

Market Delineation of Finnish Food Market

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Abstract: Compared to other EU-countries, the consumption of fish is relatively high in Finland at 15 kg per capita. On the contrary, the consumption of meat is low. The total consumption of meat is 66 kg per capita, of which 20 per cent is poultry. During the last decade there have been several structural changes in the food industry, which have affected consumption. The food trade has been opened to international competition, as well as national taxation, and subsidy systems have been reformed. In this preliminary study we describe the current trends in food consumption and the development of food prices. The main focus of future work will be to analyse food market integration and the demand for food products.

Keywords: Food markets, Delineation analysis

1. INTRODUCTION

The food market in Finland creates an interesting case with which to examine market interactions and demand relationships as the markets for agricultural and seafood products have gradually opened to international competition. In the 1980s the markets were still strictly protected, but as a consequence of global trade liberalization, and, especially, EU membership in 1995, major changes have occurred. Inevitably, the international integration of food markets will continue. Likewise, the development of distribution channels, logistics and packages has contributed to more obvious competition between seafood and meat. Although food consumption patterns change slowly and food is closely connected with national culture and tradition, the increasing global trade, combined with effective vertical integration in the food supply chain, will cut down the significance of nationally and locally produced food. From these changes, several interesting questions arise for analysis: Are the prices of seafood and meat determined in separate markets or do they interact? Are the prices determined on the world market, or on the national level, or are there different regional markets? The markets for meat and seafood have formerly only been studied separately. In this paper we will describe the development and trends in the Finnish food market. We will also present a short introduction to previous food market research and some ideas for future market delineation and demand research in Finland, which will produce answers to these questions.

2. FINNISH FOOD MARKETS

2.1 Consumption trends

Food consumption patterns have relatively stable trends and changes in the consumption of main food products occur smoothly. After the Second World War, meat consumption increased rapidly, but since the 1970s it has been rather stable. However, the preferences in different types of meat have changed. Pork has remained the most common type of meat consumed, but the consumption of poultry has increased remarkably since the 1980s (Figure 1).

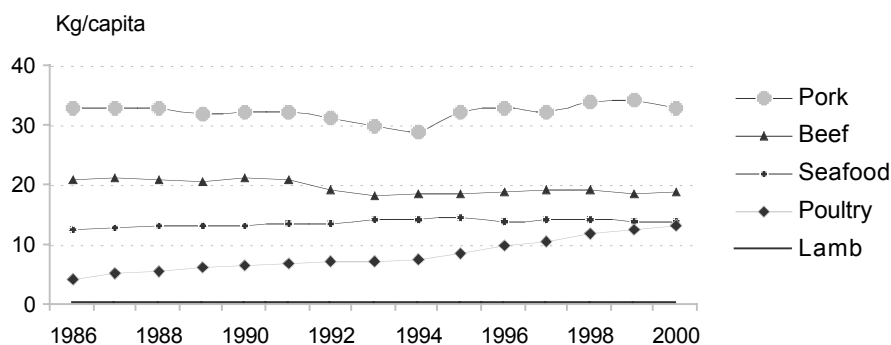


Figure 1. Annual apparent consumption of meat and seafood, kg per capita

While the total consumption of meat is low compared to other EU-countries, the consumption of fish has stayed at a relatively high level, about 15 kg per capita. The share of imported seafood has been far greater and the importance has even been increasing during the last years (Figure 2). Moreover, the structural changes in the pattern of consumption have been noticeable. The importance of the fish species caught has been diminishing as the supply of Baltic herring has been declining. At present, domestic farmed salmon trout (*Onchorynchus mykiss*) and imported farmed salmon are the most valuable fish species. The supply of other domestic fish species has remained stable; whitefish (*Coregonus* species), pikeperch (zander), European perch, pike and salmon (caught, not farmed) have a small but important role in the fresh fish market.

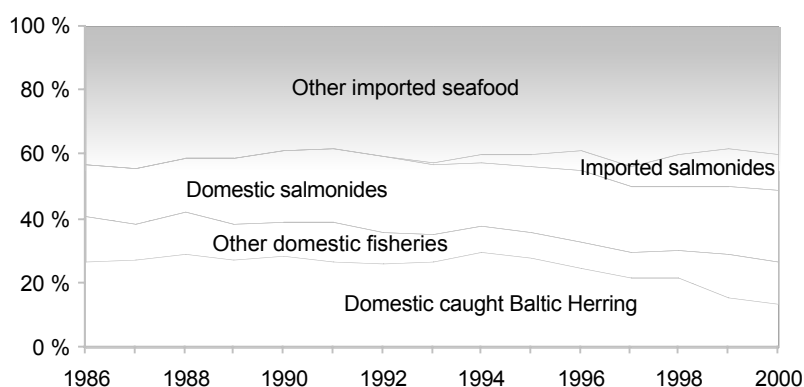


Figure 2. The development of the fish market in Finland. The total volume of the market has been about 80 million tonnes.

2.2. Trade Policy

Formerly, a strict trade and tariff policy protected the domestic food markets from international competition. The producer prices of agricultural products were determined in a political decision-making process. However, the fishery industry was not as strictly protected as other primary production sectors. The importation of fresh fish (concerning mostly Baltic herring and salmon) was restricted until Finland joined the EU, but frozen and processed fish products could be imported more freely from the 1970s.

As a consequence of the trade liberation, there have been major structural changes in the food industry. At the beginning of 1990s the trade barriers were gradually abolished and the system of subsidising primary production and the food industry were partly modified. A notable governmental change occurred in 1995 when Finland became a member of the EU and implemented common EU policy in domestic food production and food market. The government could no longer support the producer price, and the national food processing industry did no longer needed to rely solely on domestic raw materials. In spite of radical structural changes in

the food and agricultural policy, self-sufficiency in the main agricultural products has remained high (Figure 3).

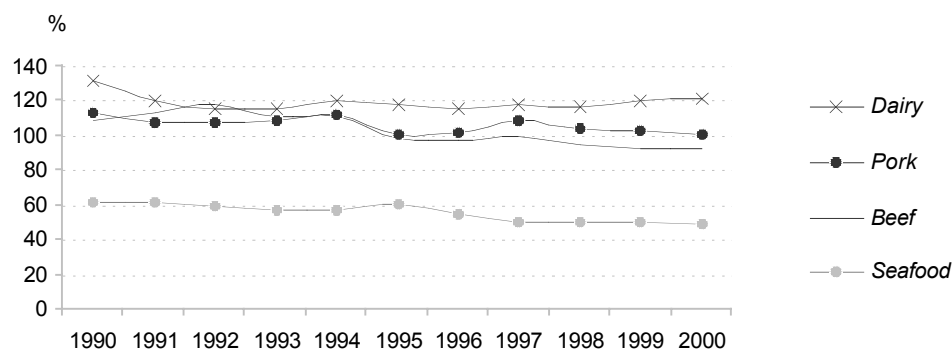


Figure 3. The self-sufficiency of the main agricultural products and seafood.

2. 3. The price development

As a result of price and trade liberalization, the producer prices of all major agricultural products decreased noticeably (Figure 4). The producer price of all fish species also came down, but the change in price level was not as substantial as with the agricultural products (Figure 5). However, the fall in the price of domestic farmed salmon trout was especially sharp because it had to face the international competition created by Norwegian salmon. The trade liberation and increased importation of fresh salmon have not had a notable impact on the price levels of wild fish species.

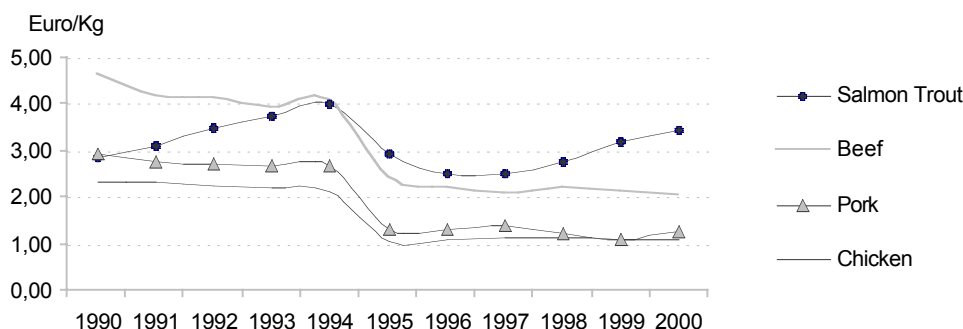


Figure 4. The producer price of the main agricultural products and domestic farmed salmon trout

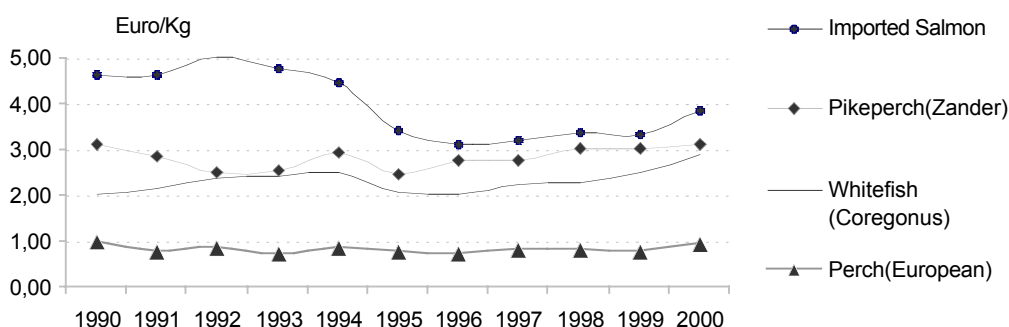


Figure 5. The price of imported salmon and wild fish

The change in producer price was transmitted to the consumer prices, i.e. the retail prices also fell very sharply. Since EU membership, the retail price of food has generally stayed lower than before membership. However, the prices of different foodstuffs have developed distinctly. The prices of beef and pork fell by about 30 per cent

in 1995, and the prices have remained at that level. In contrast, the price of salmon trout has stabilized at the pre-membership level.

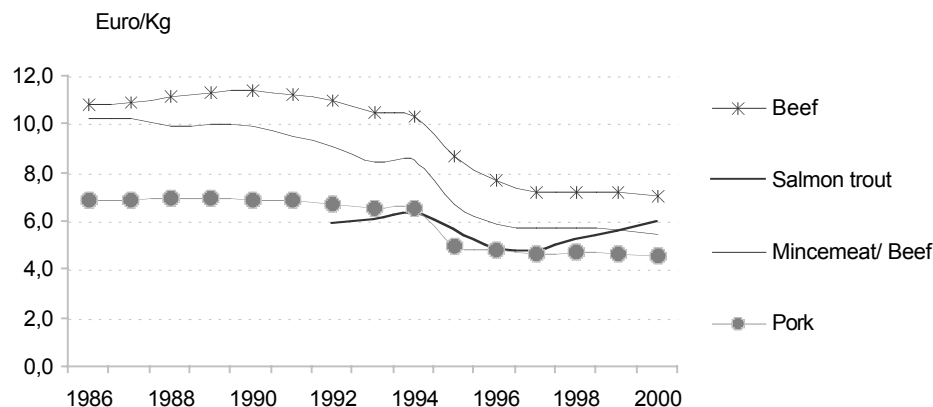


Figure 6. Retail price of meat and salmon trout.

3. PREVIOUS STUDIES AND FURTHER RESEARCH

A number of demand studies concerning food products have been conducted in various countries. For instance, Burton and Young (1992) analysed the food market in the UK. They calculated cross-price elasticities to examine substitution between fish, beef, pork, lamb and chicken. Fish was found to be neither a substitute for nor complementary to lamb and chicken. However, it appears that fish is a substitute for beef and pork, but the substitutions are very limited. Altogether, the results gave weak evidence for the separation between the fish markets and other food markets. Burton and Young applied a time-trend model in demonstrating a structural change in consumer preferences in the UK. Their study confirms the trends that have occurred in many countries: preferences for beef, pork and lamb decrease and preferences for fish and chicken increase. Huang and Bouis (2001) found that in Asia structural transformations in the economy and rapid urbanization are likely to have significant influences on food demand and drive the rapid changes in the dietary patterns.

The demand for seafood has been analysed with a different approach. Burton (1992) and Asche (1996) have examined the economic factors influencing seafood consumption. Kinnucan and Venkateswaran (1990) analysed the socio-economic, demographic and lifestyle factor. Engle and Kouka (1995) and Richardson, Shepherd and Elliman (1993) studied product-specific factors effecting on seafood consumption. According to Stinger and Sherwins (1985), two products are in the same market if their relative prices maintain a stable ratio. In recent studies, market integration has been most commonly analysed by multivariate or bivariate Johansen tests on price series. For instance, Ashce and Hanneson (1997) examined bivariate Johansen test interactions on the French market. It was found that the fresh salmon market is not integrated with the white fish markets. Turchel and Le Grel (1999) used a multivariate Johansen test for estimating interactions on the French market for farmed fish. It was concluded that imported salmon, domestically farmed mussels and trout prices are formed in separate markets. Jaffry et al (1999) have examined the own and cross-price flexibilities for high valued species landed in the UK using Johansen's multivariate approach.

However, there are only a few studies concerning the Finnish food markets. Most of them are closely related to political emphasis and are focused on evaluating the development in producers' income levels (Kettunen 1995). Moreover, the trends in food consumption are calculated, and the balance sheet for food commodities gives annually aggregated food consumption figures (Anon. 2002). Laurila (1994) has estimated the complete demand system of food expenditure and obtained projections on future consumption above the predicted post-EU period. Expenditure elasticities were found to be low for almost all foodstuffs. Moreover, there has been a consumption shift from dairy products to meat and fish between 1961 and 1991. The fish market has been studied separately from other food research. Honkanen et al. (1998) have studied seafood consumption patterns in Finland. Asche et al (2002) found that the markets for imported salmon and domestically produced salmon trout are integrated. No other analyses of market integration or demand in the Finnish seafood market have been undertaken.

At present, the agricultural food industries and the fish industry are facing increasing international competition in Finland. Compared with the agricultural food industries, the fisheries industry has been a forerunner in opening markets to international competition. For instance, the prices of domestic salmon and salmon trout are already almost exclusively determined in the world market. Also, traditionally produced and consumed freshwater fish species are facing competition from meat and other fish species, which have global markets. The co-integration analysis of fish prices offers a technique for analysing market integration. In the Finnish case, it would be interesting to see if the fish and meat markets are integrated and if the prices are now determined globally or still nationally. In the seafood market, it would be of interest to analyse whether the markets for different fish species are integrated, how the growing import of salmon effects on the markets of freshwater fish species, and whether there are still clearly separate regional markets for some fish species in Finland. Market integration analyses provide information about substitution between meat and fish species, which can be further utilised in the demand studies. Demand analyses provide useful knowledge for the Finnish seafood industry. For instance, commercial cultivation of new fish species, such as whitefish (*Coregonus* species), is at the starting phase in Finland. How does it effect on the market and demand for fish species caught in wild? These questions will be analysed in the forthcoming work.

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