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**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS  
COMPETITION COMMITTEE****Hub-and-spoke arrangements – Note by Germany**

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More documents related to this discussion can be found at  
<http://www.oecd.org/daf/competition/hub-and-spoke-arrangements.htm>

Please contact Mr Antonio CAPOBIANCO if you have any questions about this document  
[Antonio.CAPOBIANCO@oecd.org]

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## Germany

1. This submission addresses hub and spoke agreements by explaining the concept and types of hub and spoke agreements (1), the respective competition concerns (2), the implications under national competition law (3), the Bundeskartellamt's (German Competition Authority's) decisional practice (4), the specifics of hub and spoke agreements in the light of pricing algorithms (5) and briefly turns to the question of possible justifications (6). The submission ends with conclusions (7).

### 1. The concept of hub and spoke agreements

2. Similar to EU competition law, horizontal and vertical agreements with an anticompetitive object or effect are caught under the German Competition Act ('Gesetz gegen Wettbewerbsbeschränkungen', 'GWB'). The central idea behind Section 1 GWB and Article 101(1) TFEU is to ensure that effective competition is maintained by preventing the coordination between competitors which eliminates the competitive process as such. Both provisions require a degree of cooperation between competitors.

3. Unlike agreements directly negotiated and entered into by competitors, hub and spoke agreements denote an indirect way of communication among market players. By using a third party (the "hub"), competitors (the "spokes") may reach coordination without express contact. No direct communication between the horizontal competitors involved occurs. Traditionally, hub and spoke communication takes place in a supply chain in which the downstream companies exchange information through a common upstream supplier. The aim is often to prevent a downward spiral of margins or retail prices. With the arrival of the digital era, coordination among competitors may take place via online platforms or AI algorithms as the intermediators for the information flow. In the extreme, this indirect exchange can achieve the same negative market outcomes as a hardcore price-fixing cartel, without the horizontal competitors ever having exchanged information directly.<sup>1</sup> Therefore, a hub and spoke agreement can be described as a triangular scheme of coordination.

#### 1.1. Typology

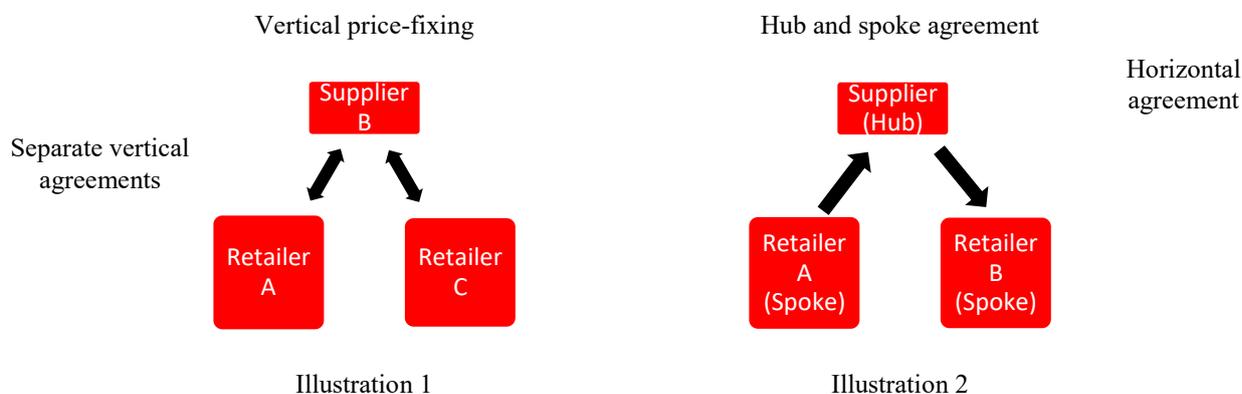
4. Not every horizontal aspect of a vertical agreement qualifies it as a horizontal agreement. In order to differentiate between vertical agreements and indirect horizontal agreements, the concept of hub and spoke was developed. The question is whether the communication between the manufacturer and its different dealers is an immanent part of the vertical agreement or if it establishes a link, which leads to an indirect horizontal agreement between competing companies, without them contacting each other directly.<sup>2</sup> In a classical hub and spoke scenario, the intermediary that serves as the hub for the information flow is not itself part of the agreement between the competitors. On the other hand, a vertical agreement is an agreement for co-operation between two or more undertakings operating at different levels of a production or distribution chain. Various agreements between a supplier and several retailers on resale price maintenance ('RPM')

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<sup>1</sup> OECD, DAF/COMP(2019)14, para. 1.

<sup>2</sup> Becker/Vollmer, *FIW Jahrbuch* 2014/2015, p. 231.

are a good example of anticompetitive vertical agreements. The distinctive factor is that the supplier is the party of each separate vertical agreement with the retailers. On the contrary, in a hub and spoke agreement, the third party serves only as an intermediary between the retailers, passing the information from the first spoke to the second one, thereby enabling the spokes to reach a horizontal agreement. The distinction can be illustrated as follows:



5. In the Bundeskartellamt's decisional practice, mixed forms of vertical agreements (mostly vertical price-fixing) and hub and spoke agreements have continuously come into play. In mixed forms, the hub not only has an intermediary function, but also actively joins or even enforces the agreement between the spokes, creating an overall three-party agreement with both vertical and horizontal elements of coordination.

6. The coordination between retailers can also serve the manufacturer, leading to a convergence of their interests. The manufacturer himself can initiate such an agreement as it may align the overall pricing policy within the distribution chain. The legal nature and effects of the mixed-form hub and spoke agreements are to be determined on a case-by-case basis that reflects their horizontal and vertical dimension.

7. Particularly in the food retail sector, the Bundeskartellamt has sanctioned several vertical price-fixings which involved elements of hub and spoke communications. In order to help the market players to assess the legality of their commercial behaviour, the Bundeskartellamt issued a Guidance Note in 2017.<sup>3</sup>

## 2. Competition concerns about hub and spoke agreements

### 2.1. Pure form of hub and spoke agreement

8. The pure form of a hub and spoke agreement denotes a hub which acts only as a communication tool between the competitors. The agreement aims at enabling a horizontal coordination. The exchange of market information may lead to restrictions of competition, in particular in situations where it enables undertakings to align their market strategies with those of their competitors. The competitive outcome of information exchange depends on the characteristics of the market in which it takes place (such as concentration, transparency, etc.), as well as on the type of information that is exchanged. Such

<sup>3</sup> Bundeskartellamt, Guidance note on the prohibition of vertical price fixing in the brick-and-mortar food retail sector; the Bundeskartellamt's publications are available at: [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

communication of information among competitors may constitute an agreement with the object of fixing prices or quantities. Those types of information exchange are considered and fined as cartels. Information exchange may also facilitate the implementation of a cartel by enabling companies to monitor whether the participants comply with the agreed terms.

## 2.2. Mixed hub and spoke agreements

9. Hub and spoke agreements in a supply chain often contain both vertical and horizontal restraints. The first one is the vertical restriction imposed by the common supplier upon the downstream buyers or retailers and the second one is the reduction or even elimination of competition between the buyers or the retailers at the same value level.. A hub and spoke agreement can also be initiated from the buyer's or retailer's side by asking the supplier to coordinate the pricing of the other buyers or retailers.

10. Under the heading of resale price maintenance come vertical agreements that have as their main element the buyer's obligation or inducement not to resell below a certain price, at a certain price or not above a certain price. This group of vertical agreements comprises minimum, fixed, maximum and recommended resale prices. The two main effects of minimum and fixed RPM on competition are the restriction of intra-brand price competition and increased price transparency, making horizontal collusion between manufacturers easier. That said, such impact on intra-brand competition may reduce the downward pricing pressure and result in a decreased level of inter-brand competition.

11. In general, resale price maintenance can serve as a coordinating device and may also be used to sustain collusion on the retail level when retailers collectively have the power to induce manufacturers to implement a resale price maintenance strategy and to prevent discounted sales to potential rival retailers. The combination of hub-and-spoke and resale price maintenance elements in an overall agreement can be an effective substitute for classical direct horizontal collusion between retailers.

## 3. Hub and spoke agreements under national and European law

### 3.1. Starting point

12. Just like any cartel, hub and spoke agreements are often implemented in a clandestine manner and are not easy to detect. The indirect way of the coordination adds further complexity. The following sections will discuss to what extent hub and spoke agreements can be tackled under national competition law.

13. As hub and spoke agreements typically denote a process of information exchange and alignment, they may still fall within the scope of the agreement under Section 1 GWB and Article 101(1) TFEU. Under German competition law, agreements which have as their object or effect the prevention, restriction or distortion of competition, are generally prohibited. Absent any formal agreement or decision between the participants, the concept of concerted practices may still apply.

14. Following EU case law, a concerted practice may occur if an undertaking, without explicitly entering into an agreement with the competitors, knowingly substitutes practical cooperation between them for the risks of competition.<sup>4</sup> The concept of the concerted

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<sup>4</sup> ECJ, case 48/69, ICI v Commission, para. 64.

practice captures a type of coordination which has not yet led to a formal agreement between the parties. It requires reciprocal contact between the market players and ensures that each undertaking must determine independently which competition policy it intends to pursue. This principle of independence precludes any direct or indirect scheme of communication with competitors whereby the market players knowingly shield themselves from the uncertainties of competition. After direct or indirect contact has been established between the competitors in the form of a coordinated practice, the causal link between the information exchange and the market conduct is then presumed.<sup>5</sup>

15. The type of information and the specific market conditions play a particular role in this respect. The exchange of sensitive information that reduces strategic uncertainty in the market may raise concerns. Data relating to prices (for example future or actual prices or discounts), production costs, quantities, turnovers or capacities will be particularly sensitive. Other factors to be taken into account when assessing an information exchange include the currentness of the data, the extent to which the data is individualised or whether the data is public or not.

16. The mere fact that a form of cooperation is caught under Section 1 GWB and Article 101 (1) TFEU does not imply whether there is a horizontal or vertical dimension. But the difference matters. While the provisions capture both types of horizontal or vertical agreements, they are treated differently with regard to the EU's Vertical Block Exemption Regulation ('VBER').<sup>6</sup> Article 1 (1) lit. a VBER defines a vertical agreement as an *"agreement or concerted practice entered into between two or more undertakings each of which operates, for the purposes of the agreement or the concerted practice, at a different level of the production or distribution chain, and relating to the conditions under which the parties may purchase, sell or resell certain goods or services"*.

17. While the defined hardcore restriction in Article 4 lit. a VBER blacklists price fixing down the distribution chain from the supplier to the buyer regardless of the parties' market shares and places it outside the scope of the block exemption, no such equivalent blacklisting exists for a restriction in the opposite direction of the distribution chain of the supplier's ability to determine its sale price.<sup>7</sup> In that scenario, the market share thresholds in Article 3 VBER have to be taken into consideration. Whether an agreement with restraints to the pricing power is qualified as a vertical agreement in the sense of the VBER is therefore not just a semantic distinction.

18. Whenever there is an explicit collusive element between the spokes of an agreement which has the potential to reduce competition between actors on the same market level, no further analysis should be required. Harm to consumers can be presumed, and these agreements will be treated as per se violations or restrictions of competition by object, without an analysis of effects on the markets.<sup>8</sup>

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<sup>5</sup> ECJ, case C-49/92 P, *Commission v Anic Partecipazioni*, paras 118, 121; case C-8/08, *T-Mobile Netherlands BV v Raad van Bestuur van de Nederlandse Mededingingsautoriteit*, paras. 26 and 44.

<sup>6</sup> Commission Regulation (EU) No 330/2010 of 20 April 2010 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of vertical agreements and concerted practices.

<sup>7</sup> Bundeskartellamt, Meeting of the Working Group on Competition Law - 10 October 2019 - Background Paper, p. 8.

<sup>8</sup> OECD, DAF/COMP(2019)14, para. 10.

### 3.2. Liability

19. An indication for an anticompetitive information exchange can be if the supplier aggressively tries to enforce a certain resale price and passes on sensitive information. The fact that anticompetitive contact can take place indirectly through the acts of a third party has also been clarified in more recent case law: The ECJ found in the *VM Remonts* case<sup>9</sup> that an undertaking may be held liable for a concerted practice on account of the (anticompetitive) acts of an external service provider if one of the following conditions is met:

- the service provider was acting under the direction or control of the undertaking concerned (under these circumstances an anti-competitive conduct of an external service provider could be attributed to the undertaking which directs/controls it); or
- that undertaking was aware of the anticompetitive objectives pursued by its competitor(s) and the service provider and intended to contribute to them by its own conduct; or
- that undertaking could reasonably have foreseen the anticompetitive acts of its competitors and the service provider and was prepared to accept the risk which they entailed.<sup>10</sup>

20. This standard of reasonable foreseeability seems comparable to a supplier-retailer scenario, as it addresses a communication in a non-horizontal relationship, where confidential information was shared between two horizontally related actors by an intermediary.<sup>11</sup>

## 4. Decisional practice

### 4.1. Starting Point

21. Industries featuring supply chain relationships and market power concentration can be sources of hub and spoke agreements. Normally, a supplier does not provide goods to only one buyer but rather several of them. Communication between the supplier and buyer is usually conducted on a frequent basis. These characteristics effectuate the information flow among the buyers through the common supplier, thus creating a communication network with the supplier as the hub and the other retailers as the spokes.

22. Both the supplier and the retailer may have incentives to enter into a hub and spoke agreement. The supplier may feel the need to mediate the price competition between the retailers to prevent a down-swirl in prices in the downstream market. On the other hand, a retailer may demand action from the supplier to coordinate the other retailers' behaviour to prevent itself from being put at a commercial disadvantage. Furthermore, a hub and spoke agreement can also be achieved during the course of an exchange of data between the retailers and suppliers.

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<sup>9</sup> ECJ, *VM Remonts v Konkurences padome*, Judgment of 21.07.16, Case C-542/14.

<sup>10</sup> *Ibid.*, para. 27 et seq.

<sup>11</sup> OECD, DAF/COMP(2019)14, para. 70.

23. The implementation of lawful vertical agreements often requires a more substantial information flow along the distribution or value chain than would be permissible for competitors. This may entail detailed information on the sales quantities for every product or the duration of and schedule for special offer campaigns. Depending on the concrete circumstances, the question is at what point the impact of a widespread vertical cooperation amounts to some form of cartel-like collusion with a horizontal dimension.<sup>12</sup>

#### 4.2. Vertical price fixing for beer, coffee, and confectionery

24. The food retail sector in Germany is characterized by a leading group of four retailers that account for about 85% of food retail sales in Germany.<sup>13</sup> Under these circumstances, most of the suppliers maintain extensive purchase and supply links with nearly all of the retailers. Major retailers are largely able to use their strong market position to their advantage in negotiations with the food industry.<sup>14</sup> Hence, this creates the possibility for the suppliers and the retailers to enter into a hub and spoke agreement for a common benefit.

25. From 2014 to 2016 the Bundeskartellamt issued a series of fining decisions for a total amount of approximately EUR 222 million against several suppliers and retailers on account of their anticompetitive agreements on the sale of beers, roasted coffee, and confectionery products. The agreements took place mainly within the period from 2004 to 2010. These cases are good examples of the mixed form of hub and spoke agreements. The communication patterns in these cases centered on one supplier acting as the main mediator and enforcer of the price level while the participating retailers also contributed to stabilizing the coordination.

26. In the beer and coffee cases, suppliers entered into individual master agreements with the retailers to maintain the retail price at a certain minimum level. In the beer case, representatives of the leading beer producer had reached a basic agreement with representatives of the retailers concerned that ensured that the retailers would maintain a certain minimum retail price level for beer products and that the producer would regulate the retail sale prices by means of “price management”, i.e. would ensure that the major competitors on the retail side also maintained these retail price levels.<sup>15</sup> The particular aim was to prevent predatory prices (price cuts significantly below the agreed sales price level), which could have triggered fierce price competition resulting in a loss against projected sales margins.<sup>16</sup> The basic agreements were implemented through a range of measures:

- Participation in relevant annual meetings and price increase meetings and corresponding agreements that addressed or defined adherence to agreed sales price levels and rewards with regard to certain beer products.

<sup>12</sup> Bundeskartellamt, Meeting of the Working Group on Competition Law - 10 October 2019 - Background Paper, p. 11.

<sup>13</sup> Bundeskartellamt, Guidance note on the prohibition of vertical price fixing in the brick-and-mortar food retail sector, para.39.

<sup>14</sup> Ibid., para.40.

<sup>15</sup> Bundeskartellamt, Case summary of the decisions of 16 June 2015, 30 December 2015, 28 April 2016 and 2 December 2016, B10-20/15, p. 2.

<sup>16</sup> Ibid., p. 3.

- Participation in the “moderation” of the increase in retail price for certain beer products during price increases in particular by arranging specific “implementation deadlines”.
- Participation in the coordination and/or agreement of promotion prices and (special) payments for compliance with specific sales prices and corresponding agreements during the year.
- Participation in the agreed or coordinated continuous monitoring of the development of retail prices by reporting retailers which undercut the prices recommended by the producer or the agreed (regional) sales prices. The reports regularly contained threats that the low or an even lower retail price would be displayed during the next promotion and that financial compensation would be sought if the producer did not manage to maintain the agreed sales prices by successfully intervening against those retailers deviating from the price. This threat was generally issued with the expectation that it would be passed on to the retailer deviating from the agreed price.<sup>17</sup>

27. In the coffee case, the roasted coffee producer and the retailers applied the “everlasting low price” concept (Dauer-Niedrig-Preis) and moderated the price level as well as promotion prices and special payments for compliance with specific sales prices during the year.<sup>18</sup> The agreements were implemented through a range of measures such as participation in the agreed or coordinated continuous monitoring of the development of retail prices by reporting retailers for undercutting the prices recommended by the supplier or the agreed (regional) sales prices. In the coffee case, the market price data collected by the producer’s sales force were circulated on a weekly basis to the participating retailers.<sup>19</sup>

28. The price management was carried out both on the supplier’s and the retailer’s side. In both of the aforementioned cases, the enforcement measures from the producer’s side included not to pay the agreed amounts of market development funds or provide certain benefits (e.g. compensation for the first-mover to increase the price, distribution of profit, or other one-time payments) in return for the retailer’s compliance with the agreed sales price level. On the other hand, threats were made by some retailers to the suppliers to initiate a fierce price war with the intention that the information might be passed on to the retailer undercutting the set price.<sup>20</sup>

29. The confectionery case was distinctive in the way that not only traditional food retailers but also a discounter were involved. The largest supplier of branded fruit gum and liquorice was involved in intensive “price management”, i.e. it systematically attempted to influence retail sales prices beyond making price recommendations to ensure adherence to minimum sales prices.<sup>21</sup> Listing the branded products in the discount sector limited the scope of other retailers to set prices. They therefore called on the producer to take steps to

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<sup>17</sup> Ibid., p. 4.

<sup>18</sup> Bundeskartellamt, Case summary of the decisions of 19 December 2014, 16 June 2015 and 23 December 2015, B10-50/14, p. 2.

<sup>19</sup> Ibid., p.3

<sup>20</sup> Bundeskartellamt, Case summary of the decisions of 16 June 2015, 30 December 2015, 28 April 2016 and 2 December 2016, B10-20/15, p. 4.

<sup>21</sup> Bundeskartellamt, Case summary of the decisions of 19 December 2014, 2 June 2015, 16 June 2015 and 23 February 2016, B10-40/14, p. 1.

increase retail sales prices and to take action against the particularly low promotion prices of competing retailers.<sup>22</sup> After some pressure from the producer, the discounter decided to increase its retail prices and informed the producer of this in advance. Following a common pattern, the producer then informed the other retailers of the discounter's intended price increase leading the other retailers to increase their retail prices within two weeks as well.

30. Additionally, the producer intensively monitored the retail price level reached and intervened when it appeared likely that a retailer was going to undercut the defined price level.<sup>23</sup> Financial incentives were given in order to discourage retailers from setting promotion prices too low and the producer occasionally threatened to discontinue the supply. However, retailers were not merely the victim of such price management measures as they actively called on the producer to maintain the minimum prices whenever another retailer undercut the price level.

31. These cases clearly show the elements of a mixed form of a hub and spoke agreement. Here, the supplier is acting as the main enforcer of the price level while the participating retailers also contribute to stabilizing the coordination and maintain agreed minimum price levels as the overall strategy is beneficial to all participants to the detriment of consumers. Even though the mechanism of the information exchange was characterised and fined as vertical price fixing in all three cases, the horizontal dimension of the indirect information flow and the feedback on the retail price level were also manifested.

#### 4.3. The Bundeskartellamt's 2017 Guidance Note

32. In light of these leading cases in the food retail sector, the Bundeskartellamt issued the above-mentioned Guidance Note to identify several conditions where the information exchanges between the supplier and retailer raise concerns and can be used to monitor the retail price of the retailers. The Guidance Note does not explicitly deal with possible scenarios of horizontal agreements between the market participants in a hub and spoke network.<sup>24</sup> Nevertheless the publication provides a framework to assess the legality of certain pricing practices and exchange of data in the industry.

33. Data on sales prices and quantities (sales data) are an important source of information for retailers. Retailers analyse this data in detail and base their price and portfolio decisions on the results of their analyses. Such data is also relevant for the manufacturers of the respective products. Professional market research companies regularly collect data on sales prices and quantities, e.g. by conducting surveys in retail outlets or by surveying households. They also collect data from the retailers themselves. Many suppliers purchase these data for their distribution strategies and product planning. They often have a strong interest in purchasing the sales data directly from the retailers, as the data from the market research companies are rather costly and only cover random samples. The retailers are also interested in providing the suppliers with sales data because this generates another source of income and offers them the opportunity to use the expertise

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<sup>22</sup> Ibid., p.2.

<sup>23</sup> Ibid., p.3.

<sup>24</sup> Bundeskartellamt, Guidance note on the prohibition of vertical price fixing in the brick-and-mortar food retail sector, para.5.

of the suppliers' market research departments to analyse their sales data. This provision of sales data is generally allowed under competition law.<sup>25</sup>

34. However, the data may not be used to coordinate pricing strategies, neither between the participants, nor with the retailer acting as a mediator. The provision of data relating to the future (such as a designated promotional price) raises concerns as the decisional practice leading to the Guidance Note has shown.<sup>26</sup> If data from the recent past are provided, this can be an indication for an RPM strategy because the supplier needs current data to effectively enforce the agreed resale prices. The provision of current data is, nevertheless, only a first indication of adherence to vertical price fixing. Further evidence is required to prove a price-fixing agreement between supplier and retailer.<sup>27</sup>

35. Further, the recipient's response to the information exchanged plays a crucial role. For example, it may be suspicious if a supplier, upon receiving the data from the retailer, reacts immediately to the pricing policy of a retailer and mentions its own or even the pricing strategy of other retailers. It may serve as an indication that the supplier is using the price data to coordinate and control retail prices.<sup>28</sup>

36. In general, the package of implemented measures such as guaranteed margins, the mutual monitoring of the price level and pressure to adhere to it may lead to hub and spoke price fixing if it is part of an overall price management strategy, which is nothing other than the enforcement of previously agreed resale prices among participants along different levels of the distribution chain.<sup>29</sup> Infringements which go beyond vertical price fixing between suppliers and retailers by aiming to coordinate the competitive conduct between retailers or between suppliers or to facilitate such coordination are of priority for the Bundeskartellamt.<sup>30</sup>

#### 4.4. Latest Decisional Practices

37. The latest cases associated with mixed hub and spoke elements in a supply chain were the Bundeskartellamt's fining decisions in the clothing industry and against bicycle wholesalers on account of vertical price fixing. The manufacturer of brand clothes pursued a strategy to systematically compel retailers in Germany to comply with its minimum sales prices for products like outdoor jackets. It reached a mutual understanding with the retailers to the effect that they would not reduce prices even at the end of the season. These agreements were enforced under the threat of sanctions or by granting advantages in the form of merchandise return options.<sup>31</sup> The manufacturer checked whether retailers complied with the specified prices. Retailers also monitored the price setting of their competitors and reported price cuts back to the manufacturer. If a price reduction was confirmed by photos or test purchases, the retailers were given a warning by phone or in person by the manufacturer's sales force. In the case of continued or repeated non-

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<sup>25</sup> Ibid., para. 95.

<sup>26</sup> Ibid., para. 96.

<sup>27</sup> Ibid., para. 97.

<sup>28</sup> Ibid., para. 101.

<sup>29</sup> Ibid., paras 84 and 85.

<sup>30</sup> Ibid., para. 104.

<sup>31</sup> Bundeskartellamt, Case summary of the decision of 21 July 2017, B2 - 62/16, p. 1.

compliance, supplies were temporarily suspended in several cases. As regards major customers, a mutual agreement on the non-reduction of prices often took the form of a return agreement in the interests of both parties.

38. These options are customary within the industry and generally do not raise competition concerns. However, in this case they were dependent on the non-reduction of prices. The major retailer also exerted pressure on the manufacturer to ensure compliance with end consumer prices among other retailers and to refuse to supply them in individual cases.<sup>32</sup> The reporting retailers received feedback from the manufacturer telling them that the reduction had been withdrawn. These customers frequently carried out checks locally to establish whether prices had actually been raised as promised by the retailers. The interaction with its customers in the form of reports and feedback on price reductions supported the manufacturer's price maintenance strategy and simplified its widespread implementation. The proceedings were initiated with a dawn raid in March 2013 after the Bundeskartellamt had received complaints about the companies' practices.

39. The above-mentioned decision against a bicycle wholesaler concerned a purchase partnership with 670 independent bicycle retailers as its members. Its representatives had concluded individual agreements with the representatives of 47 independent bicycle retailers. According to the agreements the retailers were not to undercut the minimum sales prices set by the wholesaler for certain bikes. The aim of the agreements was to prevent price competition between the retailers below the minimum price.<sup>33</sup> By either receiving complaints from the downstream retailers or by conducting the price surveys by itself, the wholesaler was able to enforce its minimum price agreements with the retailers. The retailers requested either the other retailers' compliance with the low prices or they adjusted their prices in accordance with the prices set by the wholesaler.<sup>34</sup> The proceeding was triggered by a tip-off from a bicycle wholesaler which led to a dawn raid at the wholesaler's business premises.

40. These cases show that a mixed form hub and spoke agreement induced by a supplier with a strong market position tends to result in compliance by the downstream retailers and thus poses serious negative effects on price competition down the distribution chain.

## 5. Hub and spoke agreements in light of pricing algorithms

### 5.1. Starting Point

41. Technological developments provide more and more opportunities to gather, merge and analyse data. In particular, coming along with a more widespread use of algorithms, this can greatly affect the current and future pricing of a company. While some companies have both the ability and incentive to develop and use their own individual algorithms, others might rely on solutions provided by a third party. In this context, a certain degree of alignment in the use of algorithms may arise due to a common third party providing similar services to competitors. Such a third party could, for example, be an external consultant advising several companies in the same line of business on the design and use of algorithms,

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<sup>32</sup> Ibid., p. 2.

<sup>33</sup> Bundeskartellamt, Case summary of the decision of 21 December 2018, B11-28/16, p. 1.

<sup>34</sup> Ibid., p. 2.

or a developer supplying competitors with implementations of similar software solutions. The emergence of pricing algorithms with advanced learning capabilities may add further complexity.

## 5.2. Joint Paper on algorithms between Germany and France

42. The increasing use of algorithms by companies is an issue of considerable debate as regards their effects on the competitive functioning of markets. In light of this debate, the Bundeskartellamt and the Autorité de la concurrence launched a joint project in June 2018 on algorithms and their potential effects on competition.<sup>35</sup> The aim was to provide a typology of algorithms, examine their potential anticompetitive effects, and shed some light on algorithm-related investigation methods. The joint study considered the following potential implications of algorithm-based “hub and spoke” collusion<sup>36</sup>:

43. If companies use pricing algorithms, this may have an impact on price competition. As negative effects do not necessarily depend on whether competitors use the same/common or very similar algorithm(s), but on whether strategic (pricing) principles are somehow coordinated or aligned, it seems appropriate to consider all cases where algorithms drive a collusive outcome.<sup>37</sup>

44. The third parties’ incentives to supply competitors with implementations of similar algorithms may vary. In particular, developers might program and offer “off-the-shelf” solutions on their own initiative. Once such a solution is ready for the market, developers are likely to have an incentive to sell it to as many companies as possible. Depending on the respective solution, buyers might be companies that are active in similar industries, potentially competing in one and the same market, but also companies that are active in several different lines of business. However, developers (or external consultants) might also be hired by a specific company, potentially developing a bespoke solution. If the third party serves competing clients and particularly if its remuneration is proportional to the revenue it provides to the companies or if the renewal of its contract depends on its performance, this actor might have an interest in generating collusion between its clients. In this case, it might be more profitable to aim at a coordinated outcome. Thus, this is a step beyond cases where third parties provide algorithmic solutions that in principle follow a unilateral logic, i.e. apply a certain predefined pricing scheme and/or aim at the maximization of individual (short-run) profits, without taking advantage of the fact that several competing companies are served.

45. In that regard, two settings can be distinguished: The first setting concerns situations in which at least two competitors know that they use the same or somehow coordinated algorithms provided by a third party. A particular situation in this setting relates to competing sellers or service providers delegating certain strategic decisions such as pricing to a third party that then takes these decisions using an algorithm. The second setting likewise presumes that at least two competing companies use the same or somehow

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<sup>35</sup> Bundeskartellamt, press release of 19 June 2018.

<sup>36</sup> More precisely, the study considered a scenario of “algorithm-driven collusion between competitors involving a third party”, noting that there might be varying interpretations of the term “hub and spoke”, cf. Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, pp. 31, 34, 35.

<sup>37</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 31.

coordinated third party algorithm(s). However, in contrast to the first setting, the respective companies (all or all but one of them) do not know that they use the same or somehow coordinated algorithmic solutions.<sup>38</sup>

46. One could distinguish between alignment at the level of the algorithm (code level) and alignment at the level of the input factors (data level). Alignment at code level could arise when a third party not only provides algorithms with a shared purpose, for example the calculation of prices, but also a similar (or related) implemented methodology.

47. The degree of similarity between the provided algorithms may vary. In the most far-reaching case, algorithms can be completely identical. Their use might even systematically lead to identical prices. In a weaker form, algorithms would be at least to some degree individualized for the respective customer. However, alignment might arise already due to commonalities in the underlying business logic. This might be the case even when these commonalities are limited to certain economic factors of price setting, as seen for example in the adaption of discounts in the *Eturas*<sup>39</sup> case.<sup>40</sup>

48. In the *Eturas* decision in January 2016 the Court of Justice held that a concerted practice is presumed if travel agents using a booking platform were aware of a message by the operator that the option to give discounts over the platform was going to be capped. Several travel agencies were accused of entering into price-fixing agreements. These travel agencies jointly used the online booking system “*Eturas*”. The administrator of this system circulated a suggestion to the users including a limit on the maximum discount of up to 3%. A discount set above 3% by the users was possible, however, this must be set by the travel agencies individually. In this case, most of the travel agencies viewed the 3% discount as appropriate and afterwards marketed their service at the 3% discount recommendation. The ECJ stipulated that a concertation between the travel agencies within the meaning of Art. 101 TFEU could only be found if the travel agencies were aware of *Eturas*’ message. In this context, awareness of the message could be presumed from the date of its dispatch in light of further objective and consistent indicia.<sup>41</sup> The mere existence of a technical restriction implemented in the system would be insufficient to infer the participation in a concertation.<sup>42</sup> The ECJ held that the compliance with the 3% discount recommendation without any reservation could be presumed as participating in a concerted action within the meaning of Article 101(1) TFEU, unless the travel agencies rebutted this presumption by way of publicly distancing themselves from the concertation.<sup>43</sup>

49. Alignment could also occur at data level. A common or somehow coordinated algorithm could provide the means for an information exchange amongst competitors. It has to be noted, however, that if there is an underlying prior concertation amongst the

<sup>38</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 32.

<sup>39</sup> ECJ, *Eturas et al. v Lietuvos Respublikos konkurencijos taryba*, Judgment of 21.01.16, Case C-74/14.

<sup>40</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 33.

<sup>41</sup> ECJ, *Eturas et al. v Lietuvos Respublikos konkurencijos taryba*, Judgment of 21.01.16, Case C-74/14, para. 40.

<sup>42</sup> *Ibid.*, para. 45.

<sup>43</sup> *Ibid.*, paras. 44., 46.

competitors, in other words when algorithms are used as mere supporters or facilitators of “traditional” anticompetitive practices, this does not raise specific legal issues regarding the involvement of an algorithm in many cases.

50. Rather than facilitating an information exchange where competitors directly access sensitive data themselves, a software supplier might also use a shared pool of such data to pursue the goal of maximizing joint profits by executing a single, common algorithm.<sup>44</sup>

51. However, even if the algorithms provided by a third party software supplier calculate prices separately for each customer, the software supplier might still use other clients’ confidential data to calibrate the algorithms. In this case, the supplier would use a common pool of training data including the non-public data of multiple competitors. While non-public data would not be shared explicitly in its original form with competitors, in absence of appropriate safeguards on the part of the third party, patterns in a competitor’s non-public data could still be picked up by a machine learning model and thus further align the companies’ pricing and the future learning and adaptation of the pricing algorithm.<sup>45</sup>

52. It is also imaginable that a software supplier relies on a specific interface to a public data source or a specific commercial data supplier to gather relevant input for their pricing software. This reliance conceivably increases the likelihood that the supplier will make use of this single data source in price computations for several competitors. The use of the software might thus establish an alignment in (parts of the) input data amongst competitors. These competitors might have otherwise relied on different sources, possibly importing somewhat different data.<sup>46</sup>

### 5.3. Algorithm-specific competition concerns

53. The potential alignment described above relates in particular to prices, price parameters and data relevant in the context of price setting, i.e. a peculiarly sensitive aspect of competition. Concertation on prices or price parameters is often considered by its very nature to be harmful to the proper functioning of normal competition. It will likely constitute a restriction of competition by object. At the same time, authorities might enjoy a margin of discretion to set priorities in their enforcement activities, thus potentially assessing the extent of an agreement restricting competition (by object or by effect) by a number of factors. These factors include, in particular, the content of the agreement/concerted practice and the objective aims pursued by it. The competitive concerns also depend on the market context in which a concertation takes place. In the cases of third party algorithms, a relevant aspect in this respect can be market coverage.<sup>47</sup>

54. The use of third party algorithms by competitors could in particular constitute a restriction of competition when there is an alignment of prices or pricing parameters at code level. Cases where identical algorithms are used by competitors and possibly even uniform prices set by the algorithm might amount to price fixing. Where algorithms are only partly identical and commonalities are limited to certain economic factors of price setting, this

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<sup>44</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 34.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 38.

might – depending on the facts of each case – still have the potential to reduce strategic uncertainty amongst competitors. Such an alignment might, by its very nature, reduce the decision-making independency of the competitors using coordinated third party algorithms.<sup>48</sup>

55. Where the third party algorithm facilitates a direct information exchange amongst competitors, this could be treated as any other (offline) information exchange amongst competitors. However, similar concerns might also surface when information is not directly exchanged amongst competitors, but “only” used as an input for algorithmic pricing (e.g. an algorithm which is based on a shared data pool of sensitive real-time data). And even where the third party provides algorithms that calculate prices separately for each competitor, competition concerns might occur when the third party uses a common pool of training data including private data provided by multiple competitors.<sup>49</sup>

56. Furthermore, even the exchange of publicly available information (or information easily accessible via scraping software) can constitute a restriction of competition if the modalities of the exchange enable the undertakings to become aware of that information more simply, rapidly and directly.<sup>50</sup> Market coverage might also play a role in the assessment.

#### 5.4. Unwitting use of a third party algorithm

57. Companies could also use algorithms developed by a third party without being aware that their competitors are relying on the same third party (in the sense of not knowing and not being able to reasonably foresee it). Such a scenario could equally lead to an alignment of competitors’ behaviour at code level or at data level. However, these situations cannot be captured under Art. 101 TFEU as it is not possible to establish an agreement or a concerted practice. As explained above, in order to establish an infringement the competitors must be at least aware that they rely on the same third party and are using coordinated algorithms or could have at least reasonably foreseen it. Where this is not the case, the conduct may be apprehended as legal parallel behaviour on the part of the competitors.<sup>51</sup>

58. There have been suggestions to discuss a change of the legal framework in a way that would expressly cover the liability of third party providers of algorithms in such cases.<sup>52</sup>

## 6. Justification

59. An agreement restricting competition can be justifiable if it improves the production and distribution of goods. Furthermore, this agreement must allow consumers

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<sup>48</sup> Ibid.

<sup>49</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 39.

<sup>50</sup> Ibid.

<sup>51</sup> Bundeskartellamt/Autorité de la concurrence, Algorithms and Competition, November 2019, p. 41.

<sup>52</sup> Monopolies Commission, XXII. Biennial Report 2018, paras. 269 et seq.

a fair share of the resulting benefit and the restrictions should be indispensable without enabling the undertakings to eliminate the substantial competition. The efficiencies can be cost and qualitative efficiencies, where either the production cost is reduced or the product quality is improved.

60. If reliance on a common third party (or underlying agreements) were deemed to be anticompetitive and potentially violating competition law in a specific case, it might still be justifiable. This would be possible in particular if it is inseparably connected with and indispensable for the provision of other services featuring counterbalancing benefits/efficiencies.

61. In respect of the aforementioned decisional practice about the mixed hub and spoke agreements between suppliers and retailers, possible efficiencies which may exempt resale price maintenance from the ban on cartels were unlikely and were also not presented by the companies concerned.<sup>53</sup>

## 7. Conclusions

62. The line between the classic hub and spoke agreement and RPM measures with hub and spoke elements is blurred which can give rise to a horizontal dimension of vertical restraints. Infringements which go beyond vertical price fixing by aiming to coordinate the competitive conduct between retailers or between suppliers or to facilitate such coordination are of particular importance from an enforcement perspective.

63. Hub and spoke collusion is likely when both sides of the market act in parallel due to some shared interest between suppliers and buyers.

64. The prospect of a possible interplay between algorithms and hub and spoke collusion requires enforcers to deploy resources into solid conceptual groundwork in order to prepare themselves for future case work. As digital markets keep evolving, authorities should continue expanding their expertise on algorithms, in an exchange with each other as well as in interaction with businesses, academics and other regulatory bodies.

65. The current legal framework is capable of capturing anticompetitive coordination along the distribution chain if there is a minimum communication trail.

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<sup>53</sup> Bundeskartellamt, Case summary of the decisions of 19 December 2014, 2 June 2015, 16 June 2015 and 23 February 2016, B10-40/14, p. 3.