Recent Developments at DG Competition: 2020/2021

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Accepted: 19 October 2021 / Published online: 21 November 2021
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Abstract
The Directorate General for Competition at the European Commission enforces competition law in the areas of antitrust, merger control, and State aid. After providing a general presentation of the role of the Chief Competition Economist’s team, this article surveys some of the main developments at the Directorate General for Competition over 2020/2021. In particular, the article discusses the Commission proposal on the Digital Markets Act, the developments on the State aid response related to the COVID pandemic as well as the Danfoss/Eaton merger.

Keywords Competition policy · Antitrust · Mergers · State aid · Digital markets act

1 Introduction: The CET in 2020–2021

The CET is a group of about 30 economists providing advice to the Commissioner (Executive Vice-President Margrethe Vestager) and to the Director General (Olivier Guersent) of DG Competition. This advice concerns ongoing cases, revisions of practices and guidelines, as well as broader policy issues (e.g. green policies, industrial policies, digital sector regulation). The CET does not just express an opinion on cases. Often some of its members are embedded in the case teams. This is generally

1 European Commission, MADO 17/013, 1049 Brussels, Belgium
the rule for merger and has become much more common in antitrust and State aid, especially on the most relevant and complex cases. In addition, given the sheer number of State aid cases, the CET’s involvement in some of these cases is limited to performing specialised tasks and to vouching for the economic coherence of the analysis.

The figure above describes the allocation of resources across tasks over the last few years (Fig. 1).

Overall, then merger control still appropriates a large part of our time. Recently though, the relative importance of State Aid work has been inching up. Although not represented on the graph and policy work has also increased accounting for 14% of the CET’s time in 2020.1

In the following sections, we summarize some of the main developments in our work over the last year. In antitrust, the defining event of the year was the development of a proposal for the Digital Market Act. Section 2 describes the main features of this Act, as well as the underlying rationale. It was a very busy year for State Aid as we felt the cumulative impact of the COVID crisis and the revision of most of our guidelines. The main developments in these areas are reviewed in Sect. 3. Finally Sect. 4, devoted to mergers, reminds us that “bread and butter” mergers still matter and can be interesting in their own right.

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Fig. 1 Workload across main instruments

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1 After rescaling the percentages of the other three instruments to add up to 100%.
2 Antitrust

2.1 Introduction

Between January 2020 and July 2021, the European Commission took decisions in eight (non-cartel) antitrust cases.

In Romanian Gas Interconnectors, the Commission was concerned that Transgaz, the state-controlled gas transmission system operator in Romania, may have infringed EU antitrust rules by restricting exports of natural gas from Romania. The final decision made commitments offered by Transgaz legally binding that it will make available to the market significant firm capacities for natural gas exports to neighboring Member States, in particular Hungary and Bulgaria.

In Cephalon, the Commission fined the pharmaceutical companies Teva and Cephalon €60.5 million for agreeing to delay the market entry of a cheaper generic version of Cephalon’s drug for sleep disorders, modafinil, after Cephalon’s main patents had expired. This case was therefore part of a series of investigations into so-called pay-for-delay practices.

In a series of decisions concerning the geo-blocking of video games, the Commission fined Valve, owner of the online PC gaming platform “Steam”, and the five publishers Bandai Namco, Capcom, Focus Home, Koch Media and ZeniMax €7.8 million for breaching EU antitrust rules. Valve and the publishers had restricted cross-border sales of certain PC video games based on the geographic location of users with the European Economic Area.

Finally, in Aspen, the Commission had raised concerns about Aspen’s pricing practices regarding six critical off-patent cancer medicines mainly used in the treatment of leukemia and other hematological cancers. After acquiring the medicines from another company, Aspen started in 2012 to progressively increase its prices, often by several hundred percent. The final decision made commitments offered by Aspen legally binding that it will reduce its prices in Europe for the affected medicines by 73% on average.

During the 2020–2021 period, the most relevant rulings of the Court of Justice of the European Union were UK Generics of January 2020, Budapest Bank of April

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2 Case AT.40334 Romanian Gas Interconnectors (Commission Decision of 6 March 2020). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_407.
3 Case AT.39686 Cephalon (Commission Decision of 26 November 2020). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2220.
4 E.g., see Case AT.39226 Lundbeck (Commission Decision of 19 June 2013), Case AT.39612 Servier (Commission Decision of 9 July 2014).
5 Case AT.40413 Focus Home, Case AT.40414 Koch Media, Case AT.40420 ZeniMax, Case AT.40422 Bandai Namco, Case AT.40424 Capcom (Commission Decisions of 20 January 2021). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/ip_21_170.
6 Case AT.40394 Aspen (Commission Decision of 10 February 2021). See press release available at https://ec.europa.eu/commission/presscorner/detail/en/ip_21_524.
2020, Baltic Rail of 18 November 2020, and Slovak Telekom of 25 March 2021.\footnote{Case C-307/18 Generics (UK) Ltd and Others v Competition and Markets Authority, Judgement of the Court (Fourth Chamber) of 30 January 2020; Case C-228/18, Gazdasági Versenyhivatal v Budapest Bank Nyrt. and Others, Judgement of the Court (Fifth Chamber) of 2 April 2020; Case T-814/17 Lietuvos geležinkeliai AB v Commission, Judgment of the General Court of 18 November 2020; Cases C-152/19 P Deutsche Telekom AG v Commission and C-165/19 P Slovak Telekom a.s. v Commission, Judgment of the Court (Third Chamber) of 25 March 2021.} UK Generics and Budapest Bank were already discussed in Karlinger et al. (2020).\footnote{Karlinger, L., Magos, D., Régibeau, P., & Zenger, H. (2020). Recent Developments at DG Competition: 2019/20. Review of Industrial Organization, 57, 783–814.}

In Baltic Rail, the General Court confirmed the Commission’s finding that LG, the national railway company of Lithuania, had abused its dominant position by dismantling a rail track that was used by a Latvian competitor to enter the market and serve a large customer that had recently switched away from LG. Even so, the Court used its discretion regarding the setting of fines by reducing the amount of the fine imposed on LG from € 27.8 million to € 20.1 million.

Similarly, in Slovak Telekom, the Court of Justice confirmed the Commission’s finding that Slovak Telekom, the incumbent telecoms operator in Slovakia (owned by Deutsche Telekom) had abused its dominant position on the Slovak market for broadband internet services by limiting the access of alternative operators to its local loop. In particular, the Court found that the strict conditions for finding a refusal to supply set out in Bronner do not apply to the finding of an abuse in cases where access has been granted but the terms of access are in question.\footnote{Case C-7/97 Oscar Bronner GmbH & Co. KG, Judgment of the Court (Sixth Chamber) of 26 November 1998.}

The period 2020–2021 was further characterized by intensive activity across numerous antitrust policy fields. In particular, the Commission launched Public Consultations on: a possible New Competition Tool;\footnote{See https://ec.europa.eu/competition-policy/public-consultations/2020-new-comp-tool_en.} the Evaluation of the Market Definition Notice;\footnote{See https://ec.europa.eu/competition-policy/public-consultations/2020-market-definition-notice_en.} the Review of the Motor Vehicle Block Exemption Regulation;\footnote{See https://ec.europa.eu/competition-policy/sectors/motor-vehicles-draft-page/review-motor-vehicle-block-exemption-regulation_en.} Collective bargaining agreements for self-employed;\footnote{See https://ec.europa.eu/competition-policy/public-consultations/2021-collective-bargaining_en.} the Sector Inquiry on Consumer Internet of Things;\footnote{See https://ec.europa.eu/competition-policy/public-consultations/2021-internet-things_en.} and the draft revised Regulation on vertical agreements and vertical guidelines (including an assessment of sustainability issues).\footnote{See https://ec.europa.eu/competition-policy/public-consultations/2021-vber_en.} Moreover, in December 2020 the Commission adopted the Digital Services Act package consisting of the Digital Markets Act (DMA) and the Digital Services Act (DSA) that we will discuss in detail in Sect. 2.2 below.
2.2 Shaping the Digital Landscape: A Regulatory Approach

In December 2020, the Commission adopted the Digital Services Act package, which consisted of:

1. The Digital Markets Act (DMA), which regulates the conduct of “gatekeeper platforms”: digital platforms with a systemic role in the internal market that function as bottlenecks between businesses and consumers for important digital services, and
2. The Digital Services Act (DSA), which is aimed at creating a safer digital space in which the fundamental rights of all users of digital services are protected.

The Commission consulted a wide range of stakeholders in the preparation of this legislative package. An array of complementing consultation steps were carried out over the last few years in order systematically and thoroughly to capture stakeholders’ views on issues that are related to digital services and platforms. During the summer of 2020, the Commission consulted stakeholders to support the work further in analysing and collecting evidence for scoping the specific issues that may require an EU-level intervention in the context of the DMA and the DSA. All citizens and organisations – European and otherwise – were invited to contribute to these consultations.

The open public consultations on the DSA package and on the New Competition Tool,16 which ran from June 2020 to September 2020, received in total almost 3000 replies from the whole spectrum of the digital economy, including from numerous citizens. Both the DMA and the DSA are currently being discussed by the two European legislative bodies: the Council and the European Parliament. Once adopted, the Acts will be directly applicable across the EU.

The following sections give an overview of the gatekeeper-related problems that have been encountered in digital markets in Europe, and explains the rationale and design choices behind the Commission’s response to these challenges, as borne out in the DMA.

2.2.1 Problems in Digital Markets

It is a well-established principle in microeconomics that, under some conditions, deviations from the competitive equilibrium should not be sustainable in the long run, because markets possess powerful self-correcting mechanisms—such as entry and consumer switching—which should bring prices and profits back to competitive levels. However, these self-correcting mechanisms may be impaired when there are persistent barriers to entry that make it very difficult or even impossible for potential competitors to enter the market and challenge the incumbents.

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16 The New Competition Tool, which would expand the Commission’s enforcement powers, was later merged with one of the components of the DSA and was the origin of the DMA.
Such obstacles can be particularly salient in digital markets. They may not allow entrants to be cost effective (because of scale and scope economies), to produce similar products or services as the incumbent (because of data dependency or vertical integration), or to induce consumers to switch away from the incumbent (because of network effects, switching costs, or asymmetric information). Incumbents might therefore be able to sustain market power for extended periods of time, which would lead to longer-term societal losses in terms of higher prices, less product variety for consumers, and less innovation.

In its enforcement practice, the Commission has found that the aforementioned market features are important factors in the determination of market power and dominance in the digital sector. For instance: Economies of scale were crucial in the Commission’s dominance assessment for the market for general search services in Google Shopping, and for smart mobile operating systems in Google Android. Network effects were identified as relevant barriers to entry for media players in the Microsoft case, and for smart mobile operating systems in Google Android. The role of data was analysed in Apple/Shazam, in Google/Fitbit and in Google Shopping. Consumer switching costs were found to be important in Amazon e-book MFNs, in Microsoft, and—with regard to business users (specifically original equipment manufacturers)—in Google Android. In the latter case, some exclusivity practices were also found to strengthen dominance because of various forms of behavioural biases on the consumer side—such as “default bias”.

In essence, evaluating the effects of potentially competitive conduct in complex digital markets requires paying attention to how consumers actually behave rather than focussing narrowly on what would be rational for them to do.

Whilst some of the features that were presented above may also be present in non-digital markets, their magnitude and effects tend to be much more pronounced in digital markets. For example, the Special Advisers Report concludes that a “consequence of these characteristics is the presence of strong economies of scope, which favour the development of ecosystems and give incumbents a strong competitive advantage. Indeed, experience shows that large incumbent digital players are very difficult to dislodge.”

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17 Case AT.39740 Google Search (Shopping), Commission Decision of 27 June 2017, recital 272.
18 Case AT.40099 Google Android, Commission Decision of 18 July 2018, recital 462.
19 Case COMP/C-3/37.792 Microsoft, Commission Decision of 24 March 2004, recital 420.
20 Case AT.40099 Google Android, Commission Decision of 18 July 2018, recital 464.
21 Case M. M.8788 Apple/Shazam, Commission Decision of 6 September 2018, recitals 221 ff.
22 Case M. M.9660 Google/Fitbit, Commission Decision of 17 December 2020, recitals 444 ff.
23 Case AT.39740 Google Search (Shopping), Commission Decision of 27 June 2017, recital 287.
24 Case AT.40153 E-book MFNs and related matters (Amazon), Article 9 Decision of 4 May 2017, recital 65.
25 Case COMP/C-3/37.792 Microsoft, Commission Decision of 24 March 2004, recital 463.
26 Case AT.40099 Google Android, Commission Decision of 18 July 2018, recital 470.
27 Case AT.40099 Google Android, Commission Decision of 18 July 2018, recitals 781, 783.
28 J. Crémer, Y.-A. de Montjoye, and H. Schweitzer (2018), Digital policy for the digital era (available at: https://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf).
Indeed, many platforms that have been claiming to be “one click or innovation away” from their demise have now been with us for more than 10 years. Similar reflections that are related to features of digital markets and the need for immediate action are also taking place in other jurisdictions, including the US, Japan, the UK, and Australia.

As a result of these market characteristics, large digital providers have emerged as gatekeepers that serve as gateways for their business users and consumers. These gatekeepers exercise control over whole platform ecosystems that are all but impossible to contest by existing or new market operators—irrespective of how innovative and efficient they may be. These markets are therefore more likely to exhibit serious competition problems than would be the case if they were contestable. This lack of contestability due to high barriers to entry in view of the characteristics of digital markets is extensively echoed in the academic literature, which points out that control over data by specific platforms or a lack of venture capital funding for businesses that aim to compete with incumbent digital platforms are significant barriers to entry.

Another feature of “gatekeepers” is that they operate in areas that have widespread impact throughout the EU economy. Moreover, as gatekeepers further develop their “ecosystem”, they are increasingly present in a number of such areas. In this sense, gatekeepers might accurately be described as “tentacular”.

Many businesses are increasingly dependent on these gatekeepers, which in many cases leads to gross imbalances in bargaining power and, consequently, unfair practices that result in conditions for business users that would not be achievable under normal circumstances.

Finally, it should be noted that digital players typically operate at a global scale. As a result, different national legislations within the EU may lead to regulatory fragmentation and increased compliance costs for these players and the business users that rely on them.

In light of the above, ensuring that businesses that operate in Europe are still able to get fair deals from gatekeepers and compete “on the merits” is of utmost importance.

29 For evidence with regard to the trend towards increasing concentration in markets (and, relatedly, growing mark-ups) – including in particular in the digital markets – see for instance: S. Calligaris, C. Criscuolo, and L. Marcolin (2018), Mark-ups in the Digital Era, OECD Science, Technology and Industry Working Papers 2018/10; J. De Loecker, and J. Eeckhout (2020), The Rise of Market Power and the Macroeconomic Implications, The Quarterly Journal of Economics, volume 135(2), pages 561–644; and D. Autor, D. Dorn, L. F. Katz, C. Patterson, J. Van Reenen (2020), The Fall of the Labor Share and the Rise of Superstar Firms, The Quarterly Journal of Economics, volume 135(2), pages 645–709.

30 G. Biglaiser, E. Calvano, and J. Crémer (2019), Incumbency advantage and its value, Journal of Economics and Management Strategy, volume 28(1), pages 41–48; A. Afilipoaie, K. Donders, and P. Ballon (2019), What Are the Pro- and Anti-Competitive Claims Driving the European Commission’s Platform Policies? A Case Study Based Analysis of the European Commission’s Take on Platform Cases (available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3426464). M. Motta and M. Peitz (2020): Intervention trigger and underlying theories of harm—Expert advice for the Impact Assessment of a New Competition Tool, Chapter 2 (available at: https://ec.europa.eu/competition/consultations/2020_new_comp_tool/kd0420575enn.pdf) and G. S. Crawford, P. Rey, and M. Schnitzer (2020), An Economic Evaluation of the EC’s Proposed “New Competition Tool”, Section V.C. (available at https://ec.europa.eu/competition/consultations/2020_new_comp_tool/kd0320680enn.pdf).
importance, as “[i]n these markets, the issues frequently arise from a combination of complex interleaving of firm conduct, consumer behaviour, economic characteristics, technological factors, and various aspects of regulation. Promoting competition in this sector will therefore not be purely about limiting anti-competitive conduct, important as that is. It will also require more proactive market-opening measures.”31

One should add that—given their tentacular nature—the effects of the conduct of gatekeepers might be hard to link to any conventional “antitrust market”. Consequently, the status of dominance and the status of gatekeeper are logically distinct, which justifies the introduction of a new regulatory alternative.

The Commission decided to take the path of regulation to be able to address the identified problems in a broader set of circumstances, given that existing EU competition rules can be applied only when certain preconditions are met: such as the existence of an anticompetitive agreement in the case of Article 101 of the Treaty of the Functioning of the European Union (TFEU) or of a dominant position in the case of Article 102 TFEU. In addition, in some instances, existing EU competition rules may be able to prevent or address a market failure, but not in the most effective manner: for instance, because they are of a systemic nature. Further, the existing EU competition rules do not necessarily capture all unfair business practices by digital gatekeepers.

2.2.2 The Main Parameters and Trade-Offs Considered in the Design of the DMA.

The main parameters in designing the appropriate policy response to the challenges outlined in Sect. 2.2 are (1) the scope of the regulation—the perimeter of addressees; and (2) the obligations to be imposed on those addressees.

In the case of the DMA, the scope is determined, on the one hand, by the “core platform services” (CPSs)—the list of digital services that are encompassed by the regulation (see Sect. 2.2.2.1)—and by the designation process through which providers of CPSs can be identified as “gatekeepers” (see Sect. 2.2.2.2) and hence will have to comply with the obligations. The designation process allows for designation both on the basis of quantitative criteria and on the basis of a qualitative designation that follows a market investigation into a particular CPS provider. The DMA then proposes a set of obligations that are aimed at banning the most salient unfair trading practices and resolving some of the main contestability issues (see Sect. 2.2.2.3).

In setting the parameters of the designation process and the corresponding obligations, the fundamental trade-off to be considered is between legal certainty and the timeliness of intervention on the one hand, and flexibility on the other. While some jurisdictions leave most of the specification of their measures to the implementation stage—and hence to the discretion of the competent authority—the DMA has most of the tailoring of the remedies already “baked” into the regulation itself.

31 A. Fletcher (2020), Market Investigations for Digital Platforms: Panacea or Complement? (available at SSRN: https://ssrn.com/abstract=3668289). See also CERRE report “The European proposal for a digital markets act: a first assessment”, January 2021 (available at: https://cerre.eu/wp-content/uploads/2021/01/CERRE_Digital-Markets-Act_a-first-assessment_January2021.pdf).
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The DMA thus ensures that the new regulation can generate its benefits quickly, while allowing the Commission to take account of the specificities of each CPS and each addressee of the regulation.

Technological progress is particularly fast-paced in the digital economy, and platform services thus evolve quickly over time. To remain effective in the face of this constant transformation, the DMA was equipped with a future-proofing mechanism (see Sect. 2.2.4): To endow the DMA with the necessary flexibility with regard to new CPSs and new harmful practices that may emerge in the future, the Commission can carry out a market investigation into any such new service or practice with a view to including it within the scope of the DMA. Finally, the DMA’s enforcement framework allows for sanctions, which range from fines and periodic penalties to structural interventions (see Sect. 2.2.3).

2.2.2.1 Core Platform Services

In order to ensure timely implementation of the DMA, the Commission identified the platform services that meet a set of criteria that make the services susceptible to being at the origin of the problems described above.

The relevant criteria that were used in the selection of those services were the fact that: (1) those are highly concentrated multi-sided platform services, where usually one or a very few large digital platforms set the commercial conditions with considerable autonomy from their competitors, customers or consumers; (2) a few large digital platforms act as gateways for business users to reach their customers and vice-versa; and (3) the gatekeeper power of these large digital platforms is often misused by means of unfair behaviour vis-à-vis economically dependent business users and customers.

While these concepts are broad, the Commission’s Impact Assessment determined that unfair practices by gatekeepers are more prominent in some platform services than in others. This assessment was based on (1) antitrust decisions that have been adopted by the Commission and other competition authorities; (2) examples of complaints and investigations; (3) evidence from the study that supports the EU’s Observatory for the Online Platform Economy; (4) evidence from the reports by the expert group for the Observatory on the Online Platform Economy, complemented with stakeholder input; and (5) studies that have been conducted on digital sectors by other public authorities.

In this context the following platform services were defined as CPSs that are subject to the DMA obligations: (a) online intermediation services (including marketplaces and app stores); (b) online search engines; (c) operating systems; (d) cloud computing services; (e) video sharing platform services; (f) number-independent interpersonal electronic communication services; (g) social networking services; and (h) advertising services—including advertising networks, advertising exchanges

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32 C. Caffarra, and F. Scott Morton: The European Commission Digital Markets Act: A translation, VOX EU, 05 January 2021; L. Cabral, J. Haucap, G. Parker, G. Petropoulos, T. Valletti, and M. Van Alstyne, The EU Digital Markets Act, Publications Office of the European Union, Luxembourg, 2021, ISBN 978–92-76–29,788-8, https://doi.org/10.2760/139337, JRC122910.
and any other advertising intermediation services that are supplied by providers of one or more of the above services.

The listed services are characterised by their importance as channels between business users and their customers, and benefit from strong economies of scale and network effects as well as data-driven advantages. These favour the presence of very strong players that are able to exert gatekeeper power.

2.2.2.2 The Gatekeeper Designation Process According to Article 3(1) DMA, for the provider of a CPS to be designated as a gatekeeper, it has to meet all of the following three requirements:

(a) It has a significant impact on the internal market;
(b) It operates a CPS that serves as an important gateway for business users to reach end-users; and
(c) It enjoys an entrenched and durable position in its operations, or it is foreseeable that it will enjoy such a position in the near future.33

There are two ways in which the Commission can verify if these three requirements are met in the case of a specific provider of one or more CPSs: The first avenue runs via a quantitative designation process, where the provider is presumed to be a gatekeeper if it meets a set of quantitative thresholds:

(a) Annual EEA turnover of EUR 6.5bn in the last three financial years, or an average market capitalisation (or equivalent fair market value) of EUR 65bn in the last financial year, and provision of at least one CPS in at least 3 Member States;
(b) 45 million monthly active end-users and 10,000 yearly active business users established in the European Union in the last financial year; and
(c) Where (b) is satisfied in each of the last three financial years.

This quantitative designation process ensures swift application of the DMA to the largest gatekeepers. At the same time, the DMA preserves the flexibility of waiving such a designation in case of a “false positive”: where a CPS provider can demonstrate that, although it meets the quantitative thresholds, it exception-ally does not meet the identifying criteria for a gatekeeper as laid out in Article 3(1) DMA. Where such a rebuttal is provided by the CPS provider, the Commission will open a fast-track market investigation to decide whether or not the provider should be designated a gatekeeper.

The second—qualitative—avenue for gatekeeper designation is reserved for smaller providers of CPSs that do not meet some or all of the above quantitative thresholds, but nonetheless do qualify as gatekeepers in the sense of Article 3(1) DMA. To capture such gatekeepers, the Commission will open full-fledged market investigations into the level of entry barriers in the CPS(s) that are offered by

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33 In the latter case, the gatekeeper is not yet established, but it is emerging.
a given provider, such as economies of scale or scope, vertical integration, data dependency, multi-homing possibilities and consumer switching costs, or other structural and business characteristics that are relevant for this assessment.

At the end of any designation process—whether it is quantitative or qualitative—the Commission will publish a list of those CPSs that are provided by any given gatekeeper that are considered “important gateways”, and hence subject to the obligations that are listed in the DMA.

**2.2.2.3 Obligations** The Commission identified which of the specific unfair practices require ex ante regulatory intervention, following several principles: (a) there should be sufficient experience with the harmful effects of the identified unfair practices; (b) such experience should point to the potentially egregious nature of the unfair practices in question, which would justify imposing clearly identified obligations that are related to them; (c) to the extent possible, these obligations should be directly applicable in order to guarantee the timeliness of the effects of the DMA; and (d) the unfair practices should be identified in a clear and unambiguous manner to provide the necessary legal certainty for gatekeepers who would need to comply with them, as well as for business users or consumers that may avail themselves of the choices that are provided for them.

Based on these criteria, and based on the evidence that is described in the identification of CPSs, several unfair practices have been identified as those that require immediate attention by the Commission (see below), given their likelihood to cause direct harm to business users, their unfairness; and their propensity to affect competition negatively in the provision of CPSs.

The designated gatekeepers will be required to comply immediately with all of the obligations. However, for some obligations, the gatekeeper has the possibility to discuss with the Commission the measures it intends to take or has taken in order to ensure their effectiveness. This would provide additional flexibility in tailoring the implementing measures by the gatekeepers to the given obligation and circumstances of each gatekeeper.

The only exceptions that are acceptable for a gatekeeper to be actually exempted from an obligation are public health, public morality and public security concerns. Gatekeepers may also request the (time-limited) suspension of a specific obligation due to exceptional circumstances that lie beyond the control of the gatekeeper. For example, the gatekeeper might be affected by an unforeseen external shock that has temporarily eliminated a significant part of end-user demand for the relevant CPS, or the gatekeeper may argue that compliance with a specific obligation would endanger the economic viability of its EEA operations.

Importantly, under the DMA, gatekeepers cannot claim any efficiencies that are allegedly brought by their practices to avoid the application of certain obligations to any of their CPSs. Such efficiency claims have an important role to play in the realm of competition law, which continues to apply in parallel to the DMA. However, the Commission has determined that the regulatory logic of the DMA should differ from the case-by-case approach of principles-based competition law enforcement as it considers that the competitive harm that is associated with the narrowly
| “Family” of obligations | Duties | Rationale |
|-------------------------|--------|-----------|
| Use of data by gatekeepers | Limit combination of data from different sources, No collection of data from CPS arising from business users’ own activities, Inform regulator of consumer profiling practices | Mitigate scale and scope disadvantage of smaller competitors. Protect CSP consumers and business users |
| Data access & portability | Free access to business user own data, Portability of own data with consent, FRAND access to search data | Mitigate scale and scope disadvantage of smaller competitors. Reduce switching costs for consumers and business users |
| Use of distribution channels by business users | No wide MFN clauses, No anti-steering | Clauses with clear anticompetitive effects and unlikely to create efficiencies |
| Leveraging practices | No requirement to use gatekeeper ID service, No tying across CPSs | Likely to have strong anticompetitive effects with limited efficiencies |
| Platform and device neutrality | FAND access to app stores for business users, No discrimination in rankings, Allow user switching between different apps, Interoperability with OS features | Limit exploitation of market power in after-markets. Prevent naked self-preferring. Reduce switching costs |
| Digital advertising | Free information to advertisers and publishers on price paid, Access to ad inventory evaluation tools | Increase transparency and hence competition in the “Ad Stack” |
| Acquisition | Inform Commission of any acquisition | Facilitates the review of acquisitions below the traditional thresholds |
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defined practices that are listed in the DMA will typically outweigh any potential efficiencies.

The obligations aim at addressing different issues and concern different areas of the behaviour of gatekeepers. Some of the obligations apply to all CPSs while others are specific to only some of them. Those obligations are summarised in Table 1

A first set of obligations directly targets the use of data by gatekeepers. These include the obligation to: (1) refrain from combining personal data from different sources unless they obtained consent from end-users beforehand; (2) refrain from using data that are gathered on CPSs through activities of business users when the gatekeeper offers services in competition with business users; and (3) inform the Commission of consumer profiling practices. These obligations are meant to mitigate the adverse effects of large-scale data accumulation and data combination by gatekeepers on consumers and business users, and to create a level playing field for smaller competitors who have not (yet) had the possibility to build comparable data assets.

Another type of obligations concerns data access and portability. These include the obligation to: (1) provide each business user with access, free of charge, to data that are generated by the business user itself; (2) ensure data portability, subject to consent where required; and (3) provide access on FRAND terms to query, click, and view data that are generated on search engines. These obligations aim at reducing switching costs for business users and end-users and at alleviating the difficulties of smaller competitors due to their lack of scale.

A further group of obligations are linked to the use of distribution channels by business users. They require that gatekeepers: (1) allow business users to offer the same products outside CPSs at prices/conditions that differ from those on the gatekeeper’s intermediation service(s); and (2) allow business users to promote offers to users that are acquired via a gatekeepers CPS, and conclude contracts with them, outside the gatekeeper’s CPS. These obligations seek to foster inter-platform competition and to strengthen the position of business users of large digital platforms vis-à-vis these platforms.

Two other obligations tackle leveraging practices by preventing gatekeepers from requiring that (1) business users use, offer, or interoperate with an ID service of the gatekeeper; and (2) users subscribe or register with any other CPS as a condition of access to a gatekeeper’s CPS. These obligations aim, among other things, at creating a level playing field for smaller competitors that do not operate multiple CPSs.

Two sets of obligations are related to platform neutrality and device neutrality. With regard to the former, the DMA obliges gatekeepers to: (1) ensure fair and non-discriminatory conditions of access to app stores for business users; and (2) not treat more favourably in ranking gatekeeper services and products. As concerns

34 See for instance S. Ichihashi (2021), Competing data intermediaries, RAND Journal of Economics, volume 52(3), pages 515–537.

35 Another obligation prohibits gatekeepers from preventing or restricting business users from raising issues with any relevant public authority relating to any practice of gatekeepers.
the latter, the DMA obliges gatekeepers to: (1) allow end-users to un-install pre-installed applications on CPSs; (2) allow installation and effective use of applications or app stores; (3) allow end-users to switch between different software applications and services; and (4) provide to third-party providers of ancillary services access to and interoperability with the same operating system, hardware, and software that are available or used by the gatekeeper. These obligations are particularly useful to address issues related to the dual role of large digital platforms that result from vertical integration or other types of ecosystem integration negatively—in particular certain forms of self-preferencing—and to reduce switching costs for consumers who want to access services that are provided by third-party operators on a gatekeeper platform.

Two obligations address the digital advertising sector by forcing gatekeepers to provide for free to advertisers and publishers information on prices paid and access to performance measuring tools of the gatekeeper and information necessary for third-party verification of ad inventory. These obligations are useful to promote informed choices in advertising markets.

Finally, the DMA also mandates that gatekeepers inform the Commission of any acquisition in the digital sector.

### 2.2.3 Enforcement Framework

To ensure effective compliance with the provisions of the DMA, the Commission can impose fines and periodic penalties or take the necessary measures to restore compliance following a non-compliance decision. In the extreme case, where an investigation shows that a gatekeeper has systematically infringed the obligations and has further strengthened or extended its gatekeeper position, the Commission can impose structural remedies if they are necessary to guarantee that market participants are not irreversibly harmed by the repeated illicit behaviour.

However, to guarantee proportionality of the intervention the Commission can only impose structural remedies either where there is no equally effective behavioural remedy or where any equally effective behavioural remedy would be more burdensome for the gatekeeper concerned than a structural remedy.

### 2.2.4 Future-proofing

The services and practices in CPSs and in markets in which these CPSs participate can change quickly and to a significant extent. In an effort to ensure that the DMA remains up to date and constitutes an effective and holistic regulatory response to the problems posed by gatekeepers, a regular review of the lists of CPSs as well as of the obligations is foreseen. This is particularly important to permit a quick identification and regulation of new behaviour that may limit the contestability of CPSs or may reinforce the stark imbalance in bargaining power between gatekeepers and their business users.

This updating mechanism is intended to provide the DMA with the necessary flexibility to react in a timely manner to any new challenges—given the dynamically changing nature of the digital sector—while preserving its regulatory character.
2.2.5 Conclusions

To see the full picture of how digital markets will be regulated in Europe in the near future, it is important to understand that the DMA will be enforced hand-in-hand with the existing competition rules, as currently enforced both at European and at national level. The DMA therefore does not replace antitrust enforcement in Europe, but rather complements it with a set of rules that are aimed at ensuring contestability of certain platform services, and eliminating certain forms of unfair gatekeeper behaviour. Similar to other regulated industries—such as energy or telecoms—regulation will provide a valuable tool that covers behaviour that either falls outside of existing competition rules, or cannot be efficiently tackled by competition law.

The implementation of the DMA will require economic analysis in particular for the following areas of intervention:

- Gatekeeper designation: assessing the companies’ notifications in light of the relevant indicators for the quantitative designation; carrying out market investigations for the purpose of qualitative designations (based on an assessment of barriers to entry); regular review of the gatekeeper status
- Market investigations to extend the DMA’s scope to new CPSs and to new practices
- Market investigations for the assessment of non-compliance

Economic analysis will also be relevant for the implementation dialogue of some of the obligations, whose purpose is to identify, in close cooperation with the gatekeeper, the most effective and proportional measure that ensures compliance with the respective obligations.

3 State Aid

3.1 Introduction

Between January 2020 and July 2021, the Commission adopted a record of more than 1500 decisions in the area of state aid. Most of those decisions concluded that the actions were compatible with the Commission’s criteria for justifiable actions or did not actually involve aid.36

During this period, the impact of the COVID-19 pandemic has been very significant. Around than 500 cases and schemes have been approved under the temporary framework (“TF”) that was adopted in March 2020 and amended five times thereafter. The main developments in this field are discussed in Sect. 3.2. In addition, as part of the EU response to the crisis and its evolution, the Recovery and Resilience Facility was established to help Member States in their recovery phase. The CET

36 Detailed information related to the Commission’s State aid activity are available at https://ec.europa.eu/competition/publications/annual_report/2019/part1_en.pdf. The number of decisions has been abnormally high this year, also due to the significant number of COVID-19 related cases (see Sect. 4 below).
was involved in helping determine the appropriate size of the Fund. DG Competition assisted in reviewing and advising on the draft Recovery and Resilience Plans (RRPs) of Member States, since projects under the RRPs must be assessed under State aid rules. To facilitate this work the Commission has published a number of templates. In May 2021, the Commission also proposed a new Regulation to address distortions that are caused by foreign subsidies in the internal market.

In parallel to the numerous cases and policy initiatives related to the Covid crisis, there has also been significant work on State aid guidelines. The Commission completed the fitness check of the rules under the State aid Modernisation package. In addition, the revision of a number of guidelines have been prioritised because of their vital role in the green transition. The revised guidelines in the context of the greenhouse gas emission allowance trading scheme (ETS guidelines) were adopted in 2020 and the Commission has launched the public consultation on the Climate, Environmental and Energy Aid Guidelines (CEEAG) and “important projects of common European interest” (IPCEI) guidelines. While IPCEIs are not specific to the Commission’s green ambition it is expected to be an important instrument to help promote greener technology, such as hydrogen.

In banking, the European Court of Auditors published its review and recommendations in relation to the 2013 Banking Communication and identified a number of areas for improvement. In the field of aggressive tax planning the General Court has annulled the Commission decision on Apple and the Commission had appealed this judgment to the Court of Justice. There has also been another important judgment from the Court of Justice on Hinkley Point C, which clarified the two conditions that need to be fulfilled for compatibility decisions under Article 107(3)(c) TFEU.

The CET has been closely involved in the TF and on the compensation of damage caused by Covid-related governmental restrictions on economic activities (Article 107(2)(b)), contributing to the design and amendments to the TF (e.g. the design of uncovered fixed cost measure) and to the development and application of approaches to damage quantification. We were also involved in a number of significant cases such as Air-France-KLM (capitalization); TUI; Italian recapitalisation scheme; and Alitalia (damages), as well as in many other cases and schemes analysing proportionality needs and the appropriate remuneration, as well as governance conditions.

A significant contribution has been in assessing whether some recapitalisations constitute State aid or not: whether they are conform with the Market Economy Operator principle including the capital injection to ITA (Italia Trasport Aereo).

Finally, the CET has worked extensively on the energy sector: on policy work such as the Environmental and Energy Guidelines and also on individual cases.

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37 Commission Staff Working Document: Guidance to Member States – Recovery and Resilience Plans, SWD(2021) 12 final, 22.1.2021. See: https://ec.europa.eu/info/sites/info/files/document_travail_service_part2_v3_en.pdf.

38 See also https://ec.europa.eu/commission/presscorner/detail/en/ip_21_1982.
3.2 Developments in the State Aid COVID Related Measures

The necessary policy response to the COVID outbreak and its unprecedented economic impact has dominated the work of DG Competition in the field of State aid. As was explained in last year’s article, the European Union and European Commission have reacted in several ways in addressing the challenges. One important leg of this reaction is the State aid response—with hundreds of positive decisions—and the setting out of the TF.39 From an economic perspective, economic and financial analyses have been a key component of the State aid response to these challenges: by contributing to the construction of the overall architecture and rationale of the TF as well as in the implementation and the assessment of actual cases and schemes. And this is the effort to contribute to the overall objectives of State aid: to ensure an appropriate balance between the need to provide support and avoid short and long term harm to the internal market and avoid distorting the level playing field between Member States (e.g. due to their different ability or willingness to provide support).

This section will first provide a summary of the approved aid and will then discuss whether this reaction has achieved its objectives. The third part is devoted to the new developments of the TF and notably the new measure to address the uncovered fixed costs of highly affected companies. The fourth section addresses how the Commission has applied damage compensation in this crisis. Last, we provide an overview of the main developments from a State aid perspective in one of the most affected sectors, airlines.

3.2.1 Stock-taking of What has Been Approved

The COVID pandemic has led to unprecedented decreases in GDP. EU GDP in 2020 dropped substantially: 6%. It is expected to grow by 4.8% in 2021 and 4.5% in 2022. At the same time, the effect in Member States has not been symmetric but reflects the differences in their economies: e.g. tourism-reliant Member States have suffered more). The impact across sectors has been very diverse, with sectors such as transport, hotels, leisure and energy being highly affected, while others—such telecommunication and health services—performing better than in 2019. All EU Member States are projected to reach their pre-crisis level of quarterly output by the end of 2022. So there has been about two “lost years”.

Through mid-August 2021, the Commission has adopted almost 630 decisions that approved more than EUR 3 trillion of total State aid in record times. The measures have been approved quickly with a median duration of 20 calendar days. These COVID related decisions mainly concerned measures under two legal bases: i) under Article 107(3)(b) TFEU, which aims at addressing serious disturbance in the economy and is the legal basis of the TF; and ii) under Article 107(3)(b) TFEU, whose objective is to make good the damage that has caused by exceptional occurrences (see Sect. 3.2.4).

39 The Temporary Framework and all its amendments are available at https://ec.europa.eu/competition-policy/state-aid/coronavirus/temporary-framework_en
There are significant differences in the approved budgets across Member States. By mid-August 2021 more than 50% of the aid approved has been notified by Germany, followed by Italy and France (around 15% each). However, not all approved aid is actually used; for example in the period between mid-March and end of December 2020, of EUR 2.96 trillion in aid approved by then, around EUR 544 billion was actually used. Also, while most aid approved has been notified by Germany, data until the end of 2020 show that France has spent more (more than EUR 155b), followed by Italy (EUR 108b) and then Germany (EUR 104b). In relative terms, Spain is the country that has provided to its economy the most State aid as compared to its own GDP (7.3%), followed by France (6.4%). Italy (6.0%), Greece (4.39%), Malta (3.9%), Hungary (3.7%), Portugal (3.6%), Poland (3.6%) and Cyprus (3.5%).

The aid approved may take very different forms. Within TF measures, guarantees on loans under Sect. 3.2 is the largest category (more than 50% of estimated budgets), followed by the “3.1 measure”, which allows aid to companies of up to EUR 1.8 million in any form (grants, loans, repayable instruments, etc.). This accounts for close to 25% of estimated budgets.

3.2.2 Positive Impact of Support Measures and Risks

It has been widely acknowledged that the expansive fiscal and monetary response to the COVID outbreak has had beneficial impacts for the economy and society. State aid has been seen as “essential to reduce the short- and long term harm to the EU economy as a result of the pandemic.” The support schemes have been effective in preventing a series of bankruptcies and have limited unemployment and spillovers in the economy. Elenev et al. (2020) use a macroeconomic model to document that the bailouts prevented a much deeper crisis in the US.

In the EU, Member States have provided total fiscal support that is estimated at more than 6.5% of GDP. The Commission (2021) considers that “[t]he mutually reinforcing effects of fiscal and monetary policies, in combination with regulatory and prudential measures for the financial sector were crucial for cushioning the impact of the crisis”. The Commission estimates that the contraction in GDP in 2020 has been reduced by around 4.5 percentage points due to the fiscal response. The impact of COVID-19 related measures is expected to amount to around 2.6% of GDP in 2021 and around 0.6% of GDP in 2022.

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40 Collin, A. M., Boddin, V., & Van de Casteele, K. (2021). The use of COVID-19 related State aid measures by EU Member States. State aid brief, 1/2021.
41 Collin, A. M., Boddin, V., & Van de Casteele, K. (2021). The use of COVID-19 related State aid measures by EU Member States. State aid brief, 1/2021.
42 Robins, N., Puglisi, L., & Ling, Y. (2020). State aid tools to tackle the impact of COVID 19, EStAL, 2, 2020.
43 Communication from the Commission to the Council, (2021), “One year since the outbreak of COVID-19: fiscal policy response”.
44 Communication from the Commission to the Council, (2021), “One year since the outbreak of COVID-19: fiscal policy response”.

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In terms of the impact on jobs, the combination of State aid and a number of job retention measures has limited the increase in unemployment (around 1% point from pre-pandemic levels) which has been significantly smaller than the drop in GDP.

In terms of bankruptcies, Commission estimates suggest that, without government support measures or new borrowing, a quarter of EU companies would have experienced liquidity distress by the end of 2020 after exhausting their capital buffers.45

By contrast, some authors point to the negative effects of the bailouts, such as increased moral hazard and excessive risk-taking and the high cost of the bailouts when compared to the corporate income tax payments of the bailout firms (Meier and Smith (2021)).46 That paper also observes that lobbying expenditures positively predict the bailout likelihood and amount. However, such concerns have generally been overshadowed by the acute needs in the economy – especially in a crisis that is both exceptional and beyond the control of the companies (and therefore with more moderate risks of moral hazard).

There are also concerns about maintaining the level playing field in the internal market. A European Parliament report47 noted significant differences in the reaction of Member States both in absolute and relative terms and expressed its fear that the competitive landscape might be modified in favour of companies that are based in the countries with larger programmes.48 The policy response of the EU to such concerns included the Recovery and Resilience Facility (“RRF”), which entered into force on 19 February 2021. It has made EUR 312.5 billion in grants and up to EUR 360 billion in loans available over the next six years to support reforms and investments in all Member States. RRF plans have been approved by the Commission in record times and the scale of the facility is made possible by an unprecedented recourse to EU debt issuance.49

A third concern has been the zombification of the economy. Largely thanks to the moratoria and support measures, there have been only limited bankruptcies. However, the flip side of this success could be that the support measures have kept alive companies with negative equity or huge debt to equity ratio with a negative effect on long term productivity.50 For example, a paper published in the Financial Stability

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45 Communication from the Commission to the Council, (2021), “One year since the outbreak of COVID-19: fiscal policy response”.
46 Meier, J-M., & Smith, J. 2021. The COVID-19 bailouts, CEPR Press, 83.
47 van Hove, J. 2020. Impact of state aid on competition and competitiveness during the COVID-19 pandemic: an early assessment, European Parliament.
48 However, the Commission also found a correlation between the State aid expenditure (as a % of GDP) and the loss in GDP which is an indication that aid has also been proportionate to needs at a macro level across Member States. See Collin, A. M., Boddin, V., & Van de Casteele, K. (2021). The use of COVID-19 related State aid measures by EU Member States. State aid brief, 1/2021.
49 According to the European Commission (2021) “Adjustment to large shocks in the euro area—insights from the COVID-19 pandemic”, technical note for the Eurogroup: “Simulations show that the instrument could increase EU GDP by up to 2% during the years of NGEU’s active operation (while increasing potential growth beyond the implementation period)”.
50 For example, Banerjee et al. (2018) finds that a 1% increase in zombie share leads to 0.3% slower growth.
Review of the ECB\textsuperscript{51} is concerned that policy measures that are aimed at supporting companies through the COVID pandemic may have supported not only otherwise viable firms but also structurally unprofitable firms. This may constrain the post-pandemic recovery by tapping resources and crowding out more productive firms. The paper notes that while zombie firms may have not benefited excessively from State support, credit spreads between firms with different credit ratings are low compared to historical rates: they show little differentiation.

However, many consider the risk (or the evidence so far) of zombification to be relatively small. For example, Cros et al. (2021) consider that what we face is “hibernation”—not zombification. They find that, even if there has been a decrease in the bankruptcy level below its normal level, the same drivers that predicted firm failures in 2019 (such as low productivity and high debt) were the main reasons for bankruptcies also in 2020. That the overall rate of bankruptcy decreases is to be expected when substantial uncertainty of what would be a viable firm in a post-pandemic world.

Since there are social and private costs from insolvencies (e.g., exit leads to a loss of value, such as a “fire sale” of assets and labour skills), and the current crisis is characterised by significant uncertainty, there is an incentive to wait and take a chance on a potential upside. Also from a public policy perspective, during a crisis that is so pronounced and given the difficulties of distinguishing illiquid from insolvent firms, there is a trade-off between funding some insolvent firms and avoiding a collapse of the economy (see Leaven et al. (2020)).

From a State aid perspective, this risk of zombification has been a main concern to find the right balance between the benefits and risks to the internal market and a level playing field. Undertakings in difficulty have been excluded from support from the TF. In light of the severity of the crisis and the challenges in particular to the small and micro enterprises—broadly defined as companies with less than EUR 10 m turnover and/or balance sheet and less than 50 employees—, these companies were excluded from this restriction in the 3rd TF amendment. In addition, since this crisis has been outside the control of the companies and the difficulties in assessing the future prospects of companies in an environment of uncertainty, Member States have been allowed to provide support to companies at the same terms irrespective of their credit rating; the only difference between large enterprises versus small and medium enterprises.

A fourth concern is that more support may be needed because firms would face a cliff effect once the measures are withdrawn. The IMF\textsuperscript{52} considers that, if fully implemented, the approved support measures could significantly reduce liquidity risks. However, it warns that liquidity shortfalls are more likely to be persistent in

\textsuperscript{51} Helmersson, T., Mingarelli, L., Mosk, B., Pietsch, A., Ravanetti, B., Shakir, T., & Wendelborn, J. (2021) Corporate zombification: post-pandemic risks in the euro area, Financial Stability Review.

\textsuperscript{52} Ebeke, C., Jovanovic, N., Valderrama, L., & J. Zhou. 2021. Corporate liquidity and solvency in Europe during COVID-10: the role of policies. IMF working paper No. 2021/056.
hard hit sectors with contact-intensive business models and complex value chains. Similarly, the European Systemic Risk Board, which monitors the EU financial system, is concerned about a “tsunami” of insolvencies after pandemic emergency measures are withdrawn.53

Another IMF staff discussion note54 expects that the share of SMEs with negative equity may rise by 6% points in 2020–21, which will threaten up to 1 in 10 SME jobs. The note advocates for “quasi” equity injections to address rising insolvency risks, conditional on adequate fiscal space, and an effective set of insolvency and debt restructuring tools. It further argues that “a stronger case could be made for broader solvency support, because of the larger gap between the social cost (to the economy as a whole) and the private cost (to individual creditors and debtors) of letting firms fail”.

Several provisions of the Temporary Framework are already aligned with the recommendation of these studies to mitigate the cliff edge results, including the possibility to convert repayable instruments into direct grants (subject to the conditions of the TF) even beyond the expiry of the TF. In addition, the several TF amendments and prolongations show that the Commission monitors the economic developments to ensure that support is not withdrawn too early and should focus more on supporting the recovery and helping build the twin transitions.

### 3.2.3 Evolution of the TF

Since its adoption on 19th March 2020 the TF has been amended five times. These amendments have taken into account the prolonged impact of the pandemic and the increasing needs of the economy and have therefore introduced new measures (e.g. recapitalisation chapter, uncovered fixed costs chapter) and prolonged the duration of the TF to address the needs of the real economy.

In particular, the Commission has authorised some schemes that include SMEs or that target SMEs to help improve their liquidity and solvency position.55 Furthermore, additional measures—such as the uncovered fixed costs measure—are targeting SMEs in most hard hit sectors and support can be provided in the form of grants (which directly improve the equity position of the companies), as will be explained below in more detail. Similarly—and without an eligibility condition on turnover decline—under measure 3.1 there has been a significant increase in the allowed aid per undertaking from EUR 0.8 m to EUR 1.8 million. Aid under this measure can be also be provided in the form of grants and therefore directly increase the solvency of the companies.

The uncovered fixed cost measure—Sect. 3.12 of the TF—was introduced in the fourth amendment to the TF of 13 October 2020. This was designed to address the

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53 ESRB, (2021). Prevention and management of a large number of corporate insolvencies.

54 Díez, F J., Duval, R., Fan, J., Garrido, J., Kalemli-Özcan, S., Maggi, C., Martinez-Peria, S., & Pierri, N. 2021. Insolvency Prospects Among Small and Medium Enterprises in Advanced Economies: Assessment and Policy Options. IMF Staff Discussion Notes No. 2021/002.

55 Like the Spanish scheme State aid SA.62067 or the French scheme State aid SA.58639.
needs of companies that have faced a significant decline in their turnover compared
to the same period of 2019 due to the COVID outbreak. The objective of the mea-
ure has been to provide support to cover the fixed costs that cannot be covered by
their ongoing revenues. The measure is available under two broad conditions: The
beneficiaries should have experienced a decline of more than 30% in their turnover
compared to 2019, and this support should be part of the scheme. The purpose of
the second condition is to ensure that there is a level playing field between compa-
nies in the same sector.

These companies could receive support of up to a maximum amount that had
been EUR 3 million, which was raised to EUR 10 million by the 5th TF amendment.
In practice the amount of aid is linked to the level of losses that the companies incur.
These losses are used as a proxy for the uncovered fixed costs concept. The alterna-
tive would have been an item-by-item categorisation of the costs into variable and
fixed costs – which can be a very burdensome and time consuming. In addition,
several safeguards ensure that competition in the common market is not adversely
affected: the aid would be provided in the form of a scheme, to companies hardly hit
by the COVID outbreak and up to the absolute limits. Also to ensure that companies
have incentives to take measures to limit their losses, not all losses can be covered
but only up to 90% of the losses of SMEs and up to 70% of the losses for large enter-
prises (always subject to the absolute nominal cap).

The take up of this measure has been substantial. Many Member States have used
such schemes to address the needs of sectors that have been hit harshly by the crisis
– in particular, in the leisure markets: e.g. hotels, events, restaurants.56

3.2.4 Damages

More than 70 decisions have been adopted on the basis of Article 107(2)(b) TFEU.
Under this legal basis, Member States may compensate undertakings for damage
that is directly caused by the COVID-19 outbreak. However, the scope of this arti-

56 For example, France, Italy, Germany, Spain, Denmark, Netherlands, Slovakia, Slovenia, Lithuania,
Belgium, Hungary, Finland and Luxembourg.
the measure, up to the level of profits which could have been credibly generated by the beneficiary in the absence of the measure, for the part of its activity which is curtailed.” Quantification of the damage therefore requires the definition of a “counterfactual” scenario to determine the difference between this counterfactual and the actual scenario. The actual scenario is easily observable—at least ex post. However, damages may be estimated ex ante (i.e. on a forward look basis) or ex post. In cases where the aid approved before the end of the eligible period there is a clawback mechanism (i.e. reassessment ex post) to ensure the proportionality of aid.

The counterfactual is by definition more complicated, since it cannot be observed ex ante nor ex post. For the initial stages of the COVID crisis it has been typically assumed that a relevant counterfactual would be the performance of the company in 2019. This was done because there had been limited time for companies to account for and adjust to the new reality, and the pandemic had not yet translated into a broader economic crisis. Over time however, it became desirable to consider counterfactuals that would identify the impact of public measures on the volume of passenger/level of activity of the beneficiaries, disentangling the specific effect of the governmental restrictions from other concurrent effects of the general sanitary and economic context. Sticking to the 2019 counterfactual would have de facto discriminated against undertakings that expended efforts to adapt to the new conditions and it would have exceeded the scope of Article 107(2)(b).

An example of the methodology that has been used by the Commission to determine such more complex counterfactuals can be found in the Alitalia damages II and III or the Finnair cases. The counterfactual was constructed by estimating—on a route-by-route basis—the net losses/profits that the company would have experienced based on the volume of passengers that it would have expected to transport during the eligible period had the governmental restrictions that were linked to the COVID-19 outbreak not been imposed.

To do this, the Commission identified a bundle of routes that were free of such governmental restrictions and compared it with the traffic that was registered on those same routes in 2019 (for the same period or similar periods). This reduction would represent the passengers that would not travel in any event regardless of the travel restriction. For example, typically domestic routes were not affected by restrictions but there has been a significant drop in passenger numbers. The proportional change in traffic so computed was then applied to similar routes that were directly affected by governmental restrictions to construct the counterfactual scenario.

57 See point 15ter of the TF.
58 See for example State aid SA.56867(2020)- Germany – COVID 19 – Support for Condor.
59 State Aid SA.59188 (2020/NN) – Italy – COVID-19 aid to Alitalia.
60 State Aid SA.61676 (2021/NN) – Italy – COVID-19 aid to Alitalia.
61 State aid SA.60113 (2021) – Finland – Finnair – COVID-19—hybrid loan 107.2.b.
62 When it was not possible to establish a reliable set of routes, the Commission examined routes that were not affected by restrictions in previous months.
3.2.5 Airlines

The airline industry has been heavily affected by the COVID crisis. According to the International Air Transport Association (IATA), after making USD 26b in profits in 2019, the worldwide industry recorded more than USD 120b in losses in 2020 and is projected to record another 48b in losses in 2021. European airlines lost USD 35b in 2020 and are expected to lose USD 22b in 2021.

Europe has been particularly affected since international traffic restrictions also applied to intra-EU traffic on which EU based air carriers heavily rely. The adverse performance in the sector is also reflected in the airline share prices which have fallen by more than 20% compared to December 2019. A key concern of the sector is that several airlines managed to survive only due to massive increases in debt. IATA has estimated this increase to be USD 220 billion in 2020. Almost half of government aid has been provided in the form of debt that needs to be repaid.

Unsurprisingly, a significant number of State aid decisions has involved airlines. Airlines have benefitted from liquidity and equity financing under the TF, as well as through damage compensation or under the Rescue and Restructuring guidelines (Article 107(3)(c)). Several airlines do not qualify for aid under the TF because they were already in difficulty before 31 December 2019. However, these companies could still receive aid in the form of damage compensation under Article 107(2)(b) TFEU or under the standard Rescue and Restructuring guidelines. For example, the Commission approved a EUR 1.2b rescue loan and more than EUR 450 m in damage compensation for TAP.

The EU has authorised more than EUR 15b of solvency support for airlines. This includes a EUR 6 billion package for Deutsche Lufthansa and a EUR 4 billion package that benefits Air France—KLM group. These two companies are included—along with SAS and TUI—in the group of only four airlines that have received more than EUR 1 billion of solvency support; all four companies received support under the recapitalisation measure of the TF—3.11. The only other airline that has received more than EUR 250 m aid under Sect. 3.11 is Finnair (EUR 286 m).

A comparison with the major US airlines is interesting: While support towards EU airlines has been unprecedented, it appears that US airlines have received similar

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63 IATA, outlook for the global airline industry, April 2021.
64 See IATA, Airlines Financial Monitor, June 2021, https://www.iata.org/en/iata-repository/publications/economic-reports/airlines-financial-monitor---june-2021/
65 State Aid SA.57369 (2020/ N) COVID 19 – Portugal Aid to TAP.
66 State Aid SA.62304 (2021/N) –PortugalCOVID-19: Damage compensation to TAP Portugal.
67 State Aid SA.57153 (2020/N)–Germany–COVID-19–Aid to Lufthansa.
68 State Aid SA.59913–FranceCOVID-19 –Recapitalisation of Air France and the Air France –KLM Holding.
69 State Aid SA.57543 (2020/N) – Denmark, State Aid SA.58342 (2020/N) – Sweden COVID-19: Recapitalisation of SAS AB.
70 State Aid SA.59812 (2020/N) – Germany – COVID-19 – Recapitalisation of TUI.
71 State Aid SA.57410 (2020/N)–Finland COVID-19: Recapitalisation of Finnair.
amounts of solvency support as a % of the companies’ 2019 revenues. In the US, the Airline Payroll Support Program included USD 32 billion of support. In particular, Table 2 shows that all major US airlines received significant support in the form of grants (loans and warrants are not included in the Table). This corresponds to between 11 and 15% of the company’s turnover in 2019.

In the EU solvency support has been similar (with greater divergences though) in terms of % of 2019 revenues for several large airlines, as can be seen in Table 3. However, several large airlines—such as IAG, Ryanair, and Wizz Air—have not received any solvency support (or only a minimal support). TF 3.11 cases (recapitalisation cases) above EUR 250 m require an individual notification and in cases where the beneficiary has significant market power in at least one relevant market, Member States must propose additional measures to preserve effective competition in those markets. These measures could be structural or behavioural.

Until today, there have been only two cases where such commitments have been imposed. As was explained in last year’s contribution, “due to the significant market

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Table 2

| Airline                          | Amount (USD mn) | % of 2019 Revenues |
|----------------------------------|-----------------|--------------------|
| Alaska Air Group, Inc            | 1021.0          | 11.6%              |
| American Airlines Group Inc     | 5983.0          | 13.1%              |
| Delta Air Lines, Inc             | 5594.0          | 11.9%              |
| JetBlue Airways Corporation     | 963.0           | 11.9%              |
| Southwest Airlines Co            | 3354.0          | 15.0%              |
| United Airlines Holdings, Inc   | 5102.0          | 11.8%              |

Table 3

| Airline                        | Amount (EUR mm) | % of 2019 Revenues |
|--------------------------------|-----------------|--------------------|
| Lufthansa Group                | 6153            | 17%                |
| SAS (EUR)                      | 1069            | 25%                |
| Air France-KLM                 | 4000            | 15%                |
| Finnairb                       | 637             | 21%                |
| TUI                            | 1250            | 7%                 |

a These numbers refer to approved aid – not all of which has yet been effectively disbursed.
b This includes both recapitalisation support under 3.11 TF (Article 107(3)(b)) and damage compensation under 107(2)(b) in the form of hybrid loan.

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72 Data until September 2021, available at https://home.treasury.gov/policy-issues/coronavirus/assisting-american-industry/payroll-support-program-payments
73 At the same time, EU airlines may have also benefitted from wage support in the EU and also beyond: E.g. Lufthansa Group has also benefited from the Payroll Support Program in the US.
power of DLH in the hub airports of Munich and Frankfurt, there are divestments of up to 24 landing/take-off slots/day at the Frankfurt and Munich hub airports and of related additional assets to allow competing carriers to establish a base of up to four aircraft at each of these airports.”

The second case is Air France: France committed that Air France makes available to up to 18 daily slots at Orly airport (“ORY”). The Commission considered that 18 slots per day is sufficient for a competitor that acquires these slots to establish or expand viably its based operations at ORY by, for example, basing three aircraft and operating three rotations per day with each of them, or basing two aircraft operating five and four rotations per day with each of them. If the remedy taker is a long-haul carrier, the 18 slots per day would enable it to base a higher number of aircraft.

The way that the Commission has determined the existence of significant market power is pragmatic and realistic. The geographic market definition focuses on an airport-by-airport approach: where every airport (or substitutable airports) is defined as a distinct market. This approach relies primarily on substitutability from the perspective of the airlines. It differs from the geographic market definition under the point of origin/point of destination city-pair approach—where every combination of an airport or city of origin to an airport or city of destination is defined as a distinct market— which is commonly used for merger review or antitrust and primarily relies on substitutability from the perspective of passengers.

Considerations of substitutability between two main airports in Paris (Charles de Gaulle and Orly) have been analysed by the Commission. To estimate market power, the Commission assessed the slot holdings\(^\text{74}\) in each relevant geographic market during the last two pre-crisis IATA seasons and the Commission analysed the average congestion rate\(^\text{75}\) during the operating and peak hours. The presence of competitors with a local base was considered as well. This is summarised in Table 4:

| carrier | slot holdings (Summer 2019) | average congestion (Summer 2019) | competitors (Summer 2019) |
|---|---|---|---|
| AF KLM (Orly) | 50–60% | 90–100% | IAG (10%), EasyJet (8%) |
| Lufthansa (Frankfurt) | 50–60% | 80–90% | Ryanair, Condor (4%) |
| Lufthansa (Munich) | 45–55% | 70–80% | EasyJet, IAG (2%) |

\(^{74}\) The ratio between the number of slots that are held by an air carrier (or the air carriers that are part of the same group) at an airport and the total available slots at that airport: – the airport capacity.

\(^{75}\) The congestion rate is calculated by dividing the number of slots allocated to all airlines at the airport in the relevant IATA season by the total capacity of the airport (in terms of slots) in the relevant IATA season.
competitors at ORY. Eligibility conditions for slot recipients are set in all cases that include, inter alia, a commitment to not being subject to competition remedies and having—or intending to establish—an operating base in the respective airports. The overall objective of these commitments is to enable a viable entry or expansion of activities by other airlines at these airports to the benefit of consumers and effective competition.

### 3.3 Conclusion

The COVID 19 pandemic and the public health measures have meant a number of challenges for the EU and world economy. State aid support has played its role in mitigating these challenges and at the same time ensuring the level playing field in the internal market. Commission State aid decisions that are related to the COVID crisis have been appealed—notably in cases that concern the aviation sector.

There have been eight judgments of the General Court on TF or damage cases. The General Court has upheld the majority of the cases; but two cases were annulled. However, the grounds for annulment are case-specific and do not question the overall logic of the measures that have been adopted so far.

Despite the many Commission decisions and unprecedented support, the challenges are far from over. Ensuring that the support is kept in place and targeted in the most effective way possible—proportionally to the needs of our economies without harming the internal market and without leading to zombification of our economy—is a difficult task. Sectors that have been particularly hit by the crisis—such as aviation and leisure activities—may not rebound as quickly and companies in these sectors may exit the crisis with significant amounts of debt to be repaid. This may in turn require additional public support.

### 4 Mergers

#### 4.1 Main Developments

Between January 2020 and August 2021, 641 merger investigations were concluded at DG Competition. The vast majority (508 cases) were unconditional clearances under a simplified procedure. 16 cases were abandoned in phase I. Of the remaining cases, 105 were concluded during a (non-simplified) phase I investigation and

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76 The cases are cases are: T-259/20 Ryanair DAC v Commission (France moratorium) [2021]; T-238/20 Ryanair DAC v Commission (Sweden loan guarantees) [2021]; T-388/20 Ryanair DAC v Commission (Finnair—Finland) [2021]; T-378/20 Ryanair DAC v Commission (SAS – Denmark) [2021]; T-379/20 Ryanair DAC v Commission(SAS – Sweden) [2021]; T-628/20 Ryanair DAC v Commission (Spanish scheme);T-643/20 Ryanair DAC v Commission (KLM) [2021]; and T-665/20 Ryanair DAC v Commission (Condor) [2021].
8 during a phase II investigation. Of the (non-simplified) phase I cases, 88 were cleared unconditionally, and 17 could be cleared in phase I subject to commitments. The phase II investigations resulted in one unconditional clearance, seven clearances that were subject to commitments, no prohibitions, and four abandoned transactions. Therefore, 6.9% of cases were not cleared unconditionally during this period.

The CET was involved in all second-phase investigations as well as in many complex first-phase investigations. Analyses by members of the CET included, for instance, merger simulations, bidding analyses, price pressure analyses, quantitative market delineation, as well as conceptual contributions to the construction and testing of sound theories of harm.

In terms of broader policy themes, and as outlined by Commissioner Vestager in a speech, the Commission welcomes Member State referrals of mergers below the EU’s revenue thresholds with significant anti-competitive potential. This initiative has already led to a referral case that is currently investigated by the Commission.

4.2 Danfoss/Eaton Hydraulics: Back to Basics

The case concerned the acquisition by Danfoss A/S, headquartered in Denmark of the hydraulics business division of the multinational Eaton Group, Eaton Hydraulics, headquartered in Ireland. Both Danfoss and Eaton ("the parties") were at the

77 Mergers must be notified to the European Commission if the annual turnover of the combined business exceeds certain thresholds in terms of global and European sales. Notification triggers a 20-working-day phase I investigation. In the majority of cases, this follows a simplified procedure. If the transaction does not raise serious doubts with respect to its compatibility with the common market at the end of phase I, the Commission issues an unconditional clearance decision. If concerns exist but are addressed in a clear-cut manner by remedies that have been proposed by the parties, the transaction can be cleared conditionally in phase I. Otherwise, the Commission will start a 90-working-day phase II investigation. At the end of phase II, the transaction is either cleared (conditionally or unconditionally) or prohibited; the latter occurs if the Commission finds that the transaction would lead to a significant impediment of effective competition even after taking into account any commitments that have been proposed by the parties. Details on the European Union merger regulation are available at https://ec.europa.eu/competition/mergers/procedures_en.html. Detailed statistics on the number of merger notifications and decisions are available at https://ec.europa.eu/competition/mergers/statistics.pdf.

78 Case M.9409 Aurubis/Metallo Group Holding (Commission decision of 4 May 2020).
79 Case M.9660 Google/Fitbit (Commission decision of 17 December 2020); Case M.9730 FCA/PSA (Commission decision of 21 Dec 2020); Case M.9564 LSEG/Refrinitiv Business (Commission decision of 13 January 2021); Case M.9820 Danfoss/Eaton Hydraulics (Commission decision of 18 March 2021); Case M.9569 EssilorLuxottica/Grandvision (Commission decision of 23 Mar 2021); Case M.9829 Aon/Willis Towers Watson (Commission decision of 9 Jul 2021).
80 Case M.9097 Boeing/Embraer (withdrawn 8 May 2020); M.9547 Johnson & Johnson/Tachosil (withdrawn 8 April 2020); M.9162 Fincantieri/Chantiers de l’Atlantique (withdrawn 27 January 2021); M.9489 Air Canada/Transat (withdrawn 2 April 2021).
81 Margrethe Vestager, The future of EU merger control (speech given at the International Bar Association in Florence, 11 September 2020), available at: https://ec.europa.eu/commission/commissioners/2019–2024/vestager/announcements/futureeu-merger-control_en.
82 Case M.10188 Illumina/Grail.
83 Case M.9820 Danfoss/Eaton Hydraulics (Commission decision of 18 March 2021). The Commission’s press release is available at https://ec.europa.eu/commission/presscorner/detail/en/IP_21_1243.
time leading manufacturers of hydraulic components globally and the merger would have removed one of the main competitors in the market. Hydraulic components are used to make hydraulic systems, the purpose of which is to transfer kinetic energy from a point of origin, e.g. an engine, to a point of use. Typical hydraulic components include pumps, motors, valves, oil reservoirs, automation and controls components, as well as steering units. The parties’ activities overlapped in particular in the markets for hydraulic components for mobile applications, such as harvesters, excavators and truck loaders.

The proposed transaction, as notified, was found to give rise to competition concerns in three out of several hydraulic component markets where the parties’ activities overlapped, namely the EEA markets for (1) hydraulic steering units (“HSUs”), (2) electrohydraulic steering valves (“ESVs”), and (3) orbital motors. The Commission’s finding of competition concerns was based on the dominant position of the parties, as well as their being close competitors to each other. The Commission cleared the merger modified by the significant structural remedies offered in all three markets.

The economic discussion in this case mainly touched upon (1) the reliability of different methodologies of estimating market sizes and market shares; (2) the significance of market shares as an indicator of market power; (3) the need of examining closeness of competition even in highly concentrated markets; and (4) the assessment of out-of-market constraints. The relevant market definitions were not contested, with the exception of the EEA orbital motors market, which the parties considered too narrowly defined.

Firstly, for the purpose of market size and market shares estimation, initially the parties proposed a methodology. However, as these estimated shares were based on numerous unverifiable assumptions, the Commission carried out a market reconstruction exercise by collecting sales data directly from the parties’ competitors. The results of the Commission’s market reconstruction showed that the parties’ methodology largely underestimated the parties’ shares. The parties argued that the Commission’s approach risked excluding smaller, non-responsive firms, and that there was a risk of respondents submitting incorrect information due to not fully understanding the exact perimeter of the data request. However, for those competitors that were not responsive to the data request, the Commission used, conservatively, the sales estimates provided by the parties. Moreover, the Commission’s data request used exactly the industry terms put forward by the parties. The Commission relied subsequently on the market shares from the market reconstruction exercise.

Secondly, as to the significance of the estimated high combined market shares of the parties, the parties raised several points. First, the parties argued that due to the differentiated nature of the product markets under consideration, market shares were uninformative for the competitive assessment and one should focus exclusively on estimating and assessing the diversion ratios between the parties. Second, the parties further argued that the markets under consideration could be characterised as bidding markets, and that therefore market shares were uninformative as to the current and future competitive conditions. Instead, the set of credible bidders in current and future bidding opportunities should have been considered.
As to the importance of market shares, it is worth noting that structural presumptions for high market share mergers are well-grounded in economic theory with virtually all standard models predicting increased prices and decreasing consumer welfare from increased concentration in absence of efficiencies. Moreover, in general the differentiated nature of the products under consideration cannot alone be the basis for outright dismissing the implications of high combined market shares in a properly defined market. This is especially true when the combined market share of the parties is indicative of dominance. Furthermore, at least in terms of economics, it is very unlikely that two firms with high combined market share in a highly concentrated oligopolistic market are not close competitors. The Commission also analysed the parties’ opportunity data (extracted from their CRM systems). The data strongly suggested that the differentiation across the parties was insufficient to dispel the competition concerns indicated, inter alia, by the high combined market shares.

As to the argument that market shares are uninformative about current and future competitive conditions when market outcomes are the result of a bidding process it needs to be stressed that this claim holds only under a very specific set of conditions and it is not an inherent characteristic of all bidding markets. It is only in “winner-takes-all” markets, where suppliers compete to either supply the whole market or not supply at all, and where no incumbency advantages exist, where high market shares are not necessarily indicative of significant market power. In such markets, high market shares may simply reveal the outcome of the last major auction that took place and are likely to be very different the next time a major contract is auctioned, as long as a significant number of credible suppliers exist. This is usually not a mere theoretical argument but also supported by observable significant fluctuations in market shares between time periods and a periodic change in market leadership.

The hydraulic component markets of the case under investigation did not exhibit this “winner-take-all” characteristic. Unsurprisingly, the observable market shares were relatively stable across time instead of exhibiting significant fluctuations. Actually, based on a thorough analysis of the case file, the markets couldn’t even truly be described as bidding markets. The parties’ argument that high market shares ought to be ignored by appealing to a characterisation of the markets as bidding markets was therefore found to be ineffective.

84 See, e.g., Valletti and Zenger (2021) and the references therein.
85 Considering that some degree of differentiation exists in most markets (as pure homogeneous goods are a rarity), the claim that market shares are uninformative would be (if it were indeed true, which is not) applicable in virtually all markets.
86 For a more in-depth discussion of the implications of auction theory for the competitive assessment of mergers see, for example, Annex I to the Commission decision of 8 September 2015 in Case M.7278 GE/Alstom, and the references therein.
87 Or in markets where demand is lumpy enough for each contract to represent a significant share of the market, even if that doesn’t amount to the whole market. Examples of such markets are telecommunication spectrum auctions and auctions for the procurement of a universal service such as a national digital payments system. In all these instances winning or losing a key contract makes all the difference between serving a significant (or the whole) part of a market or not supplying at all.
Finally, the parties presented a number of quantitative results that purportedly supported the claim that orbital motors in particular faced significant out-of-market constraints and therefore no market power, in the form of higher prices, could be exercised in this product space. These included various price comparisons across motors of different technologies, an analysis of product characteristics of various motors as well as a set of price and margin regressions. A fundamental problem with these quantitative analyses was that most of them built on a proposed split of the orbital motors product space between end-use applications where some orbital motor models purportedly faced competition from other technologies and end-use applications where orbital motor models did not. This split, that did not uniquely identify orbital motor models since it was based on end-use applications, was engineered solely for the purposes of the merger investigation for which the parties were unable to provide adequate evidentiary support. Therefore, most of the parties’ results on this topic rested on unsubstantiated assumptions. In any event, even taken at face value, these results still only supported the finding of very marginal substitutability between orbital motors and other technologies. On this issue, it is also worth noting that the parties’ line of argumentation was inherently inconsistent. The parties simultaneously argued that (1) the relevant product market should be defined to encompass all motor technologies, meaning that not only are all orbital motors relatively close substitutes for each other but so are all other motors; and that (2) the parties’ orbital motors were not competing particularly closely on account of serving different end-user applications. While some degree of differentiation usually persists within relevant product markets that are delineated based on competition law principles, there is a limit to what extent two such diametrically opposite arguments with respect to the degree of substitutability between distinct products can be sustained.

The Commission cleared the merger subject to significant structural remedies offered in all three markets. These remedies included divestments of Danfoss’ plants in Poland, Germany, and the US, with capabilities in the HSU, ESV and orbital motors markets. In addition, further Eaton production lines and assets, as well as Danfoss and Eaton technology were added to the divestment portfolio. As such, the Commission found that the remedies addressed the competition concerns raised by the notified merger.

Acknowledgements The views that are expressed in this paper are those of the authors and do not necessarily reflect the views of DG Competition or the European Commission. We would like to thank Szabolcs Lorincz, Lluis Sauri, Fabrizio Spargoli and Hans Zenger for helpful comments

References

Cros, M., Epaulard, A., & Martin, P. (2021). Will Schumpeter catch COVID-19? Evidence from France. Vox CEPR policy portal.

88 The limited evidence submitted by the parties on cross-technology competition between different motor technologies could only support the existence of very marginal competition between some orbital motor models and other technologies instead of the significant substitutability claimed by the parties.
Elenev, V., Landvoigt, T., Van Nieuwerburgh. (2020). Can the Covid bailouts save the economy? NBER Working Paper Series, WP 27207

Valletti, T., & Zenger, H. (2021). Mergers with differentiated products: Where do we stand? *Review of Industrial Organization, 58*(1), 179–212.