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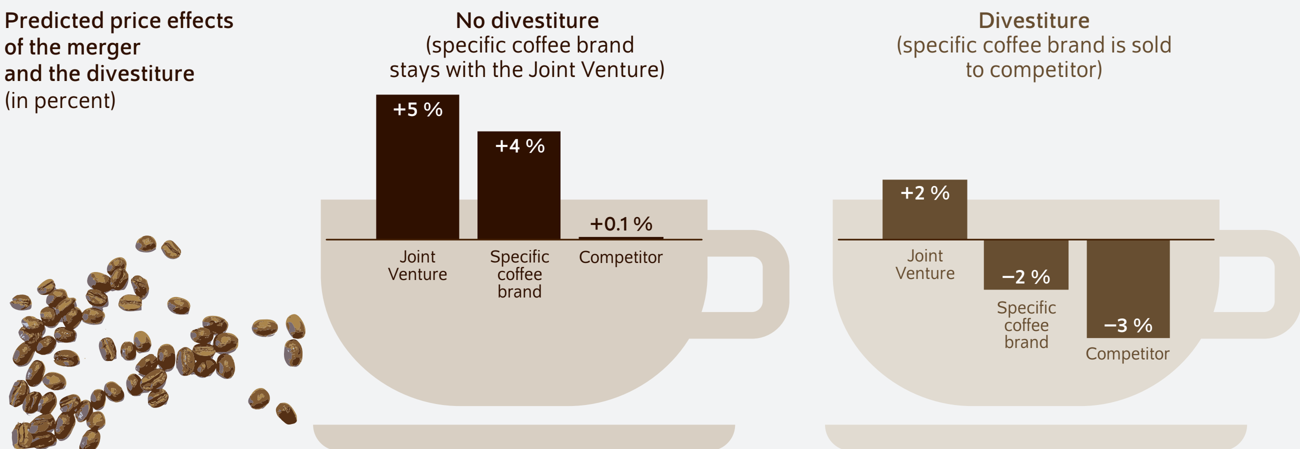
AT A GLANCE

Quantifying bargaining power in supply chains: essential for merger control

By Yann Delaprez and Morgane Guignard

- Rather than just blocking proposed mergers, Competition Authorities may impose remedies that address potential anti-competitive issues
- In May 2015, the European Commission approved a coffee joint venture subject to a divestiture remedy
- Divesture may not be especially effective, particularly in vertically related industries where bargaining is a key feature of the market
- The merger reduced consumer surplus but its reduction is less pronounced with divestiture
- From the consumer's point of view, divestitures should favor manufacturers with less bargaining power

Divestiture has greatly limited price increases in light of the joint venture



Source: Authors' own calculations.

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FROM THE AUTHORS

"When analyzing remedies in the context of merger control, it is essential to examine competition along the entire supply chain in order to identify appropriate measures."

— Morgane Guignard —

MEDIA

Audio Interview with Morgane Guignard
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Quantifying bargaining power in supply chains: essential for merger control

By Yann Delaprez and Morgane Guignard

ABSTRACT

Merger control plays a central role in competition policy. When assessing proposed mergers, Competition Authorities should consider its impact on all relevant markets. Large mergers between manufacturers typically impact competition, thus requiring the approval of Competition Authorities. Divestitures are often a condition of merger approval. This report investigates the effectiveness of implementing such merger remedies when bargaining between manufacturers and retailers is a key market feature. We examine the upstream merger between DEMB and Mondeléz that was approved by the European Commission in May 2015, subject to a divestiture. The divestiture indeed helped to mitigate the negative impacts of the merger. From the consumer's point of view, divestitures should take place in favor of manufacturers with less bargaining power.

In concentrated markets, merger control is an important tool for Competition Authorities. This is because it can prevent further reductions in competition and because it is allowed to actively intervene in the market.

This also applies to the food sector, where concentration along the supply chain has increased significantly in recent years. Retail has seen significant concentration, driven by waves of mergers,[1] the formation of buying alliances,[2] and the proliferation of private labels.[3] Similarly, there has been an increase in concentration within the manufacturing sector.[4] This concentration is driven in part by mergers and acquisitions that have allowed manufacturers to increase their market power. As a result, most markets along the food supply chain tend to be characterized by an oligopolistic market structure, in which a few firms with large market shares operate at each level of the supply chain.

Changes in competition and, therefore, market power at one level of the supply chain are likely to affect all levels. For instance, in the case of an upstream merger, a reduction in the number of food manufacturers may lead to an increase in their market power, which could result in higher wholesale prices paid by the retailers. The extent to which this increased upstream market power is passed on to final consumers depends on the bargaining power of the downstream firms. Therefore, in vertically related markets, Competition Authorities must analyze the entire vertical market structure in order to accurately assess the degree of competition along the value chain and the likely impact that changes in competition may have on food-consumer prices. This is the case, for example, in the event of a merger and the implementation of remedies to address competition concerns.

1 Bhattacharya Vivek, et al., "Merger effects and antitrust enforcement: Evidence from us retail," *NBER Working Paper* 31123 (2023): 1–75 (available online).

2 Matthew Grennan, "Price discrimination and bargaining: Empirical evidence from medical devices," *American Economic Review* 103, no. 1 (2013): 145–177 (available online).

3 Claire Chambolle and Morgane Guignard, "Buyer Power and the Effect of Vertical Integration on Innovation," *DIW Berlin Discussion Paper* no. 2071 (2024): 1–36 (available online).

4 Jan De Loecker, et al., "The rise of market power and the macroeconomic implications," *The Quarterly Journal of Economics* 135, no. 2 (2020): 561–644 (available online).

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Box 1

DEMB/Mondeléz joint venture

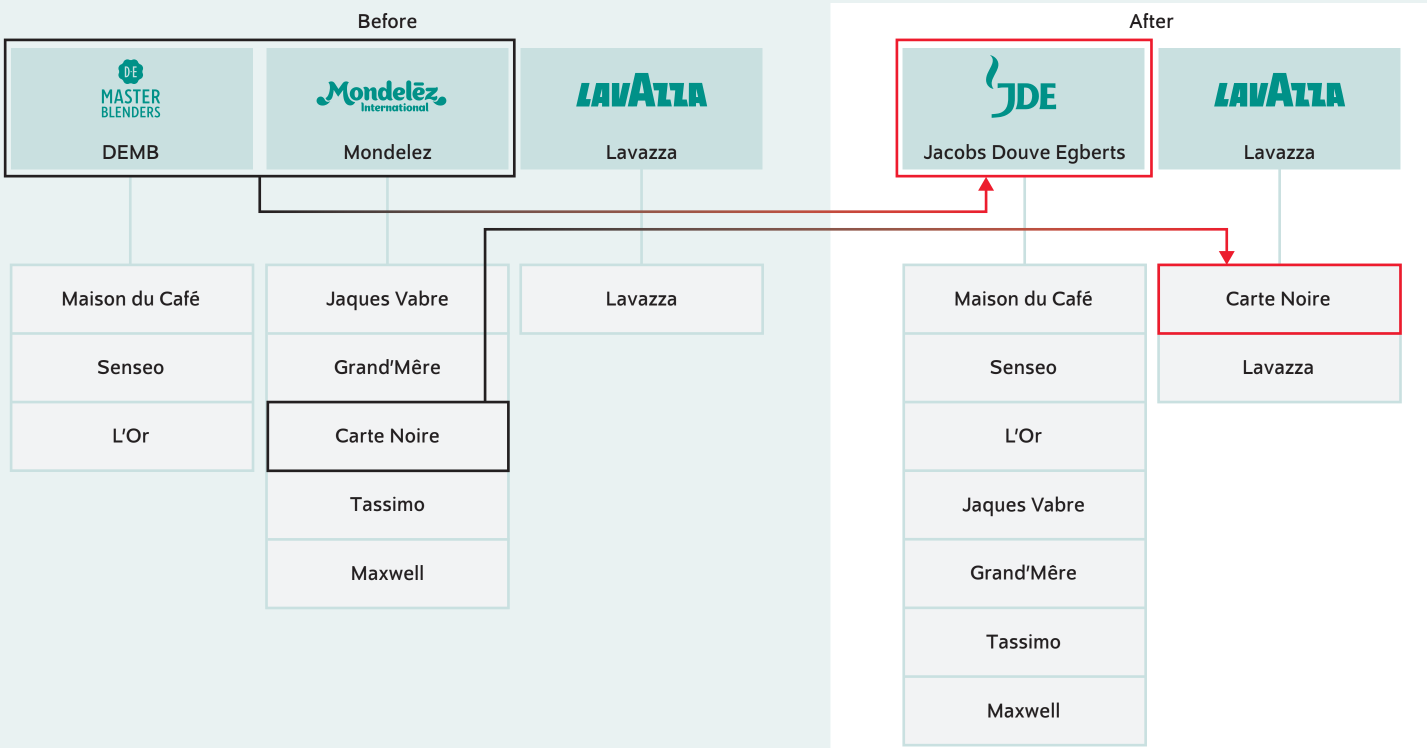
In May 2014, US company Mondeléz International Inc. ("Mondelez") and Dutch company DE Master Blenders 1753 ("DEMB") agreed to form a new entity called Jacobs Douwe Egberts ("JDE").[1] The joint venture was expected to be the number one or number two player in approximately 18 countries in Europe, Latin America, and Australia.[2] In Germany, DEMB produces leading brands such as Senseo, and Mondeléz owns brands such as Jacobs. This is also the case in France, where both companies own well-known brands such as Grand'Mère for Mondeléz and L'Or for DEMB. The European Commission considered the relevant geographic markets as national and evaluated that the merger impacts Austria, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Latvia, Lithuania, the Netherlands, Poland, Slovakia, Spain, Sweden, and the United Kingdom. However, the merger was only cleared subject to divestitures in some countries where competition issues were expected at the national level such as France and Denmark. For Germany, the European Commission expressed some concerns about the filter pads market. However, following assessment, the European Commission concluded that the transaction was not expected to create a significant obstacle to effective competition. In France, however, the Commission found that the merger would raise anti-competitive concern by eliminating competition between the brands L'Or and Carte Noire, which are viewed by consumers as close substitutes both owned by the parties, thus requiring a divestiture. The merged entity proposed to divest Carte Noire to Lavazza, including a production plant located in the south of France. Lavazza centralized all its production lines at the facility. The acquisition enhanced Lavazza's entry into the French market through the acquisition of a local production plant. The Commission approved the divestiture in February 2016. The figure shows the brand portfolio of the merging parties and of Lavazza before and after the merger and the divestiture (Figure).

1 Cf. the website of the European Commission merger case M. 7292 (available online).

2 Cf. the website of JDE (available online). A joint venture is an entity formed by several companies pooling skills and capital for a specific project. In this report, we use the terms merger and joint venture interchangeably.

Figure

Brand portfolio of the merger and the buyer before and after the merger with divestiture



Source: Authors' depiction.

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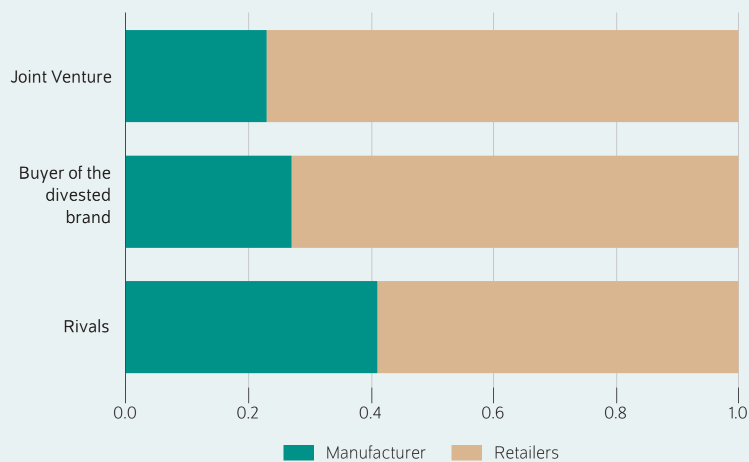
Carte Noire was divested and is now a part of Lavazza.

Figure 1

Unequal barganing power along the coffee supply chain
Bargaining weight of manufacturers vis-à-vis retailers



Note: Bargaining weight parameters should lie in the interval [0,1].

Source: Authors' calculations.

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Manufacturers have less bargaining.

Box 2

Nash barganing model

The model assumes that bilateral contracts between manufacturers and retailers lead to gains from trade. These gains from trade are defined as the difference between the benefits of reaching an agreement and those that would have been obtained if the agreement failed. When an agreement fails, a given manufacturer can sell its other products. The larger its portfolio of products, the less the manufacturer gains from an agreement with a given retailer. Thus, a larger product portfolio leads to a better bargaining position vis-à-vis retailers. Gains from trade are split between the manufacturers and retailers. A manufacturer obtaining a higher share of the gains created from trade is said to have more bargaining power, which is represented by the so-called bargaining weights. Here we estimate the bargaining weight of each side in simulations, where this bargaining power is estimated, with values ranging from zero (no bargaining power) to one (full bargaining power).

This report analyses the impact of a landmark European merger case between DEMB and Mondelēz on prices and consumer welfare in the coffee market (Box 1). Particular emphasis is placed on assessing the effectiveness of the imposed divestiture as a remedy to eliminate the anti-competitive effects of the merger, when taking into account bargaining power along the supply chain.[5]

Few Retailers and Coffee Manufacturers dominate the European Coffee Market

In Europe, a few retailers and coffee manufacturers have significant market share in the consumer packaged goods market. For instance, in Germany, major players – Aldi, Edeka, REWE, and the Schwarz-Group – dominate the retail market; in France, E.Leclerc, Carrefour, Les Mousquetaires (ITM), and Système U dominate. For example, in 2021, the combined market share of the top four companies in the retail industry was 54.6 percent in Germany and 68.7 percent in France, indicating significant market dominance by a few large players.[6] Moreover, in France, the combined market share of the three largest coffee manufacturers was approximately 58 percent in 2013.[7]

In such concentrated markets, wholesale prices are usually set through negotiations between manufacturers and retailers. A suitable economic model for investigating these negotiations and the effects of mergers on the manufacturers is the Nash bargaining model (Box 2).[8] Bargaining power plays a decisive role in the model: the greater a manufacturer's bargaining power vis-à-vis a retailer, the higher the wholesale prices it can impose and the higher consumer prices will be. Conversely, if the bargaining power lies with the retailer, the wholesale and consumer prices will be relatively low.

French retailers have a lot of bargaining power

The first step of our analysis is to estimate the bargaining power of the manufacturers and retailers along the coffee value chain. Specifically, we examine purchases from the seven leading retailers: Carrefour, Leclerc, ITM, Auchan, Système U, Casino, and an aggregate of discounters. Additionally, our focus extends to the brands produced by the eight largest manufacturers: DEMB, Lavazza, Legal, Malongo, Mondelez, Nestlé, Segafredo, and an aggregate of private labels. This approach encompasses all manufacturers mentioned by the Competition Authority and cited in the merger case. The data used for the analysis is Kantar Worldpanel on consumer coffee purchases in France from 2013 to 2017. It aims to implement a retrospective analysis of the DEMB/Mondelēz merger case.

The results indicate that manufacturers face powerful retailers in the French coffee market (Figure 1). The merged entity has the weakest bargaining power vis-à-vis retailers compared to other manufacturers. The buyer of the divested brand also

5 See Yann Delaprez und Morgane Guignard, "Upstream Mergers with Divestitures in Vertical Markets" (2022) (available online).

6 See Erin Maddren, *The grocery retail market in Germany* (Europe Market Research: 2022), 8 (available online); for France, see the Statista website (available online). CR4 corresponds to the highest four-firm concentration ratios often referred to as CR4. A value above 50 percent suggests significant market control by these firms, indicating high concentration and potentially reduced competition.

7 Authors' calculation based on Kantar Worldpanel data.

8 Henrick Horn and Asher Wolinsky, "Bilateral monopolies and incentives for merger," *The RAND Journal of Economics* 19, no. 3 (1988): 408–419 (available online).

has weak bargaining power vis-à-vis retailers.[9] It implies that the negative effect—the increase in wholesale pricing—generated by the merger between manufacturers in the upstream market is not fully passed on to final consumers.

Our estimates also allow for quantifying the cost savings associated with the merger and divestiture. The results suggest that the total costs associated with the other products of the buyer of the divested brand, Lavazza, decreased after the divestiture. Indeed, the divestiture included Mondelez's manufacturing facility situated in the south of France, where Lavazza combined all its production lines for the Carte Noire brand. The acquisition of the French manufacturing facility enabled Lavazza to produce its own brand at the French facility, providing it easier access to the French market and achieving more efficient production.

Without Divestiture, the Merger would have led to higher Consumer Prices

To measure the impact of the merger and divestiture on final prices, it is necessary to determine what prices would have been in the absence of the merger and divestiture. However, our dataset only allows us to observe actual prices after the merger and divestiture occurred. The model can be used to simulate counterfactual prices to evaluate the changes in prices resulting from the merger and the divestiture, while considering the bargaining power within the vertical relationships existing in the French coffee market. This involves simulating two scenarios:

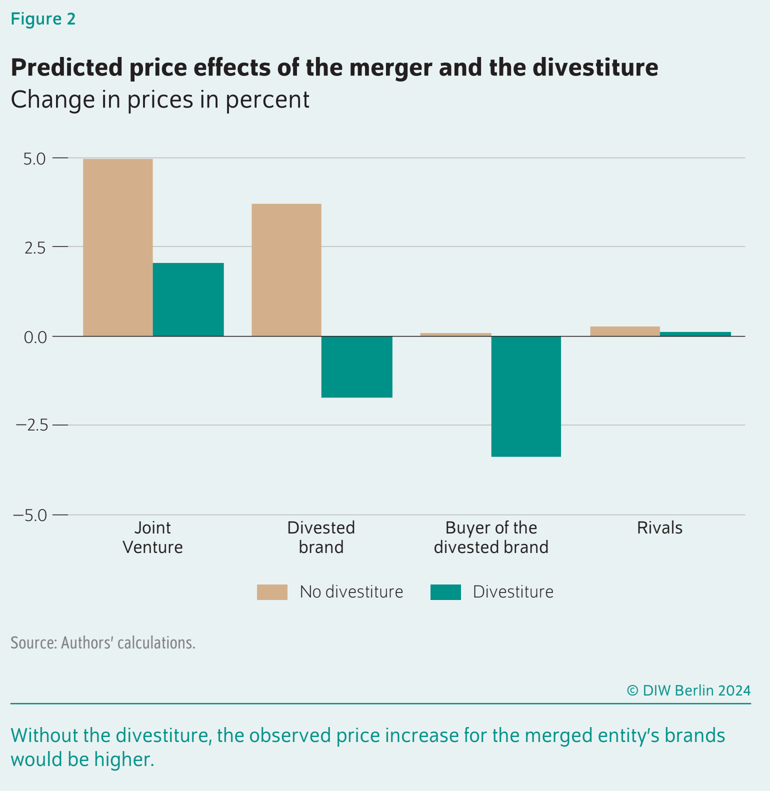
Scenario 1: The merger does not occur.
Scenario 2: The merger occurs without divestiture.

The comparison between the simulated prices of Scenario 1 and the observed prices measures the price effect of the merger and the divestiture. The comparison between the simulated prices of Scenario 1 and Scenario 2 measures the price effect of the merger without divestiture. Furthermore, the model enables us to estimate changes in consumer surplus in response to counterfactual prices.

Figure 2 shows the percentage changes in prices resulting from the merger with and without the divestiture. The results indicate that, in the absence of divestiture, the merger would have led to price increases of around 5 percent, which corresponds to an increase of around 1.14 euros per kilogram. The price changes resulting from the merger with the divestiture imposed by the European Commission are lower, resulting instead in a price increase of approximately two percent, or an increase of approximately 0.46 euros per kilogram. In addition, the divestiture resulted in some cost efficiencies for the buyer, which led to a price decrease of approximately 1.72 percent, or approximately 0.22 euros per kilogram (Figure 2).

Figure 2

Predicted price effects of the merger and the divestiture
Change in prices in percent



Source: Authors' calculations.

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Without the divestiture, the observed price increase for the merged entity's brands would be higher.

Columns (i) and (ii) of the Table show the variation in consumer surplus with and without the divestiture.[10] Had the European Commission approved the merger without remedies, the reduction in consumer surplus would have been more pronounced than with remedies, decreasing consumer surplus by about 483,000 euros for sampled consumers. The merger cleared with divestiture led to an overall reduction in consumer surplus of about 132,000 euros for sampled consumers.

The results indicate that although the merger reduced consumer surplus, this reduction is mitigated by the divestiture. This supports the European Commission's decision to require divestiture to mitigate the anticompetitive effects of the merger. Yet, the divestiture failed both to fully prevent negative consumer effects and to restore competition.

Considering Bargaining Power in Vertically related Markets is important when requiring divestiture

We now examine the importance of quantifying bargaining power when evaluating potential buyers of divested brands in order to effectively assess the impact of divestiture on consumer prices. We provide recommendations to Competition Authorities on how to select the buyer of the divested brand in vertical markets.

9 Due to confidentiality restrictions, specific manufacturer names cannot be directly associated with prices or market shares.

10 Discrete choice models are used to calculate the change in consumer surplus; Kenneth Train, "Discrete Choice Methods with Simulation," Second Edition. (2009): Cambridge University Press.

Table

The choice of the buyer in vertically related market
Change in consumer surplus in euros

	Simulations		
	(i) Actual buyer	(ii) No divestiture	(iii) Alternative buyer (rival)
Total change in consumer surplus (euros)	−132,000	−483,000	−149,000
Manufacturer's bargaining weight	0.27		0.41
Pre-merger market shares (percent)	1.83		1.57

Note: The average total number of consumers in our sample is 9,300 per month.

Source: Authors' calculations.

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Precisely, we study an alternative scenario in which the divested brand is transferred to a different manufacturer. This hypothetical scenario is interesting because the alternative manufacturer has a smaller market share (1.57 percent on average compared to 1.83 percent for the actual buyer) but higher bargaining power than the actual buyer (0.41 for the rival manufacturer compared to 0.27 for the actual buyer). Because of the smaller market share it would be a more acceptable alternative for approval by the Competition Authorities, compared to the actual buyer, when ignoring the bargaining power.

By contrast, we find that divesting to a small buyer – in terms of market shares – might not be the best policy in vertically related industries. Indeed, our results suggest that divesting a brand to a small buyer with significant bargaining power is unlikely to mitigate the anti-competitive effects of the merger. If the divested brand is bought by the alternative buyer (column (iii)), the negative impact on consumer surplus becomes more pronounced with an overall decrease in consumer surplus of about 149,000 euros for sampled consumers.

More broadly, the results indicate that the actual divestiture leads to the smallest change in consumer surplus.

Conclusion: Bargaining Power must be understood when evaluating mergers

The food supply chain is a key driver of the European economy. The degree of competition at each level of the supply chain determines the extent to which a change in competition at one level of the supply chain will affect all levels. Another important factor causing a change in competition at one level of the food supply chain is mergers between companies. Mergers must be approved by Competition Authorities. A condition of merger approval is often the implementation of a divestiture.

In this report, we discuss the effectiveness of divestiture as a merger remedy. We argue that it may be less effective in vertically related industries where bargaining is a key feature of the market. If Competition Authorities ignore the inherent imbalance in bargaining power between manufacturers and retailers when enforcing upstream divestiture, they are likely to implement a policy that does not restore competition in the market.

The main reason is that there is not a direct relationship between market share and bargaining power. The bargaining literature identifies several potential determinants of bargaining power. For example, higher bargaining power may result from superior brand assortment, firms' willingness to bargain patiently, or enhanced bargaining skills. Antitrust authorities cannot infer these bargaining power values from observed market shares alone, as we show that a small buyer can have large bargaining power and reduce consumer surplus more than a large buyer with smaller bargaining power. Therefore, an accurate estimation of these bargaining weights is crucial for decisions regarding the selection of the buyer for the divested brand. This has important implications for competition policy in Europe, but also specifically in Germany.

Germany recently introduced a new amendment to the German Competition Act, known as the 11th GWB Amendment, that could increase the number of divestitures in certain markets. Indeed, an important aspect of this amendment is the introduction of a new market investigation tool that allows for policy intervention in markets where there are significant and lasting distortion of competition without a proven breach of competition law.[11] This report argues that bargaining power is a key factor that must be taken into consideration.

11 For more details, see Tabea Bauermeister, "New Provisions in German Competition Law: New Competition Tool, Provisions Accompanying the DMA and a Presumption of Benefits," Kluwer Competition Law Blog, 2023. (available online).

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