

Chapter 5

Discussion

The food industry is present in each and every country and the food share of total household expenditures amounts to 10 to 14% in high-income countries and 40 to 50% in low-income countries. The global food industry is therefore one of the largest, if not the largest, industries in the world. Global retail food sales (for which data exist) exceed US\$2 trillion per annum. In terms of product development, this paper has described the food industry as being one in which:

- there are a large number of new products offered to retailers each year and inclusion of a new product almost always leads to discontinuation of another product.
- Only a very small proportion of new products were radical changes, the majority were incremental changes.
- Of the order of 75% of new products were considered to be failures.
- In comparison to other industries (e.g. electronics, bio-technology) there is a very low level of R&D undertaken.

When the economic impact of the food industry was examined, it was determined that:

- In the USA, the food manufacturing sector is influential on the domestic economy, but not providing the improvements in efficiency and productivity of other sectors, including the agricultural sector.
- In the case of Greece, data from 1980 when the economy was heavily reliant on agriculture, showed that expansion of the food sector greatly expanded all sectors of the economy. The analysis also showed that there was a much greater influence on the non-food sector from stimulating the processed food sector, rather than the raw material (agricultural) sector.
- Exports of processed foods as a proportion of total agricultural exports grew markedly in a wide range of countries up to the mid 1990's.
- There was a stronger correlation between growth in manufacturing exports and processed food exports, than there was between processed food exports and primary products exports.

It is clear that the food industry is an important economic actor in every country and that product development is a key feature of companies' strategies to remain competitive and to grow. However, it is equally clear that the product development process is dominated by incremental change (the me-too product syndrome) and a very high failure rate for new products.

A further dimension, hitherto not mentioned in this paper, is the link between diet, exercise and health and in particular the link between poor diet, inadequate exercise and non-communicable diseases such as diabetes, cardiovascular diseases, cancer, osteoporosis and dental diseases. In an economic sense, the food market has an externality in terms of the health of a population that dictates that many governments will pay very close attention to it.

To take the discussion of food product development forward, it is appropriate to take a snapshot of the current global food industry and the trends and factors driving change. The following has been taken directly from Regmi and Gehlhar (2005) with minor editing. Food suppliers are increasingly tailoring their marketing strategies to the unique characteristics of consumer demands in each market that they serve and the choice of strategy can either stimulate or discourage trade. At the broadest level, there are significant

differences between developed- and developing-country markets, and suppliers have very different strategies in serving these two types of markets.

Market size, as indicated by retail sales value, is much larger for developed countries. The United States, the European Union, and Japan together account for over 60 percent of total retail processed food sales in the world. However, market growth has generally been faster among developing countries, particularly lower-middle-income countries such as China, Morocco, the Philippines, and many Eastern European countries. The transitioning Eastern European countries, such as Bulgaria, Romania, and Ukraine, experienced double-digit growth in retail sales of many food and beverage products during the late 1990s. While sales in these markets have stabilized, Asian markets have picked up in the past few years and processed food product sales are expected to continue to significantly increase.

Consumer preferences, shaped primarily by incomes, changing lifestyles, and evolving cultural preferences, largely determine the items available in grocery stores in different markets. In developing country markets, higher incomes result in diet upgrades, with increased demand for meats, dairy products, and other higher value food products. These include packaged cereals, pasta, oils, and other items used in meal preparations. In the developed country market, where consumers already consume sufficient quantities of these items, sales growth is noted for labour-saving products, such as prepared meals. Food sales in developed country markets are also being influenced by consumer preferences for greater product variety and food products possessing specific attributes, for example, products perceived to be safer or more healthy or products produced in ways that are more beneficial to the environment and take animal welfare and equitable labour concerns into consideration.

In developed country markets, where the volume of food consumed increases largely with population growth, food suppliers can increase returns mainly by adding value to their products. This is achieved either by increasing the production of ready-to-eat food products or through producing foods with special attributes desired by consumers, such as organic foods or foods with special health properties. In contrast, in developing countries, where incomes are rising and lifestyles are rapidly changing with urbanization, growth in retail sales results largely from increased volume and, to some extent, increased sales value. As the signals from different markets are transmitted back through the supply chain, food producers, processors, and traders adapt to meet the evolving retail demand in each market. The differing adaptations ultimately contribute to changes in food trade patterns by influencing the import demand for processed food products and the inputs used in their manufacture.

Recognizing the large potential in developing country markets, food manufacturers are expanding their operations in those markets. But they have several options for selling their products; exporting is just one option and, in many cases, not the preferred one. Most foreign food sales are generated by investing abroad and processing in foreign markets. The choice between exports and FDI depends on the type of products sold. Products that do not undergo major changes from their basic commodity forms through processing (known as land-based products⁵), such as rice, wheat flour, meats, and fruits and vegetables, are less suited for FDI because their production is limited by specific growing conditions. For these products, processing generally takes place close to the location of primary production. Processed land-based products, such as fresh or frozen meat, frozen and canned fruit and vegetables, and dry milk powder, can be exported to foreign markets. Production of manufactured foods is less location specific because technology and capital are mobile in the world food economy. Through FDI, food manufacturing can expand to another country to satisfy the demand there. Therefore, land-based products tend to be traded far more than manufactured packaged products, and account for over 75 percent of the total value of U.S. processed food trade.

⁵ Products for which production largely depends on land and other geo-climatic factors

The largest firms, based in Western Europe and the United States, are expanding their sales in numerous foreign markets to maintain growth, while growth in the home markets stagnate. Some firms, such as Nestlé, Kraft, and Unilever, already operate in over 140 countries. With young, growing populations in Asia and Latin America driving sales in baby foods, milk-based products, bakery products, and confectionery, it is no surprise that manufacturing firms are expanding to supply the emerging large-scale supermarket chains in these regions.

Growth in large-scale retailing in the developing countries has coincided with new investments by foreign food manufacturers. In 2002, Heinz expanded its plant capacity by 15 percent in China and opened a new plant in the Philippines. The Kellogg Company now has manufacturing plants in China, India, Japan, South Korea, and Thailand for supplying retail chains in Asia. PepsiCo, the second-largest U.S.-based food company, is continuously extending its geographical reach with its extensive international marketing arm in snack foods, currently focusing on Latin America and Asia-Pacific. The French-based Danone Group is developing a stronger presence in Africa and the Middle East through investments in fresh dairy and bakery products.

Smaller companies with a narrower focus are also looking for new markets across national boundaries. Italy's popular confectionery company, Ferrero, is expanding operations in Asia-Pacific and Eastern Europe. Confectionery manufacturer, Wrigley Jr. Company, and the Fonterra Group of New Zealand, a dairy company, have also expanded operations and currently sell their products in over 140 countries.

Whether multinationals' operations in foreign markets promote or inhibit food trade depends on the individual products sold in these markets. Depending on transportation cost savings and the ease in customizing to suit consumer needs and provide quality assurance, consumer-ready food products may be manufactured in local markets through FDI. This in turn can generate trade growth in the raw commodities used to manufacture the final food products. Ultimately, however, suppliers' decisions whether to locally source or import products is also influenced by the rules governing trade in these products. One of the main accomplishments of the 1994 World Trade Organization (WTO) Agreement on Agriculture was to subject agricultural trade to stronger international disciplines, leading to a general reduction in agricultural tariffs. However, tariffs on agricultural products remain relatively high and vary considerably across both countries and products. Many countries impose low or no duty on many products, but maintain very high tariffs, often in excess of 100 percent, on import-sensitive products. Barriers to trade in processed products are often more restrictive than on raw commodities. Tariffs on average are greater on processed products than on their less-processed forms, a phenomenon known as *tariff escalation*. Analysis of tariff data from 22 countries indicate that the average tariffs on fully processed products exceed those on primary products, with differentials ranging from 2 percent for the United States to over 40 percent for Turkey. Over the entire group, the average tariffs range from 30 percent on fully processed goods, dropping to 20 percent on horticultural products, 18 percent on semi-processed items, to 17 percent on primary products. As an example, most countries have no tariff on raw cocoa beans, with the exception of Australia, which has an *ad valorem* tariff equivalent of 1 percent. However, as one moves up the processing chain, *ad valorem* tariff equivalents tend to increase, with tariffs on chocolates and other cocoa products ranging between 15 and 57 percent. Similar examples of tariff escalations exist among many other commodity sectors, including coffee and oilseeds.

In addition to tariffs, countries have numerous other instruments at their disposal to regulate the flow of imports, such as the various trade remedy measures. For example, imports can be reduced for limited periods through *antidumping* and *countervailing* duties and *safeguard* measures that allow temporary actions when imports surge. Available data show that WTO member use of trade remedy measures on agricultural products has risen, especially on processed food products. Of the total 76 antidumping and countervailing duties present worldwide on agricultural products in 2002, 43 were on processed food

products and only one was on a basic agricultural commodity, the remaining consisting of semi-processed and horticultural products. Similarly, safeguard measures have also been used predominantly on processed food products. The presence of tariff escalation and increased use of trade remedy measures on processed foods suggest that countries are seeking to capture value-added locally and implement trade regulations that encourage imports of relatively less-processed agricultural commodities. While this has undoubtedly contributed to slower growth in trade of processed food products, trade flows are also shaped to a growing extent by the changing dimensions of the global food industry. More integrated supply chains that locally customize products to meet regional consumer preferences may encourage trade of less-processed agricultural commodities over trade in processed food products. Therefore, even as the food industry becomes more global with the same multinational retailers and manufacturers operating across the world, food demand is being increasingly satisfied at the local level where food suppliers are better able to meet specific demands of local consumers.

The foregoing further emphasises the importance of food product development as the food industry adapts to the changing global environment in which it operates. It also stresses that food product development is not a concern only for high-income markets as the focus on meeting specific market needs is encouraging the manufacture of food products closer to the market. If food product development continues to be important for individual companies and economies as a whole, yet new food products have a high failure rate, it suggests a need for action.

The importance of the development of value-added food products was further highlighted by the OECD-FAO outlook on agriculture (OECD 2005) in which it was reported that World agricultural production is projected to continue to grow to 2014 but at a slower pace than in the last decade. Broad-based economic growth in both OECD and non-member economies and moderate population growth will lead to higher per capita incomes and consumption gains world-wide, but particularly in developing countries. Rising demand will provide the foundation for an increase in agricultural trade over the projection period. However, competition in global commodity markets is expected to intensify as production expands in many countries.

To advance work in relation to innovation in the food industry and specifically in the area of food product development three questions arise: first, what actions can individual companies, or the private sector as a whole, take to improve food product development? Second, what can the public sector within countries do to create an environment that might engender more successful product development and can it better leverage from existing investments in food sector R&D? Third, what can multilateral organizations do to assist individual countries or geographical regions to add value to agricultural products through food product development?

It is anticipated that the formulation of answers to the questions above will raise many other questions. Consideration of the following, *inter alia*, may contribute to the answers:

- can the research and academic communities contribute to programmes that can build the capacity of the food industry to achieve higher success rates in food product innovation?
- What national policies support the food industry in its efforts to develop new food products? At the micro-level, how important is the linkage between public sector research and individual company food product development? Do awards and prizes for food industry innovation play a role in providing a profile for successful small companies?
- How does the movement of financial capital, knowledge and personnel complement the role of international standards in the capacity of multi-national and national food companies to innovate?