

## **What did the Turkish Competition Authority Ignore in its First Hub-and-Spoke Cartel Decision?**

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### **Abstract**

Hub-and-spoke cartels have recently come under the spotlight of competition authorities. The Turkish Competition Authority (TCA) found five grocery retailers and a cooking oil supplier in breach of Article 4 of the Turkish competition act (the equivalent of Article 101 TFEU). In this article, we discuss some of the drawbacks and limitations of the TCA's first hub-and-spoke cartel decision. We examine how failure to conduct a simple economic analysis misled the TCA in its theory of how the hub-and-spoke cartel was formed and in its treatment of retailers' sequential price setting.

**JEL Codes:** L41, L42

**Keywords:** Hub-and-spoke cartel, Turkish Competition Authority, organized retail market

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## **Rekabet Kurulu İlk Topla-Dağıt Karteli Kararında Neyi Göz Ardı Etti?**

### **Öz**

Topla-dağıt kartelleri son zamanlarda rekabet otoritelerinin ilgi odağı haline geldi. Rekabet Kurulu (RK), beş perakendeci ve bir bitkisel yağ tedarikçisinin Rekabet Kanunu'nun 4. Maddesini (ABİHA'nın 101. Maddesinin eşdeğeri) ihlal ettiğini tespit etti. Bu makalede, RK'nın ilk topla-dağıt karteli kararının bazı eksiklik ve sınırlamalarını tartışıyoruz. Basit bir ekonomik analiz eksikliğinin, topla-dağıt karteli iddiasının değerlendirilmesinde ve perakendecilerin sıralı fiyat geçişlerine ilişkin yaklaşımında RK'yı nasıl yanılttığını inceliyoruz.

**JEL Kodları:** L41, L42

**Anahtar Kelimeler:** Topla-dağıt karteli, Rekabet Kurulu, organize perakende pazarı.

## 1. Introduction

Hub-and-spoke cartels have recently come under the spotlight of competition authorities. Unlike horizontal collusion between suppliers or between retailers, a hub-and-spoke cartel exhibits a sophisticated formation that requires the involvement of both supplier(s) and retailer(s). In 2021, the Turkish Competition Authority (TCA) found five grocery retailers and a cooking oil supplier liable for such behavior (Turkish Competition Authority, 2021a). Although the hub-and-spoke finding of the TCA is its first, it is not unique. While writing this paper, the TCA made its second hub-and-spoke cartel decision. However, the reasoned decision has not been published yet. Therefore, the current paper solely focuses on its first hub-and-spoke cartel decision.

Instead of unpacking the TCA's decision in detail, in this article, we discuss some of its drawbacks and limitations. We examine how the lack of a simple economic analysis misled the TCA in how it believed the hub-and-spoke cartel was formed and in its treatment of the retailers' sequential price setting. First, we show that the pricing conduct of the companies cannot be appropriately assessed without first considering the extraordinary cost-push inflation in the Turkish economy. Second, we provide a basic price competition setting that describes the competition between the grocery chains and shows how the TCA has misjudged the retailers' sequential pricing.

We organize the article as follows: Section 2 introduces the theoretical background of a hub-and-spoke cartel. Section 3 lays down the background of the TCA's decision. In Section 4, we provide the fundamental economic analysis that the TCA failed to conduct. Then, in Section 5, we posit an alternative theory for the formation of the collusion and assess the retailers' sequential price setting. Finally, Section 6 sets out our conclusions.

## 2. Economics of Hub-and-Spoke Cartels

Horizontal collusions between competitors have been frequently examined both in theory and practice. However, collusions involving horizontal and vertical relationships have been examined under the concept of hub-and-spoke in recent years. In such a collusion formation, a seller in the downstream market or a supplier in the upstream market orchestrates the information flow between the participants.

To better understand hub-and-spoke collusion, we can consider a setup consisting of a formation that includes both horizontal and vertical relationships, including competing sellers and a common supplier. Based on the above analogy, we can say that hub-and-spoke collusion consists of the following three elements: (1) a *hub* to coordinate sellers: the common supplier, (2) *spokes* in the downstream market: the sellers, and (3) a *rim* that connects the spokes: the collusive agreement between the sellers.

At this point, it is crucial to mention that hub-and-spoke collusion refers to an agreement that functionalizes a conspiracy between competing undertakings (spokes), not the vertical relationship between a hub and a spoke (Orbach, 2016). More concretely, it is the existence of the rim (collusive agreement) that turns vertical relationships into horizontal collusion. Therefore, a rim agreement connecting the spokes – aiming at price fixing or customer/region sharing – is critical to arriving at a judgment in competition law (Klein, 2020; OECD, 2019). While the existence of such a horizontal agreement indicates a collusion that breaches the competition law, the absence of such an agreement requires an effect analysis examining vertical constraints.

Examining hub-and-spoke collusion in an economic framework can provide important outputs in terms of competition policy on deterring such collusion by revealing how it occurs and operates. Based on this idea, it would be helpful to examine such collusion formations, albeit simply, within the framework of industrial economics and game theory. In this context, it would be appropriate to question the function of the vertical relationship that makes hub-and-spoke collusion privileged, especially the element that functions as a hub.

Industrial economics and game theory literature provide three conditions for collusion: (1) participation, (2) coordination, and (3) stability (Harrington, 2017). Very roughly, participation indicates the inclusion of a sufficient number of undertakings in the market into an initiative to determine a price/output level different than the competitive level. While coordination defines a process of which price/output level will be targeted due to the information flow between the undertakings, stability indicates the discipline and continuity of collusion. Unlike the horizontal collusion created only by competing undertakings, the existence and function of the hub is one of the most critical issues to be dealt with in a hub-and-spoke collusion (Garrod, Harrington & Olczak, 2021).

In summary, hub-and-spoke collusion has a different structure and dynamic than any horizontal collusion. The hub's position and function play the leading role in this difference. From the legal perspective, the conclusion of a judgment may not differ, whether the structure is in the form of a horizontal collusion or a hub-and-spoke collusion. However, economics may help to detect the structure and the dynamic of the collusions and deter future collusive attempts. Based on this argument, we examine the TCA's first hub-and-spoke decision.

### **3. Background of the Decision**

At the onset of the COVID-19 pandemic, the TCA launched a preliminary examination in the organized retail market focused on price increases in food and hygiene products. Following its preliminary examination, the TCA decided to launch in May 2020 an

investigation of 29 retailers and suppliers in the organized retail market. It also imposed an interim measure on the investigated parties to report weekly price increases until a final decision was issued. A year and a half later, on October 28, 2021, just after an uninterrupted oral hearing lasting 17 hours and concluding at 3 a.m., the TCA rendered its short decision that indicated a record<sup>1</sup> monetary fine.

The TCA found five grocery retailers (BİM, A101, ŞOK, Migros, and Carrefoursa) and a cooking oil supplier (Savola) in breach of Article 4 of the Turkish competition act (the equivalent of Article 101 TFEU). The TCA concluded that the five grocery retailers fixed the timing of price increases by communicating through their common suppliers. In that sense, the grocery retailers were accused of organizing a hub-and-spoke cartel with their common suppliers. However, in its decision, the TCA charged only the cooking oil supplier (Savola) for its role in the hub-and-spoke cartel. The TCA also fined Savola for maintaining resale prices. Nevertheless, in the decision, it is unclear whether Savola's conduct is related to the hub-and-spoke or an independent vertical restraint.

The legal analysis in the decision is based on internal communication documents and communication messages between retailers and suppliers. The TCA used the text messages of an internal WhatsApp group of Savola (between May 2018 and February 2021) as the primary reference for its hub-and-spoke cartel allegation. However, the TCA did not perform any economic analysis or provide any assessment related to the pricing behavior of the investigated parties. We argue that this has resulted in some drawbacks and limitations in the TCA's decision. Before examining these shortcomings, we provide a simple economic assessment that is significant to the decision.

## **4. Missing Economic Background in the Decision**

We agree that performing an economic analysis may not be helpful for explicit price-fixing collusion. However, for the TCA's decision, at least two economic issues should be examined to appropriately understand the firms' pricing behavior in question. First is the extraordinary cost-push inflation during the investigated period. The second is the nature of competition between the retailers. We argue that disregarding these issues has misled the TCA in its theory of how the hub-and-spoke was formed and in its treatment of the retailers' pricing behavior.

### **4.1. Cost-push inflation in the Turkish economy**

The communication evidence taken into consideration in the decision began in mid-2018 and lasted till mid-2021. During this time, the Turkish economy was subjected to extraordinary cost-push inflation. However, the TCA did not take this into account and

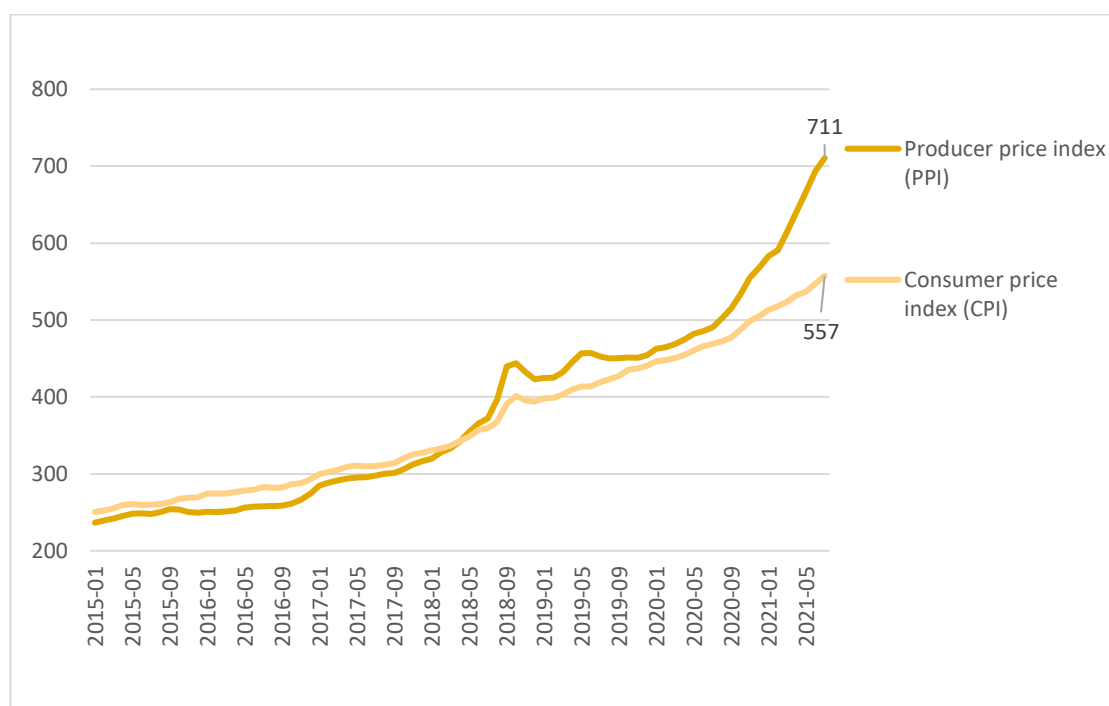
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<sup>1</sup> When the decision was announced, the fine was about €243 million.

failed even to include the word “inflation” in its decision. Yet, this cost-push inflation has a fundamental role in clarifying the incentives and roles played in vertical relations, inherently in alleged hub-and-spoke collusion.

Chronic high inflation has been a feature of the Turkish economy since the 1970s. Although relative stability was achieved between 2004 and 2016, since 2017, the rates of both producer inflation (increase in producer price index – PPI) and consumer inflation (increase consumer price index – CPI) have returned to double-digit levels with an increasing trend.<sup>2</sup> Since 2018, a dramatic devaluation of the Turkish lira has increased the cost-push inflation significantly through imported raw materials, oil, and intermediate goods. Recently, failure in supply chains due to the COVID-19 pandemic and rising instability in the Turkish lira has amplified this process. As seen in Figure 1, cost-push inflation has gradually increased its effect and eventually created a significant divergence between producer and consumer prices.

**Figure 1. Producer Price Index (PPI) & Consumer Price Index (CPI) (2003 = 100)**



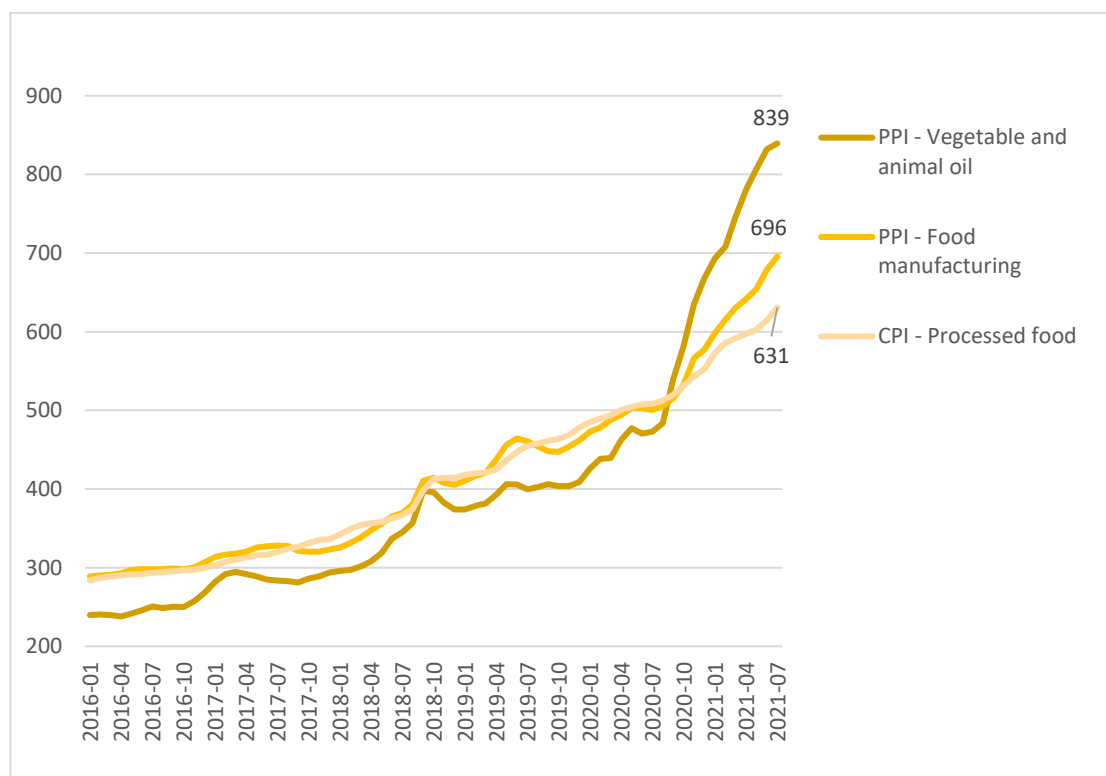
**Source:** Central Bank of the Republic of Turkey

The divergence in Figure 1 indicates that producers have struggled to pass their costs to consumer prices. Thus, cost pressure on the producers has increased. Figure 1 shows

<sup>2</sup> At the time of writing this article (on 5 January 2023), annual consumer inflation rate is 64 percent and producer inflation rate is 98 percent.

an overall picture of the Turkish economy. However, depending on the nature of the product, the divergence may take a different form. For instance, the divergence should be smaller for fast-moving consumer goods (FMCG) due to the high frequency of consumption and production. To get a rough picture of the products subject to the investigation, we provide selected sub-indexes in Figure 2.

**Figure 2. Selected sub-indexes (2003 = 100)**



**Source:** Central Bank of the Republic of Turkey

Figure 2 points out that, by mid-2020, consumer prices for processed food and producer prices for food manufacturing diverged. Although the producers faced increasing costs, they could not pass them on to consumers. Moreover, vegetable and animal oil producers faced unprecedented cost increases. Thus, Figure 2 documents how suppliers—including those subject to the investigation—have been under increasing cost pressure.

Without a doubt, the situation mentioned above has affected suppliers' pricing behavior. To avoid profit margin erosion, they tried to pass on the cost increases as much as possible. However, as Figure 2 indicates, they struggled to pass them on. What explains that inability? How important is that fact to the investigation? Without

considering the nature and dynamic of competition in the downstream market—where grocery retailers are the major players—it is impossible to get a clear picture of the situation. In the following subsection, we examine this issue, which the TCA did not consider in its decision.

## 4.2. Nature of competition in the organized retail market

While the investigation proceeded, the TCA published a preliminary report of its FMCG sector inquiry (henceforth *Preliminary Report*) (Turkish Competition Authority, 2021b). The main findings of the *Preliminary Report* indicate (1) the transformation of retail through the growth of grocery chains and (2) the increasing buyer power of the discount chains. The *Preliminary Report* noted how mergers and acquisitions in recent decades and the organic growth of discount chains had created an oligopolistic structure in the organized retail sector. On the other hand, it also pointed out the increasing buyer power of discount chains against suppliers due to their increasing nationwide scale. Although the TCA referred to these findings at the beginning of its decision, it did not use them effectively when evaluating the conduct of the firms.

The organized retail market in Turkey is a concentrated market that forms an oligopoly. Three discount chains (BİM, A101, and ŞOK) and two national retailers (Migros and Carrefoursa<sup>3</sup>) are the leading players in the organized market. The local retailers' effects are relatively negligible on market parameters. Significantly, the discount chains have been aggressively enlarging their scale and have played a significant role in transforming retail—from unorganized to organized. While the number of stores in these discount chains varies from 7,000 to 10,000 (A101 has 10,001, BİM has 8,383, ŞOK has 7,882), other national chains have relatively fewer stores (Migros has 2,302; Carrefoursa has 714) (Food Retailers Association, 2021a). The discounters have a cost advantage and can assure buyer power against suppliers by concentrating a relatively limited number of products, relying on large scales, bulk purchasing, and by having an efficient distribution system. Among discounters, BİM is by far a leader in this, which was also mentioned in the decision (Turkish Competition Authority, 2021a, para.67). It is worth noting that BİM is also ranked 137<sup>th</sup> among the largest global retailers. With more than US\$7 billion in annual revenue, it is double the size of its nearest competitor, A101 (Deloitte, 2022).

Creating a comprehensive model to describe the competition between grocery chains is complicated and controversial. However, a price competition model is reasonable for the products subject to the investigation. Considering the homogenous products subject to investigation (the same brand, size, type, model, etc.), the Bertrand price competition model is realistic and informative. Two phenomena support this claim. First, according

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<sup>3</sup> Carrefoursa has stores in 40 of 81 provinces.



to a recent report based on market surveys at the national level, consumers have become highly sensitive to price differences, and they prefer the cheapest retailer for each product in their consumption basket (Food Retailers Association, 2021b). Second, as put by the TCA in the *Preliminary Report*, rival retailers have become physically closer due to the increasing number of stores. Therefore, besides the homogeneity of the products, highly price-sensitive consumers and ignorable transportation costs to customers contribute to the validity of the Bertrand model in this situation.

However, in the standard Bertrand setting, the firms are symmetric. Then, how would the cost advantage and buyer power of a discounter (like BİM) change this setting? We argue that the low-cost firm (BİM) acts as a price leader, and the others follow. This was also confirmed in the communications discovered by the TCA. More specifically, BİM sets the price levels credibly, and the other retailers match this price. This argument has empirical roots widely accepted in the Turkish organized retail market and is theoretically backed by the industrial organization literature (see Amir & Stepanova, 2006).

The oligopolistic market structure and price leadership in the Bertrand setting are important for analyzing the hub-and-spoke allegations and retailers' sequential price setting. In the coming section, combined with the cost-push inflation, we use this framework to reveal the shortcomings in the TCA's decision.

## **5. What Did the TCA Miss Without an Economic Analysis?**

After reading the more than 200-page decision, two fundamental issues have emerged from the economic point of view. The first one is the TCA's theory regarding the formation of the hub-and-spoke collusion. The second is its treatment of the retailers' sequential price settings.

### **5.1. Theory of Formation of the Hub-And-Spoke Collusion**

In its decision, the TCA asserted that five grocery chains initiated the collusion to fix cooking oil prices and used the supplier Savola as a hub for coordination. Considering the cost-push inflation in the Turkish economy and the nature of competition in the retail market, examined in Section 4, we do not find this theory of formation to be economically feasible. A series of questions remain unanswered, as well as indications of the communications used by the TCA in its analysis that do not support the TCA's theory of how the hub-and-spoke collusion was formed.

Why would the grocery chains fix only the price of Savola's products? There are already rival products competing on the same shelf of the grocery chains.<sup>4</sup> Why would grocery chains divert their customers to rival products and take the risk of decreasing their sales? Those are the questions that remain unanswered from the retailers' side. One may argue that grocery chains might also try to fix the price of the other brands' products. However, the TCA found no evidence, nor did it assert any allegations in that direction. Similar questions can be asked from the supplier side. Why would Savola, which has rivals in the market and on the same shelf, get involved in a collusion initiated by the grocery chains? Why would it take the risk of losing its market share to its competitors?

Instead, using the economic background in Section 4 as a basis, our theory of formation is as follows: Facing increasing cost pressure, as mentioned in Section 4.1, Savola wanted to increase its prices to retailers, hence to the consumers. However, considering the nature of competition in the retail market mentioned in Section 4.2, no grocery chain wants to be the first to increase its price. The buyer power of the discount chains has contributed to that process and has obstructed the efforts of Savola. Under these circumstances—as most of the internal documents in Determination #1 indicate<sup>5</sup>—Savola was trying to organize a simultaneous price increase through communication with each grocery chain.

In fact, the TCA already mentioned the theory of formation that we put here with the following words: "... *Savola, which wants to pass the cost increases to retailers' shelves, tried to do it by sharing information among the retailers to incentivize a collective price increase when it cannot do it through an individual retailer.*" (Turkish Competition Authority, 2021a, para. 641). Although this is a feasible theory and compatible with the economic background, the TCA did not mention it elsewhere in its decision.

What would happen if the TCA's theory of formation was wrong? First, the resale price maintenance (RPM) charge asserted to Savola would find an explanation. More specifically, the TCA might distinguish the individual role of retailers in the collusion. The retailer that was exposed to the RPM and the retailer that actively contributed to the collusive organization would be identified more confidently. Yet, with the current theory of formation, the TCA cannot make such a distinction, and the RPM charge remains unexplained.

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<sup>4</sup> According to the publicly available information, Savola's market share in the cooking oil market has been varying between 14 percent to 23 percent.

<sup>5</sup> In its decision, the TCA gathers the documents around 26 findings.

## 5.2. Sequential Price Setting of Retailers

As we described in Section 4.2, the competition between the retailers exhibits a Bertrand price competition, with BİM holding the cost leadership. In this setting, the leader sets the price level credibly, and the other retailers match this price. This is the nature of competition between grocery chains and cannot be considered as collusive behavior or concerted practice without any communication evidence.

However, in some (not all) of its evaluations, the TCA treated the retailers' sequential price settings as indicators of collusive behavior. More specifically, the TCA has argued that setting the same price on the same day or on consecutive days should be treated as a clear sign of coordination between the retailers. There are two prominent examples of such evaluation that should be examined here.

In Finding #13, in an internal communication document within ŞOK, it is said that the price of Doğanay branded turnip juice had increased in BİM, and other retailers would increase their prices on the following day. The TCA documented the price changes and confirmed that on subsequent days most of the retailers matched the price at BİM. Similarly, in Finding #18, again in an internal communication document within ŞOK, this time for Fairy brand dishwashing detergents, the price increases in BİM and other retailers' price-matching actions had been mentioned (Turkish Competition Authority, 2021a, para. 325). Again, the TCA documented that other retailers on consecutive days matched the price set by BİM.

In fact, the TCA's decision makes it clear that it is concerned with the risk of collusion due to the rivals maintaining a close watch on each other and systematically matching those rivals' prices. As mentioned in Finding #26, constructing indices to follow the leader's prices and systematically matching them are evaluated as facilitating factors for collusion (Turkish Competition Authority, 2021a, para. 338). Therefore, as a part of the decision, the TCA also resolved to send a notice to all 29 retailers and suppliers to take the necessary precautions to restrict the share of such sensitive information on both horizontal and vertical levels.

## 6. Conclusions

While the organized retail market in Turkey has been evolving by its dynamics at the industry level, it has also been affected by macroeconomic developments. The market structure has transformed into a loose oligopoly led by the discount chains. The sharp rise in inflation has seriously affected retailers' and suppliers' pricing behaviour in recent years. However, the TCA had not adequately examined these issues in its first hub-and-spoke decision.

The abovementioned assessments of the TCA show that without a simple economic analysis, even a textbook oligopolistic competition setting might be evaluated as a breach of competition law. Therefore, unless there is an explicit cartel agreement, dynamics in a market need to be considered in order to make a sound competition law assessment. Ignoring such dynamics and treating the nature of competition as a breach may have unintended consequences on the business models of suppliers and retailers. The TCA seems to view the matching rivals' prices as a contributor to inflation, and its decision is intended as an anti-inflationary measure. However, this measure may backfire in a market where a low-cost price leader sets the market price.

Moreover, the rising cost-push inflation in the Turkish economy has brought frequent price increases at the wholesale and retail levels. Ignoring the effects of this macroeconomic shock on the motivations and incentives of firms' pricing behavior may also mislead decision-makers when making further decisions. Limitations on suppliers and retailers to check market prices and preventing these vertically negotiating parties from avoiding such communication might result in higher prices due to the automatic adoption of supplier-cost increases at the retail level.

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