

The difference between price fixing and a cartel: The Israeli “Bread Cartel”

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Abstract

We study a price fixing agreement in the Israeli bread market which took place in 2010 and involved the four largest industrial bakeries in Israel. The case has several unusual features: the agreement involved the prices of standard bread and challah that are subject to price cap regulation, the agreement was to stop deep discounts that were given in a limited number of stores, mainly in ultra-orthodox neighborhoods, and the price that the bakeries agreed on was well below the average price across all stores. Another unusual feature is that the phones of the bakeries’ executives were wiretapped even before the agreement started, making it possible to trace the agreement from its inception almost until it ended. We present two alternative interpretations of the events. The first interpretation, advanced by the Israeli Competition Authority, is that the agreement was a traditional cartel. The second interpretation is that the agreement was meant to end a price war between the bakeries.

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1 Introduction

On July 2015, the Jerusalem District Court found the four largest industrial bakeries in Israel - Angel Bakeries Ltd., J&E Berman Group Ltd., Davidovitz and Sons Bakery Ltd., and the Dganit Group – and their executives guilty of conspiring to fix prices and divide the market for sliced dark bread and challah during a period of about three months, from mid-February 2010 to the end of May 2010.¹ Combined, the four large bakeries account for 90%-95% of the sales of these products. The conspiracy ended when the Israel Competition Authority (ICA) started an open investigation of the affair and conducted a dawn raid of the bakeries' offices and arrested their CEOs at the end of May 2010. The case was referred to in the popular press as the “bread cartel” and was described as “one of the most serious affairs uncovered by the Antitrust Authority” and one that came at the expense of the “weak and needy.”² Moreover, the ICA viewed the case as one of its flagship cases.³

The case has a number of unusual features. One of these features is the fact that the ICA wiretapped the phones of the bakeries' executives, including all four CEOs for 90 days, from the beginning of February 2010 (before the bakeries have reached their agreements) until the end of April 2010. This gave the ICA access to hundreds of phone conversations of the executives, and provides us with a unique perspective on the inner workings of the agreements, right from their inception. Apart from wiretapping, the ICA also obtained written statements from the executives, and testimonies by various witnesses, including employees and contractors of the bakeries.

Among other things, the ICA found that during the relevant period, the four CEOs have met at the offices of a leading Tel Aviv law firm, lower level managers at the bakeries have met in a gasoline station on the Trans-Israel highway, and the executives had many phone conversations about prices and customers. In these meetings and conversations, the executives have agreed to raise the price of sliced dark bread and challah in some stores, and to stop competing for each other's customers. The evidence indicates that, by and large, the bakeries have complied

¹ Challah is a special bread, usually braided and typically eaten on the Shabbat. For details about the case, see Criminal Case Number 28192-08-12, *The State of Israel vs. Angel and others*, <https://www.gov.il/BlobFolder/legalinfo/28192-08-12/he/%D7%AA%D7%A4%2028192-08-12%20%D7%90%D7%A0%D7%92%D7%9C.pdf> (henceforth “*The State of Israel vs. Angel and others*”). Angel Bakeries, the Dganit Group and their executives were found guilty only in November 2017 following a plea bargain.

² See “The bread cartel affair: The bakeries committed offenses under aggravating circumstances,” Ela Levi-Weinrib, *Globes*, July 9, 2015, <https://www.globes.co.il/news/article.aspx?did=1001051611> or “The serious bread cartel is well organized by senior officials - on the backs of the weak and the needy,” Ora Koren and Amit Ben-Aroya, *Haaretz*, May 25, 2010, <https://www.haaretz.co.il/misc/2010-05-25/ty-article/0000017f-dbda-d856-a37f-ffdabbc10000>

³ See “The bread cartel: hitting the pocket and not the prison,” Avner Finkelstein, *Calcalist*, March 22, 2017, <https://www.calcalist.co.il/Ext/Comp/ArticleLayout/CdaArticlePrint1280/0,16492,3710149,00.html>.

with these agreements. The Court held that “Both agreements, by their content and essence, posed a significant potential harm to competition,”⁴ and convicted the bakeries and their executives of violating the Israeli Economic Competition law under aggravating circumstances. The executives were sentenced to 4-12 months in jail, which was an unprecedented criminal sentence in Israel for price fixing.⁵

Although the bakeries’ executives admitted to most of the charges, they had a different interpretation of the events, claiming that their agreements were intended to stop a “price war” that erupted at the beginning of 2010. They have also argued that the agreement to stop competition for each other’s customers was incidental to the main agreement to raise prices and was intended to ensure that the price war would stop. On these grounds, the Davidovitz and Sons Bakery (henceforth “Davidovitz”), Mr. Davidovitz, and the CEO of the Berman Group (henceforth “Berman”) have appealed the District Courts’ decision to convict them under aggravating circumstances to the Supreme Court.⁶ The State of Israel has also appealed the sentences of the two executives, arguing that they are not severe enough.⁷ The Supreme Court has rejected the appeals on March 2017, and stated in the lead opinion that “...the present case is indeed one of those exceptional cases in which the harm to competition is particularly severe.”⁸ Nonetheless, it reduced the executives’ sentences to 3 months in jail and 3 months of community services.

The Israeli bread case is unusual for several reason. First, sliced dark bread and challah, which are at the center of the case, are subject to price cap regulation. However before the bakeries have reached their agreements, Davidovitz has started offering sliced dark bread and challah in some stores, mainly in ultra-orthodox neighborhoods in the Jerusalem area, which was the “home turf” of the Angel Bakeries (henceforth “Angel”) and Berman, at a special deal of “3 loaves for 10 NIS,” (henceforth “3 for 10”). This price is substantially below the retail price cap at the time (6.66

⁴ *The State of Israel vs. Angel and Others*, paragraph 580.

⁵ Mr. Angel, the CEO of Angel Bakeries and a partial owner was sent in 2017 to 5 months in jail after reaching a plea bargain, the CEO of Dganit Group got 4 months of community service, and the chairman of the board of Dganit Group got a monetary fine due to personal health circumstances.

⁶ The appeal was restricted to the existence or lack thereof of “aggravating circumstances,” which are defined in Section 47A of the Israeli Economic Competition law as “circumstances in which significant harm may be caused to business competition”), and justify harsher sentences.

⁷ See Criminal Case Appeals Number 1656/16, 1665/16, and 1674/16 *Davidovitz and others vs. The State of Israel and J&E Berman Ltd.* <https://halbanathon.co.il/wp-content/uploads/2020/01/%D7%A4%D7%A1%D7%A7-%D7%93%D7%99%D7%9F-%D7%A2%D7%9C%D7%99%D7%95%D7%9F-%D7%91%D7%9C%D7%95%D7%95%D7%90-%D7%9E%D7%99%D7%95%D7%9D-15.1.20.pdf> (henceforth “*Davidovitz and others vs. The State of Israel*”).

⁸ *Davidovitz and others vs. The State of Israel*, paragraph 94.

NIS for sliced dark bread and 4.84 NIS for challah) and even below the wholesale price cap which does not include VAT (5.07 NIS for sliced dark bread and 3.72 NIS for challah). There is evidence that the “3 for 10” deals were offered as a retaliation against Angel and Berman’s expansion in the north of Israel, where Davidovitz was the dominant bakery. Angel and Berman have reacted by also offering “3 for 10” deals in some stores. Although the bakeries have agreed to stop the “3 for 10” deals and raise the retail prices to “2 for 10” on sliced dark bread and “3 for 11” for challah, these prices were still substantially below the price caps, and also below the average retail prices across all stores at the time (6.30 NIS for sliced dark bread and 4.61 NIS for challah).

Second, the agreement was to stop the “3 for 10” deals on dark sliced bread and challah in stores that have offered these deal, rather than to raise the prices of all types of bread in all stores. In fact, the bakeries have argued that the “3 for 10” deals have been offered in only about 40 stores; while the Court was unable to verify this claim, it has agreed that the number of stores that have offered these deals was not substantially different.

Third, as already mentioned, the main disagreement between the ICA and the bakeries was on how to interpret the two agreements. The ICA has argued that prior to the agreements, the bakeries have engaged in “fierce competition” over market shares, which involved low prices, promotions, and attempts to acquire new customers; it has then argued that the bakeries have formed a cartel, indented to raise prices and divide the market in order to boost the bakeries’ profits at the public’s expense.⁹ It has also claimed that but for the cartel, the competitive actions of the bakeries would have continued for a long period of time.¹⁰ The bakeries rejected this interpretation and have argued instead that the motivation for the agreements was to stop a price war that has erupted in some stores and prevent it from spreading to other stores. They have also argued that the price war was in any event short lived and would have stopped on its own, and that the agreement to stop competing for customers was incidental to the main agreement to raise prices.

In this paper we review the bread case and assess the arguments of the ICA and the bakeries. We are interested in particular in whether the case can be interpreted as a “standard cartel” as the ICA claims, or whether it was a “cease fire” agreement following a price war as the bakeries have argued.

⁹ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraphs 6, 28, 58, 703, 732.

¹⁰ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraph 299.

The interpretation of the bakeries' agreements is important for at least two reasons. First, the economic literature typically views price fixing agreements as attempts to raise prices above their Nash equilibrium levels. However, the bread case suggests that there may be other reasons for price fixing agreements. If true, this means that there are cases where, rather than moving away from the Nash equilibrium prices to higher prices, firms may fix prices in order to move back to the Nash equilibrium after prices fell below this level.

Second, the maximum sentence for criminal offenses of the Israeli competition law is five years of imprisonment rather than three if the offense was committed under aggravating circumstances. Although there is no clear definition of what constitutes aggravating circumstances, the distinction between a standard cartel agreement and an agreement to stop a price war may be important in this regard.

2. The Israeli bread market

The Israeli bread market can be divided into three main segments.

- a) Standard bread (dark and white bread, sliced and unsliced) and challah, which are subject to price cap regulation at the wholesale and retail levels by the inter-ministerial price committee of the Ministry of Finance and the Ministry of Economy and Industry which operates under the 1996 Supervision of Prices of Goods and Services Act.
- b) Other types of bread (e.g., whole-grain bread, multigrain bread, light bread, and Rye bread) and various types of challah (e.g., sweet challah, light challah, and Spelt challah) which are not subject to price control and are sold at about twice or even three times the price of price-controlled bread.¹¹
- c) Pita bread and rolls.

There are indications that price-controlled bread is a distinct antitrust market, including the large price differences between price-controlled bread and other types of bread and various indications

¹¹ For instance, data that appears in an Excel sheet in "The Consumer Council's Inspection: Where are the Best Deals on Bread?" June 26, 2016, https://www.consumers.org.il/item/semel_030716, shows that the price of special breads within the same supermarket chain was on average 2.1-2.9 times higher than the price of price-controlled bread.

for a limited degree of substitutability between these bread (Price Committee, 2021). In what follows, we focus on this market, which is also the market that the Court has considered.¹²

2.1 The market for price-controlled bread

Similarly to traditional rate of return or price cap regulation, the price cap on standard bread and challah is set to cover the firms' costs and ensure investors a fair return on their investment in the firms. By design then, the wholesale price cap reflects the average total cost of bread (including its cost of capital); the retail price cap is based on the wholesale price cap plus a normative retail margin and VAT.¹³ Table 1 shows the wholesale and retail price caps on dark bread (sliced and unsliced) and challah, which account for nearly all sales of price-controlled bread.

Table 1: The regulated price cap of sliced dark bread, 2008-2013

| Effective date | Sliced dark bread | | Dark bread | | Challah | |
|------------------|-----------------------------|--------------------------|-----------------------------|--------------------------|-----------------------------|--------------------------|
| | Wholesale price (excl. VAT) | Retail price (incl. VAT) | Wholesale price (excl. VAT) | Retail price (incl. VAT) | Wholesale price (excl. VAT) | Retail price (incl. VAT) |
| December 4, 2008 | 5.33 | 6.96 | 3.60 | 4.64 | 3.91 | 5.07 |
| March 12, 2009 | 5.10 | 6.66 | 3.44 | 4.44 | 3.74 | 4.84 |
| June 22, 2009 | 5.26 | 6.88 | 3.56 | 4.59 | 3.86 | 5.00 |
| July 1, 2009 | 5.26 | 6.94 | 3.56 | 4.63 | 3.86 | 5.05 |
| October 29, 2009 | 5.07 | 6.69 | 3.43 | 4.46 | 3.72 | 4.86 |
| January 1, 2010 | 5.07 | 6.66 | 3.43 | 4.44 | 3.72 | 4.84 |
| August 5, 2010 | 5.25 | 6.90 | 3.55 | 4.60 | 3.86 | 5.02 |
| October 3, 2010 | 5.44 | 7.15 | 3.68 | 4.77 | 3.99 | 5.20 |
| February 8, 2011 | 5.63 | 7.38 | 3.80 | 4.92 | 4.13 | 5.37 |
| August 14, 2012 | 5.99 | 7.87 | 4.05 | 5.24 | 4.40 | 5.72 |

Based on data from Israel's Central Bureau of Statistics, as of 2012, price-controlled bread accounted for 15% of the total sales of bread in Israel in NIS (Price Committee, 2021, Table 1).¹⁴ The share of price-controlled bread in the total sales of the four large bakeries is much higher though. For instance, in 2010, price-controlled bread accounted for 38%-43% of the total sales of

¹² See *The State of Israel vs. Angel and others*, paragraphs 309-321.

¹³ An important caveat is that the price cap is based on data that is averaged across bakeries and hence may exceed the average cost of one bakery, but be below the average cost of another.

¹⁴ Although we do not have data for earlier years, we believe that the figures for earlier years should be somewhat higher, as the share of price-controlled bread in the total sales of bread in NIS has declined steadily over time and dropped from 15% in 2012 to 8.2% by 2018.

bread in NIS at Angel - the largest industrial bakery in Israel - and 35%-40% of its total sales in NIS; this share has dropped to 30%-34% by 2015.¹⁵ The share of price-controlled bread in the total sales of Berman and Davidovitz was similar.¹⁶

A breakdown of sales in tons of price-controlled bread by store type, based on data from StoreNext,¹⁷ indicates that in 2008-2013, sliced dark bread accounted on average for 65% of the sales of price-controlled bread, challah accounted for 19%, and dark loaves of bread for 15%. The sales of white bread are negligible and indeed, the agreements between the bakeries did not directly involve the prices of white bread.

Table 2 below shows a breakdown of the sales in tons of price-controlled bread by store type, again based on data from StoreNext. There are four store types in our data: the first two, “main local chains” and “main hard discount (HD) chains,” belong to the main supermarket chains. HD stores are large and carry a large assortment of products; local stores are smaller, carry fewer products, and tend to charge higher prices. The third category, “other HD chains,” refers to HD stores which belong to smaller HD supermarket chains. The last category, “small stores,” includes minimarkets, grocery stores, and convenience stores. Table 2 shows that most of the sales are in the main supermarket chains and especially their HD stores. It should be noted that most stores that offered the “3 for 10” deals were in the small stores category.¹⁸

Table 2: The distribution of sales in tons of price-controlled dark bread and challah by store type, 2008-2015

| | Main local chains | Main HD chains | Other HD chains | Small stores |
|-------------------|-------------------|----------------|-----------------|--------------|
| Dark bread | 35% | 60% | 2% | 3% |
| Sliced dark bread | 22% | 45% | 12% | 21% |
| Challah | 25% | 59% | 8% | 8% |

Since the late 1980s, the price-controlled bread market in Israel went through a consolidation process that involved a series of mergers and acquisitions. As of the early 2000’s,

¹⁵ See Salomon A. Angel Ltd., Financial Statements for 2010, Sec 26.1 (in Hebrew), and Salomon A. Angel Ltd., Financial Statements for 2015, Sec 27.2 (in Hebrew).

¹⁶ See *The State of Israel vs. Angel and others*, Footnote 55.

¹⁷ StoreNext is a market research company that collects data directly from the cash registers of over 3,000 stores, mainly in the Jewish sector. The data covers around 80% of the market, including most of the major supermarket chains, as well as about 60% of all minimarkets. The data is extrapolated to reflect sales in the entire market.

¹⁸ Sales at “small stores” may be biased downward however as small stores are underrepresented in the StoreNext data.

Angel, Berman, Davidovitz, and Dganit are the four largest bakeries in Israel and account for about 50% of the total sales of bread in Israel, and 90%-95% of the sales of price-controlled bread.¹⁹ The consolidation of industrial bakeries is not unique to Israel: a similar process took place in the U.S. and the UK (see Appendix 7.2 in Sutton, 1991), and in South Africa (Mncube, 2013).

The largest bakery of the four is Angel, with an estimated market share of around 20% as of 2010.²⁰ Angel owns bakeries in Jerusalem, Lod (the center of Israel), and Netivot (the south of Israel), 50% of a bakery in Kfar Hahores (south east of Haifa), and a pastry factory in Beit Shemesh (near Jerusalem). Berman is the second largest group and owns bakeries in Jerusalem, Ramat Hasharon, Holon, and Bat Yam (the last three are in the Tel Aviv metropolitan area). The third largest group is Davidovitz; it owns bakeries in Kiryat Ata (near Haifa in the north) and Holon (Tel Aviv area). The fourth largest bakery is Dganit, which owns the Dganit Ein Bar bakery in Kibbutz Einat (center of Israel) and the Merhaviv Bakery in Kiryat Shmona (upper galilee in the north of Israel). The last two bakeries have cross ownership links: Davidovitz holds 50% of the voting rights and 33% of the cash flow rights in the Merhaviv Bakery, which in turn holds 50% of the Dganit Ein Bar bakery (the remaining 50% are held by Kibbutz Einat).

2.2 Important characteristics of the price-controlled bread market

The Israeli price-controlled bread market has several characteristics that are important for understanding the case.

The price-controlled market is highly competitive: There are several reasons why the price-controlled bread market is highly competitive. First, standard bread and challah are by definition homogeneous products, and consumers are price sensitive with little brand loyalty (Price Committee, 2021, p. 10-11). As a result, the main factor that affects the demand for standard bread and challah is their price, leading to intense price competition between the bakeries. Indeed, Mr. Davidovitz has testified in court that “I cannot sell for even one minute after I raise the price.”²¹

¹⁹ The only other bakery that supplies price-controlled bread is the Agami Bakery, located midway between Tel Aviv and Haifa. See *The State of Israel vs. Angel and others*, paragraph 335. The market for non-industrial bread is much more fragmented and even today there are “hundreds of bakeries” in Israel (RIC, 2022).

²⁰ See Salomon A. Angel Ltd., Financial Statements for 2010, Sec 1.2 (in Hebrew).

²¹ *The State of Israel vs. Angel and others*, paragraph 399.

Second, the supply of price-controlled bread is highly elastic because the four large bakeries have excess capacity and can easily expand their production levels (Price Committee, 2021, p. 11).

Third, the bakeries have a continuous relationship with retailers as bread is delivered to stores on a daily basis. Among other things this implies that the bakeries observe the retail prices of competing bakeries and can respond in real time, especially given that retail chains can terminate their relationships with bakeries at will and switch to a new bakery overnight.²²

Fourth, the industrial bread industry is characterized by large economies of scale and scope, due to large investments in equipment (e.g., flour silos, conveyors, flours sifters, grinders, weighing machines, cutting machines, dough mixers, dough dividers, moulders, ovens, packaging machines, and a fleet of trucks needed to deliver fresh bread to stores early in the morning on a daily basis). As a result, the average costs of the bakeries are declining, which provides the bakeries with strong incentive to sell to additional stores.

Fifth, to economize on transaction costs and exploit economies of scale and scope in bread distribution, most retailers source breads from only one or two bakeries, which provide them with a whole range of bread products (Price Committee, 2021, p. 10). This factor intensifies the competition between the bakeries because a bakery which is not selected by a given store as a designated supplier cannot sell bread at all at that stores.

The ICA has recognized that the market is highly competitive and has cleared a large number of horizontal mergers and acquisitions between industrial bakeries since the late 1980s; none of these transactions was subject to remedies. Moreover, the Price Committee found that bakeries' profitability is low or even negative (Price Committee, 2021, p. 13).

The geographic dimension of competition: Although the market for industrial bread is highly competitive, competition still has an important geographical dimension due to the need to deliver fresh bread to stores early in the morning on a daily basis. Moreover, competition at the wholesale level in the market is at the store level, because stores buy breads from the bakeries at different prices and sell them to consumers at different prices. Evidence presented in court indicates a

²² See Berman's CEO testimony in court, *The State of Israel vs. Angel and others*, paragraph 149 and also Price Committee (2021, p. 10). This statement though may be more relevant to small stores than to large supermarket chains, which typically negotiate long-term supply contracts with suppliers. Indeed there is even evidence in the bread case about such negotiations.

considerable degree of price dispersion: for instance, while some stores have offered sliced dark bread and challah at “3 for 10” deals, neighboring stores did not. The price dispersion is driven by the fact that the bakeries negotiate prices with each store separately.

Price-controlled bread is a loss leader: Price-controlled bread often serves as a loss leader in Israel and is sold in stores at deep discounts to attract shoppers.²³ A case in point are the “3 for 10” deals that are the center of the bread case, in which sliced dark bread and challah were sold at well below their regulated retail price caps (6.66 NIS and 4.84 NIS) or even their regulated wholesale price cap (5.07 NIS and 3.72 NIS).²⁴

The large bargaining power of retailers vis-à-vis the bakeries: Evidence presented in court indicates that retail chains have considerable market power vis-à-vis the bakeries.²⁵ Similarly, the Price Committee report (Price Committee, 2021, p. 10) argues that:

“The bakeries have difficulty negotiating with the retailers and are required to give them large discounts, in order to ensure that the supply agreements, which can be canceled at any time without reservations or preconditions, are not cancelled.”

Indeed, the large bakeries were complaining for years that due to the discounts they are forced to give large supermarket chains, price-controlled bread is sold at a loss at prices that are well below the regulated price cap. The bakeries claim that they sustain these losses because supermarket chains require them to offer all types of bread, so the losses on price-controlled bread are in effect a price that the bakeries are forced to pay in order to be able to sell other bread products in supermarket chains. In fact, Mrs. Zvia Dori, who was heading the price committee from 1995 to 2011, has testified in court that during her entire time in office, price-controlled bread was always

²³ See, “Zeev Wurmbrand on the retail chains that sell at a loss: “This is what is right today,” Orna Yefet, Kalkalist, November 27, 2008, <https://www.calcalist.co.il/marketing/articles/0,7340,L-3157583,00.html>. Also see “Shufersal and Blue Square sell products at loss prices To attract customers from Clubmarket,” Sivan Klingbeil, The Marker, July 19, 2005, <https://www.themarker.com/advertising/2005-07-19/ty-article/0000017f-ef1d-d3be-ad7f-ff3f330c0000>

²⁴ Note that the retail price includes VAT while the wholesale price does not.

²⁵ The State of Israel vs. Angel and others, paragraphs 193-194.

sold at a loss to retailers.²⁶ Moreover, an audit by an accountant hired by the Price Committee found that in 2010, Berman has lost “millions of NIS” on sales of price-controlled bread.²⁷

Industrial bakeries are multi-product firms: The four large industrial bakeries jointly produce and sell both price-controlled bread, as well as other types of bread that are not subject to price control. Although the agreement between the bakeries involved only the prices of sliced dark bread and challah, it is conceivable that other segments of the market may have also been affected. However, since the Court however did not address this possibility explicitly, we will restrict attention to the price-controlled bread market.

3. The bakeries’ agreements

In this section we describe the case in detail; in doing so, we rely on the decisions of the Jerusalem District Court, which convicted the bakeries and their executive, and the Supreme Court which upheld the District Court’s decision.²⁸

The Court determined that price-controlled bread is a relevant antitrust market, based on the large price differences between price-controlled bread and other types of bread, as well as various indications for limited degree of substitutability between the different types of bread. As already mentioned, the four large bakeries, Angel, Berman, Davidovitz, and Dganit, had (and still have) a combined market share of 90%-95% in the market for price-controlled bread.

3.1 The background for the agreements

Historically, the bread market tended to be localized, with many small bakeries operating all over the country. This tendency was driven by the need to deliver fresh bread to stores early in the morning on a daily basis, which naturally limited the geographical area that each bakery can serve. Moreover, when serving a particular store, closer bakeries have a cost advantage over more distant bakeries due to lower costs of distribution which gives them a strategic advantage. In particular, Angel and Berman, both located in Jerusalem, dominated the Jerusalem area and the south of

²⁶ The State of Israel vs. Angel and others, paragraph 422.

²⁷ The State of Israel vs. Angel and others, paragraph 426.

²⁸ We rely mainly on *The State of Israel vs. Angel and others* and on *Davidovitz and others vs. The State of Israel*.

Israel; Davidovitz, located in Kiryat Ata near Haifa in the north of Israel, was the dominant industrial bakery in the north of Israel, while Dganit operated mainly in the center of Israel.

Over time, however, the industrial bakeries have started to expand into new geographical areas. This expansion was driven by few factors. First, the bakeries have started using an enzyme that preserves the freshness of bread for several days and allows it to be shipped over a larger distance. Second, the four large bakeries have increased their production facilities and had excess capacity; moreover they have acquired bakeries in other geographical areas, which made it possible to serve a larger geographical area. Third, the bakeries had a strong incentive to expand their operations given that the production and distribution of bread are characterized by large economies of scale and scope, which implies that the average costs of the bakeries are declining and marginal cost is below average cost.

In particular, Angel and Berman have started to expand in the north of Israel, where Davidovitz was the dominant bakery. Angel has entered the Haifa market following a merger with Oranim Bakery in 2001, and Berman have started expanding in the north and made low price offers to customers of Davidovitz. Davidovitz in turn, retaliated by expanding in the Jerusalem area, which was the “home turf” of Angel and Berman, as part of a strategy that began about five years before the “bread cartel.”²⁹

A number of executives have testified in court that while the bakeries have constantly tried to acquire new customers, competition in the industry featured “ebb and flows” with waves of intense competition, followed by periods of less intense competition.³⁰ It appears from the evidence that at the end of 2009 and the beginning of 2010, competition for new customers was at a peak and was especially intense between Davidovitz and Berman. In fact, a contractor of Davidovitz has testified that competition at that period was “the longest and most difficult war we have ever had.”³¹

Specifically, it appears that in January-February 2010, Berman made extensive efforts to expand in the north, and transferred two additional salesmen to the north to support these efforts.³²

²⁹ *The State of Israel vs. Angel and others*, Paragraph 35-36.

³⁰ *The State of Israel vs. Angel and others*, Paragraph 49. Although the ICA has argued that these fluctuations in the intensity of competition were not necessarily natural and entirely spontaneous, the Court did not have sufficient evidence to substantiate the argument at the level required in a criminal trial, see *The State of Israel vs. Angel and others*, Paragraph 52.

³¹ *The State of Israel vs. Angel and others*, paragraph 29.

³² *The State of Israel vs. Angel and others*, Paragraph 27.

Berman's CEO has testified that these "aggressive" efforts to penetrate dozens of stores that were previously served mostly by Davidovitz were a retaliation against Davidovitz, after Davidovitz "took" from Berman 17 stores in the north. He also has testified that while these efforts were costly, they were meant to convey a message to Davidovitz that "there is a price for every harm done to us."³³ A sales and marketing manager at Berman has testified that the motivation for these efforts was twofold:

"If someone has slapped me, he will receive a slap, so things are focused in the direction of Davidovitz.... It is both a desire to expand and the desire to retaliate."³⁴

The sales and marketing manager has also testified that Berman's CEO gave an instruction to recover the sales that were lost to Davidovitz from "another place," and explained that the efforts were focused on Davidovitz rather than other bakeries, because "it is impossible to fight with everybody." Moreover he has testified that this was competition at full force and hence he instructed his own men to "charge ahead."

Davidovitz decided to retaliate and expanded its operations in the Jerusalem area and started offering "3 for 10" deals on sliced dark bread and challah (and in some cases "4 for 10" deals on challah) in ultra-orthodox neighborhoods. Mr. Davidovitz has testified that the motivation for the "3 for 10" deals was to "gain a strong foothold in Jerusalem" and ensure that

"[Berman] will understand once and for all that there are no strong and weak here ... there is a limit to everything... They [Angel and Berman] need to understand that Jerusalem ... is not another fortress of Angel and Berman and that's it they need to understand it like it took me years to realize that I was alone in and around Haifa and all of a sudden you come and see the shelves stocked with everyone's [bread]."³⁵

³³ *The State of Israel vs. Angel and others*, paragraphs 28.

³⁴ *The State of Israel vs. Angel and others*, paragraphs 28-29.

³⁵ *The State of Israel vs. Angel and others*, Paragraph 30.

Moreover, Mr. Davidovitz has testified that as far as the “3 for 10” deals are concerned, “I’m not in a hurry. I have intended to invest millions. I have no intention of stopping until they give me back what they took from me in the north.”³⁶

A regional manager at Davidovitz has testified that had Berman not penetrated areas that were dominated by Davidovitz, she probably wouldn’t have gone after “every other” customer of Berman. She added that although she is always interested in new customers, the normal mode of operation is to offer new customers “prices that are a little lower than what you usually offer in the current market.” However, during the relevant period, “Berman has offered unprecedented prices and discounts ... so what do you do? Counterattack.”³⁷

The Court concluded that Davidovitz’s aggressive actions of in Jerusalem, including the “3 for 10” deals, were part of a strategy to penetrate the Jerusalem market in order to strike a competitive balance against Angel and Berman, which have penetrated the Haifa region and the north, and prevent Davidovitz from being pushed out of the market.³⁸ There is evidence that Angel and Berman have also offered “3 for 10” deals in some stores.³⁹

Importantly, the “3 for 10” deals have been offered mainly in ultra-orthodox neighborhoods in Jerusalem, Bnei Brak, Beit Shemesh, Beitar, Elad, and Kiryat Sefer.⁴⁰ In these neighborhoods, families tend to be very large, and over half of the community is below the poverty line (Israel Democracy Institute, 2016, Ch 1 and 3).⁴¹ Indeed, in ultra-orthodox communities like Bnei Brak, price-controlled bread accounts for 70% of the sales of bread, while in Tel Aviv, where the ultra-orthodox community is very small, it accounts for merely 30%.⁴²

There are also indications that the “3 for 10” deals have been offered only in a limited number of stores. For instance, Davidovitz has argued that the “3 for 10” deals have been offered in only 40 stores.⁴³ Although the Court was unable to verify this claim, it did point out that the totality of the evidence suggests that the actual number of stores that have offered the deals was

³⁶ *The State of Israel vs. Angel and others*, Paragraph 398.

³⁷ *The State of Israel vs. Angel and others*, Paragraphs 40-46.

³⁸ *The State of Israel vs. Angel and others*, Paragraph 31.

³⁹ e.g., *The State of Israel vs. Angel and others*, paragraph 91.

⁴⁰ e.g., *The State of Israel vs. Angel and others*, paragraph 65.

⁴¹ Between 2012-2014, the total fertility rate (number of children potentially born to a woman during her childbearing years) averaged 6.9 children per woman in the haredi (i.e., ultra-orthodox) community. A majority of haredi families are living in poverty, and the share of haredi children defined as poor is 67%. See Israel Democracy Institute, 2016, ch. 1 and 3.

⁴² This finding is not surprising since standard bread is a classic example of an inferior good.

⁴³ *The State of Israel vs. Angel and others*, Paragraph 66.

not significantly different. In particular, the Court held that the “3 for 10” deals have not been offered in the large supermarket chains.

Despite their limited scope, the “3 for 10” deals had the potential to spread to other stores and lead to an escalation of the price war. Berman’s CEO has testified that the “3 for 10” deals had a “ripple effect” on nearby stores, and sometimes also on more distant stores.⁴⁴ A marketing and sales manager at Berman has described the deals as an “environmental damage” and explained that as soon as a store sells at a certain price, nearby stores also demand a discount even if the deal has not been offered by Berman.⁴⁵ The manager of the Alumot Bakery, which is part of the Davidovitz group, went further and described the “3 for 10” deals in Jerusalem as a “catastrophe on a global scale.”⁴⁶ Mr. Davidovitz on his part has argued that the “3 for 10” deals forced Angel and Berman to lower their own prices: “If they want to keep the market, then Angel and Barman need to lower prices in all of Jerusalem.”⁴⁷

The concern that the “3 for 10” deals would spread to other stores, and in particular retail chains, led to the executives meeting.⁴⁸ According to the ICA, the CEOs of the four large bakeries have first met on February 23, 2010 at the office of a leading law firm in Tel Aviv. The first part of the meeting was legitimate and lasted for about an hour; the rest of the meeting, however, took place without the presence of lawyers and lasted for several hours.⁴⁹ Eventually, the CEOs reached two agreements, which we now discuss in detail.

3.2 The first agreement

The first agreement reached by the CEOs was to stop the “3 for 10” deals. They have also agreed that in stores served by more than one bakery, the dominant supplier will raise his prices first (“the strong raises first”) and that the other suppliers will not use this price increase to increase their own sales at the expense of the dominant supplier.⁵⁰

⁴⁴ *The State of Israel vs. Angle and others*, paragraph 67.

⁴⁵ *The State of Israel vs. Angle and others*, paragraphs 67 and 387.

⁴⁶ *The State of Israel vs. Angle and others*, paragraph 386.

⁴⁷ *The State of Israel vs. Angle and others*, paragraph 68.

⁴⁸ *The State of Israel vs. Angle and others*, paragraph 392.

⁴⁹ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraphs 12-13. According to the press, the purpose of the meeting was to discuss regulatory matters. See “After the intervention of the 'system' Davidovich did not deliver bread and the customer remained frustrated,” Tomer Ganon, Anat Roeh, and Zohar Shahar-Levy, *Calcalist*, January 30, 2014, <https://www.calcalist.co.il/local/articles/0,7340,L-3623013,00.html>

⁵⁰ *The State of Israel vs. Angle and others*, paragraph 76.

More specifically, the CEOs agreed that as a first step, the minimal price of sliced dark bread and challah would be “3 for 10” as of February 28, 2010.⁵¹ In later meetings between various executives from the different bakeries, that were held a few days after the CEO’s meeting, the minimal price was raised to “2 for 10” for sliced dark bread and “3 for 11” for challah as of March 3 or in some cases as of March 10, 2010.⁵² There is evidence that the bakeries kept discussing the implementation of the first agreement until the agreement has ended at the end of May 2010.⁵³

Following the first agreement, prices have started to increase by the beginning of March 2010 to “3 for 12,” “2 for 8,” or even “2 for 10.”⁵⁴ This was true especially after Passover 2010 (March 29-April 6).⁵⁵ There is even evidence that Davidovitz has committed to stop supplying stores that will not raise prices and that Berman has conditioned its wholesale price on the stores’ retail prices in order to induce them to raise prices.⁵⁶

Although the Court found that the agreement to raise prices was substantially implemented and led to a significant increase in retail price in the relevant stores,⁵⁷ it did point out difficulties in implementing the agreement, at least before Passover. For example, Mr. Davidovitz was quoted in court as complaining that the meetings and discussions do not lead to any results: “To tell you the truth, I’m tired of these meetings, nothing comes out of them.”⁵⁸

One obstacle for implementing the agreement was the fact that it involved retail prices, which are set by the retailers, who were not parties to the agreement. For instance, some retailers have already advertised the “3 for 10” deals and were unable or unwilling to raise prices,⁵⁹ while others decided unilaterally to offer these deals.⁶⁰ A possible reason why the bakeries’ agreement concerned the retail price of bread (rather than its wholesale price), despite the fact that the bakeries do not control it directly, is that the retail price is easily visible, especially since the bakeries deliver bread to stores on a daily basis. By contrast, the wholesale prices, including discounts and various

⁵¹ *The State of Israel vs. Angel and others*, paragraph 75.

⁵² See *The State of Israel vs. Angel and others*, paragraph 75.

⁵³ The last meeting on record was held on May 20, 2010 between a sales manager at Angel and a marketing manager at Davidovitz in a gasoline station on the Trans-Israel highway. See *The State of Israel vs. Angel and others*, paragraph 126.

⁵⁴ See *The State of Israel vs. Angel and others*, paragraphs 78, 82, 91, and 113.

⁵⁵ During Passover, which is celebrated for 8 days, the bakeries do not produce nor supply bread. Passover is then a natural break in the bread market.

⁵⁶ See *The State of Israel vs. Angel and others*, paragraphs 98 and 114.

⁵⁷ See *The State of Israel vs. Angel and others*, paragraph 132.

⁵⁸ See *The State of Israel vs. Angel and others*, paragraph 206, Footnote 46.

⁵⁹ See *The State of Israel vs. Angel and others*, paragraph 94.

⁶⁰ See *The State of Israel vs. Angel and others*, paragraph 56 and 364.

payments between the bakeries and stores, are confidential and hard to verify. Another obstacle was “transparent bread” - bread that the stores slice and sell in transparent plastic bags; it is not entirely clear whether transparent bread was or was not part of the agreement.⁶¹ A case in point is a retail chain in Jerusalem that was a customer of Angel and Berman and has started selling “transparent bread” in mid-April 2010 at “3 for 9 NIS.” This deal was found out by Davidovitz and raised fears that “a world war” would break out.⁶²

It should be noted that the bakeries did not trust one another and were even hostile towards one another.⁶³ In particular, executives from the bakeries expressed concerns that other bakeries will take advantage of their price increases.⁶⁴ For instance, there is evidence that Davidovitz was slow to raise prices due to suspicion of the intentions of other bakeries.⁶⁵ This type of concerns continued until the end of May; indeed, on May 20, 2010, sales managers in Angel and Davidovitz have met at a gasoline station on the Trans-Israel highway and discussed the fact that prices in Jerusalem fall and that if Davidovitz will not raise prices, Angel will make low price offers to new customers in the north.⁶⁶

3.3 The second agreement

Apart from agreeing to stop the “3 for 10” deals, the bakeries have also agreed to stop competing for one another’s existing customers; the Court has referred to this agreement as “the second agreement.” The Court has accepted the bakeries’ claim that the second agreement was triggered by the desire to stop the “3 for 10” deals, and quoted Mr. Angel, who explained the motivation for the second agreement as follows:

“When we stop, we stop where everyone is and we check how we can make more money ... and there is a lot of money lying on the floor right now.”⁶⁷

⁶¹ *The State of Israel vs. Angle and others*, paragraph 86-90.

⁶² “Transparent bread” refers to loaves of bread that the store itself slices and sells in transparent plastic bags. As Table 1 shows, the price cap on sliced bread was about 33% higher than the price of loaves of bread.

⁶³ *The State of Israel vs. Angle and others*, paragraph 521 and 555.

⁶⁴ *The State of Israel vs. Angle and others*, paragraph 138.

⁶⁵ *The State of Israel vs. Angle and others*, paragraph 97.

⁶⁶ *The State of Israel vs. Angle and others*, paragraph 126-128.

⁶⁷ *The State of Israel vs. Angle and others*, paragraphs 150 and 461.

The Court also found evidence that Berman's CEO, as well as Mr. Davidovitz, instructed their salesmen to "stop everything," "take it easy," and "don't run around" when it comes to competition for existing customers.⁶⁸

The Court held that the overall picture that emerges from the evidence is that the bakeries have actively and vigorously implemented the second agreement and developed an effective mechanism for investigating complaints about violations of the agreement. The Court mentions many examples for complaints that were settled. For example, at the end of February 2010, a sales manager at Berman started selling to a store that was previously served by Davidovitz, contrary to his direct manager's instructions. After a complaint, Berman's CEO announced that the Berman would stop selling to this store.⁶⁹ Likewise, Dganit complained at the end of April 2010 that Angel sells to one of its customers and gave offers to four additional customers of Dganit. Following the complaint, Angel announced that it will not serve these customers.⁷⁰

A third example involves, Yellow, a large chain of 250 convenience stores that was served by Berman. Yellow negotiated a supply contract with Davidovitz just before the agreement was reached. Berman's CEO complained to Dganit's CEO, who also served at the chairman of the bakers' association, and demanded that Davidovitz will stop selling to Yellow. Although Mr. Davidovitz has argued that the relationship with Yellow began prior to the second agreement and that he cannot break the contract with Yellow, he nonetheless asked Dganit's CEO to tell Berman's CEO that "if I take something from him, then I will give him something somewhere else."⁷¹ When Dganit's CEO delivered this message, Berman's CEO replied "No, we don't have such an agreement, it's not true, and I have also signed all sorts of things and didn't come to anyone with any demands; I folded like a shmock, that's all."⁷² In a later conversation, Mr. Davidovitz asked Dganit's CEO to remind Berman's CEO that Berman also took a chain from Davidovitz after the agreement was reached, and that he, Mr. Davidovitz, "didn't say anything to him, and I didn't call you or anyone."⁷³ Moreover, a marketing manager at Davidovitz said that he has a list of stores

⁶⁸ *The State of Israel vs. Angle and others*, paragraphs 152-155.

⁶⁹ *The State of Israel vs. Angle and others*, paragraph 209.

⁷⁰ *The State of Israel vs. Angle and others*, paragraph 217.

⁷¹ *The State of Israel vs. Angle and others*, paragraphs 161-171.

⁷² *The State of Israel vs. Angle and others*, paragraphs 167.

⁷³ *The State of Israel vs. Angle and others*, paragraphs 167.

that he can enter as a retaliation in case Berman will react to Davidovitz's sales to Yellow.⁷⁴ The Court's decision does not mention how the dispute over Yellow has ended.

A fourth example involves a complaint by Berman that Dganit has started selling to a store that belongs to a medium size chain that was a customer of Berman. In a phone conversation, Berman's CEO told Dganit's CEO that

“I want you to know that I am reacting, I am not going to look the other way... the point is that there were some decisions and they were not implemented and that's it... if we don't keep these decisions, this whole business is like a house of cards, first one goes down, then another one goes down and finally everything collapses... that's all. Everyone thinks he is a smart guy... This business will never be sorted out if it continues like this”⁷⁵

Evidence presented in court shows that Dganit did not start selling to other stores that belong to the same chain.

It is worth noting that Davidovitz has argued that the evidence presented in court shows that the bakeries have settled at most 14 disputes over customers, and that most of them were in March 2010, when the agreement was still new, but that later on in April 2010, many disputes were not settled. It has also argued that half of the settled disputes concerned customers in the ultra-orthodox sector, where the “3 for 10” deals have been offered.⁷⁶

Berman and Dganit have argued that talks between business rivals are not necessarily due to collusion and could represent a normal business practice. In particular, Berman has argued that such talks are often intended to gather information or “obfuscate” rivals. The Court rejected this claim on the grounds that even if the argument is correct, this does not detract, “even slightly,” from the clear evidence that the second agreement was consistently implemented.⁷⁷

Dganit has argued that a bakery that feels that it is being “attacked” would gather information in order to consider how to respond, while an “attacking” bakery will try to avoid retaliation by providing rivals with an explanation on what has transpired. Moreover it pointed out

⁷⁴ *The State of Israel vs. Angle and others*, paragraph 170.

⁷⁵ *The State of Israel vs. Angle and others*, paragraph 183.

⁷⁶ *The State of Israel vs. Angle and others*, paragraphs 252 and 254.

⁷⁷ *The State of Israel vs. Angle and others*, paragraphs 255.

that some talks between Dganit and Berman over customers took place before the bakeries reached an agreement. The Court rejected this arguments claiming that it is doubtful whether these talks were legitimate, and that in any event, their nature was different than those that took place after the agreement was reached.⁷⁸

3.4 Assessment of the damages

The ICA did not provide an estimate of the harm to consumers from stopping the “3 for 10” deals during the relevant period.⁷⁹ Berman and Davidovitz submitted expert opinions that indicated that the damages have amounted to half a million NIS (around \$140,000). Although the Court took issue with these estimates, it nonetheless held that “in absolute terms, this is a substantial amount of money... representing a transfer of substantial wealth from consumers to the defendants.”⁸⁰

The Court has argued that another potential harm of the bakeries’ agreements was that they stopped the “3 for 10” deals from spreading to additional stores that could have enjoyed the low prices. Although the Court stated that it is doubtful that one can make sweeping statements about the extent of this ripple effect, it has nonetheless argued that these sales could have continued for a significant period of time, although it expected them to stop in the longer run.

The Court also held that the agreement could have been stable since there were only four participants with a combined market share of over 90%, standard bread is a homogenous product, the bakeries were part of the bakers association, the demand and supply of bread are relatively stable, and the bakeries had access to each others’ retail prices on a daily basis.⁸¹

The Court also considered the damages due to the second agreement, but was unable to come up with a specific estimate. Nonetheless, it held that given its content and its geographic and substantive scope (all products, all existing points of sale), the second agreement has caused a substantial harm to competition.⁸²

In 2015, shortly after the Court’s decision was made, a motion to certify a class action against the bakeries was filled in the Jerusalem District Court for alleged damages due to the “bread

⁷⁸ *The State of Israel vs. Angle and others*, paragraphs 256-257.

⁷⁹ In order to establish violation of the Israeli Economic Competition law under aggravating circumstances, the prosecution only needs to show a potential for significant harm to competition rather than actual damage.

⁸⁰ *The State of Israel vs. Angle and others*, paragraph 344.

⁸¹ The Court relied on the relevant chapter in Carlton and Perloff (2005) which discusses various factors that affect cartel stability, see *The State of Israel vs. Angle and others*, paragraphs 532-550.

⁸² *The State of Israel vs. Angle and others*, paragraph 504.

cartel.” The parties eventually settled and the Court approved the settlement agreement in September 2019.⁸³ According to the settlement agreement, the damages were estimated at 6-20 million NIS. As part of the agreement, the bakeries have agreed to donate 12 million NIS (around \$3.4 million) worth of bread products to various charities.⁸⁴

4. Possible interpretations of the bakeries’ agreements

Price fixing and market division are illegal according to the Israeli competition law. Hence, the illegality of the bakeries’ agreements is not disputed. Still, there is an open question regarding the interpretation of agreements. One interpretation, advanced by the ICA, views the bakeries’ agreements as a standard cartel – the “bread cartel.” An alternative interpretation is that the agreements were meant to stop a price war and ensure that it does not escalate. Although the Court has mainly emphasized the first interpretation, it also acknowledged the second:

“The overall picture is that both the Berman Bakery and the Davidovich Bakery had two motives for their competitive actions. On the one hand, there was a competitive element of market penetration, by lowering prices and increasing market share. Alongside it, there was also a deterrent - punitive element, whose purpose was to respond to the competitive actions of the opponent.”⁸⁵

In what follows we assess the two interpretations.

4.1 The cartel interpretations

The ICA has argued that the bakeries formed a “cartel,”⁸⁶ and described the events of the case as follows: “At the end of 2009 and the beginning of 2010 a fierce competition has developed among the indicted bakeries.” As part of this competition, Berman “has expanded the marketing of its products in the north,” while Davidovitz has started competing “more intensively in the Jerusalem

⁸³ Jerusalem District Court, class action 31011-08-15, Meir (Maor) Klein v. Davidovitz Bakery & Sons Ltd and others (henceforth “*Klein v. Davidovitz and others*”).

⁸⁴ This amount is broadly consistent with the assumption that the “3 for 10” would have continued for another 4-5 months (until October 2010) and would have grown at a rate of 25% per month.

⁸⁵ *The State of Israel vs. Angel and others*, paragraph 32.

⁸⁶ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraphs 1 and 58.

area and the center,” and the competition, “by its very nature” has also spread to other areas. According to the ICA,

“The purpose of the competition that took place prior to the cartel was clear and simple - to increase the bakeries’ market share by lowering prices, using promotions, and trying to attract customers in a variety of ways.”⁸⁷

In particular, the ICA has argued that the lower wholesale prices offered by the bakeries in order to gain market share, made it possible for retailers to offer sliced dark bread and challah at “prices of 3 or 4 loaves for 10 NIS (or at a cheaper price),”⁸⁸ and that these deals would have continued for a long period of time, but for the cartel.⁸⁹

The ICA then claims that the purpose of the CEOs’ meeting was “to stop the competition and the retail price decreases,”⁹⁰ and that the bakeries’ cartel “ended competitive processes that were in their infancy,” and “prevented low prices from reaching additional locations and retailers.”⁹¹ Moreover, according to the ICA, the cartel was formed with the intention of “raking in profits at the expense of the public.”⁹²

The ICA’s interpretation begs at least three questions. First, if the bakeries were already fixing the prices of sliced dark bread and challah, why did they fix them at “2 for 10” or “3 for 11”? After all, these prices are significantly below the retail and even wholesale price caps (6.66 NIS and 5.07 NIS for sliced dark bread and 4.84 NIS and 3.97 NIS for challah). In fact, StoreNext data that we use below to generate Figures 1 and 2 shows that in March-April 2010, the average retail prices across all stores were 6.30 NIS for sliced dark bread and 4.61 NIS for challah. At the very least, it seems odd that the bakeries have decided to fix prices at a level that was substantially below the average price level across all stores. Even so, it is hard to make the case that these are “cartel prices” intended to allow the bakeries to “rake in profits at the expense of the public.”

The second question is why fix only the prices of sliced dark bread and challah and not the prices of other types of bread as well? After all, sliced dark bread and challah account for only a

⁸⁷ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraph 6.

⁸⁸ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraphs 4-5.

⁸⁹ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraph 200.

⁹⁰ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraph 12.

⁹¹ See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraph 703 and 732.

⁹² See the prosecution’s Summary of Arguments in *The State of Israel vs. Angel and Others*, paragraph 28.

third (or less) of the bakeries' sales, and were arguably sold at a loss. Given that competition in the bread market is by all accounts highly competitive, fixing the prices of other types of bread should have been profitable for the bakeries had their intention been to form a cartel.

A third question is why did the bakeries agree to fix the prices of sliced dark bread and challah only in the relatively small number of stores that have offered them at the "3 for 10" deals, rather than fix prices in all stores, including the supermarket chains, which in any event account for the bulk of the sales of bread?

In other words, if the bakeries were trying to form a cartel, then it is not clear why they have reached a limited agreement that fixed the prices of only two types of bread, in only a small number of stores, and at a level substantially below average retail price across all stores, rather than fix the prices of more types of bread, in many more stores, and at a higher prices.

Another difficulty with the ICA's interpretation is the following: if the bakeries already agreed to fix the prices of sliced dark bread and challah, why did they also need the second agreement to stop competing for each other's customers? After all, if the first agreement is effective, then there it is no need for the second agreement. Conversely, if the second agreement is effective, the bakeries no longer compete for each other's customers, and hence do not need to offer sliced dark bread and challah at deep discounts.⁹³

Unfortunately, the ICA did not present evidence about prices either before the "3 for 10" deals were offered, nor after the bakeries' agreements have stopped.⁹⁴ From the court's case then, it is impossible to tell how prices have evolved over time in stores that have offered the "3 for 10" deals, in neighboring stores, and in more distant stores. The evolution of prices however is important because it speaks to the motivation for the agreements (i.e., form a cartel or end a price war). Using StoreNext data, we will now examine the prices of sliced dark bread and challah from the beginning of 2009 to the end of 2011. If we divide the monthly sales in NIS by the sales in tons, and note that sliced dark bread weighs 750 grams, while a challah weighs 500 grams, we get the monthly per unit average prices.⁹⁵

⁹³ It is possible that neither agreement alone was effective, but the ICA never explained why that is the case and how the two agreements complement each other.

⁹⁴ In a criminal case it is enough to show that the bakeries' agreements led to a price increase once the "3 for 10" deals have stopped.

⁹⁵ Unfortunately, the data does not allow us to distinguish stores that were affected by the agreements (mostly stores in ultra-orthodox neighborhoods in the Jerusalem area) and stores that were not, and also does not allow us to

Recall from Table 1 above that the regulated price cap was adjusted several times during the 2009-2011 period due to cost shocks (e.g., changes in the price flour or energy) or changes in VAT. In Figures 1 and 2 below, we therefore present the ratio of the retail prices of sliced dark bread and challah and their respective retail price caps. We show the ratios for the 4 stores types in our data: “Main HD,” “Main local,” “Other HD,” and “Small stores.” The period between the left and middle vertical lines refers to the price war between the bakeries (November 2009-February 2010).⁹⁶ The period between the middle and right vertical lines refers to the bakeries’ agreements (end of February 2010-May 2010).

Figure 1: the ratio of the retail price and the retail price cap of sliced dark bread, by store type, 2009-2011

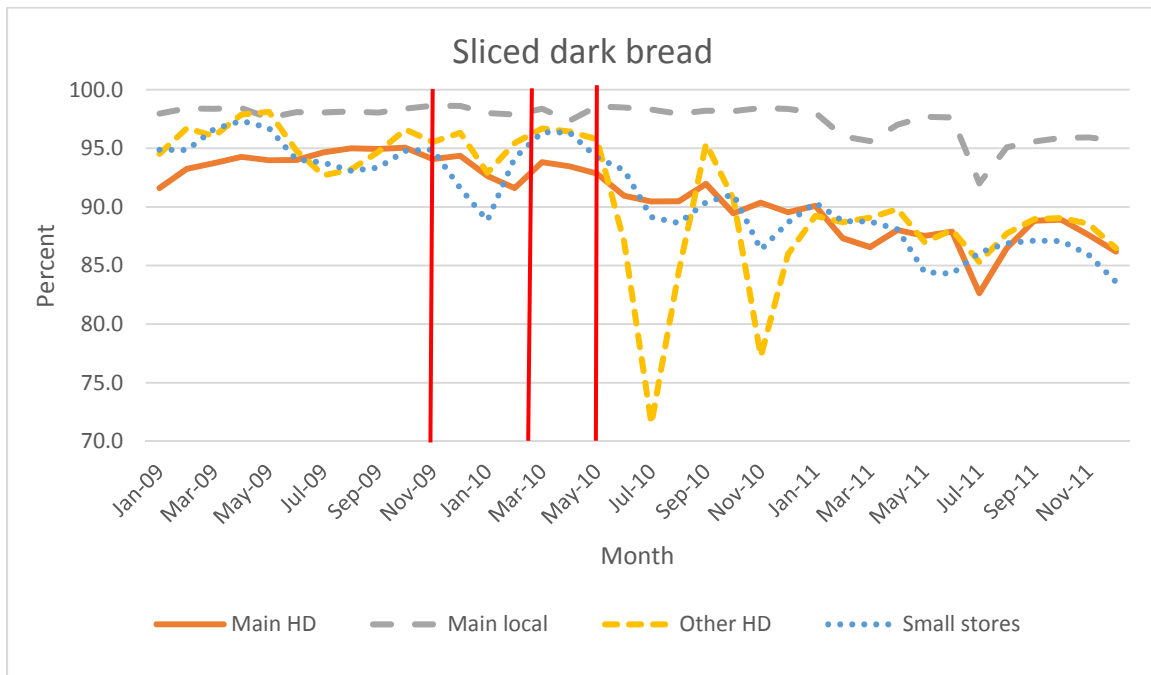


Figure 1 shows that the retail prices of sliced dark bread were below the retail price cap and their ratio declined from around 95% at the start of 2009, to closer to 85% at the end of 2011, with the exception of prices at the main local supermarket chains (the dashed line) which stayed

distinguish between prices in different submarkets (e.g., the ultra-orthodox submarket), or different geographic area (e.g., the Jerusalem area).

⁹⁶ Notice though that the ICA did not establish when exactly the price war broke out; it merely stated that “intense competition” has developed among the bakeries “at the end of 2009 and the beginning of 2010”.

above 95% of the price cap. More importantly, the figure shows that retail prices at the main local supermarket chains were not affected by the price war, nor by the bakeries' agreements. Prices at the main HD chains (the solid line) seems to have declined steadily over time and as in the case of prices at the main local supermarket chains, they do not seem to have been affected by the price war or the bakeries' agreements. These results are not surprising given that the evidence presented in court indicates that the price war and the bakeries' agreements involved mostly stores in ultra-orthodox neighborhoods, which do not belong to the main supermarket chains. One might argue that prices at other HD chains (the square dotted line) and small stores (the round dotted line) have dipped at the beginning of 2010, but then recovered on February 2010-May 2010, before declining after May 2010. However the pattern of prices after May 2010 does not seem to be very different than at the main HD chains, so it is hard to tell if the decline after May 2010 is due to the end of the bakeries' agreements or to more fundamental reasons. Importantly though, retail prices at other HD chains, and small stores during February 2010-May 2010 do not seem very different than they were before November 2009, which is consistent with the idea that the bakeries' agreements only eliminated the deep discounts that were offered during the price war period rather than increased prices to a supracompetitive level.

Figure 2: the ratio of the retail price and the retail price cap of challah, by store type, 2009-2011

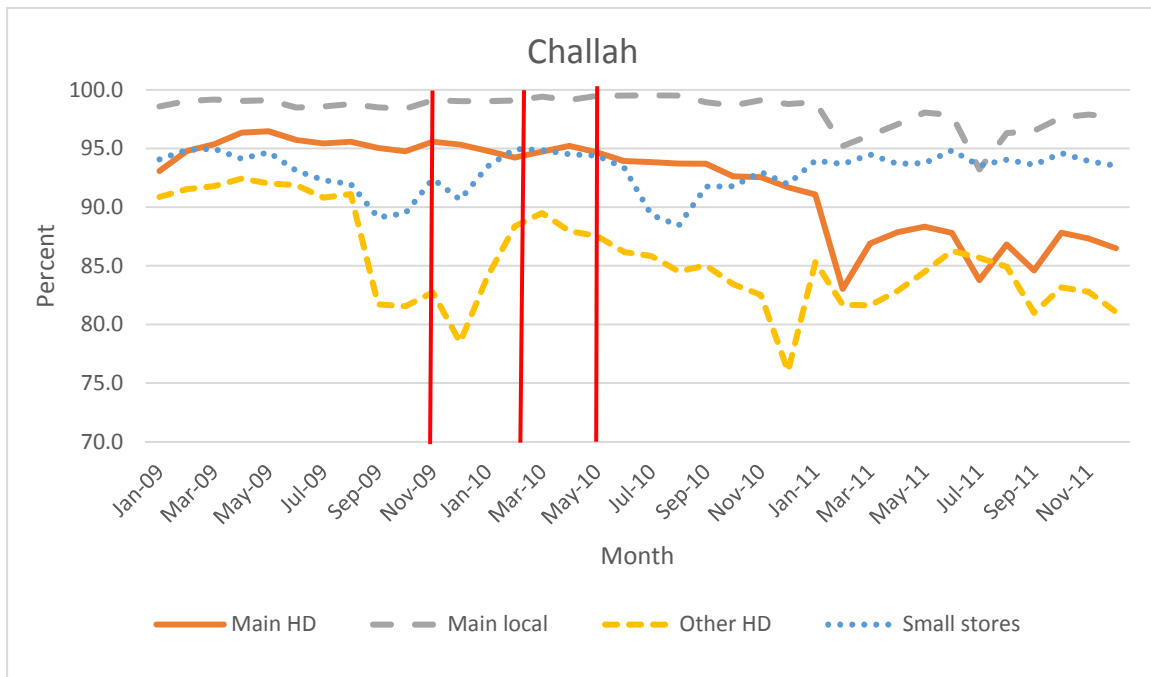


Figure 2 shows that similarly to sliced dark bread, the retail prices of challah were below the regulated retail price cap, and their ratio has declined over time, albeit only at the main HD stores and other HD stores. Moreover, retail prices at the main local supermarket chains (the solid line) and in small stores (the round dotted line) do not seem to have been affected by the price war nor by the bakeries' agreements. And if anything, the retail prices of challah at the main HD chains and at other HD chains have only increased from the end of 2009 until March 2010, and then seems to have decreased over the March 2010-May 2010 period. This price pattern is inconsistent with the ICA's interpretation of the bakeries' agreements as a "bread cartel."

4.2 The agreements were intended to stop a price war

The bakeries rejected the ICA's cartel interpretation and have argued instead that the agreements were meant to stop a price war due to the "3 for 10" deals and prevent it from spreading to other stores. They have also argued that the price war was in any event short lived and would have

stopped on its own, and that the second agreement was incidental to the main agreement to raise prices.⁹⁷

It is also possible that the “3 for 10” deals were part of a punishment phase in a collusive agreement that has already started before 2010, and the bakeries’ agreements were a renegotiation of the punishment phase. However, the ICA has explicitly argued that the bakeries have started colluding only when the CEOs met on February 23, 2010, and although the Court mentioned that the bakeries had discussion about customers even before 2010, it did not have enough evidence to determine that collusion started before the CEOs meeting.⁹⁸ Therefore we will not consider this possibility further.

With the bakeries’ interpretation in mind, the first agreement – to stop the “3 for 10” deals – can be viewed as a “cease fire” agreement, whereas the second agreement – to stop competing for existing customer – can be viewed as a “cessation of hostilities” agreement. More specifically, the bakeries were interested in stopping a costly price war. In and of itself, the first agreement did not eliminate the cause for the price war, which was the strong incentive to invade the “home turf” of other bakeries and win some of their customers. It is plausible that the bakeries realized that a “cease fire” agreement will not hold for a long time; to prevent the price war from erupting all over again, they needed a second agreement that would eliminate the reason for offering retailers deep discounts.

We believe that this interpretation is consistent with the evidence. First, Davidovitz has offered the “3 for 10” deals mainly in the Jerusalem area which is the “home turf” of Angel and Berman. Obviously then, the “3 for 10” deals were particularly damaging for Angel and Berman, as the “ripple effect” on nearby stores forced them, as Mr. Davidovitz argued, “to lower prices in all of Jerusalem.”⁹⁹ At the same time, these deals were not very damaging to Davidovitz due to its limited presence in Jerusalem. In a sense then, the “3 for 10” deals are akin to a Judo strategy (Gelman and Salop, 1983).¹⁰⁰

⁹⁷ See *The State of Israel vs. Angel and others*, Paragraph 137.

⁹⁸ See *The State of Israel vs. Angel and others*, Paragraph 52.

⁹⁹ *The State of Israel vs. Angle and others*, paragraph 68.

¹⁰⁰ There is an important difference however: an entrant playing a judo strategy intentionally sets a low price to deter the incumbent from matching it. Here, it seems that Mr. Davidovitz was aware that Angel and Berman would be forced to lower their prices, but was still interested in offering the “3 for 10” deals in order to send Angel and Berman a message that they should not expand in the north.

Second, if the “3 for 10” deals were aimed at gaining market share, as the ICA argued, then it is not clear why they were offered only in ultra-orthodox neighborhoods and not elsewhere, and in particular at the main supermarket chains, where the bulk of price-controlled bread is sold. Indeed, these deals were appealing to very large families, as in ultra-orthodox neighborhoods, that consume large quantities of bread, but were probably irrelevant for the rest of the population. Moreover, the “3 for 10” deals were easily reversible because they were not offered through formal contracts with the relevant stores, and as mentioned earlier, Mr. Davidovitz has testified that “I cannot sell for even one minute after I raise the price.”¹⁰¹ It is hard to see how gaining market share only while selling at deep discounts (without a prospect for recoupment) can be a profitable strategy.

Third, in a typical price-fixing case, prices increase from the static Nash equilibrium level, p , to some higher level p' , but then return to p after the cartel ends. In Figure 1, this pattern can be observed only in the case of other HD chains and small stores. However, if one starts at the beginning of 2009, it seems that prices were at a level of p until around November 2009, then they dropped to p' from November 2009 until February 2010, and then return to the a level of p from March 2010 to May 2010. Although the ICA interpreted the increase from p' to p as a sign of a cartel, once we take a longer perspective, the price pattern is consistent with the idea that p' represents a price war, while the return to p seems like a “cease fire” agreement.

Fourth, it is typically hard to know what the state of mind of the decision makers is. Here, however, there is extensive evidence that the bakeries’ executives viewed the events prior to the agreements as a price war. For example, Berman’s CEO has testified that Berman’s “aggressive” efforts to penetrate dozens of stores in the north were intended to convey a message to Davidovitz that “there is a price for every harm done to us,” whereas Mr. Davidovitz has testified that the motivation for the “3 for 10” deals was to ensure that Berman “will understand once and for all that there are no strong and weak here ... there is a limit to everything.”¹⁰² He has also testified that he had no intention of stopping the “3 for 10” deals until Angel and Berman “give me back what they took from me in the north.”¹⁰³ Berman has indeed perceived the “3 for 10” deals as a retaliation by Davidovitz for its “combative initiative” in the north.¹⁰⁴

¹⁰¹ *The State of Israel vs. Angel and others*, paragraph 399.

¹⁰² *The State of Israel vs. Angel and others*, Paragraph 30.

¹⁰³ *The State of Israel vs. Angel and others*, Paragraph 398.

¹⁰⁴ *The State of Israel vs. Angel and others*, Paragraph 30.

5. Conclusion

In principle, there could be at least three motivations for price fixing. Under the standard cartel scenario, firms currently play a Nash equilibrium, but they try to coordinate on higher prices. Alternatively, firms may be currently off the equilibrium due to some external shock, but they try to coordinate on a new Nash equilibrium with higher prices. A third possibility is that firms may currently be in a punishment phase of a collusive equilibrium, but they try to renegotiate it. Although prices increase in all three scenarios, in the first scenario, prices before the agreement are the Nash equilibrium prices, while in the second and third scenarios they are below the Nash equilibrium prices.

In general, it is hard to tell which scenario is relevant in a particular case. Nonetheless, the Israeli “bread cartel” seems consistent with the second scenario. The first agreement – to eliminate deep discounts given in some stores - seems like a “cease fire” agreement. The second agreement – to stop competing for each other’s customers - seems like a “cessation of hostilities” agreement intended to eliminate the incentive to give deep discounts. We believe that the case illustrates the idea that price fixing may not always be driven by the intention to form a cartel and may also have other purposes, like ending a price war.

References

- Carlton D. and J. Perloff (2005), *Modern Industrial Organization*, 4th Edition, Pearson/Addison Wesley.
- Gelman, J. and S. Salop (1983) “Judo Economics: Capacity Limitation and Coupon Competition,” *The Bell Journal of Economics*, 14(2), 315–25.
- Israel Democracy Institute (2016), *Statistical Report on Ultra-Orthodox Society in Israel, 2016*, <https://en.idi.org.il/haredi/2016/>
- Mncube, L. (2013), “Strategic Entry Deterrence: Pioneer Foods and the Bread Cartel,” *Journal of Competition Law & Economics*, 9(3), 637–654.
- Price Committee (2021), “Summary of the Price Committee Deliberations - Basic Review of Price-Controlled Bread Products,”

https://www.gov.il/BlobFolder/dynamiccollectorresultitem/decision_22072021/he/decision_and_directives_decision_22072021.pdf

Price Committee (2022), “Summary of the Price Committee Deliberations - Basic Review of Price-Controlled Bread Products,”
https://www.gov.il/BlobFolder/dynamiccollectorresultitem/decision_16052022/he/decision_and_directives_decision_16052022.pdf

Sutton, John, (1991), *Sunk Cost and Market Structure*, MIT Press.

The Knesset Research and Information Center (RIC) (2022), “Description and Analysis of the Price Regulation of Bread Products in Israel,”
https://fs.knesset.gov.il/globaldocs/MMM/45bc9b89-b781-ec11-8146-00155d0401c3/2_45bc9b89-b781-ec11-8146-00155d0401c3_11_19497.pdf