



Competition *merger brief*

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Competition *merger brief*

Apple/Shazam. A remix of your favourite tunes of data issues in merger control

Salvatore De Vita, Eleonora Ocello

Introduction

On 6 September 2018, following an in-depth investigation, the Commission approved the acquisition of Shazam by Apple.¹ Shazam is the leading provider of music recognition services through its “Shazam” mobile application (“app”), while Apple designs, manufactures and sells personal computers, mobile communication and media devices, including its flagship product, the “iPhone”. Apple also develops operating systems, which are installed on the hardware of the devices it sells, and other software solutions and mobile apps. Apple also sells and delivers digital content online and offers a music and video streaming service through the “Apple Music” app.

Apple/Shazam is the most recent case where the Commission has performed a comprehensive assessment of data-related issues in the analysis of a merger.

Over the past ten years the Commission has adopted a dozen merger decisions involving data-related issues.² In several cases the Commission has also looked at “big data” issues, that is the aggregation under common ownership of large datasets that were previously independent. In the Commission’s practice, data has been relevant in different ways, notably: (i) as a product which the parties to the transaction offer on a market, and which constitutes the focus of a classic horizontal effects case; (ii) as an asset which may constitute a competitive advantage (even if it is kept captive and not traded on a market) to the extent that it can

be a source of market power, efficiencies or commercially sensitive information on rivals; (iii) as an input; and, finally, (iv) the protection afforded to data has been found to be relevant, in certain cases, as a parameter of competition.³ The *Apple/Shazam* decision constitutes an important development in the Commission’s assessment of several of these aspects in the digital sector.

Relevance of data in the digital music industry

Before illustrating the novel aspects of the approach taken by the Commission in the analysis of data-related issues in the *Apple/Shazam* decision, it is important to mention how data is relevant in the music industry.

After more than a decade of declining revenues, in recent years the music industry has experienced a positive momentum⁴. This growth has been largely driven by the development of a new way of delivering music to the listeners thanks to the use of digital technologies, that is digital music streaming services.

In a nutshell

Apple/Shazam constitutes the most recent case where the Commission has performed a comprehensive assessment of data-related issues in the field of merger control.

In particular, it provides further guidance on how the Commission assesses the importance of data as an input. Moreover, it offers a first example of a case in the digital sector where the Commission assessed whether gaining access to commercially sensitive information on competitors through a merger could give

¹ The Commission did not have originally jurisdiction over the case. It was referred to the Commission by the Member States pursuant to Article 22 of the Merger Regulation.

² M.4726 - *Thomson/Reuters* (2008); M.4731 - *Google/DoubleClick* (2008); M.4854 - *TomTom/Tele Atlas* (2008); M.5727 - *Microsoft/Yahoo! Search Business* (2010); M.6314 - *Telefonica UK/Vodafone UK/Everything Everywhere/JV* (2012); M.7023 - *Publicis/Omnicom* (2014); M.7337 - *IMS Health/Cegedim* (2014); M.7217 - *Facebook/WhatsApp* (2014); M.78913 *Sanofi/Google/DMI/JV* (2016); M.8124 - *Microsoft/LinkedIn* (2016); M.8180 - *Verizon/Yahoo!* (2016). More recently, see also M.8994 - *Microsoft/GitHub* (2018), which builds up on the framework of assessment formalised by the Commission in *Microsoft/LinkedIn*.

³ In this regard, see E. Ocello, C. Sjödin and A. Suboč, What’s Up with Merger Control in the Digital Sector? Lessons from the Facebook/WhatsApp EU merger case, Competition Merger Brief 1/2015, available at http://ec.europa.eu/competition/publications/cmb/2015/cmb2015_001_en.pdf; E. Ocello, C. Sjödin, Microsoft/LinkedIn: Big data and conglomerate effects in tech markets, Competition Merger Brief 1/2017, available at <http://ec.europa.eu/competition/publications/cmb/2017/kdal17001enn.pdf>.

⁴ See “Global recorded music industry revenues 1999-2017 (us\$ billions)”, Global Music Report 2018, available at: <https://www.ifpi.org/downloads/GMR2018.pdf>

Digital music streaming services have become popular for a combination of various factors and their success is based on a variety of different business models. Some music streaming providers operate so-called freemium models whereby they offer a basic, free and ad-supported service to attract users, while additional features are offered in a premium service to which users can subscribe in exchange for the payment of a monthly fee. In particular, the market leader Spotify offers free subscriptions, subsidised by advertising. Further, digital music streaming services increase accessibility and convenience for users and allow for a more personalised music experience, for example thanks to music recommendations. Advertising and other marketing services as well as music recommendations are services and features powered by data.

In turn, the increased consumption of music via digital music streaming services has led to the creation of large datasets that are used by players in the music industry, from publishers to artists, in order to identify new music trends and understand the performance of their repertoire. Those datasets can ultimately also be used to further improve functionalities of digital music streaming services and assist the development of new innovative solutions.

Data particularly relevant for these purposes are user behavioural data (for example, user's clicks in the app, the time users spend on various screens, microphone volume level, track titles, artists, time and location of when a song has been played, the reason why a song stopped playing, social media activity), which provides insights on the taste and activity patterns of customers of digital music streaming services.

It is in this context that the Commission assessed whether the transaction, by giving Apple access to data collected by Shazam, could have had any anticompetitive effects.

Data protection and competition

An important issue assessed by the Commission in the review of data mergers, including in *Apple/Shazam*, relates to the interplay between competition and privacy rules. In this respect, while the Court of Justice indicated in *Asnef* that “issues relating to the sensitivity of personal data are not, as such, a matter for competition law [and] may be resolved on the basis of the relevant provisions governing data protection”⁵, this does not prevent the Commission, in its merger assessment, from giving due account to the increasing importance of data protection in the competitive dynamics of digital markets, as consumers become more aware of the importance of privacy, and stronger regulation has entered into force at European level.

In this context, as further explained, in *Apple/Shazam* the Commission considered the relevance of privacy legislation (GDPR, ePrivacy directive) when assessing the ability of the

⁵ Case C-238/05 – *Asnef-Equifax v Asociación de Usuarios de Servicios Bancarios (Ausbank)*, [2006] ECR I-11125.

merged entity to undertake an anticompetitive conduct premised on the use of data, without any prejudice to the assessment of the matter by the competent data protection authorities.

Access to commercially sensitive information

According to paragraph 78 of the Non-Horizontal Merger Guidelines, a merged entity, by vertically integrating, may gain access to commercially sensitive information regarding the upstream or downstream activities of rivals. Such information may be used by the merged entity to undertake conducts which would put competitors at a competitive disadvantage. The Commission has assessed concerns of this type in various cases in the past⁶, but in *Apple / Shazam* this theory of harm has been applied for the first time in the digital sector.

More precisely, in *Apple / Shazam*, the Commission analysed whether, through the acquisition of Shazam, post-transaction Apple could have gained insights into users of competing music streaming apps. In particular, the Commission assessed whether, thanks to the data acquired through Shazam, post-transaction Apple could have improved the performance of Apple Music's customer acquisition channel, by performing more targeted advertising or marketing campaigns aimed at customers of rival providers of music streaming services (in particular Spotify's freemium customers). Indeed, arguably, customers of other digital music streaming services could have been more prone to switching and taking an Apple Music subscriptions, compared to the universe of all other potential addressees of Apple's targeted advertising or marketing campaigns, who might have not been music enthusiasts. In turn, this could have undermined the growth of Apple Music's rivals.

To assess the effects of this potential conduct, the Commission first considered whether the information that Apple could acquire through Shazam constituted “commercially sensitive information”.

Shazam collected certain data on users of third party apps, and in particular digital music streaming apps, installed on the same smart mobile devices where the Shazam app is installed. Notably, Shazam collected data on whether there were other music streaming apps installed on the phone of their users. With respect to Spotify's users who have connected their account with the Shazam app, Shazam could collect additional pieces of information, based on Spotify's Application Programme Interfaces (APIs).⁷ The Commission concluded that, to the extent the data

⁶ See M.6800 - PRSFM / STIM / GEMA / JV (2015); M.7194 - Liberty Global / Corelio / W&W / De Vijver Media (2015); M.7724 - ASL / Arianespace (2016); M.8314 - Broadcom / Brocade (2017).

⁷ Based on the Application Program Interfaces (“APIs”) published by Spotify, Shazam's app allowed those of its users who are also users of Spotify to connect their Shazam account to their Spotify account (freemium or premium). If a Shazam user had connected its Shazam account to a Spotify account, Shazam was able to gain access to some additional pieces of information on Spotify users in addition to information on the mere presence of the Spotify app on the device (for example playlist names for Spotify premium users).

collected by Shazam on Android devices⁸ allowed Apple to derive lists of customers of Apple Music's rivals, such data constituted commercially sensitive information.

The question was therefore whether the use of that data by Apple could have put Apple Music's competitors at a significant competitive disadvantage. For this purpose, the Commission has analysed Apple's ability and incentive to use the data and the impact on competition of such potential conduct.

First, the Commission found that there would be some legal and contractual limits for Apple to use the information about the customers of its competitors. Whilst that conduct was not per se prevented by the applicable data protection rules, such rules would have posed certain legal constraints on Apple's ability to use the data collected through Shazam. Moreover, contractual constraints were posed by the Android Developer Guidelines and Spotify Developer terms, which set the framework of what Shazam (and Apple post-transaction), as developer of an app for Android devices using Spotify's APIs, could do with the data acquired on the Android platform and through Spotify's APIs.

Second, the documental evidence gathered by the Commission showed that Apple did not have a clear incentive to undertake the possible anticompetitive conduct envisaged by the Commission's theory of harm. Moreover, in response to a request by the Commission, Apple formally stated that it planned to change Shazam's data collection practices to bring them in line with Apple's positions on privacy and, thus, to update the Shazam app for operating systems other than Apple's, such as Android, so that it would not be able to send to Apple the commercially sensitive information, unless the music streaming service of that user agreed to allow the information to be sent to Apple.

Finally, the Commission found that the potentially anticompetitive conduct would have had in fact only a limited impact on competition. This was because, on Android, any app developer could gather information similar to that collected by Shazam. Moreover, there were several providers allowing for the targeting of "music enthusiast" audiences, including, but not limited to, Facebook, Google and Twitter, which Apple could already rely upon pre-transaction and on which, post-transaction, Apple Music's rivals could also rely. Furthermore, the market investigation confirmed that the digital music streaming markets in the EEA are growing considerably and that growth comes mainly through subscription of new customers rather than winning-back of competitors' customers.

Therefore, the Commission concluded that it was unlikely that the data increment brought by Shazam could have provided a significant competitive advantage to Apple which could have led to anticompetitive effects by reducing the ability and incentives of competing digital music streaming providers to compete.

⁸ Apple is already able to determine which apps are installed by users on iOS.

"4 Vs": an analytical approach for the assessment of data as an input

As mentioned, data is very important in the digital music industry, in particular as they can be used to understand the music tastes of listeners in order to offer personalised playlists and provide music recommendations.

In this respect, the Commission investigated whether Shazam's data could have been considered as an important input to improve existing functionalities, or offer additional functionalities, on music streaming apps, and thus whether denial of access to such data to Apple Music's competitors in the supply of digital music streaming services could have had anticompetitive effects.

In previous cases, the Commission has cleared similar concerns on the basis that datasets similar to the one controlled by the merged entity would have remained available in the market.⁹ To reach this finding, the Commission mainly relied on the evidence and arguments provided by the parties to the transactions, and by the respondents to the market investigation, which considered the various datasets available in the market as comparable.

In *Apple/Shazam*, the Commission made an additional step in developing the methodology to assess the importance of datasets gathered by the parties to a transaction and their substitutability with other datasets available on the market.

In particular, the Commission assessed the increment of data brought by the transaction to Apple, that is Shazam's data, using four relevant metrics: : the type of data composing the dataset (variety); the speed at which the data is collected (velocity); the size of the data set (volume); and the economic relevance (value). These metrics, the so-called "Four Vs"¹⁰, comprise the four key parameters that are increasingly used to assess the commercial and thus competitive relevance of large datasets.

First, by assessing the variety of data, the Commission could clearly define the specific data which would be the focus of the investigation. Specifically, while Shazam collected device and demographic data that is similarly available to or replicable by several companies active in the digital arena, this prima facie was not the case in relation to the "music tag data" or "music discovery data" collected by Shazam. Music tag data or music discovery data is the data generated by the users when using the Shazam app to perform music recognition activity.

⁹ In this regard, see E. Ocello, C. Sjödin, Microsoft/LinkedIn: Big data and conglomerate effects in tech markets, cit.

¹⁰ See "Competition Law and Data", 10 May 2016, joint report of the Bundeskartellamt the German National Competition Authority ("NCA") and the Autorité de la concurrence French NCA, available at <http://www.autoritedelaconcurrence.fr/doc/reportcompetitionlawanddatafinal.pdf>. See also, German Monopolies Commission (Monopolkommission), Special Report N.68: Competition policy: The challenge of digital markets", 2015, available at http://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf.

However, the Commission found that several market players did have access to, or could start collecting, music discovery data on popularity of music tracks and future music trends through various market intelligence sources as well as through the launch of services or functionalities similar to the Shazam app.¹¹ Moreover, the Commission found that in order to provide recommendations and personalised suggestions to users based on their tastes, several datasets are needed and used in the market and not only music discovery data. In fact, music streaming services offer music recommendations based on their own user music consumption data (that is data on the music that users stream)¹² as well as music discovery data. Therefore, for the purpose of its assessment, the Commission considered both music consumption data and music discovery data capable of providing insights for music recommendations to users. Accordingly, since Shazam's data only consisted of music discovery data, the Commission found that the variety of data collected by Shazam appears to be more limited compared to data sets collected by other industry players.

Second, as regards velocity, the Commission used information on monthly average time spent by users on the app as a proxy to understand the user engagement with a certain service and thus the speed at which data is collected on the app. The analysis of this metric showed that the velocity of Shazam's data was significantly lower compared to the one of music streaming services.

Third, the Commission estimated the volume of the datasets of Shazam and other market players by considering the number of monthly active users multiplied by the app engagement or time spent on the app. On this basis, the Commission concluded that alternatives and larger datasets compared to that of Shazam would have remained available to Apple Music's competitors in the market.

Finally, in order to assess the value of data, the Commission relied on internal documents submitted by the parties and on third parties' submissions. It also considered the revenues generated by Shazam pre-transaction from the licensing of its database. On this basis, the Commission found that Shazam data was of relatively limited value for offering digital music streaming services and that, in fact, in the music industry, the most potentially valuable data is the one related to actual music consumption, as that is the most representative of the multiple songs a user may like. As a result, the most useful and valuable data for offering digital music streaming services was found to be held by music streaming providers themselves.

Therefore the Commission found that, even if the merged entity were to deny access to Shazam's data to competitors of Apple Music, the impact on the ability to compete of those rivals would have likely been negligible, thus a potential foreclosure strategy carried out by the merged entity would have not led to a significant impediment to effective competition.

Conclusion

The *Apple/Shazam* case demonstrates the increasing attention given by the Commission to the importance of data issues in the era of digital economy.

In the *Apple/Shazam* decision the Commission has made an additional step in the assessment of the "big data" issue in the field of merger control, by developing a methodology to benchmark different databases available in the market and thus verify whether a merger could bring under the control of a single entity non-replicable assets.

Further, for the first time, in the *Apple/Shazam* decision the Commission had the opportunity to analyse the issue of access to commercially sensitive information specifically in the digital sector.

¹¹ For example, Deezer, another competitor of Apple Music, had recently launched a music recognition functionality within its digital music streaming app.

¹² For example, Spotify in its IPO file indicated that its ability to predict user music preferences is dependent on the large amounts of user data they keep.

Competition *merger brief*

Praxair/Linde – Economics of an effective remedy design

Giulia Astuti, Julien Caminati, Adelaide Mozzi, Eleonora Ocello

Introduction

On 20 August 2018, following an in-depth investigation, the Commission cleared the merger between Praxair and Linde, subject to remedies. Praxair and Linde are two large international groups active in the supply of a wide range of gases (industrial gases, medical gases, specialty gases and helium) and related services.

The transaction raised horizontal non-coordinated anticompetitive effects in a large number of distinct product and geographic gas markets, as well as vertical unilateral anticompetitive effects in relation to the supply of helium. Nonetheless, a traditional market-by-market approach would have been inadequate to design suitable remedies due to the specific characteristics of the gas industry. Those market features called for a more holistic approach in the delineation of the assets and businesses to be divested, in order to ensure the effectiveness of the remedy package and, thus, the preservation of the competitiveness of the affected markets post-merger.

In the following sections, the authors will first provide a brief overview of the gas industry in Europe. Then, they will assess each of the specificities of that industry and explain their relevance for the theories of harm identified by the Commission and their implications in terms of remedy design.

Industry overview

The gases produced and sold by the parties can be divided into four main categories, depending on their applications and mode of production.

Industrial gases are obtained from the air, mainly through the cryogenic air separation technology (for the so-called “atmospheric gases”: oxygen, nitrogen and argon) or from synthetic processes or natural sources (for the so-called “non-atmospheric gases”: hydrogen, acetylene, carbon monoxide, carbon dioxide and nitrous oxide). Typically, gas companies build the plants, produce and distribute the gases to their clients. These gases are used by a wide variety of industries (metallurgy,

chemical, paper, glass, electronic, food, etc.) and account for the largest part of the gas industry.

Medical gases (medical oxygen, medical nitrogen, medical nitrous oxide and medical carbon dioxide) consist of the same molecules, and are produced in the same way, as industrial gases, but are subject to stricter regulatory requirements, such as specific certifications of the production and distribution facilities. These gases are sold both to hospitals and (in the case of medical oxygen) to patients receiving homecare assistance.

Specialty gases include a large variety of gases with the common denominator of being high-value products sold in small quantities. Within specialty gases, noble gases (krypton, neon, xenon) are extracted from the air where they exist in very small concentrations. They are used, pure or in mixtures, by the lighting and electronics industries. Other gases and gas mixtures are typically not produced in-house, but are sourced from chemical companies, purified, blended and distributed to end-customers. They include electronic specialty gases (“ESGs”), used by the semiconductor industry; refrigerants used as cooling agents; chemicals used by the chemical, biochemical and manufacturing industries; and calibration and other gas mixtures used for the calibration of instruments and other specialty applications.

Helium is a scarce and high-value product, with a very specific supply chain as it is a by-product of natural gas production, extracted from a handful of locations worldwide (mainly in the U.S. and Qatar). Helium is used in a wide range of industries (including, among others, aerospace, automotive and healthcare).

In a nutshell

Following an in-depth investigation, the Commission cleared the merger between Praxair and Linde, two of the four largest gas suppliers worldwide.

The clearance was subject to the divestiture of an extensive remedy package, which fully removes the overlaps (i) in the EEA and (ii) at global level in relation to helium sourcing.

The specific features of the gas industry (economies of density, portfolio effect and vertical integration) called for a holistic approach in the design and delineation of the remedy package, to preserve

Depending on the volume of gas required by the customers, gases are supplied through different **distribution modes**, which are not substitutable one for another.

"Tonnage" refers to the supply of large volumes of gases in gaseous form either via a pipeline connected to a large gas plant serving multiple customers or through a dedicated gas plant built and operated under the supervision of the engineering division of the gas company at the production site of the customer (for example, a steel factory). Only industrial gases are supplied in this mode.

"Bulk" refers to the supply of smaller volumes of gas in liquid form, delivered in road or rail tankers. Gases produced at the gas plants are compressed to liquid status to make transportation cost-effective. At the customer site, the liquefied gas is brought back to gaseous form for its final use. Industrial gases, medical gases and helium are all supplied in bulk; rarely some specialty gases are supplied through this distribution mode.

"Cylinders" refers to the supply of very small volumes of gas, in gaseous form, in cylinders. Cylinders are filled by gas companies in filling centres located either where the gas is produced or at a point that receives bulk supplies. All categories of gases are sold in cylinders. Often, customers purchase cylinders of different gases, which are delivered together in a pallet.

With few exceptions, joint production and sale of several gases is **highly synergistic** as they are the result, in full or in part, of the same production processes and distribution modalities. There are strong economies of scale, scope and density. For example, the rare gases neon, krypton and xenon are produced in small quantities in the largest air separation plants, which produce very large volumes of oxygen, nitrogen and argon; after being separated from other air gases, rare gases are purified (and blended in an exact mixture) and sold notably to the aerospace industry. The oxygen obtained from the same separation process can be sold to steel producers and/or (if the level of purity is suitable and the production facilities certified) to hospitals or patients receiving respiratory homecare services. Further synergies are obtained using the same distribution infrastructure to ship different gas molecules. In turn, the various distribution modes are interlinked by virtue of economies of density. Furthermore, the economics of this industry are such that in order to be competitive and benefit from significant synergies a company has to be active in the three distribution modes. Vertical integration and global sourcing are other two key features of the gas industry, in particular in relation to helium, which were decisive in the Commission's assessment of the merger and of the remedy proposal submitted by the parties.

Economies of density: thousands of markets but one single business for industrial and medical gases

The theories of harm

Pre-merger, the European Economic Area (EEA) gas industry was characterised by a competitive landscape featuring only four so-called "Tier 1" players (Air Liquide, Linde, Praxair and Air Products). These players have comparable offerings and capabilities (including technical and financial) and are able to compete throughout the EEA for the products and projects with higher revenue-generation potential. In this environment, Linde and Praxair were, respectively, number two and three in terms of revenues, the number one being Air Liquide and the number four Air Products. The remaining players (the largest of which is Messer) have only regional, national or local presence and limited financial and technical capabilities compared to the Tier 1 players. This means that, whilst in the markets for the supply of industrial and medical gases in bulk, and cylinders (whose geographic scope is typically national), some degree of competition would have remained post-merger at least in certain countries, this would not have been the case for the tonnage markets, which have an EEA dimension.

Nonetheless, as mentioned, the various distribution modes of industrial gases are highly interlinked and the gas industry overall is characterised by strong positive externalities, notably economies of density, which are a primary factor in the operation of the industrial and medical gas business. In this context, economies of density refer to a concentration of gas plants and filling centres in a certain geography affording the gas companies that own those plants and centres a very competitive cost structure, which enable them to reach the critical (financial) size to bid for capital-intensive large tonnage projects or pipelines. Large installations allow the expansion of the distribution network, which translates into increased market power in the bulk and cylinders markets. Such economies of scale are so strong, that effective entry or expansion are rare in the industry, irrespective of the distribution mode, and typically occur as a result of mergers and acquisitions and not through organic growth.

In this context, the Commission found that the transaction, as notified, would have modified the industry landscape by reducing the number of Tier 1 players from four to three and creating a new leading player with significant market power in the EEA. The lessening of the competitive pressure at the level of Tier 1 players resulting from the merger would have likely reduced the incentives to compete of these players and given rise to price increases for industrial and medical gases, across all distribution modes.

Remedies considerations

In order to solve such competition concerns, any remedy proposal needed not only to remove the overlap between the parties in the problematic markets, but also to preserve the ability of the divestment business to enjoy sufficient economies of density to be competitive and cost effective.

For this purpose, a suitable divestment would have needed to include the full supply chain related to the production of all gases, from tonnage to cylinders, and the medical business, as well as the co-products, irrespective of whether or not the transaction gave rise to problematic markets at all levels and for all molecules. Further, a "mix and match" solution, combining in a divestment package assets of both Linde and Praxair which did not form a coherent business, would not have been suitable, as any disruption of the supply chain could have undermined the viability and competitiveness of the divestment business.

In line with these principles, to gain merger clearance, the parties offered the divestment of the entire EEA business of Praxair, including all relevant legal entities, assets and personnel (the "EEA Divestment Business").¹

Given the size of the EEA Divestment Business – around €5 billion in revenues – as well as the specific expertise needed to be able to run in an effective manner the concerned business, strict purchaser requirements were essential. The parties' proposal contained specific provisions in that respect, as well as an up-front buyer clause, so that the *Praxair/Linde* merger could close only after the Commission's approval of the EEA Divestment Business' buyer.

Portfolio effects: the value added of specialty gases

The theories of harm

Specialty gases encompass different types of gases (as explained above) which are highly interlinked, both with each other and with other categories of gases, notably industrial gases.

First, certain specialty gases are produced in the same production process as other specialty and/or industrial gases (this is the case, for example, of krypton and xenon). Second, some specialty gases consist of mixtures of other gases (for example, industrial gases or helium with higher purity grades, for the calibration of instruments). Third, specialty gases are often delivered through the same distribution networks as industrial gases. Fourth, and importantly, customers (especially those of large size) often purchase (i) different types of specialty gases (for example, noble gases and ESGs) and (ii) other types of gases, notably industrial gases and/or helium (this is the case, for example, of large chemical companies, which buy both chemical gases and oxygen).

¹ Praxair is also active in Europe through Società Italiana Acetilene e Derivati S.p.A. ("SIAD"), a joint venture with Flow Fin S.p.A. (of Italy) The EEA Divestment Business excludes Praxair's stake in SIAD, which is to be divested to the joint venture partner (the "SIAD Commitments").

Overall, the competitive landscape of the specialty gas markets is populated by industrial gas suppliers, which are generally active in a number of EEA countries, and local players, which have a more limited geographic presence. While industrial gas companies typically perform some steps of the specialty gases supply chain in-house (such as purification, transfilling, blending and distribution), local players mainly operate on the markets concerned as traders (distribution only).

Although there is no technical barrier that prevents customers from buying specialty gases from multiple suppliers, they generally prefer, and consider it more convenient, to purchase the gases they need from a limited number of providers, which are able to offer a wide variety of specialty (and non-specialty) gases. This means that being able to offer a one-stop-solution represents an important competitive advantage for suppliers, especially in view of serving customers that purchase significant quantities of specialty and non-specialty gases.

Tier 1 players are able to offer a wide range of gases at competitive terms, in light of their scale and their degree of vertical integration, which makes them the most credible suppliers in the market. In this context, the Commission found that the transaction, as notified, would have had modified the industry landscape in the EEA by reducing the number of Tier 1 players from four to three. The lessening of the competitive pressure at the level of Tier 1 players resulting from the merger would have likely reduced the incentives to compete of these players and given rise to price increases for specialty gases.

Remedies considerations

As is the case for industrial and medical gases, to solve competition concerns identified on the markets for specialty gases, any remedy proposal needed not only to remove the overlap between the parties in the problematic markets, but also to preserve the ability of the business to offer a wide portfolio of gases at competitive terms.

In line with this principle, to gain merger clearance, the parties offered the divestment of the entire EEA specialty gas business of Praxair (as part of the EEA Divestment Business). Where the supply chain of specialty gases involved Praxair's assets located outside the EEA, the commitments provided for adequate transitional supply arrangements, to avoid any disruption in the supply chain and to allow for a smooth transfer of the business to the purchaser.

Vertical integration and global sourcing: the plus factors in the helium business

The theories of harm

Helium is characterised by a specific supply chain compared to other gases. It is sourced globally from a few natural gas producers worldwide, which enter into long-term supply contracts or joint ventures with gas companies. The latter bring helium to

the market, selling it either to other distributors (wholesale supply) or directly to end-customers (retail supply).

Helium is a scarce product regularly subject to shortages. As a result, competition in this sector is driven by access to helium sources. Suppliers with no (or limited) direct access to such sources must procure helium from competitors. This affects their competitiveness in terms of reliability of supply and pricing. Moreover, the size and the diversity of the helium sourcing portfolio are crucial: having a balanced portfolio, with access to various sources, enables suppliers to respond to (or to mitigate) supply disruptions.

The number of players competing for direct access to helium sources is limited. Helium producers typically favour Tier 1 players, which can commit to purchase large quantities of helium under long-term take-or-pay commitments. In fact, the ability of a gas company to compete for direct access to helium sources is closely related to its sales on the downstream wholesale and retail markets: as helium is perishable and difficult to store, gas companies must always balance their helium supply and demand. Therefore, small or mid-size Tier 2 players are *de facto* excluded from large tenders organised by the main helium producers.

The above features of the helium markets constitute very high barriers to entry/expansion, which limit not only the number of credible and competitive competitors but also their ability to increase output in response to price increase or supply disruption.

In this context, the Commission found that the transaction, as notified, would have removed an important competitive constraint in the helium markets, with a risk of price increases. In particular, the combination of the parties' helium businesses would have enabled the merged entity to control a large share of global helium production and to have a sourcing portfolio with no equivalent on the market. Moreover, the above horizontal non-coordinated effects would have been further compounded by the risks of foreclosure effects. Indeed, post-transaction, the merged entity would have had the ability and incentive to foreclose a large number of competitors, thanks notably to the supremacy of its sourcing portfolio. Lastly, the market investigation revealed that helium is a highly strategic and must-have product, which drives the sales of other gases (including industrial, medical, and specialty gases). Consequently, adverse competition effects on the helium retail markets would have likely had an impact on other markets (portfolio effect).

Remedies considerations

In order to solve the competition concerns identified on the helium markets, any remedy proposal had to provide for the removal of the full overlap in (i) the wholesale market at global level; and (ii) the national retail markets in the EEA.

For this purpose, a suitable divestment had to include sufficient access to helium sources, both in terms of quantity and quality. In particular, the scope and design of the helium divestment had to ensure not only the removal of the full overlap in helium

sourcing but also the balance between the helium supply and demand of the divestment business. Indeed, the divestment of downstream operations insufficient to cover the costs of the helium sourcing obligations included in the remedy package would have put at risk the viability of the divestment business. Furthermore, the sourcing portfolio to be divested had to be representative of the current portfolio of Praxair (in terms of diversity, reliability, competitiveness and duration).

The design of the remedy proposal also had to take into account the global scope of the helium sourcing divestment and the existence of factors and assets specifically relevant to regions outside the EEA, which other competition agencies might be better placed to consider. In this respect, the Commission actively cooperated with several national competition authorities in America and Asia, including in particular the U.S. Federal Trade Commission. This cooperation was instrumental to ensure consistency in the remedy process and implementation on an international level.

In line with these principles, to gain merger clearance, the parties offered two sets of commitments in relation to helium.

First, the parties offered the divestment of the entire helium retail business of Praxair in the EEA business (as part of the EEA Divestment Business), together with helium sourcing contracts, expressly identified in the commitments, which were sufficient to satisfy the current and future helium demand of the EEA Divestment Business.

Second, the parties offered the divestment of additional helium sourcing contracts and related assets (other than those included in the EEA Divestment Business) to one or several buyer(s) so as to fully remove the global overlap in helium sourcing (the "Helium Sourcing Divestment Business"). Besides a limited number of key assets, the sourcing contracts and related assets included in the Helium Sourcing Divestment Business were not expressly identified and had to be agreed in cooperation with other competition authorities (in particular the U.S. Federal Trade Commission). The commitments offered by the parties also provided that the overall helium sourcing portfolio divested globally, as a result of the combination of the helium sourcing contracts included in the EEA Divestment Business and in the Helium Sourcing Divestment Business, had to be equivalent to and representative of Praxair's existing global sourcing portfolio.

Outcome

In view of its scope, effectiveness and comprehensiveness, the Commission concluded that the remedy package offered by the parties was sufficient to remove the competition concerns arising from the transaction.

Following the conditional clearance of the *Praxair/Linde* merger, the Commission approved: (i) on 22 October 2018, Taiyo Nippon Sanso Corporation, a Japanese gas company active across the world but not in the EEA, as the buyer of the EEA Divestment

Business² and; (ii) on 19 December 2018, Messer Industries, a newly created joint-venture between Messer, a German gas company primarily active in Europe and Asia, and CVC, a private equity company, as the buyer of the major part of the Helium Sourcing Divestment Business^{3,4}.

Conclusions

Remedy design is always a delicate exercise, especially when the businesses involved by a transaction feature specific characteristics, such as in the gas industry.

When assessing commitments, the Commission is required to consider all relevant factors judged by reference to the particular characteristics of the market in which competition concerns arise.⁵

In line with the above, and while the remedy proposal offered in each case should be assessed on its own merits, the lesson learned from *Praxair/Linde* case is that, when economies of density, portfolio effects or vertical integration play a very significant role in a market, the remedy may not only need to address the market(s) where competition concerns arise, but should also include all additional assets that are necessary to guarantee the viability and competitiveness of the divestment business.

Such market features may indeed call for more comprehensive divestments – including activities related to markets where the Commission did not identify a significant impediment to effective competition⁶ – to avoid an artificial split of the overlapping activities, which could hamper the viability of the divestment business and affect its ability to compete effectively with the merged entity on a lasting basis.

² On 22 October 2018, the Commission also approved the transitional supply agreements related to the SIAD Commitments.

³ The helium sourcing contracts/assets acquired by Messer Industries are part of a wider package comprising industrial gas assets in North and South America.

⁴ The Helium Sourcing Divestment Business is split in two parts, to be divested to different purchasers: (i) first, the helium sourcing contracts/assets defined in agreement with the U.S. Federal Trade Commission and (ii) second, the helium sourcing contracts/assets defined in agreement with the People's Republic of China State Administration for Market Regulation. The Commission has not approved the buyer of the helium sourcing contracts/assets divested in China yet.

⁵ Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004, para. 12.

⁶ Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004, para. 23.

Competition *merger brief*

The “white powder” case: acquisition of *Cristal* by *Tronox*

Thomas Braun, Ligia Dorobantu, Kate Hudson, Massimo Tognoni

Introduction

On 4 July 2018, following an in-depth investigation, the European Commission conditionally cleared Tronox’s acquisition of Cristal, the titanium dioxide business of The National Titanium Dioxide Company Ltd.

Tronox and Cristal (the “Parties”) are two of the five major global titanium dioxide pigment producers.

The Commission investigated horizontal unilateral and coordinated effects concerns in relation to several types of titanium dioxide pigment. Following the in-depth investigation, the Commission dismissed all concerns with the exception of those regarding the market for chloride-based titanium dioxide pigment for use in paper laminate, which were remedied through Tronox’s commitment to divest its activities in this area.

Tronox’s acquisition of Cristal was also subject to review in the United States of America, where the Federal Trade Commission (US FTC) challenged the decision in federal court and before an Administrative Law Judge. In April 2019, the Parties agreed to settle the FTC’s charges by divesting Cristal’s North American titanium dioxide assets.¹

Titanium dioxide pigment

Titanium dioxide pigment is an inorganic chemical which serves to opacify, brighten and whiten various industrial and consumer products. It is primarily used in the production of coatings, plastics and paper, but is also an input in food products, cosmetics, pharmaceuticals and printing inks. The Parties’ activities only overlap in the supply of titanium dioxide pigment for use in coatings, plastics and paper laminate. The different grades of titanium dioxide pigment are often developed and marketed for specific end-uses within these broad areas (e.g. architectural coatings, automotive coatings, PVC, engineering plastics, etc.), although some grades are suitable for a broad

¹ <https://www.ftc.gov/news-events/press-releases/2019/04/ftc-requires-divestitures-tronox-cristal-suppliers-widely-used>

range of applications (e.g. including both coatings and plastic products).

Titanium dioxide pigment can be produced through two processes: the chloride-based process, which uses chlorine to treat titanium feedstock and produce an intermediate compound, which then undergoes several other processes before becoming raw titanium dioxide pigment, and the sulphate-based process, in which the feedstock is reacted with sulphuric acid. Both the processes through which it is produced, i.e. the sulphate or the chloride process, and the specific proprietary techniques used in the subsequent steps of the manufacturing process, determine the different characteristics the pigment can have, which ultimately make it more or less suitable for specific end applications.

Worldwide, there are five global suppliers of titanium dioxide pigment that use chloride-based processes, and one other established company which has recently acquired this technology. The number of suppliers using sulphate-based technology is significantly higher as this process is older and easier to master, albeit less environmentally friendly.

The demand (and supply) for titanium dioxide is highly cyclical. At the time of the notification, the titanium dioxide market was “tight”, meaning prices had been increasing and there was limited spare capacity globally.

Product market definition

Product market definition was a key issue in the assessment of the transaction, and was carefully investigated by the Commission.

The Parties submitted that titanium dioxide pigment grades for coatings, plastics and paper applications belong to the same relevant product market, on account of customers in all three areas of end-use having similar requirements in terms of product

In a nutshell

Following an in-depth investigation, the Commission conditionally cleared the acquisition of Cristal by Tronox, both major suppliers of titanium dioxide pigment.

The case raised horizontal unilateral concerns in relation to the EEA market for titanium dioxide pigment used in paper laminate applications. To remedy them, the Parties undertook to divest Tronox’s grade of pigment sold on this market.

characteristics, and of the supply-side substitutability between various grades produced with a given technology.

The Parties also argued that the relevant market should not be segmented based on production technology, since chloride-based and sulphate-based grades have similar characteristics, and customers in all application areas use both types.

The in-depth investigation showed that there was a certain degree of demand-side substitutability between grades for different coatings and plastics (also referred to as "mass applications"). As this would not have changed the outcome of the competitive assessment, the Commission left open the question of whether the market for titanium dioxide pigment for use in mass applications should be split at all, and whether such a segmentation would be between coatings and plastics, or narrower segments within each of these broad categories.

The same was not the case with respect to the third area of overlap between the Parties, namely titanium dioxide for use in paper laminate. The market investigation showed that paper laminate is a type of "speciality application", which requires titanium dioxide pigment with different characteristics than are offered by the grades used in coatings and plastics applications. Paper laminate producers explained they would not be able to use grades destined for use in other areas, especially since they do not provide the same level of lightfastness, i.e. resistance to change when exposed to sunlight.

Moreover, the market investigation showed that chloride-based grades offer superior lightfastness to grades produced through sulphate-based processes, which tend to have a yellow undertone. Although paper laminate producers do also buy sulphate-based grades, they can only use them for a certain proportion of their pigment requirements, and, in addition, only chloride-based grades are suitable for the production of white paper laminate. As such, the market investigation showed that, in the event of a non-transitory price increase of 5-10%, only a negligible proportion of chloride-based paper laminate grades could be replaced by sulphate-based pigment. This is in marked contrast to the mass applications area, where the market investigation indicated a much higher degree of substitutability between chloride-based and sulphate-based grades for coatings and plastic producers in the European Economic Area (EEA).

As regards supply-side substitutability between grades manufactured using chloride-based technology, it is important to note that suppliers could technically switch from producing other chloride grades to paper laminate grades in the short run only if they already have such a product in their portfolio. The Commission took into account the constraint deriving from certain chloride suppliers diverting their production from mass application grades to paper laminate ones, but considered that defining a broader market on this basis would not be appropriate given that not all chloride-based suppliers are active in paper laminate applications.

The Commission therefore concluded that there is a distinct relevant market for the supply of chloride-based titanium dioxide pigment for paper laminate applications.

Horizontal unilateral effects

The Commission found that the transaction would significantly impede competition on the EEA market for chloride-based titanium dioxide pigment for use in paper laminate. Tronox and Cristal are two of the four suppliers active in this market,² and together they account for [30-40] % of sales. Their merger would have therefore significantly increased concentration in the market³ and would have left paper laminate producers with a limited choice of suppliers of chloride-based titanium dioxide pigment.

Tronox, despite being the smallest of the four suppliers, exercises an important competitive constraint on Cristal and the other two rivals. This is particularly important given that Tronox's and Cristal's grades compete closely with one another, and that paper laminate producers find it necessary to source titanium dioxide pigment from several providers. Customers explained that sourcing from at least three suppliers is important to avoid shortages of supply - a significant risk in the industry, in particular in times of tight capacity.

The Commission therefore found that customers would not have sufficient buyer power to counteract the increased market power that the Parties could exercise post-merger, and that pressure from competitors would have also been insufficient to ensure effective competition. The ability of existing suppliers to increase production in response to a price increase by the merging Parties is limited by the low levels of spare capacity and competitors' existing commitments to other customers, which make it difficult to shift production away from other grades. The market investigation also showed that entry from suppliers that do not currently produce chloride-based paper laminate is unlikely. Even for chloride producers, developing a new grade requires significant investment in R&D and cannot be achieved in the short to medium term. As regards sulphate-based producers, barriers to entry are even higher as chloride-technology is proprietary and generally not licensed by other suppliers, and, even once the technology becomes available, it can be a long time before producers are capable of operating it on a commercial scale.

The Commission therefore concluded that the transaction would result in a significant impediment to effective competition, with negative effects on prices and the availability of titanium dioxide grades for use in paper laminate.

² Chemours and Kronos are the two other suppliers. Venator, the other major supplier of chloride-based titanium dioxide pigment, is active in the production of titanium dioxide pigment for mass applications but not in the production of chloride-based grades for paper laminate.

³ The transaction would have increased the Herfindahl-Hirschman Index by [0-500] to a level of [3000-4000].

Coordinated effects

The Commission also assessed in depth whether the transaction would be likely to result in coordinated effects on one or more of the plausible EEA markets for titanium dioxide pigment. Market features such as a limited number of suppliers accounting for a high proportion of sales; a relatively homogeneous product; and a high level of transparency in the market, typically make coordination more likely to emerge. The Commission investigated whether coordination could take place in the various possible titanium dioxide pigment markets on the basis of price increase announcements.

In the three years preceding the transaction, there had been several instances when the Parties and their three main competitors⁴ announced price increases of similar magnitude and at similar points in time. The evidence available did not however enable the Commission to conclude that titanium dioxide suppliers had coordinated on the basis of such price increase announcements in the past, and did not point to any clear focal point around which the Parties could have coordinated, or could coordinate after the merger.

The Commission also considered the constraint exercised by other suppliers on the sustainability of a potential coordination scheme between the big five suppliers. Unlike paper laminate, where chloride and sulphate-based grades were found to constitute separate markets, such a distinction could not be firmly drawn with respect to pigment used for coatings and plastics. A fringe of smaller, sulphate-based suppliers of titanium dioxide for mass applications account for [10-20] % of sales in this segment in the EEA.

The presence of suppliers other than the main five is one of the structural differences between the EEA and other regional markets for titanium dioxide pigment, such as North America. Those, and other structural differences, lead to diverging competitive conditions in the EEA and in North America and explain why the Commission and the US FTC ultimately reached different conclusions on the likelihood of coordinated effects resulting from the merger in the respective markets.⁵

⁴ Kronos, Chemours and Venator.

⁵ The US FTC challenged the merger *inter alia* on the basis that it would increase the likelihood of coordinated conduct. The US FTC's complaint was upheld by the Administrative Law Judge.

Efficiencies

As part of its in-depth investigation, the Commission also assessed claims submitted by the Parties in relation to efficiencies which they believed would be delivered by the merger. The efficiencies related mainly to potential synergies between particular assets held by the Parties and the value of combined expertise and experience.

Given the Commission's conclusion in relation to market definition, namely that a separate market existed for chloride-based titanium dioxide for use in paper laminate, efficiencies claims would have needed to pertain specifically to this market in order for the Commission to be able to take them fully into account in its assessment. The claims made were instead more generic in nature and not sufficiently verifiable in relation to the particular product market in question.

Remedies

In view of the competition concerns identified by the Commission on the market for chloride-based titanium dioxide pigment for use in paper laminate, the Parties offered to divest Tronox's grade sold on this market, including the rights to proprietary production techniques and processes.

As is often necessary for remedies of this type, the commitments made by the Parties included arrangements for a transitional period during which the Parties would manufacture the product on behalf of the purchaser of the divestment business. The pricing mechanism set out in the transitional supply agreement is based on the incremental cost of manufacturing the product. The purchaser will thus have the incentive to price the divested grade on a similar basis to Tronox absent the merger even during the transitional period, without placing undue costs on the Parties.

Conclusions

Product market definition proved to be the deciding element in the Commission's assessment of this case. The findings of the in-depth investigation led to the identification of one specific product market, on which the level of concentration was already much higher and the likelihood of new entrants very limited. Remedies were therefore required to resolve the competition concerns that would have otherwise arisen on this particular market. On the remaining possible product markets, however, the presence of a larger number of competitors and a relatively higher level of substitutability between types of titanium dioxide pigment meant that the Commission did not find equivalent grounds to conclude that the merger would have led to reduced competition on these markets in the EEA.

Competition *merger brief*

SHARING is CAR-ing

Stephan Simon, Kathlynn Hinnekens, Nicolas Listl, and Andrea Usai¹

Introduction

The European Commission has approved under the EU Merger Regulation, subject to conditions, the creation of six joint ventures by Daimler and BMW, both car manufacturers (“Original Equipment Manufacturers” or “OEMs”) based in Germany.² The transaction was notified to the Commission on 17 September 2018 and conditionally cleared on 7 November 2018.

The activities of Daimler (via car2go) and BMW (via DriveNow) overlapped mainly with respect to (free-floating³) car sharing services. That market has certain specific unique features, which the Commission took into account in its assessment:

- there is a large range of mobility services that are, to varying degrees, seen as substitutes by consumers, including in particular public transport,
- there are thus out-of-market competitive constraints exerted by other means of transportation, and
- many players (including OEMs) have plans to enter the market, which is a new, expanding form of urban mobility offering commercial opportunities.

In order to address the Commission’s concerns, the remedy that was accepted aimed at ensuring that the merger would not shut out rival integrator apps or car sharing services, and at lowering the barriers to entry in this fast-growing market to ensure that a

sufficient number of alternative transport options will be available to customers.

The case in the context of new and e-mobility

Among the interesting aspects of this case is the fact that it should be considered in the broader context of the future of mobility. The case also concerns the challenges already driving the global transformation of the automotive sector, including electrification, assisted and autonomous driving, car sharing and connected cars.⁴

The Parties stated that the rationale of the deal would be to prepare for a future in which individual car ownership and therefore vehicle sales would decrease. Mobility would instead be provided as a service and, with the advent of autonomous vehicles, the distinction between the different mobility services – such as standard taxi, ride hailing or car rental or sharing services – would disappear.

In a nutshell

The Commission conditionally cleared the creation of six joint ventures in the field of new mobility and, in particular, in (free-floating) car sharing services, created by subsidiaries of BMW and Daimler.

The Commission analysed the dynamic and evolving new mobility sector with its large range of mobility services that are, to varying degrees, seen as substitutes by consumers, including in particular public transport. An access remedy, together with evidence for specific entry plans, the evolving nature of the market, and quantitative evidence for the constraint imposed by other means of transport, paved the way for a conditional Phase-I clearance.

¹ The authors would like to thank in alphabetic order: Aleko Bogdanov, Peter De Luyck, Julie Eve, Tobias Glass, Patrizia Messina, Luca Manigrassi, Pablo Serrano and Hans Zenger for their support on the case and/or for providing comments on this paper.

² The transaction brings together the two companies’ mobility-related services in five business fields: (i) (free-floating) car sharing services, via DriveNow (BMW) and car2go (Daimler), (ii) ride hailing service (the Parties are not active in ride-hailing services in the EEA), (iii) parking services, (iv) charging services, and (v) other on-demand mobility services, i.e. integrator apps. The sixth joint venture will manage the brands and license them out to the other five joint ventures

³ Free-floating car sharing allows customers to pick up and drop off the car anywhere within a certain delimited area in a given city, using authorised parking spaces such as public parking spots. The car can then be picked up by the next user at the location where the previous user parked it.

⁴ The transition towards automated and connected cars is also supported by the Commission through the third Mobility Package and other initiatives. See, in particular, *Communication from the Commission: On the road to automated mobility: An EU strategy for mobility of the future*, COM (2018) 283. More recently, on 13 March 2019, the Commission adopted new rules on Cooperative Intelligent Transport Systems (“C-ITS”), i.e. a new technology that allows vehicles and infrastructure to communicate warnings to each other, which then informs drivers about traffic situation in real time: http://europa.eu/rapid/press-release_MEMO-19-1649_en.htm. Such technology will help avoid crashes, reduce traffic congestion and make driving more comfortable. Driverless and not-driverless vehicles will be able to benefit from the C-ITS rules.

In a global context of environmental concerns, there is also a strong push towards low emission and electric mobility solutions. These developments are closely linked to the markets examined in this case, since: (i) municipalities can more easily influence the fuel technology and emissions of shared cars than personally purchased cars⁵; and (ii) the corporations operating car sharing schemes can finance the higher upfront cost for electric vehicles more easily than private car owners, due to later fuel cost and refuelling (labour) cost savings.⁶

Market definition

While the Commission has previously dealt with the markets for all passenger transport services and for short-term car rental services⁷, it has not previously investigated a market for car sharing services. The UK Competition Commission (now CMA) defined a narrow car sharing market in its 2010 *Streetcar/Zipcar* decision, but acknowledged a high degree of substitution between car sharing and other modes of transport.⁸

The Parties submitted that it would be accurate to define a market encompassing all means of passenger transport for short to medium distances, including public transport, taxis, ride-hailing services, personal cars, short-term car rental services, scooter sharing and (electric) bicycle sharing. The Parties further submitted that, at the very least, all car sharing services and short-term car rental services belong to the same product market.⁹

When asked about close substitutes to free-floating car sharing in the market investigation, mobility service providers and technology providers mentioned station-based car sharing¹⁰ as the closest substitute, and OEMs mentioned it as a close substitute. The Commission also took into account the findings of a customer survey conducted by the Parties in coordination with the Commission. This survey asked users which service they would have switched to, if the respective Party's service had been unavailable for the user's last trip. The survey showed that in this evolving market, there is a large range of mobility services that are, to varying degrees, seen as substitutes by consumers, including in particular public transport.

⁵ Some cities either require or have set up incentive schemes for (free-floating) car sharing providers to employ a certain percentage of electric vehicles in order for them to obtain the relevant permits.

⁶ Some of the Parties' vehicles used in their car sharing service are fully electric, such as the BMW i3.

⁷ See e.g. Cases M.8441 – *Firstgroup/MTR Corporation/South Western Rail Franchise*, M.7146 – *Govia/Thameslink, Southern and Great Northern Passenger Rail Franchise*, M.8309 – *Volvo Car Corporation/First Rent A Car*, and M.6333 – *BMW/ING Car Lease*.

⁸ UK Competition Commission, 22 December 2010.

⁹ That is, the "standard" car rental, as opposed to leases of several months or years, as well as station-based and peer-to-peer car sharing, also known as round-trip car sharing since the car has to be dropped off at the same location where it was picked up, and free-floating car sharing as offered by the Parties, which allows for one-way trips.

¹⁰ Where cars have to be picked up and dropped off at specific "stations", generally one and the same station.

As regards supply-side substitution, much of the hardware and software required on cars used for (free-floating) car sharing services is similar for all types of car sharing services. A difference, however, is that station-based car sharing could in theory be operated competitively with just one vehicle, while a free-floating operator needs to offer a certain business area (large enough to make driving more convenient than walking) and a certain fleet density within that area (so that a car is always nearby), giving rise to a minimum efficient scale, as confirmed by the market investigation.

As regards the geographic market definition, the Parties submitted that the scope of the geographic market can be left open but is likely to be EEA-wide or, at the very least, national in scope. The Commission found that there is no demand-side substitutability across cities. While there is some degree of supply-side substitutability, it is neither immediate, due to the need to obtain parking licences, nor fully flexible as regards the new establishment of a service (as opposed to an increase or reduction in fleet size), due to the minimum efficient scale. The Commission therefore assessed the transaction at local city level.¹¹

The Commission also looked into the market for access to integrator apps¹², as one of the narrowest plausible – and vertically affected – sub-markets of a broader market for smartphone applications.

The Parties submitted that access to integrator apps could not be considered as a relevant product market in this case. The Parties argued that an integrator app is only one of the many possible ways of offering a transportation service to end users. However, due to the characteristics of the market, the Commission considered it appropriate to carry out the vertical assessment on the market for access to integrator apps.

As for the geographic scope, the Parties were of the view that it should have been at least EEA-wide, if not global, given that app developers are located all over the world. However, the Commission considered it appropriate, for the purpose of this decision, to carry out its assessment on a national and EEA-wide basis.

¹¹ The exception being Cologne-Düsseldorf, which both Parties consider as just one business area, i.e. a car can be picked up in one city and returned in the other, though this is subject to a surcharge. For those two cities, the Commission therefore assessed the transaction on both local city level and on the single business area.

¹² Integrator apps, including platforms such as moovel (Daimler), provide customers with access to a wide range of mobility offerings, including but not limited to free-floating car sharing, by enabling in-app searching, booking, ticketing and payment or only in-app searching, redirecting the user to a third app for booking and payment.

Horizontal effects

The Parties' activities overlap in Berlin, Cologne, Düsseldorf, Hamburg, Munich, Vienna and Milan. In Milan, several other large free-floating car sharing providers are already active, so the transaction would not raise any competition concerns, while for Berlin, Volkswagen expressed concrete large scale entry plans.¹³ In Cologne, Düsseldorf, Hamburg, Munich and Vienna, the transaction, as originally notified, raised competition concerns.

The Parties' combined market shares in these five cities are estimated to range between approximately 50% and 80% in the market for all car sharing services (assessed by number of cars or revenues). On a separate sub-market for free-floating car sharing services, the merged entity would have been either the only supplier or would have faced competition only from one or two fringe firms.

Nevertheless, the Commission acknowledged that other mobility solutions exert a competitive constraint on the Parties. Overall, the market investigation and quantitative evidence from a customer survey painted a consistent picture, indicating that:

- The Parties are each other's closest competitors, since they both offer free-floating car sharing services.
- Station-based car sharing and short-term car rental impose a competitive constraint on the Parties.
- Public transport imposes a substantial out-of-market competitive constraint.
- The other means of transport, on aggregate, also impose non-negligible out-of-market constraints on the Parties.

Moreover, any concerns were partly alleviated by plans expressed by OEMs to enter some of the overlap cities with a free-floating car sharing offer, as well as by the dynamic nature of the market with frequent new offers for scooter sharing, electric bicycle sharing and ride sharing or collective taxis, which constitute out-of-market constraints.

Nevertheless, smaller independent¹⁴ mobility service providers face substantial barriers to entry due to difficulties in reaching a fleet size that is attractive to customers as well as due to difficulties in raising awareness about their services and attracting users to their dedicated app. The remedy offered and described below aimed at addressing these difficulties for smaller car sharing providers by lowering the barriers for their potential market entry.

¹³ Volkswagen made a public announcement to enter Berlin in the second quarter of 2019 with a fleet of 1500 electrical cars under its brand "We Share".

¹⁴ An independent mobility service provider is a mobility service provider not controlled by an OEM.

Vertical effects

The Commission also raised competition concerns as to the transaction's compatibility with the internal market in relation to the vertically related markets for access to integrator apps and (free-floating) car sharing.¹⁵

Concretely, the Parties would have the ability and incentive post-merger to (i) foreclose their rival car sharing providers from access to a sufficient customer base, by restricting their access to and presence within Daimler's integrator app "moovel" (customer foreclosure); and to (ii) foreclose rival providers of integrator apps from access to an important input by restricting their access to the merged entity's Application Programming Interface ("API"), which is necessary for listing the Parties' car sharing offering on the integrator app (input foreclosure).

This would be likely to have had an impact on effective competition. Given that: (i) integrator apps are important for reaching customers by acting as an access point to car sharing services; and (ii) the Parties' car sharing fleet is a must-have for competing integrator apps, the Commission found that the transaction as notified would have raised vertical competition concerns in relation to the five cities of horizontal concern as well as in Berlin.

Remedies

As recalled by the Commission's Notice on Remedies, according to the EU Courts' case law, the basic aim of commitments is to ensure competitive market structures.¹⁶ Therefore, commitments that are structural in nature, such as commitments to sell a business unit, are, as a rule, preferable, from the point of view of the Merger Regulation's objective.

Nevertheless, the Commission's remedy assessment took into account the specific characteristics of the investigated markets as well as the theories of harm concerned.

The market for (free-floating) car sharing services (as well as new mobility in general) is rapidly evolving and is subject to several interrelated developments as described above. Innovative transport solutions are frequently emerging, which makes it difficult to establish a clear view on how competition will play out in the future, whilst making it all the more relevant to facilitate entry.

¹⁵ The Commission also assessed the following vertical links: (i) manufacture and supply of passenger cars / (free-floating) car sharing, (ii) manufacture and supply of (purely electric) passenger cars / parking services, (iii) manufacture and supply of (purely electric) passenger cars / charging services, (iv) financial and operational leasing / (free-floating) car sharing, (v) full fleet leasing and management services / (free-floating) car sharing, (vi) development and sale of smartphone apps / (free-floating) car sharing, (vii) development and sale of integrator apps / (free-floating) car sharing, (viii) charging / (free-floating) car sharing.

¹⁶ Commission's Notice on Remedies, para 15.

As described above, the Commission was concerned that, first, without being visible on the Parties' potentially pre-eminent integrator app, a smaller player entering with only a few vehicles would face high entry barriers due to the problem of: (i) raising awareness about its services; and (ii) attracting users to its dedicated app, since it cannot compete with the Parties on the important quality criterion of fleet size. Integrator apps remove both obstacles.

Furthermore, the Commission was also concerned about the Parties' car sharing fleet being perceived as a must-have by competing integrator apps, and about the merged entity's own integrator app becoming the pre-eminent gateway to car sharing services.

While divestiture commitments are generally the best way to eliminate competition concerns resulting from horizontal overlaps, and may also be the best means of resolving problems resulting from vertical or conglomerate concerns, other structural commitments, such as access remedies, may be suitable to resolve concerns if they are equivalent to divestitures in their effects.¹⁷

The Parties offered an access remedy consisting of two legs: (i) their service remaining, under certain conditions, visible on third parties' integrator apps; and (ii) allowing, under certain conditions, competing mobility service providers to be visible on the Parties' combined integrator app. Both legs are to be provided for free and on non-discriminatory terms. The overall aim of the remedy is to lower entry barriers for independent smaller car sharing service providers by allowing them to compete effectively with a smaller fleet. Such market entry – in addition to the existing entry plans by OEMs and the out-of-market constraints exerted by other means of transport – will ensure that a sufficient number of alternative transport options will be available to customers.

The market test carried out by the Commission was overall positive and the Parties' revised remedies submitted in reaction to the market test addressed any outstanding concerns.

Already during the first quarter of 2019, when requests for access were possible, several third parties submitted access requests for the overlapping cities.

Concluding remarks

The Commission has assessed the effects of the transaction on the market for (free-floating) car sharing services taking into account its unique and dynamic features. The remedy package offered by the Parties consisted of an access remedy that would lower barriers to entry for smaller car sharing service providers. In this way, the remedy package fully eliminated the Commission's horizontal and vertical concerns that were already partly alleviated by the out-of-market constraints from other means of transport, the evolving market dynamics, and the entry plans of potential competitors, including OEMs.

The Commission cooperated with the US Federal Trade Commission, which had issued a second request. However, due to the different dynamics of the US market,¹⁸ the US Federal Trade Commission ultimately cleared the transaction unconditionally.

¹⁷ Commission's Notice on Remedies, para 17.

¹⁸ In particular, the Parties' activities overlapped in only two cities (Seattle, WA and Portland, OR) and ride-hailing services are more popular in the USA.