

EXECUTIVE SUMMARY

GEOGRAPHIC CONCENTRATION ON LOCAL
LEVELS OF COMPETITION

Ori Avner

Koret-Milken Institute Fellow

About the Koret-Milken Institute Fellows Program

The Koret-Milken Institute Fellows Program accelerates Israel's economic growth through innovative, market-based solutions for long-term economic, social, and environmental issues. The program focuses on connecting government, philanthropic, and business resources that are vital to national growth and development.

Directed by the Milken Institute Israel Center, the Koret-Milken Institute Fellows Program awards annual fellowships to outstanding graduates of Israeli and international institutes of higher education. Fellows serve yearlong internships at the center of the nation's decision-making—the Knesset, government ministries, and other Israeli agencies—and aid policymakers by researching and developing solutions for various economic and social challenges.

In addition, fellows craft their own policy studies aimed at identifying barriers to economic and employment growth in Israel. The fellows' studies, carried out under the guidance of an experienced academic and professional staff, support legislators and regulators who shape the economic reality in Israel. The program offers the ultimate educational exercise, combining real-life work experience with applied research five days a week.

Throughout the year, fellows receive intensive training in economic policy, government processes, and research methods. They acquire tools for writing memorandums, presentations, and policy papers, and they develop management, marketing, and communication skills. The fellows participate in a weekly workshop, where they meet senior economic and government professionals, business leaders, and top academics from Israel and abroad. They also participate in an accredited MBA course that awards three graduate-level academic credits that are transferable to other universities in Israel. The course, which focuses on financial and economic innovations, is taught at the Hebrew University of Jerusalem's School of Business Administration by Professor Glenn Yago, Director of the Milken Institute Israel Center and Director of Capital Studies at the Milken Institute in California.

Fellows Program alumni can be found in senior positions in the public and private sectors. Some serve as advisers to government ministries while others work at private-sector companies or go on to advanced studies at leading universities in Israel, the United States, and Great Britain. Within the program's framework, more than 80 research papers have been published, catalyzing reforms, reducing barriers, bringing about economic growth, and improving the quality of life for Israeli citizens.

The Koret-Milken Institute Fellows Program is nonpolitical and nonpartisan. It is funded by the Koret Foundation, the Milken Institute, and other leading philanthropic organizations and individuals in the United States and Israel.

More about the program: www.kmifellows.org

Contact us: info@kmifellows.org

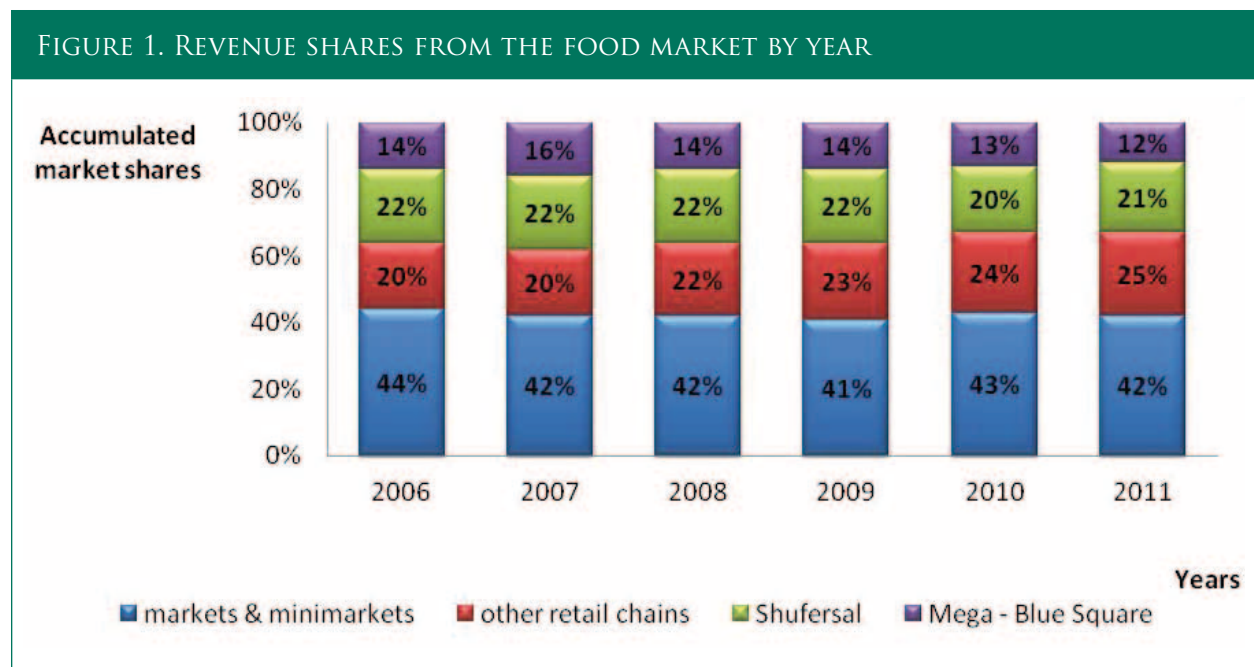
Executive Summary

Introduction

This is an investigation of the grocery retail market. Its purpose is to assess the strength of any connection between geographical concentration and local levels of competition, and how geographical concentration affects consumers. The investigation was conducted in the wake of the rising food prices in the past few years and consumer complaints about grocery retailers voiced during the “social justice protests” of 2011.

Background

In the past few years the Israeli food price index has showed abnormal increase. Since the middle of 2007, the index has increased about 10% more than the Israeli consumer price index. Israel's food price index had increased, in real prices, about 9% more than the European Union's index and 11% more than the United States' index.¹



Source: Czamanski Ben Shahr and Co., 2012.

¹ Progress report, the team for examining the competitiveness and prices of the food and consumer products, 2011; Agamon and Zadik, 2011.

The retailers are the closest link to the consumers in the chain of value. Grocery retail chains and other retailers buy agricultural goods, processed food, and imported grocery products that are then offered to consumers. In 2010, the total expenditure of households on food, drinks and tobacco was about 87 billion NIS,² Approximately 60% of that amount is spent at the grocery chains.³ In 1999, Israelis spent 46.8% of their household incomes on food from grocery chains. By 2009, that figure had risen to nearly 60%.⁴

Two nationwide chains, Shufersal and Mega-Blue Square, dominate the grocery retail market. While smaller rivals have shown impressive growth in the past few years, the two big chains still claim 60% of market revenue from food and consumer barcoded products.⁵

A survey by Czamanski Ben Shahar and Co. in 2012 found that price is the main consideration when consumers choose a particular grocery store. Although price is the most important parameter for the consumers, it is not transparent and is difficult to calculate.

Databases and methodology

The databases used for this investigation:

- Quarterly information about 14 major grocery retail chains from Q1 of 2008 to the end of Q2 of 2011.
- The Central Bureau of Statistics (CBS) 2008 population census on Israel's statistical areas and the localities they belong to.
- Travel time from the centers of statistical areas to the branches of the 14 grocery chains.
- Travel time between the branches of the 14 chains.

To answer the research question, this study examines product-relevant and geographic-relevant market data. It was assumed that consumers see AM:PM and Tiv-Taam as a separate class of grocery chains because of different cost functions, fewer extra amenities, less variety of products, and other factors, including Kashrut (Jewish dietary laws). Accordingly, these two chains should not be included in the same product market and were excluded from the examination. To define the geographic-relevant market, a model was built to establish the competitive area for each branch. The branch and all other stores in its competitive area—both from its own retail chain and competitors' chains—will be called the "branch-competitive group." The model creates the competitive groups by the following steps:

² The CBS website.

³ Shufersal estimation, annual report, 2010.

⁴ Progress report, the team for examining the competitiveness and prices of the food and consumer products, 2011.

⁵ Nielsen data, published at "The Marker" at 22.10.2010 by Adi Dovrat-Marzitz.

- 1. Demand-side** examination: The country was divided into about 3,000 demand areas (statistical areas by CBS definition or small localities that were not divided into statistical areas). For each demand area, a calculation of the travel time thresholds—the length of time its population is willing to drive to reach a grocery store—was based on these assumptions:
 - The bigger the branch, the farther consumers are willing to drive to reach it.
 - Consumers who live in smaller localities (in terms of population) are willing to drive farther to a specific branch than consumers who live in areas that are more populous.

Based on these two assumptions, a list of potential sites for grocery shopping was made for each demand area.

- 2. Supply-side** examination: We took these steps to create the competitive group for each branch at every quarter:

- For each branch, the amount of total potential customers was defined as the sum of the population of all the demand areas that consider this branch an option for grocery shopping.
- Every other branch that shares at least 30% of the total potential customers of the examined branch will be included in its competitive group.

The 30% threshold is intended to exclude branches that only share a small portion of a store's potential customers. This study assumes that these stores would not have a meaningful effect on pricing and other factors influenced by competition.

After creating a competitive group for every branch at each quarter, it was possible to calculate concentration indices such as the number of competing retail chains and the Herfindahl-Hirschman Index (HHI).

The HHI calculates concentration as the sum of the squared market share of each company in the relevant market and thus gives greater weight to the larger market shares. The index ranges from 0 to 1, where the value 1 means that there is only one company in the market, a monopoly.

To estimate the local level of competition, we use the gross profit margin of the examined branch. The gross profit margin describes the extra price the retailers add over their cost of sales (which is mostly affected by the cost of buying from suppliers). This index is a good gauge of local competition because it estimates the weighted average gross profit margin. In contrast to computing the cost of a typical market basket, the gross profit margin calculates the average over all the products sold in the shop and also takes into account extra cost derived from the quality of service, variety of products, and other factors.

It is important to mention that a high gross-profit margin could derive from better value and service

and not simply from high concentration. Econometric analysis was applied to search for a connection between geographic concentration and the local level of competition. The analysis used control variables to absorb differences in accounting practices between the companies, varying cost structures, disparities in demand within the country, seasonality and so. The control variables try to guarantee that we get the net effect of the concentration on the competition beyond the mentioned differences. The econometric analysis was applied to 2010 data.

Results

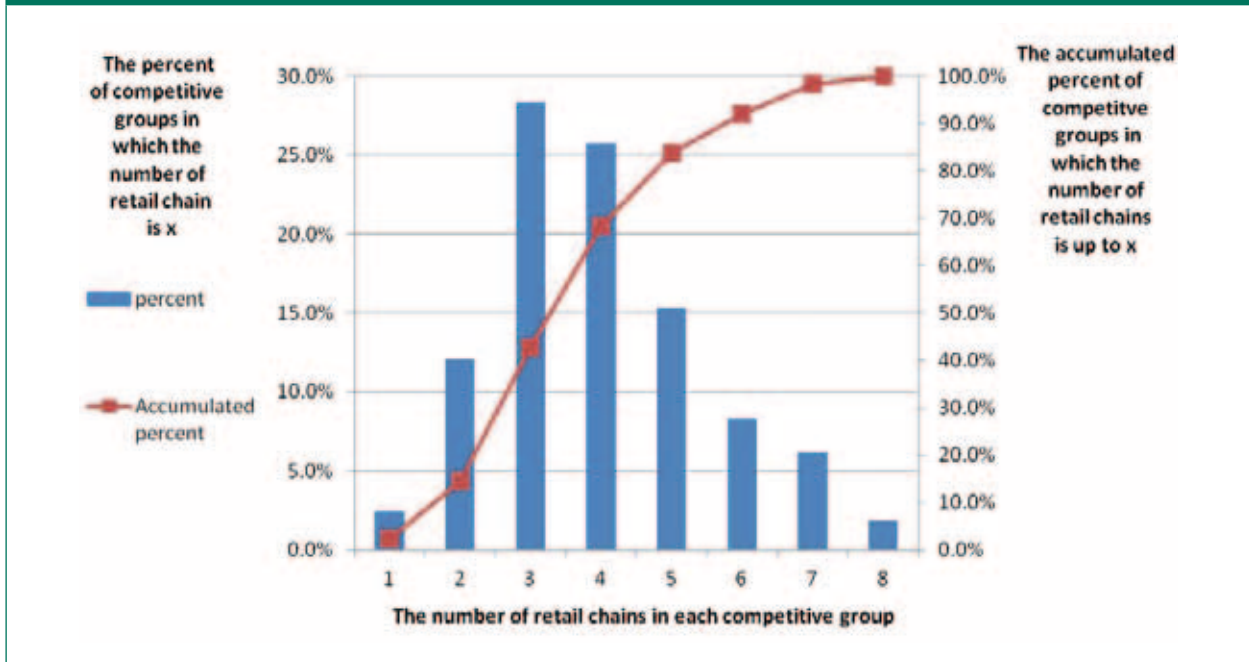
According to the model results, the geographical levels of concentration at Q2 of 2011 over 615 competitive groups⁶ are high; 35% of the competitive groups show HHI levels above 0.4000. According to the U.S. Federal Trade Commission, an HHI level above 0.2500 is considered highly concentrated.⁷ Furthermore, in about 15% of the groups there is a monopoly or duopoly. Only about 30% of the groups have more than four retail chains (including the chain that operates the examined branch).

High market concentration doesn't necessarily indicate a dearth of competition. Nevertheless, the econometric results show, consistently and significantly for all concentration measures used, that as the geographical concentration grows, competition is reduced. In other words, as the concentration in the competitive groups increases, the gross profit of the examined branch goes higher. The regression results forecast that for every decrease of 0.1000 in the HHI index, the gross profit margin of the examined branch is reduced on average by 7.4%. Furthermore, for each new grocery chain that enters the competitive group, the margin declines about 4.5%.

⁶ A competitive group for each active branch at Q2 of 2011, for 10 major retailers.

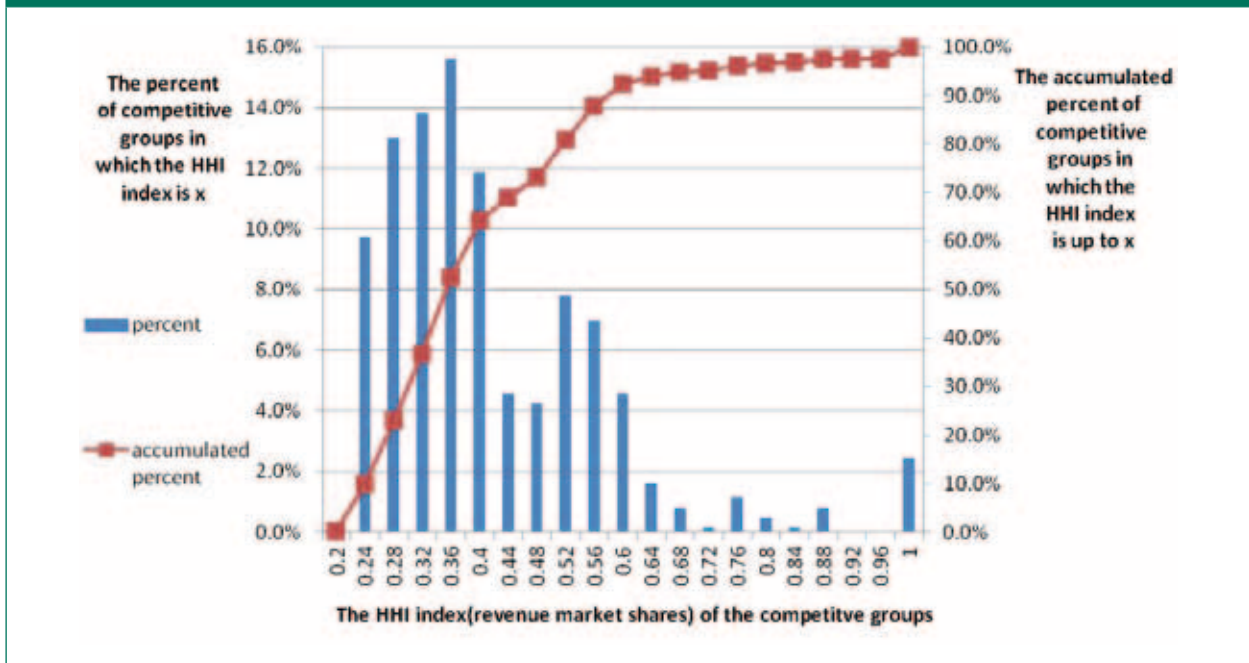
⁷ FTC's website, Horizontal Merger Guidelines, page 19.

FIGURE 2. NUMBER OF RETAIL CHAINS IN THE COMPETITIVE GROUPS IN Q2 2011



*Based on the competitive groups of the 10 major retailers.

FIGURE 3. HHI INDEX OF THE COMPETITIVE GROUPS AT Q2 2011



*Based on the competitive groups of the 10 major retailers.

To find out how high geographical concentration affects consumers, several simulations were applied, all of which assume that the levels of local concentration in 2010 were lower. Using the results of regressions, one can calculate the change in gross profit margin in each simulation for each branch. Under the assumption that the cost of sales for each branch remains constant, their new revenue was computed and the total of potential household savings was calculated for the entire nation. Table 1 summarizes the results.

It's important to understand that researchers have limited ability to assess how consumers would benefit from the scenarios in table 1. The regressions, on which the simulations are based, estimate the change in gross profit margin when all other things, except the concentration, are held equal. In reality, other variables can change as well. As a result, side effects—such as price wars or retailers pressuring suppliers to lower prices—could reduce consumer prices even more than the simulations estimate. Furthermore, because retail chains are the closest link to consumers, high levels of competition are crucial if Israelis are to reap the benefits of the Kedmi Committee recommendations. Accordingly, one can understand that the alternative cost of the high levels of local concentration, assuming Kedmi Committee proposals will be implemented, is much higher than the assessment provided by our simulations.

TABLE 1: HOW LESS LOCAL CONCENTRATION WOULD HAVE BENEFITED CONSUMERS IN 2010

Type of simulation	Total household savings (thousands of NIS, nominal value in 2010 terms)	Average household savings in 2010 NIS (nominal value in 2010 terms)
Reducing the HHI of the competitive groups to its average level in Ashdod	1,095,154	502
Reducing the HHI of the competitive groups to its average level between the Krayot and Talpiyot and Admiralty centers	863,642	396
Reducing the HHI of each competitive group by 0.1000	684,080	314
Adding rival retail chain to each competitive group	418,338	192

Principal Recommendations

- 1. Restraining the opening of new branches by locally dominant retail chains.** When a grocery chain with a large share of a local market, for instance above 50%, opens new branches, it further impedes the entry of potential rivals. A possible restraint could be a real estate limit. The entrance of new retailers into the market may improve competition and lower prices for consumers. We recommend restraining the opening of new branches by locally dominant grocery chains.
- 2. Forced sale of grocery chain branches in extremely concentrated areas.** Competition suffers when consumers in a highly concentrated market have a limited number of rival grocery chains to patronize. Each time an established chain opens a new branch, it becomes harder for a competitor to enter the market. The results showed that, at Q2 of 2011, 15% of the competitive groups were faced with a grocery monopoly or duopoly. Forcing a dominant chain to sell one of its branches could open the door to new rivals, raising the level of competition.

FELLOWS | KORET
PROGRAM | MILKEN INSTITUTE

Koret-Milken Institute Fellows Program
Beit Milken, 13 Tel Chai Street
Jerusalem, 97102, Israel

info@kmifellows.org
www.kmifellows.org