

Final Report: Measuring Market Power in Food Retailing: A Comparative Study of Sweden, Denmark, Great Britain and Spain

The purpose of my project was to evaluate the degree of market power in food markets in Sweden and three other members of the EU, Denmark, Great Britain and Spain, focussing on a small number of food items. The plan was to obtain absolute and relative measures of the current degree of competition by analyzing how similar markets in different countries had development over time.

The intention was to measure market power in the tradition of new industrial economics, using the Bresnahan-Lau model. This approach is based on an oligopoly model that allows for the identification of market power using aggregated time series industry data. An additional purpose of the study was to develop this approach by estimating and testing the model using the Johansen procedure for cointegration analysis. Such an approach would pay close attention to the long and short-run dynamics of the empirical model, as well as to the statistical properties of the models and the variables, issues that have received relatively little attention previously.

So far three papers have been written and one is about to be finished, (I added it to the list of reports to show that it is in the pipeline although some of the empirical results are missing). All the papers are about coffee markets and they only deal with Nordic countries. There are several reasons for why I have not been able to analyze more goods and countries.

One reason for only writing papers on coffee is the small variability of the (measured) consumer prices of the other food items I have looked at. I spent considerable time to model cocoa and tea but with little success. The case of cacao powder in Sweden is illustrative. Although cocoa powder can be considered a homogenous product and the major input, the cacao powder itself, is imported to Sweden, there is a very weak relation between the consumer price and import price. The direct reason is the stability of the consumer price. As a result, a statistical approach, such as the Bresnahan-Lau model, is not useful for analyzing

these data. However, I plan to write a paper with a descriptive analysis comparing cacao, tea and coffee markets under the assumption that the coffee markets are quite competitive.

The reason that only Nordic countries have been analyzed so far is that I have had some doubts about the reliability of the coffee prices reported by the statistical bureaus in the other countries. For example, the price (index) for roasted coffee used in the Spanish CPI cannot be correct, although they do not admit that there is anything wrong with it. Fortunately I have now managed to obtain market data based on household panels from Spain, collected by ACNielsen, as well as Great Britain and Sweden. The data is monthly and includes prices and consumption. After finishing paper (4) (see References) I will use these data to make a comparative study of the three markets. A drawback is that I only have data for coffee from Sweden (provided by Gfk), so they cannot be used to study other food items.

One of the major findings of in all the papers I have written is that it is hard to detect market power in coffee markets, even though some roasters should be able to set prices above marginal costs due to branding, etc. In paper (2) I argue that if there is any market power, it is short run only. The reason is that coffee demand is not influenced by prices in the long run, that is, the evolution of level of coffee consumption is determined by other factors than the price, implying that firms do not control prices, directly or indirectly. If firms had market power, they would ensure that prices influence the level of coffee consumption. A corollary of this is that consumer prices are determined by marginal costs in the long run.

In paper (1) I find evidence of market power in the short run in Sweden, but not in long run. However, the degree of market power is very tiny, about 0.1 on a scale where 0 is perfect competition and 1 is a perfect cartel. The market power is short run in the sense that after a change in bean prices, for instance, the consumer price can be larger than marginal costs for a short period, let's say a year.

Paper (3) analysis coffee markets in Sweden, Denmark and Finland. Since coffee prices are low in Finland relative to those in Sweden and Denmark such a comparison is of interest. There are three findings worth mentioning. First, when a measure of the spread between consumer prices and import price of beans, including taxes is calculated, Denmark has the lowest spread and Sweden the highest. High VAT and the existence of a specific coffee tax seem to explain why Danish prices are high. Second, there is no evidence of market power in

any of the three countries according to the tests carried out with the Bresnahan-Lau model. Finally, there is some evidence of asymmetric price transmission; increases in bean prices lead to a larger rises in the consumer price than vice versa. However, the asymmetry is only statistically significant for Finland. Moreover, it is only short run since bean and consumer prices move together in the long run.

In paper (4) I analyze the Danish market over a long time period, 1967-2003. The purpose is to detect changes in the mark-up and to tests whether they are due to market power or other factors. This paper does not relay on the Bresnahan-Lau model but uses graphs and time series econometrics to evaluate some hypotheses. In particular, it investigates whether there are structural breaks due to institutional changes in the world market, as often claimed, and if there is asymmetric pricing, using recently developed non-linear time series models. A first complete version of this paper will be ready in a couple of weeks.

Since I continue working on issues related to the project I will send you more papers later this year. In the near future I will polish papers (2) and (3), finish paper (4), do the analysis of the household data for Sweden, Great Britain and Spain, and model the price dynamics of wheat flour in some countries. I also plan to do a paper that compares cacao tea and coffee markets in some countries.

In addition would like to mention a spill-over effect of the project. I have suggested various topics related to competition issues to students writing their final-year thesis. So far I have supervised ten theses (fördjupnings - and magister nivå) in Skövde and Göteborg.

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Reports

- 1) “Competition in the Swedish Coffee Market” Scandinavian Working Papers in Economics (S-WoPEc), No 134, Göteborg, University (2004). Presented at the 15th EC2 Conference, The Econometrics of Industrial Organisation, Marseille 16-18 December 2004. ans submitted to *International Journal of Industrial Organisation*
- 2) “Demand for Coffee: Prices, Preferences and Market Power”, (2004), memo, Department of Economics, School of Economics and Commercial Law, Göteborg University.
- 3) “Competition in Nordic Coffee Markets” (2003), memo, Department of Economics, School of Economics and Commercial Law, Göteborg University
- 4) “Are Coffee Prices Too High? Evidence from the Danish Coffee Market” (2005) memo, Department of Economics, School of Economics and Commercial Law, Göteborg University (Incomplete)