment of the necessary infrastructure to support the development of hydrogen-based technological solutions.[32] The three IPCEIs include 91 companies in sixteen EU Member States and Norway including up to €17.5 billion State aid which is expected to unlock more than €21.2 billion of additional private investment.

40. The new EU electricity market design (EMD) Regulation adopted in April 2024 also aims at making the EU electricity market more resilient and fit for the cost-effective decarbonisation of EU economy. The EMD Regulation recognises the need to preserve well-functioning and efficient short-term electricity markets, providing price signals reflecting marginal costs of electricity supply for efficient operation in the short term. It also emphasises the need for a faster deployment of renewable energy and clean flexible technologies, facilitating long-term contracting in the form of power purchase agreements (PPAs) and encouraging EU Member States to support new investments in renewable generation with two-way contracts for differences (CfDs) and competitive tendering.

41. The combination of these policy interventions aimed at gaining competitiveness and resilience through energy and industrial decarbonisation are an example of the complementarity between competition policy, pro-competitive industrial policies, and regulation.

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[28] See Sauri and Struckmann (2024): Climate, Environmental Protection and Energy Aid, chapter in EU State Aid Control. Law and Economics, edited by Werner P. and Verouden V., Kluwer Law International (forthcoming).

[29] See https://competition-policy.ec.europa.eu/state-aid/ipcei/approved-ipceis/batteries-value-chain_en (last accessed on 13/05/2024).

[30] See https://ec.europa.eu/commission/presscorner/detail/en/IP_22_4544 (last accessed on 13/05/2024).

[31] See https://ec.europa.eu/commission/presscorner/detail/en/ip_22_5676 (last accessed on 13/05/2024).

[32] See https://ec.europa.eu/commission/presscorner/detail/en/IP_24_789 (last accessed on 13/05/2024).

2.3. Securing global value chains in an open economy

42. Interdependencies in a globalised economy are a source of potential efficiencies. Relying on others for inputs of greater quality or lower cost contributes to the competitiveness of the EU industry, that as a result can focus on activities of higher relative added value and reflect its comparative advantages. At the same time, interdependencies may expose the EU industry to risks, such as supply shocks in other jurisdictions, for instance due to natural events or geopolitical tensions, as well as to the abuse of market power by extra-EU suppliers, all of them undermining resilience and competitiveness in times of crisis.

43. Securing value chains is to a large extent a matter of management of risks and uncertainty. The need for public intervention and its form can be better assessed once we understand whether the market outcome led to excessive risk exposure and, if so, why.

44. Past choices by firms on the location of their economic activity, especially cost-driven delocalisation of input production to extra-EU jurisdictions, may have been rational in the environmental and geopolitical context of the moment. Currently, however, the market and private investors have an incentive to learn from recent crises and adapt to the current changing environment, reducing risk exposure by diversifying sources of supply, stockpiling or onshoring, amongst others. This takes time, requires private investment, and ultimately increases manufacturing costs, at least in the short term even if dynamically efficient in the long term.

45. At the same time, firms do not internalise how much their unilateral decisions expose the EU industry overall to natural and geopolitical risks. Firms' location decisions based on their expected returns only consider natural and geopolitical risks to the extent that they may affect these private expected returns. Markets may provide insufficient security of supply because of moral hazard in location decisions by firms, calling for public intervention to ensure that location decisions better internalise the risks of value chain disruptions.[33]

46. An assessment of the actual strategic dependencies and vulnerabilities is required to identify the need for public intervention and is part of the ongoing work in the context of the European Economic Security Strategy.[34] Past supply shocks are not necessarily a good predictor of future supply shocks, while distinct economic sectors and products have different ability to absorb supply shocks. An evidence-based approach can guide an efficient prioritisation of policies for economic resilience.[35]

47. Reducing exposure to natural and geopolitical risks involves diversifying supply sources, relocating supply sources towards less risky areas, relocating economic activity to the EU where justified, and strategic repositioning in the value chain to increase bargaining power. Location changes can entail higher costs for inputs supply, while lower risk

[33] Grossman et al. (2023): Supply Chain Resilience: Should Policy Promote International Diversification or Reshoring? Journal of Political Economy, 131(12).

[34] See https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3358 (last accessed on 13/05/2024).

[35] For instance, Arjona et al. (2023): An enhanced methodology to monitor the EU's strategic dependencies and vulnerabilities. Single Market Economics Papers WP2023/14, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, European Commission propose a methodology based on three 'core dependency indicators' (CDI) computed based on product level trade data.

exposure can improve resilience in case of supply shocks. The net impact on industrial competitiveness depends on the relative strength of these impacts.

48. Reshoring input production is in many cases not the most cost-efficient way of securing supply chains, especially if a diversified set of reliable trade partners can provide certain inputs safely and more efficiently. The most efficient policies to secure value chains likely involve a mix of supply diversification strategies and are specific to the features and options available in each sector. Determining the optimal level of diversification requires both an assessment of the expected costs of risk exposure as well as of the cost of the policy interventions that reduce that exposure, even for the most efficient strategy. In the EU, it also requires paying due regard to preserving cohesion objectives and a level playing field within the Union. A needs test is therefore required to set the targeted level of security of supply to be achieved, depending on the costs of the policy intervention and the benefits from resilience gains, ensuring that it results in enhanced competitiveness overall.

49. The EU Critical Raw Materials Act (CRMA), adopted in March 2024, follows a comprehensive approach that addresses the full value chain, covering both the external and internal market perspectives.[36] It sets a regulatory framework to scale up and speed up primary and secondary raw materials supply in the EU, as well as to improve their circularity and sustainability. At the same time, it proposes measures to support the diversification of imports through new, mutually beneficial international engagements with reliable partners. To ensure that the upcoming measures focus on the most relevant raw materials, the Act establishes lists of critical and strategic raw materials. Specifically, as regards strategic raw materials, to help monitor EU's progress and guide business and policy decisions, it sets benchmarks for domestic capacities along the supply chain and diversification of imports.

50. The EU Chips Act adopted in September 2023 pursues two general objectives. The first objective is to ensure the conditions necessary for the competitiveness and innovation capacity of the EU, to ensure the adjustment of the industry to structural changes due to fast innovation cycles and the need for sustainability, and to strengthen the Union-wide semiconductor ecosystem with pooled knowledge, expertise, resources, and common strengths. The second objective is to improve the functioning of the internal market by laying down a uniform EU legal framework for increasing the Union's long-term resilience and its ability to innovate and provide security of supply in the field of semiconductor technologies with a view to increasing robustness to counter disruptions. The situation in the semiconductor industry is distinct since it is characterised by specific market failures *inter alia* linked to the overarching importance of semiconductor technologies for a wide range of other sectors of the economy, the extremely high barriers to entry, the capital intensity of the sector, the level of subsidies available in third country jurisdictions, and complex international supply chains. The EU Chips Act is therefore an example of a policy intervention that contributes at the same time to digital technological progress and resilience.[37] The Act emphasises that public support should be used to address the above mentioned market failures in a proportionate and cost-effective manner, i.e. that such support should not duplicate or crowd out private financing or distort competition in the internal market, and have a clear added value throughout the Union. The principles

[36] See https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act_en#documents (last accessed on 13/05/2024).

[37] Regulation (EU) 2023/1781 of the European Parliament and of the Council of 13 September 2023 establishing a framework of measures for strengthening Europe's semiconductor ecosystem and amending Regulation (EU) 2021/694 (Chips Act).

governing the EU Chips Act are consistent with those of pro-competitive industrial policies.

51. Regional aid rules, which result either from the General Block Exemption Regulation (GBER) or the Regional aid Guidelines (RAG), aim at promoting the economic development of the less developed areas in the EU. In line with cohesion policy, they therefore introduce a geographic dimension to State aid control, setting the conditions under which aid can be granted for productive investments in assisted areas (defined in the regional aid map per Member State). As the market failures these rules aim to address have a geographic dimension, not sectoral, the investments that can be supported apply in principle to investments in any economic activity. They however contain conditions to ensure that regional aid does not unduly distort competition within the EU single market, notably requiring evidence that the aid effectively encourages the beneficiary to invest in a specific less developed regions (incentive effect).

3. Competition in the single market as driver of competitiveness

52. The EU single market has been a main driver of EU competitiveness and has led to a deeply integrated economy, with value chains across national borders that take advantage of the most efficient combination of skills and resources. In some areas however the European market remains relatively fragmented, with the potential for additional efficiencies from further integration that can improve both competitiveness and resilience. In particular, the integration in services, which account for around 70% of the EU's GDP, remains well below that for goods and should be prioritised going forward.[38]

3.1. Market integration to realise efficiencies

53. Economies of scale are at the source of the competitive advantage enjoyed by larger firms, but this competitive advantage is exhausted once the minimum efficient scale is attained. Hence larger size gives a competitive advantage based on economies of scale only up to a point. At the same time, economies of scale differ significantly across economic activities, reflecting underlying cost structures. Investment in R&D&I and technology adoption, especially if combined with network effects, typically leads to economies of scale, hence larger minimum efficient scales. Beyond minimum efficient scales, it is productivity and efficiency that drives firm scale, not the other way round. Scale is more a consequence of business success than its cause.

54. There can however be factors that inefficiently undermine the competitiveness of small and medium firms or provide undue advantages to larger firms. Evidence shows that in the EU mid-caps are not only investment and growth champions, but they also stand out as important vectors in facing the EU's major transitionary challenges of digitalisation, climate change and economic security. Despite their strong investment, innovation and productivity performance, mid-caps face significant obstacles in achieving their full potential. For instance tight access to financial markets, less support by targeted public policies, or more exposure to supply chain disruptions. EU mid-caps are seen as hidden champions with the potential to drive EU competitiveness, if they can operate in an integrated EU single market based on effective competition and level playing field.[39]

[38] Communication from the Commission. "The Single market at 30". COM/2023/162 final.

[39] European Investment Bank and European Policy Center (2024): Hidden champions, missed opportunities. Mid-caps' crucial roles in Europe's economic transition.

55. Taking for instance the example of access to financial markets; limited access to finance can be an obstacle for firms in the process of starting up and scaling up. Financial market integration through the Capital Markets Union and the Banking Union can unlock EU firms' potential for growth and enhance EU competitiveness. Broadening capital markets, today still eminently national, and eliminating cross-border barriers to investments provides an opportunity to improve firms' access to different sources of financing, especially for those firms that are in the process of starting up and scaling up. The fragmentation of the capital markets means that available financing is currently not going to the most promising business projects in the EU, imposing an efficiency loss to the economy. Given that 75% of corporate borrowing is still provided by banks, the Banking Union is a necessary element for the integration of capital markets in the EU, as well as being key for financial stability. Integration of financial markets means concrete institutional redesign, including for instance more aligned insolvency procedures, more integrated supervision or an EU tax framework that removes tax barriers to cross border investment.[40]

56. The opportunities for firms' growth are related to the size of the markets in which they operate. While international trade and globalisation have led to effective market integration across broad geographic areas in many industries, others have remained impervious to market integration. For instance, fragmentation of the telecommunications sector in the EU is evidenced by the varying access availability (e.g. spectrum), quality, and pricing across the EU, with distinct markets delineated by national boundaries, characterized by different regulatory regimes. Further integration of the EU telecommunications market could possibly create opportunities for cross-border complementarities and synergies that generate efficiencies and enhance competitiveness. The presence of such efficiencies in an integrated EU telecommunications market would enable cross-border consolidation without inefficiently reinforcing market power in national markets.

57. Merger control rules do not stand in the way of procompetitive consolidation. They remain an effective tool to enable all mergers that generate value through complementarities, synergies and efficiency and identify those that undermine competition and lead to inefficient market power. When competition problems arise, most companies can solve them by offering remedies. In fact, the European Commission has given the green light to many mergers that directly produced global champions. Effective merger control strengthens the EU single market and fosters EU competitiveness.

3.2. An EU-wide mindset for procompetitive industrial policies in the EU single market

58. Procompetitive industrial policies in the EU today need to be designed with an EU-wide mindset, because the EU economy faces common challenges and because EU markets are much more integrated than decades ago. While industrial policies in the past could be conceived at national level when value chains and markets were less integrated, today industrial policies with a national mindset are unlikely to be effective and are likely to inefficiently distort competition in the EU single market.

59. On the one hand, a patchwork of national industrial policies would fail at addressing shared challenges like regaining EU technological leadership or securing EU value chains. These challenges require coordination of all assets and skills in the EU economy, regardless of where in the Union they are located. On the other hand, asymmetric industrial policies

[40] Ibid.

reflecting national fiscal capacities instead of competitive potential would fragment the EU single market, undermine the level playing field, and trigger subsidy races within the EU.

60. In this context, procompetitive industrial policies in the EU single market require EU policy instruments and effective enforcement of EU State aid control rules. This includes EU-level funding to meet shared competitiveness challenges efficiently while preserving internal cohesion. National fiscal capacities that do not reflect the competitiveness potential of EU regions should not inefficiently constrain their ability to contribute to EU competitiveness. In those instances, EU-level funding would address these asymmetries, fostering competition among firms, driving innovation and technology adoption everywhere in the Union, thus ensuring that companies can become more efficient and compete on an equal footing effectively both within the EU and globally.

3.3. Competition policy to avert the risks of market power and market fragmentation

61. Deepening the single market is not just about integration, but about efficient market outcomes that can only be delivered by effective competition. The exercise of market power is a market failure that imposes a deadweight loss on the economy whenever it is not a reward to successful innovation or to greater efficiency. Even when it is a reward to successful innovation and efficiency, market power must remain contestable to ensure continued innovation and to avoid entrenched market power leading to potential exclusionary and exploitative abuses. Inefficient exercise of market power is not just a deadweight loss for final consumers, but a drain for the competitiveness of all firms that suffer from inputs at higher costs and lower quality.

62. In the EU during the past 25 years, on average and in a wide range of sectors, concentration as well as markups and profits have likely increased, the gap between industry leaders and followers as regards profits and productivity has likely increased, and business dynamism – as measured by indicators of churn at the top of the firm distribution as well as entry and job allocation rates – has likely declined. On the one hand, globalisation and digitalisation have contributed to generate efficiencies and productivity gains. On the other hand, the combination of scale economies, network effects and the role of data in innovation-intensive industries has led to 'winner takes most' dynamics, where a small number of firms gain a large share of the market. Entrenched market power poses a risk to EU competitiveness.

63. Competition is an opportunity for more efficient outcomes in a more deeply integrated single market supporting EU competitiveness, while entrenched market power poses a critical risk to that ambition. Competition policy in the EU has gradually adapted over the last decade to remain effective at protecting and fostering competition in this changing world. Competition law enforcement, both through antitrust and merger control, has paid increasing attention to investment, innovation, network effects and consumer choice, as crucial dimensions of competition and welfare. In parallel, since 2020, most State aid guidelines have been revised to respond to the challenges posed by the transitions and crises that the EU economy is going through.

64. While competition policy and enforcement are an important part of the solution, they cannot address the risks of weakened competition alone. Like other global peer economies facing similar challenges in their respective jurisdictions, the EU should therefore persevere in pro-competitive structural reforms across all policy areas in which competition can be strengthened and ensure that complementary measures, notably industrial policies, do not unduly undermine competition.

4. Conclusion

65. Pro-competitive industrial policies leverage the potential of each economy, addressing market failures in cost-efficient ways, without undermining the market competition that is equally needed for the long-term competitiveness of the EU economy. The combination of market competition and efficient public intervention is necessary for all main challenges and opportunities ahead: innovation and digitalisation, decarbonisation, resilience, and further integration of the EU single market. EU procompetitive industrial policies necessitate true EU policy instruments and funding to be effective.

66. There is no contradiction between active policies in support of the EU industry and competition policy enforcement in the EU single market. Competition policy and pro-competitive industrial policies complement each other, and the competitiveness, growth, and fairness of the EU economy depends to a significant extent precisely on successfully conjugating them.