PAPER

FUNCTIONAL FOODS: TRENDS AND DEVELOPMENT OF THE GLOBAL MARKET

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ABSTRACT

In the functional foods market, the products targeting health and mental well-being have prompted the food industry to increase research and development of these new foods.
Despite the uncertainties of existing regulations, outlining the context of a rapidly expanding market in main countries.
This paper provides an overview of the current situation of the global market of functional foods. The objective of this analysis is to determine whether, and in what way, the field of functional foods can actually be an opportunity both for food companies, in terms of economic benefit, and for consumers, as an opportunity healthy products.

Keywords: consumers, consumption trends, functional foods, health claims, market

1. INTRODUCTION

Since the early 21st century, our society has been witnessing a continuous increase in life expectancy and, at the same time, greater attention to quality. Consumers are increasingly concerned about their health and pay more attention to their lifestyle and the healthiness of their diet (SZAKÁLY *et al*., 2012).
The increase in demand for such foods can be explained by the increasing cost of healthcare, the steady increase in life expectancy, and the desire to improve their quality (SIRÓ *et al*., 2008).
There is no official definition of Functional Foods (FFs) common to all States, but the EU-project "Functional Food Science in Europe" (FUFOSE) gives an appropriate working definition: "A food can be regarded as 'functional' if it is satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way that is relevant to either an improved state of health and well-being and/or reduction of risk of disease. Functional foods must remain foods and they must demonstrate their effects in amounts that can normally be expected to be consumed in the diet: they are not pills or capsules, but part of a normal food pattern" (HAWKES, 2004).
Functional foods in addition to the nutritional characteristics have properties that affect positively on one or more physiological functions. This feature is related to the bioactive compounds and also depends on the various technological treatments applied to food (ARVANITOYANNIS and VAN HOUWELINGEN-KOUKALIAROGLOU, 2005). The most important challenge is to ensure that the functional ingredients will survive and remain "active" and "bio-available" after the processing and storage (DAY *et al*., 2009).
In some cases heat treatments can generate an enhancement of antioxidant activity which is associated with the formation of brown coloured melanoidins (MANZOCCO *et al*., 2000; DI MATTIA *et al*., 2007).
The beneficial effects on the body can be attributed to both the functional molecules naturally present in foods that the compounds added to the industrial food matrices. An extensive line of research is focusing on the genetic modification that will expand the options for the enrichment of foods with novel ingredients or existing ones modified (KATAN and DE ROOS, 2004).
The main substances that give the characteristic of "functionality" to the food are vitamins, flavonoids, fiber, omega-3, minerals and bacterial cultures (KESERVANI *et al*., 2010).
Functional foods are the first to bear health claims. According to the Codex Alimentarius, a claim means "any representation which states, suggests or implies that a food has particular characteristics relating to its origin, nutritional properties, nature, production, processing, composition or any other quality". The two main types of claims regard: (a) what the food contains, i.e. nutrient content claims and comparative claims and (b) what the product does in terms of health, well-being and performance, i.e. health claims (RICHARDSON *et al*., 2003). These health claims have become a means to communicate to consumers the health benefits of foods that contain specific formulations, conveying relevant information that would otherwise remain unknown.
Communication has a great impact on consumers' knowledge and attitudes (VERBEKE, 2008). Health claims are key factors for the development of the functional food market. They play a central role in driving purchase decisions, and help consumers make more informed food choices, especially if the product is made of new ingredients or performs actions beneficial to health that are poorly understood (ANNUNZIATA and VECCHIO, 2012). Consumers' purchasing decisions are influenced by many factors. Some studies have shown, for example, life satisfaction and age influence the choice of functional foods (CARRILLO *et al*., 2013). These new trends have dramatically changed the industry. Food companies are investing in this sector, with new marketing and communication strategies

and changing their food innovation process. The market for functional foods is dynamic and growing. Japan, the homeland of the FFs, is a leader in the field, followed by the United States and Europe (BLEIEL, 2010).
This article presents an overview of global markets for functional foods, in order to have a concrete vision of the evolution of this market over time.
The aim is to identify which areas are more prone to the development of this market, paying more attention to those countries that contribute significantly to the growth of this sector.

2. CONSUMER ACCEPTANCE AND MAIN SEGMENTS OF FUNCTIONAL FOODS

The growing demand for healthy lifestyles is becoming an important factor for consumers. Some studies have found a number of variables affecting the consumption and purchasing habits of consumers. These are the degree of healthiness of their diet the existence of special needs related to problems of health and nutrition information on the label (ANNUNZIATA and PASCALE, 2009).
The agro-food companies have responded to this new trend and have developed a growing variety of new products with instructions and pictures related to health: functional foods.
It is not easy to understand the level of knowledge gained by the consumer in respect of these foods and the reasons behind the decision to buy/not to buy.
Some studies have identified the main factors that influence the consumer's decision to purchase.
Authors divide these factors into three groups: consumer characteristics, purchasing situation and product characteristics (BRÖRING, 2010). Other studies distinguish among sensory attributes of food (e.g. aroma or texture), physiological (e.g. hunger or appetite) and psychological factors (e.g. mood, beliefs or attitudes) (STEIN and RODRÍGUEZ-CEREZO, 2008).
Another study has suggested the main trends that drive the success of functional foods, such as: age, sex, education and demographic changes (URALA and LAHTEENMAKI, 2007), the containment of health care costs (MILNER, 2000), media, access to more information, nutrition labeling (KOTILAINEN et al., 2006), increasing emphasis on healthy diet and global prevention of chronic diseases, innovations in food technology and brand differentiation and greater emphasis on value for money.
The high sale price of functional foods (compared to the average of the corresponding conventional food) is due to the fact that the manufacturer has to cover the high costs of production associated with the particular technologies involved in the development of the product. In addition, the manufacturer of functional foods must also invest many resources in marketing the product, as the sales of functional foods lead to good profits only if the manufacturer is able to identify the right target consumers for each specific product (BONANNO, 2012).
So even the high costs incurred in the marketing of functional foods must be covered by the selling price of such foods.
The consumer is aware of this, but some of them think that this increase is a marketing ploy of companies that leverage on the term "functional" to justify the high prices.
A considerable number of studies argues that, in general, consumers are more willing to incur expenditure for food products with beneficial effects on health (LARUE *et al*., 2004).
Four different categories of consumers that perceive and associate a different value to functional products have been identified (DI PASQUALE *et al*., 2011).

The first group represents the category of "uninformed consumers". These people mostly belong to the age group 50-64 (51%), characterized by a medium-high level of education and a prevalence of low average income. Consumers say they do not know these "new" foods and have never purchased them. They are uninformed and do not give importance to the relationship between food and health.
The second group is identified as "consumers concerned about their health". This group is characterized by people with highest average age (49 years old), with a high level of education and income. These are consumers who seem to be familiar with functional foods; they have bought them, and continue to do so. They believe that a proper diet is not enough to provide adequate health benefits and that it is necessary to supplement their diet with concentrated nutrients or, in this context, agree with the statement "functional foods bring real health benefits".
The third group is called "conscious consumers". Their average age is 40 years with a higher level of education (63% are college graduates), and their income is medium-high. These consumers are firmly convinced of the real benefits of functional foods.
The last group includes "non health conscious consumers". They are aware of functional foods due to advertising. This group has never purchased or shown interest in these foods. Therefore, we can infer how information plays a fundamental role in the creation of preferences (in particular as regards the influence of promotional campaigns on purchase behavior).
Information search and evaluation of alternatives are the two phases that precede the purchase of a FF.
With traditional media, the consumer is increasingly aware and informed. He is able to choose what and where to buy without requesting any outside opinion.
E-commerce is a new medium of information for consumers. Before buying, he has a greater selection and availability of products (FORMAN *et al*., 2009). There is greater convenience by eliminating travel costs and enabling purchases irrespective of geographic location (CAIRNCROSS, 1997). For this reason, many companies are looking to e-commerce as a tool to spread awareness and innovation by focusing on clarity, fairness, honesty and transparency.
Functional foods are driven especially by a main segment: dairy (HILLIAM, 1998; MENRAD, 2003).
The reasons of this choice by consumers are mainly due to the strong dairy tradition of many countries, but also to the attention paid to these products. The results of the development of these skills are increasingly present also on supermarket shelves that currently provide a wide variety of functional foods. Commercially the probiotic has been adopted by almost all the major brands. Also considering the continued growth of the market in recent years despite the global crisis, it is not hard to imagine a great future for this sector in the times to come.
In addition to dairy were identified other segments: soft drinks, bakery products and baby food. These segments are followed by micro-segments such as food intolerance, diet, gut, defense, energy reintegration, anti-cholesterol, calcium and bakery healthy reintegration (NIELSEN, 2009). According to a research of the Mintel International (MINTEL, 2013), although the segment of dairy products has approached quickly to the maturity of the market, 44% of consumers are still looking for yogurt with additional benefits.

3. NUTRITION AND HEALTH CLAIMS

The history of functional foods is not very old. In 1980 a Japanese company was always more interested in the prevention of diseases related to a healthy lifestyle, out of its

awareness of the rapid aging process. This gave a strong impetus to food science and to the politicians in the food sector (ARAI, 2001).
Later, in 1991, these foods were defined by the acronym FOSHU, Foods for Specified Health Use, namely foods having beneficial effects on human health due to the presence of particular elements or the lack without of allergenic constituents.
The first FOSHU product was approved in 1993. Over 500 have been approved since then (JONES and JEW, 2007).
Most food industries have paid attention to the concept of functional food introduced by the research projects of the MESC (Ministry of Education, Science and Culture), started in 1984. In the US, special attention was given to claims that accompany the products with a functional role. Three important changes occurred in 1990, 1994 and 1997. They affected the dissemination of information to consumers about the relationship between diet and health in food regulations. The first of these is the Nutrition Labeling and Education Act of 1990 (NLEA). The NLEA allows statements on food labels that characterize the relationship of any food or food component to a disease or health-related condition. Such "health claims" must be pre-approved by the FDA before their use.
The second and probably most important, and controversial, change in food regulations was the passage of the Dietary Supplement Health and Education Act of 1994 (DSHEA). This act regulates dietary supplements as foods, not food additives, defining them as "vitamins, minerals, herbs or other botanicals, amino acids, or other dietary substances for use by man to supplement the diet by increasing the total dietary intake, including concentrates, metabolites, constituents, extracts, or any combination of the above".
To expedite the health claims approval process and thus hasten the availability of health messages to consumers, Congress enacted the FDA Modernization Act (FDAMA) in 1997. This legislation streamlines the FDA pre-approval process by enabling the use of so-called "authoritative statements" on food labels as health claims. Historically, companies that have attempted to launch a functional food in Europe have faced a variety of legislation regulating the approval of products, the kinds of nutrition information required on labels, and the types of functional and health claims that were allowed in connection with a product (BECH-LARSEN and SCHOLDERER, 2007). After a first attempt at harmonization, which has prohibited all product-related communications from attributing properties for prevention, treatment or cure of human diseases to food (EUROPEAN PARLIAMENT AND COUNCIL OF EUROPE, 2001), the situation changed. On July 2003, the European Commission proposed a harmonized regulation COM/2003/0424 on nutrition and health claims made on foods, including dietary supplements (FAO, 2007). In December 2006 the Council and Parliament adopted the Regulation 1924/2006 on nutrition and health claims made on foods. For the first time, this Regulation lays down harmonized rules across the European Union for the use of nutrition claims such as "low fat", "high fiber" or health claims such as "reducing blood cholesterol" (EUROPEAN PARLIAMENT AND COUNCIL OF EUROPE, 2006). This regulation ensures clear and accurate information based on evidence accepted by the whole scientific community. In order to bear claims, foods will need to have appropriate nutrient profiles, which will be set. This Regulation introduces a new category of claims, i.e., "Reduction of disease risk claims". This means any health claim that states, suggests or implies that the consumption of a food category, a food or one of its constituents significantly reduces a risk factor in the development of a human disease. Europe instead displays requirements for a high level of scientific substantiation. The European Food Safety Authority (EFSA) is involved in implementing the new regulation. This Authority has published the specific guidances in 2012, prepared by the Scientific Panel on Dietetic Products, Nutrition and Allergies (NDA), on the scientific requirements for the substantiation of particular health claims: post-prandial blood glucose responses/blood glucose control, weight management,

energy intake and satiety, protection against oxidative damage, cardiovascular health, bone, joints, and oral health, neurological and psychological functions and physical performance. These guidances help companies who want to submit health claims for authorization. The assessment of a health claim by EFSA is the first step in the authorization process. Only those claims, which are scientifically substantiated, will finally be authorized for use. The final approval of a health claim is the responsibility of the European Commission and Member States, based on the scientific assessment expressed in the opinion of EFSA's Panel.
Recently EFSA refused food claims from label resulting in a cut of the potential market of functional foods. In fact continues the discussion between the companies and EFSA on the process of evaluation of health claims according to Reg. (EC) 1924/06. EFSA has published the scientific opinions related to the validation of two health claims (art. 13 (5) of Reg. 1924/06) and one novel food (EFSA, 2015).
The scientific opinions will now be discussed in EU committees of competence for the publication of the Regulations of the two health claims and of the novel food.

4. WORLD MARKET OF FUNCTIONAL FOODS

Describe the functional foods market is very complex because there are many factors that affect the industry. In general, Fig. 1 shows a graph since divided into four quadrants that identifies the main areas of high/low risk and a high/low growth in terms of potential investments. Brazil, China, India, East and Southeast Asia are the most attractive regions from the growth and risk viewpoints. They are countries with competitive economies. Other developing areas that is the Middle East and North Africa are less attractive due to higher risk.
The market of functional foods is growing rapidly and is highly dynamic. In many ways it may even be characterized as an experimental environment (BECH-LARSEN et al., 2007).
The increase in life expectancy, resulting in an increase in the number of the elderly and the desire for an improved quality of life, as well as the increasing costs of health care, has stimulated governments, researchers, health professionals and the food industry to study how such changes can be managed more effectively.

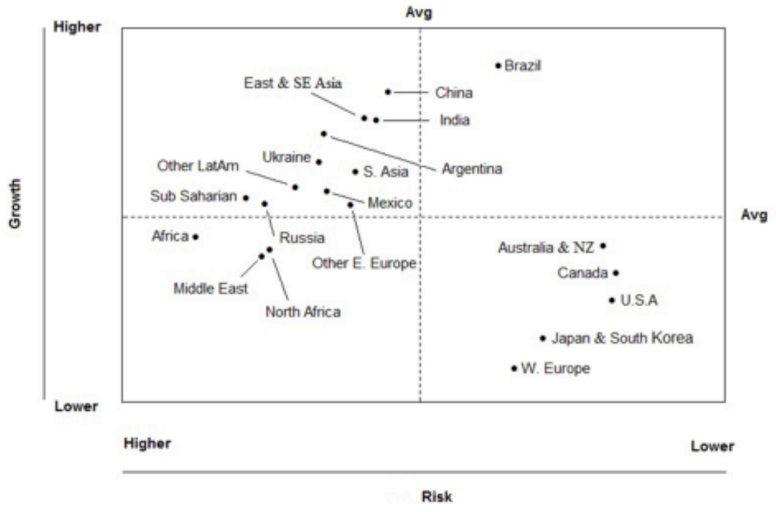

Figure 1: Large emerging markets - Brazil, China, India and South-East Asia regions are most attractive (McKinsey-IFAMA Agribusiness & Food Survey, 2012).

It is difficult to have a precise estimate of the data on the total turnover and the volume of functional foods sold.
Some experts have observed the global market for functional foods and were able to give estimates of revenues over the years.
A study, for example, has estimated that the global market of FFs varies from US$ 33 billion (HILLIAM, 2000) to US$ 32 billion (URALA and LAHTEENMAKI, 2004). In 2002, Sloan estimated a growth to US$ 47.6 billion (SLOAN, 2002). Other estimates indicate a total global market value of functional foods in the range of US$ 34 billion in 2004 to US$ 73 billion in 2003 (KOTILAINEN et al., 2006), and of US$ 81 billion in 2005 (JUST-FOOD, 2007). In 2010, Euromonitor estimated the value of the global market for functional foods in US$ 168 billion, that is 2.5 times the size of vitamins and dietary supplements market (EUROMONITOR, 2010a). Moreover, the growing desire to use food to help prevent chronic diseases (KHAN *et al*., 2013) has led to a rapid growth of the food industry, with a compound annual growth rate of 8.6% in the 10 years to 2012 (EUROMONITOR, 2010b; SZAKÁLY et al., 2012).
There are three regions where sales of functional foods are concentrated: Japan, United States and Europe (MENRAD, 2003; DATAMONITOR, 2004). Williams *et al*. (2006), which indicates that the demand for functional foods within developing countries is growing, presenting a lucrative opportunity to develop domestic markets.
The demand for functional foods appears to be heterogeneous throughout different countries. The industry growth is affected by the selling price and, consequently, the average per capita expenditure globally. In 2013 Euromonitor estimated that the average per capita expenditure is around US$ 36 from country to country, reaching a maximum value of approximately US$ 272 with a worldwide turnover in the sector of approximate US$ 252 billion (EUROMONITOR, 2013). Fig. 1 shows the global distribution of functional foods market shares.
As can be inferred from Fig. 2, the main market for functional foods is Asia Pacific. Revenues for the field of FFs in Asia and the Pacific islands constitute as much as 34% of total revenue worldwide. This is not surprising, given that Japan alone is one of the main markets for FFs. The aggregate of Asia Pacific covers a vast territory, which includes the various countries where the market for functional foods is growing rapidly, as, for example, China, South Korea and Malaysia. For this reason, the revenues for the field of FFs in the Asian territory are so crucial in the world. The second largest market in the world is the North American one, substantially consisting of the U.S. and Canada. These two countries alone reach 25% of total revenue worldwide. Particularly in the U.S., the field of functional foods is a real business. Their marketing is favored by a legislative approach as well as a very permissive advertising. In addition to that the growth of the sector is boosted by the size of the territory and the population. These factors contribute to the high revenue.

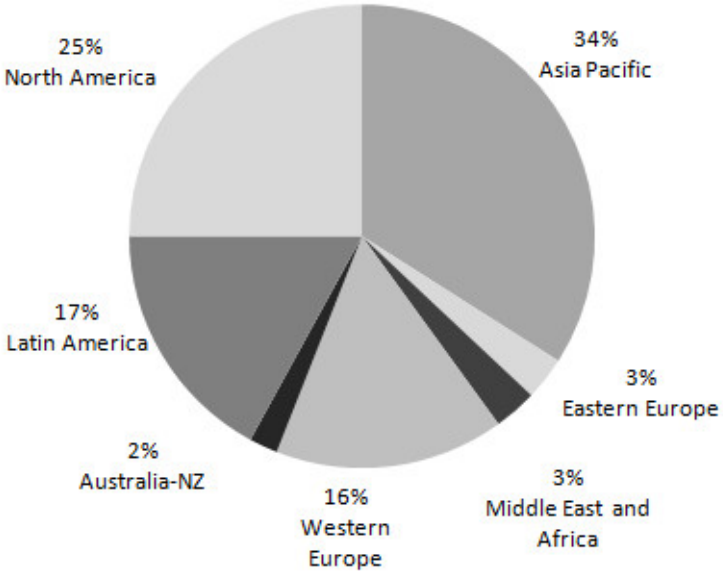

Figure 2: Percentage breakdown of total revenue worldwide (Euromonitor, 2013).

The demand for functional foods in Europe varies considerably from country to country, being affected by culture and culinary tradition (CASTELLINI *et al*., 2002).
Western Europe has a wide range of functional foods. The variety of FFs is able to meet the specific needs of particular groups of consumers. This has led to the development of a profitable market, which has been relatively stable over time, with a 16% of total revenue worldwide. The main source of revenue for the area of functional foods is the UK with 20% of total revenues which corresponds to about US$ 7.4 billion, followed by Germany with 14% and France whit 13% of total revenues, which corresponds both to about US$ 4.9 billion. Spain and Italy account for 12 and 11% of total revenues respectively, which correspond to about US$ 3.7 billion.
In Latin America, the functional foods and food production are relatively "new", but very promising. In fact, as can be seen from Fig. 2, the revenues for this sector are really high. Whereas the marketing of functional foods in South America started very recently and revenues for the field of functional foods currently make up 17% of total revenue worldwide, it can be said that Latin America is a market on which investment in functional foods should continue. From the point of view of the percentage breakdown of functional foods revenues worldwide, the markets of Australia, New Zealand (NZ), Africa, the Middle East and Eastern Europe can be considered negligible, since all together they make up just 8% of total revenue worldwide. Regarding Australia, the low revenue for functional foods is certainly due to the small size of the population and, therefore, the small number of potential consumers. As far as Africa and the Middle East are concerned, the market for functional foods is hampered by extreme poverty and socio-cultural backwardness of most of the territory, as well as by the uprisings and conflicts which unfortunately involve many countries of this vast geographic area. Let's not forget that for most of the African population there is no need to eat healthy, rather to just eat. Therefore, apart from a few rare exceptions, the market for functional foods in Africa and the Middle East is not favorable. In Eastern Europe the functional food market accounts for approximately 3% of total revenues overall and it includes some interesting countries from the viewpoint the development of the functional food market.
Russia alone, for example, constitutes 51% of total revenues for functional foods, followed by Poland, which has 17% of total revenues and the Czech Republic with approximately

9% (EUROMONITOR, 2013). On the other hand, for most of the other countries that make up the vast east European territory, the marketing of functional foods has just-timidly begun or is even non-existent. So, the market of functional foods in the East European region is very fragmented and in need of a better organization and an adequate promotion in order to foster development.

5. GLOBAL TRENDS OF THE FUNCTIONAL FOODS MARKET

The global market of functional foods in recent years is growing as is evident in Fig. 3. Steady real term growth of 7.2% is expected to continue to 2017 (EUROMONITOR, 2013).

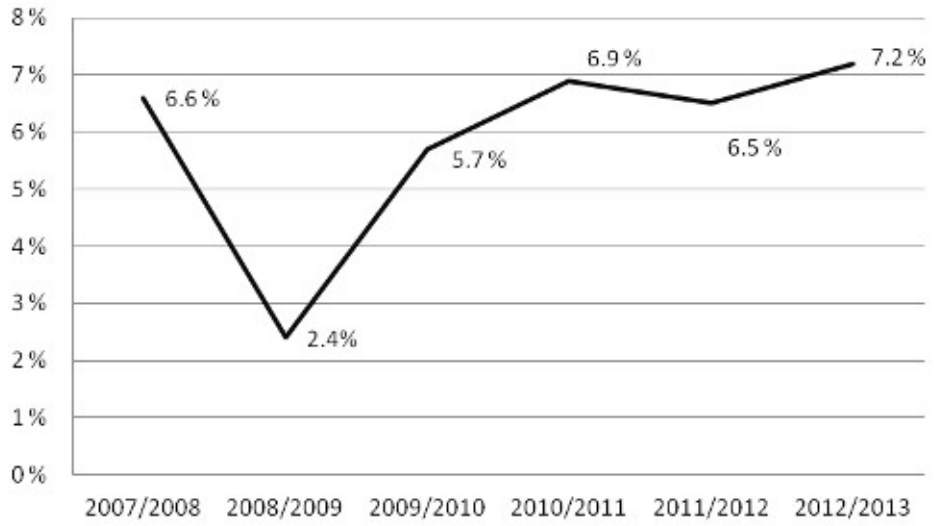

Figure 3: Growth rates of the global market of functional foods (Euromonitor, 2013).

The situation of the functional foods market varies from country to country. In order to have a more complete view of the world market, Table 1 shows the performance of the sector in terms of annual growth rate.
This boom not only underlines the dominance and maturity of the Asian market, which in 2013 recorded as many as 11.2 percentage points. As shown in Table 1, the market has been consistently strong, only in 2010-11 did it register a small decline but this has not destabilized its growth. Asia is a vast territory, led by China and Japan. Let's not forget the Pacific Islands, which contribute to the growth of the market, despite the small percentages.
The economic and social context influences this development. It was found that the increase in income guides the growth of the country. In addition, the population in Japan is aging faster than in any other part of the world. Senior consumers are more interested in maintaining a healthy lifestyle, willing to spend money on products with warranty sure to be beneficial (AGRICULTURE AND AGRI-FOOD CANADA, 2011). Several studies claim that the market for functional foods in China is expected to expand further in the near future, becoming increasingly important globally. However, the consumer markets in Asia are not fully liberalized and remain very fragmented.
Despite being the second largest market, North America sees a decidedly unbalanced trend. From 2007-08 to 2008-09 the retail value of functional foods decreased by less than 4 percentage points. The reason may depend on the economic recession that hit the United States, which has crippled the global economy. Despite this, America has recorded

positive values, reaching about 6% in 2011, but then suffered a further decline. Subsequently there was a new growth up to 4.6% in 2013.
Latin America is considered a promising region. In 2008-09 there was a slight decrease of 4 percentage points probably due to the economic crisis. From 2009 to 2012-13 the trend was positive and this does nothing but emphasize how this turns out to be potentially attractive in terms of growth and investment.
Finally in the Middle East and Africa the economic and social context make the growth of these markets difficult and unstable. However the situation is not entirely negative. There are also areas with high growth potential such as Saudi Arabia, South Africa and the State of Israel. These aggregate with Australia and New Zealand have a minimum percentage impact on the industry.
The growth trend in Eastern and Western Europe is varied over the years. Definitely better for Western Europe with a market that has established itself over time even if the growth value is lower compared to Eastern Europe (emerging market). Indeed, the latter recorded a sales boom in 2007-2008 before suffering a collapse in the ensuing year, which coincided with the global economic crisis, and a sharp recovery as early as 2010. Although the annual growth rate in Eastern Europe is higher than that of Western Europe, it must be emphasized instead as the average annual consumptions per capita are higher in this area (EUROMONITOR, 2013).

Table 1. Annual percentage growth rate in the functional foods sector worldwide (Euromonitor, 2013).

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-2013
Asia Pacific	6.2	6.3	8.9	8.1	10	11.2
North America	4.8	- 4.2	1.4	5.5	1.4	4.6
Latin America	11.1	8.5	12.8	12.9	12.4	13.1
Middle East and Africa	14.9	6.6	9.1	9.8	9.3	9.7
Australia-NZ	6.7	6.6	7.9	8.1	5.2	6.1
Western Europe	5.4	2.4	1.5	2.3	2.5	2.8
Eastern Europe	20.6	1.6	7.7	11	9.2	10.2

6. THE EMERGING MARKETS

For emerging markets there is plenty of opportunity for investment in functional foods. It provides an absolute increase of US$ 23 billion by 2017, 40% more than the growth forecast for developed markets. In the study of the functional food market, greater attention has been paid to two major countries: Brazil and Mexico. These favorable socio-economic conditions have attracted companies looking to invest in functional foods. Brazil is one of the leading countries in the production and consumption of food with a market for functional foods growing by 10% per year, three times more than the market for conventional foods. In Brazil a recent face-to-face survey to 450 consumers (DE BARCELLOS and LIONELLO, 2011) has indicated that the functional food market is incipient, but is developing rapidly with a growing interest in sophisticated and health-oriented products (EUROMONITOR, 2007). The demographic trend is one of the factors which particularly affects the growth of the sector. Brazil has a young and growing

population of 196 million people that could reach the 200 million mark by 2015. This means Brazil will retain its position as the world's fifth most populous country. The boom in the Brazilian economy is coupled with a constant improvement in the population's wealth. According to the Brazilian Institute of Geography and Statistics (IBGE), consumer income from all sources has grown, propelling many Brazilians into the middle class. The middle class has grown from 38% to 51% since 2003, and purchasing power has also risen accordingly (JERGER, 2012).

This has resulted in an increased demand for high-quality food-stuffs. Functional foods have recorded impressive growth rates.

Despite the good economic conditions of the country, the birth rate has decreased in the 2006-2011 period. The total population of babies and infants is expected to drop to 7.5 million by 2020, or by 13.4% compared to 2011. This would lead to a decrease in the sales volume of functional foods.

Similarly, the population of children between three and eight years old experienced a 5.7% decrease, from 2006 to 2011, and is expected to drop another 19.2% by 2020, the largest decline of any population segment (AGRICULTURE and AGRI-FOOD CANADA, 2013).

Despite these shrinking numbers, kids will continue to influence demand for functional foods. To counteract the increase of obesity in this target of population, healthy products such as functional products, organic food, cereals, yoghurts, dairy drinks and fruit-flavored water, will see improvements in their sales volume, as will products with less salt, low/no fat and low/no sugar.

In 2011, the target of consumers aged 18-29 years was 40.6 million, decreasing to an expected 39.3 million by 2020. Despite the decline, by the end of 2020 this segment will represent the second-largest age group in Brazil, or 19.3% of the total population in Brazil. Brazilians in this age group are seeking more ways of keeping fit. For example, through sports or performing arts such as dancing. This lifestyle is another opportunity for functional products that can supplement the needs of adults pre or post-workout. For example, consumption of fortified/functional sports drinks experienced strong growth of nearly 40% in value terms from 2009 to 2011, and sales value is expected to grow by another 55.6% from 2011 to 2015.

Finally, the target consumers aged 30-44 reached a total population of 42.9 million in 2011 and are forecast to reach 48.7 million by 2020, to represent 23.9%, or the largest age segment of the total population. This is a more mature population group with the large majority starting to have children or already having a family. Due to families and career responsibilities, Brazilians at this age have busy lifestyles and do not have much time to prepare meals at home from scratch. This lack of time in day-to-day living is expected to drive up demand within the food industry for healthy and fortified/functional ready-meals. Mexico along with Brazil influences the growth of the sector. To influence the sector is the demographic trend of the Mexican population. Middle-aged adults (40-64 years) are the most financially stable consumers in Mexico. As most have already settled down with homes and families, they have significantly more disposable income than younger generations. In addition, middle-aged consumers are the most populous demographic in Mexico. Their market dominance is expected to continue, with the number of middle-aged adults reaching nearly 30 million in 2015 and roughly 35 million in 2020. As middle-aged consumers are very concerned about healthy lifestyles, they will continue to demand fortified meals, food and drinks adapted to their age, such as skim milk, calcium-enriched foods and drinks, vitamins and nutritional supplements, as well as high-fibre, sugarless, and low fat/cholesterol/sodium products. Particular attention is given to women's health, especially during the period of pregnancy (EUROMONITOR, 2012).

A campaign carried out by the Mexican government in 2011 stressed the importance of an adequate intake of folic acid in women. This has led major companies to produce

functional foods suitable for expectant mothers (AGRICULTURE AND AGRI-FOOD CANADA, 2012). We must say that in Mexico, between 2005-2011, there has been a declining birth rate equal to 5% but this is a fact that does not affect the functional food market. The economic downturn has families save money, but not on their child's health. Although consumers continue to have fewer children per family, parents will have more resources to spend on each child leading to increased purchases of functional foods thus allowing to maintain a steady growth of the industry. In terms of sales, in 2011 Mexico totaled a record US$ 12.7 billion providing for an increase of US$ 16.3 billion in 2015.

7. CONCLUSIONS

The agribusiness sector has undergone a profound change in the last two decades. The deepening global crisis that has hit the economy has considerably changed consumers' habits and as a result, companies have been forced to revise their action plan.
Increased attention to consumer's health, has given the scientific research and business, a stimulus to develop products with therapeutic features that go beyond the role played by traditional foods. Research in this field has given a strong contribution and made sure that the food market can evolve.
These products have had an immediate success in most of the industrialized countries and in the developing ones, therefore we can say that they can actually be an opportunity both for the industry in economic terms, and for the consumer in terms of health.
Looking at the situation of the world market, the leading exponent in the field of FFs is Asia Pacific, followed by North America, Latin America and finally Western Europe. The field of "functional" food has a potential that still has to expand, but it calls for the solution of the main issues related to regulations and information aspects. Therefore, investments in the field of functional foods will prove beneficial only if specific legislation, an international collaborative approach and a direct and effective strategy for communication between producer and consumer will be developed.

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