

# **Differentiation and Competition in Food Retailing: The Case of Hard Discounters**

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## **Background**

Retail food products are purchased on a frequent basis and constitute for a large share of consumers' budgets. The market structure in food retailing in OECD countries share a number of trends regarding differentiation: First, centralized chains that focus on clear store formats. Second, entry by discount retailers, i.e., international chains that operate store types with a low-price strategy. As an example, the market share for U.S. discount retailers such as Wal-Mart, K-Mart and Target was over 70 percent in 1997 (Jia (2008)). A difference between U.S. and Europe is however that the shape of the discount format is quite different. Apart from large stores, offering low prices, so called "hard discounters" have expanded rapidly across Europe in recent years. That is, rather small stores with a core focus on low prices, limited product range and service level. International chains with a hard discount profile started to enter the Swedish market in 2002 as Netto opened the first store followed by Lidl in 2003. Their entrance is frequently debated and their impact on competition is still an open question (Swedish Competition Authority (2004:2)).

Entry and differentiation link directly to competition policy through Plan- och Bygglagen (PBL). PBL is the main policy tool for evaluating new entrants and, consequently, whether new store types and/or chains are allowed to enter. For several years there has been a debate in Sweden regarding PBL's impact on local market competition. PBL is claimed to be one of the major entry barriers to the market resulting in various outcomes, e.g. price levels in different geographical markets (Swedish Competition Authority (2001:4; 2004:2)).

## **Purpose**

The purpose of this project is to analyze differentiation and competition in the Swedish retail food market. The project captures a general analysis of store type competition together with the international hard discount chains Netto and Lidl.

The project consists of two parts: In the first part, we analyze entry and differentiation in a static setting. We build on Mazzeo (2002) and Seim (2006) and use a model that allows for endogenous store type choices. In particular, we emphasize competition between large and small store types together with the new hard discount format.

From a competition perspective it is also central to consider how the market structure evolves over time. In the second part, we therefore examine entry and exit rates of different store types across local geographical markets using a dynamic framework based on Pakes, Ostrovsky, and Berry (2007). In detail, our goal is to estimate the competitive effect of an increase in the number of stores on the average profits in a market. We also estimate the parameters describing the distributions of store-type-specific sunk entry costs and sell-off values of exit.

## **Method and literature**

The relationship between market size and competition has attracted a lot of interest in industrial organization. The first part of the project links to the literature on static entry models. The early literature relies on homogenous firms (Bresnahan and Reiss (1990; 1991)), followed by extensions to differentiation (Mazzeo (2002); Seim (2006)). We provide a model of differentiation in store type, particularly focusing on the competitive effects assigned to and from hard discounters.

The second part of the project relates to research on dynamic models. The main idea is to infer how unobservables, such as entry costs and sell-off values, influence the patterns of firm turnover in order to measure the magnitude of competition from potential entrants. Our model builds on Pakes, Ostrovsky, and Berry (2007) and allows for differentiation in store type.

In the empirical implementation, we use yearly data on all retail food stores in Sweden during the period 2001-2008. We observe all stores along with their wholesaler and the geographic location of both stores and wholesalers. In addition, we use data on population, age distribution, income, wages, and house prices to measure demand and cost.

## **Results**

The results from the first part of the project show that both small and large store types compete intensely with hard discount stores. On average, small stores decrease profits of discounters slightly more than large stores. Discount stores, on the contrary, do not decrease profits of small and large stores to the same extent. The competitive effects from discounters on small and large stores are, on average, of similar magnitude. The results also highlight differences in own-type competitive effects across store types. Small and large stores compete more intensely within type than hard discounters. An additional small store reduces profits of small stores about fifteen percent more than an additional hard discounter reduces profits of discounters.

The results base on an average effect by store type for a given market size and consequently abstract from spatial differentiation. Preliminary results of differentiation in both location and store type show that the degree of competition decreases with distance between rivals and that the competitive intensity from small and discount stores decline relatively fast with distance.

Our findings suggest asymmetries in store type competition and that both small and large stores engage in competition with hard discounters. We conclude that it is central to consider not only the number of stores but also their types when evaluating the competitive impact of new competitors.

The dynamic approach in the second part of the project provides evidence of store type competition and significant differences in the cost structures for small and large types. An additional large store in the market decreases profits of large store types about seven percentage points more than for small types. The average entry cost is about two times larger than the sell-off value of exit for small stores. Small stores are negatively affected by more efficient incumbents whereas large stores incur higher entry costs due to other factors such as higher rent or cost of buildings.

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