Managing Firm Competitiveness in Global Markets

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Abstract. The globalization profile of US food firms is mixed. US sales from foreign direct investment is now over six times the level of exports, while US processed food trade balance has moved from +$9 billion in 1995 to -$7 billion in 2004. Competitive forces drive firms to seek new areas of growth, with either portfolio expansion or penetration and expansion in new markets. Although the forces that weigh heavily on a firm are recognized, their influence in determining a firm's action in choosing a particular strategy is not well understood. As the nature of food manufacturing is evolving and the operational scope of a food manufacturing firm has grown from local, to regional, national, and global, is there a new role for policy? What we do know is that a firm trades with other firms and that aggregate trade patterns do not fully reflect how firms view prospects, make decisions and factor in policies as they organize themselves for trade. Addressing the potential characterizations of competitiveness for the industry and the firm followed by the conflicting influences of R&D on competitiveness, we focus on what is meant by a global food firm with the use of the experiences of three industry case studies.

Keywords: Competitiveness, Food Manufacturing, Globalization, Case study

JEL: L2, F2, Q18

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1. Introduction

The incentives and barriers that firms and their industries face revolve around the degree and nature of competitiveness vis a vis their peers and on the impact of regulatory pressures within and between countries. The analysis of competitiveness is complicated by the increasing globalization of the food industry.

What we do know is that a firm trades with other firms and that aggregate trade patterns do not fully reflect how firms view prospects, make decisions, and factor in policies as they organize themselves for trade. Recent policy discussions increasingly emphasize microeconomic interventions and adjustments to help firms adapt to globalization. These include key channels which can impact domestic firms in the form of greater competition, technology transfer, and access to new markets, and also identification of specific micro policies that enhance the efficacy of these channels.

The overall message in many discussions is that the chosen policy intervention should clearly emphasize the importance of promoting a competitive business environment rather than initiating targeted support of any sub-sector. Various forces, such as technological innovations, public institutions, infrastructure support, firm organizational structure, and government policies can all influence competitiveness. Interactions between industry strategies, government policy and competitive forces can result in reactions in a market, and those reactions create a different environment for each firm. While the market can create winners and losers, a clear policy guide should be that selected micro interventions must be crafted to minimize distortions in the market.

The new economics of trade and growth offers some convincing evidence that falling trade costs are associated with a reallocation of resources toward more productive firms and, in some cases, may result in further productivity growth in these firms[1]. This may be the result of exposure to new technology or perhaps the result of experience. The implication is that infrastructure investment and trade liberalization, which reduce natural and man-made trade barriers, are good for firm growth.

The interaction between aspects of globalization and the growth of new technology appear to be correlated[2], while the links between these two processes is still an open question. Bernard and Jensen find that technological innovation is an important force in driving resource allocation, tending to lead to one-time level changes rather than to long-run changes in growth rates[3]. Their study also implies that interventions which promote technological innovations to lower trade costs may be better policy measures than those that target export promotions.

Competitive forces drive firms to seek new areas of growth, with either portfolio expansion or penetration and expansion in new markets. Although the forces that weigh heavily on a firm are recognized, their influence in determining a firm's action in choosing a particular strategy is not well understood. Nor is the role of research and development (R&D) on competitiveness clear. Finally, as the nature of food manufacturing is evolving and the operational scope of a food manufacturing firm has grown from local, to regional, national, and global, is there a different role for policy?

This paper examines competitiveness issues and presents evidence based on food industry case studies. The upcoming section addresses the potential characterizations of competitiveness for the industry and the firm followed by a discussion of R&D's influence on competitiveness. Then we focus on what is meant by a global food firm. The next section describes the forces weighing on the three firms selected for our analysis and how these forces have shaped the competitive strategies chosen by the firms. The paper concludes with an assessment of whether there is a need for a new role for policy in the evolving global food market.

2. Competitiveness

2.1 Some definitions

The notion of competitiveness has been the subject of a myriad of indices, mostly from a business analysis perspective that define the climate for entrepreneurs and businesses to develop and expand commercial activity. At its most basic level, an economic foundation of competitiveness relates to the ability of an economic entity to create value to achieve sustained growth. This necessarily involves the ability to manage assets and processes as the firm increases the value (or wealth) of its activity through growth and productivity.

The notion of competitiveness is to present a state of being in an economy in the sense that an environment exists that can promote the activities of economic entities to achieve the potential to create value. In the case of the production and marketing of undifferentiated commodities, competitiveness can suggest the notion that there are winners and losers. When products can be differentiated and markets can grow, competitiveness is not always a zero-sum game.

From a policy perspective, there are interventions that can propel an economic entity to become and remain competitive. From a business policy perspective, investments in productive capacity and production potential are encouraged. From a government policy perspective, interventions are intended (ostensibly) to promote a competitive environment to maintain a level playing field (or remedy information asymmetries due to market failure). These interventions can be regulatory in nature or can provide or support public infrastructure and capacity.

2.2 Competitiveness: At what level?

Measures of competitiveness that are often brandished in the business news include various indices of competitiveness, many of which take into account a range of factors that are nurturing in nature[4]. The nature of competitiveness is to ensure a well-defined feasible set of opportunities and then to facilitate firms' abilities to optimize on this set of choices. The determining factors of these indices address issues of 1) technology (such as the quality of the technological infrastructure, the quality of business governance and management), 2) public institutions (such as the quality of judicial and political institutions, the role of the government budget and regulation, the burden of social costs), and 3) the macroeconomic environment (such as the openness of an economy to international trade and finance, the development of financial markets, labor market flexibility).

The story of competitiveness is not restricted to any one level, whether at the national, industry, or firm level. A stimulus for competitiveness injected at any one level will play a role radiating through all the different levels. Therefore, reactions to government policies targeting the competitiveness agenda at a particular level can be mixed. Governments are tempted to try and improve the competitiveness of their industries since a country's future prosperity depends on its growth and productivity. Countries do compete in that they choose policies to promote higher living standards. At a national level, the competition is not always a zero-sum game. However, at times, policies to encourage competitiveness, at worst, encourage protectionism and a complex set of subsidies, regulations and incentives distort how assets are distributed.

At the industry level, a definition of competitiveness focuses on the growth in returns to factors employed. The ability of an industry to be competitive supports the growth potential of firms. Factors influencing competitiveness at the industry level include the quality of infrastructure in terms of public and private sector R&D, the inter-industry competition for resources, and related government food and agricultural policies. All countries manufacture food and beverages and the growth of a country's food industry is limited by local consumer demand.

The reactions to competitiveness pressures at the industry level involve comparative advantage balances the effort (e.g., investment, R&D) allocated to each industry. However, the challenge facing an industry is to innovate in advance of pressures from competitors' offerings. Further, some resource markets can evolve such that competitive cost structures become non-competitive. A clear example of this is the legacy costs associated with labor in the larger U.S. manufacturing industries.

At the firm level, being able to acquire returns to factors of production beyond factor costs and achieving growth in profits is consistent with competitiveness. In most cases, innovation and product differentiation serve as engines for growth. The firm building platforms for future business growth, beyond what is immediately obvious, is capable of providing sustainable competitive advantage.

Factors influencing competitiveness at the firm level include the quality of the technological infrastructure (relating to some extent on both private and public R&D) and the quality of business governance and management. Firm-specific factors play an important role that include its location, expectations about how its business should evolve, its history, its organizational and governance structure, and past investment decisions. Government policies and incentives, market incentives and the economic climate necessarily influence all firms similarly. However, when two companies compete directly, one's gain is the other's loss.

3. R&D and food industry competitiveness

Relating a firm's capacity to be competitive to research and development (R&D) is unclear. From a supply-side, at the firm level, firms with a greater capacity to innovate can be more flexible to adjust product-line strategies and find cost-reducing processes. At the industry level, the level of R&D can impact the ability of that sector to attract resources to the sector. The R&D picture for the US food manufacturing sector is unimpressive with 0.7% of sales (ranked 39 out of 42 subsectors) and rated as one of 10 sectors with the weakest R&D growth. [5a] Relative to European rivals, the U.S. R&D pattern is near the average for the group presented in Figure 1.

From a R&D demand-side perspective, the R&D gains in one sector may lead to redirecting R&D directions in another sector (eg, genetic engineering leading to biotechnologies). Even when we restrict analysis to one sector's R&D and productivity growth, it is clear that initiatives to engage in R&D may arise from a need to enhance productivity growth. However, productivity growth implies resource use decisions affecting the quantity of resources available for investment in R&D, in particular, and activities, in general. Baumol and Wolfe point out some dynamic disincentives of R&D[5b]. When R&D succeeds in increasing productivity growth, it automatically increases its own relative costs in comparison with production cost leading to a reduction in the financial incentive of the R&D investment. Thus, the success of R&D activity serves to undermine its own demand. Unfortunately, the more impressive the record of past success of R&D activity the more strongly it tends to constrain private demand for R&D. In addition, autonomous levels of R&D expenditures maintained at significant levels that are unresponsive to budgetary pressures facing the private providers of R&D tend to discourage a strong presence of the private sector R&D. The private sector can free-ride off the autonomous R&D activity in times of budgetary pressures implying the private sector will not reinitiate its R&D efforts until well after the financial pressure has lifted. Periods of sluggish productivity growth may be a foreseeable consequence of the incentive mechanism for R&D.

4. What is global?

Globalization feeds the level of competitiveness as it relates to faster communication, improved transportation, increased flows of goods and services, labor mobility, and rapid financial flows. The dimensions of world food commerce involve the physical movements in products that can be local, regional, or global. It is also characterized by the invisible movements of financial flows and control of foreign assets through foreign direct investment.

Competition in global food markets is a re-emerging issue of national interest in the United States. An open question is whether U.S. firms are becoming more global or regional? Recent evidence presented for U.S. manufacturing finds firms are increasingly sending a greater number of products to a larger set of diverse countries and the trading firms are becoming increasingly more import and export-extensive[6]. But in the end, only one percent of all manufacturing firms account for approximately 80 percent of all the trade in 1993 and 2000.

While the volume of US processed food trade grew dramatically between 1990 and 1995, U.S. exports have been relatively stagnant since 1995. However, regional trade with NAFTA partners has nearly doubled over the same period, somewhat compensating the decline in trade with Japan. U.S. processed food trade with EU and the rest of the world have been stagnant over the last 10 years.

Foreign direct investment patterns of U.S. multinational food firms reveal that this investment is increasing in high wage countries while the pattern is fluctuating in low-wage countries (Figure 3). However, emerging markets in low-wage countries are becoming major food exporters, and suppliers from these markets are providing competition to U.S. firms. The reluctance of U.S firms to invest in the lower-wage countries may be attributed in part to a risk reducing strategy by leveraging local market knowledge and establishing arms' length transactions through outsourcing. In some regions of the world, US firms can be at a product and brand name disadvantage as the present day vestige of colonial footholds can favor British and French firms in their former colonial territories. While this approach emphasizes short- to intermediate term cost savings, it places US firms back in the pack when it comes to future competitiveness in these markets.

As multinational food firms grow, they focus on either diversifying the product lines or expanding geographically. Figure 4 presents the case of 14 food firms and finds that only two of these firms (Fonterra and Wrigley) focus almost exclusively on geographical expansion for growth, while most others focus more heavily on product diversification. The firms that are larger (as indicated by the size of the bubble for that firm in Figure 4) focus on both product diversification and geographical expansion.

5. Examining competitiveness from the ground level: Three cases studies

A review of the aggregate perspective presents a paradox in terms of how well firms are performing. For U.S. food manufacturing firms, sales from foreign direct investment (FDI) is now over 6 times the level of exports ($185 billion vs. $29 billion in exports). As FDI sales overseas have grown, US food imports have also increased and imports now exceed exports for processed food. US processed food trade balance has moved from +$9 billion in 1995 to -$7 billion in 2004[7]. However these numbers may not necessarily indicate that US food companies are losing their competitiveness in the global market.

To address this contrast, we undertake an examination of competitiveness in the U.S. food industry by focusing on case studies of three firms. Leaders in their home markets, these firms are H.J. Heinz (a large public company based in the U.S. that markets around the world), Snyder's of Hanover (a medium-sized privately held company) and Fonterra (a large international cooperative based in New Zealand).

5.1 H.J. Heinz and ketchup

H.J. Heinz is a leading manufacturer and marketer of branded food globally and has a competitive presence in condiments, sauces, ready meals, soups, and baby food. With the first or second brand for products in over 200 countries, Heinz has focused on 15 power brands globally of which ketchup is one

of Heinz's leaders. Heinz ketchup is the top ranked brand of ketchup sold worldwide with share that is 3.5 times that of the second-ranked brand (Unilever).

Heinz's strategy is to take a global perspective in looking for growth and profits. It sees innovation as the key driver of growth while simultaneously looking to eliminate inefficiencies by squeezing out costs with improved tracking and procurement systems as well as eliminating slower-growing lower margin activities that are not contributing to its core set of brands. In looking to the global market, Heinz is focusing on creating business alliances with 17 business agreements created in 2004 with four specifically focused on the Asia-Pacific region. It is establishing a presence in new markets globally by having retailers pull Heinz along with their expansion. When a U.S.-based fast food chain opens in China, that chain serves Heinz's brand ketchup as a condiment. Already established in food service, Heinz looks to maintain its presence as the food service experiences rapid growth.

To its credit, Heinz maintains the most efficient ketchup manufacturing technology in the world with its plant in Fremont, Ohio capable of producing all of its needs globally. With the top-ranked position in North America (61% market share), Western Europe (38% market share) and the world (29% market share), Heinz sits at the third position in the Asia-Pacific region with 6% market share. Heinz has been active in developing packaging innovations and promoting the health benefits of lycopene in its ketchup products. Heinz is also well-positioned to service the rapid growth in the food service market.

However, it's coverage in both Western and Eastern Europe is underperforming and it is finding its pricing power is being reduced with food retailers with the increased competition from private label, which for example is the second-best marketed ketchup in Western Europe with 13% of the market share). Private label shares account for 9.5% of all ketchup globally (6% growth since 2001).

Heinz's growth in ketchup is a classic case of a firm's potential being complicated by a constellation of agricultural policies. With sugar being 24% of ketchup (by volume), U.S. sugar policies inflate the price of sugar to the point that high fructose corn syrup is used as the sweetener in ketchup manufacture. But this substitution precludes the export of U.S. manufactured ketchup to the EU which prohibits importation of food products containing genetically modified material (which is the bulk of U.S. produced corn). This combination of US and EU policies retard Heinz's ability to extract all cost efficiencies in technology and limit trading.

5.2 Snyder's of Hanover and pretzels

Snyder's of Hanover is a nearly $400 million privately held company manufacturing and marketing snacks from two U.S.-based plants in Arizona and Pennsylvania. The primary product produced and marketed is pretzels and the company maintains a competitive presence in the U.S. almost nudging off Frito-Lay for the top-ranked position in 2004 with 28% of the market share[8]. With the snack business being one of direct store delivery, the heart of the production and marketing of snack is the extent and quality of the distribution system. A major asset from which Snyder's seeks to continually extract value is its ability to directly deliver products into over 4,000 locations, with many of the locations using its own system and the remainder partnering with other distributions. In addition, it is developing a global sales component to its activities with $20 million attributed to overseas sales from 40 different countries. All of the production exported is produced in its U.S. plants and nearly all of the exports are from one specific product line.

The Snyder's strategy has been to look for growth at home first and then look to the global markets. The Snyder's CEO describes a "Marco Polo" approach to innovation where one is willing to be educated from others. That is, pick up ideas as one travels about, keeping the good ones and then do them better. Being too small to employ a dedicated global marketing staff, their approach is to take the business global slowly.

Like Heinz, Snyder's has constructed an efficient manufacturing process that can produce pretzels cheaper than global competitors. Its cost advantage is such that it is more cost effective to produce the product in the U.S. and ship it to foreign locations and paying the duties associated with its import. In the EU, this duty includes a 30% tariff on the importation of wheat related products. Unlike Heinz and

ketchup, pretzels offer little private label competition. While the domestic market growth is lagging, there is high growth potential in foreign markets.

The key challenge facing Snyder's is that relatively short shelf life (30 days) combined with the U.S. being the base of production and the relatively high co-packing costs abroad present difficulties in expanding overseas markets. More generic concerns for pretzel manufacturers include the competition from alternative snack products and developing necessary product innovations and marketing strategies to address the negative health image of pretzels.

5.3 Fonterra Cooperative Group

Fonterra Cooperative Group is a $7.5 billion integrated global dairy company originating from the New Zealand Milk Products Board, with 100% of its sales emanating from dairy products. With New Zealand domestic consumption accounting from only 5% of Fonterra production, it has a competitive presence globally being ranked 14th among global dairy companies, with global sales in 140 countries.

Fonterra's strategy has been to grow faster than New Zealand's milk production and trade by adding value to milk abroad. With expertise in manufacturing and fractionating technologies as well as marketing dairy ingredients such as whole and skim milk powders and milk protein concentrates, they have build a global supply chain by willing to partner with competitors and tapping into the milk supply form other countries. They have been able to make these inroads by exploiting opportunities where others are handicapped by dairy policy.

Like the other two cases, one of the keys to Fonterra's success is their efficient manufacturing technologies and the ability to tailor milk ingredients to special needs of food and beverage industry. They do not need brand to sell ingredients and are well poised to take advantage of the high growth in the demand for high quality milk proteins arising from expanding uses in nutritional beverages and the property that milk proteins tend to be superior to soy proteins in many food manufacturing uses. An emerging opportunity for Fonterra is the potential for pharmaceutical products where lactose as an ingredient is growing in use and can serve as a niche market (in terms of not being a major plank in the platform of goods they currently produce and market).

Since Fonterra's technological advantages have managed to keep them as the lowest cost producer, not having branded products and dealing with undifferentiated commodities has not been a major problem to date. But the threat of competitors copying Fonterra's technology remains, as Fonterra end-product cannot be differentiated from other non-branded ingredients. With policy proposals to extend dairy protection to cover dairy ingredients being debated in Fonterra's import markets, the old system of limiting market access by raising tariffs on non-traditional dairy ingredients is another threat to Fonterra's life blood. Finally, Fonterra's cooperative structure presents challenges for finding financial support from its New Zealand dairy producers for investments abroad.

6. Coming to conclusions

The traditional role for government policy and international trade agreements is to promote the movement of factors of production, goods and services across borders; to enforce rules of operating standards and treatment of foreign affiliates as well as keeping corruption to a minimum; to design policies to support the competitive conduct and performance of markets; to engage in international trade and investment agreements; and to address trade policy (tariff and non-tariff barriers)[9]. Government interventions are generally designed to address information asymmetries in the market place generated by competitive forces. The fast pace of communication, transportation, goods and services flow, labor mobility, and financial flows accompanying globalization add an additional dimension to asymmetric information and the need for government intervention.

Hoekman and Smarzynska identify a triad of policy interventions to support firms' adjustment to globalization, namely a) competition-related policies; b) technology-related policies; and c) market-

access policies[10]. The first set ensures that markets are contestable with entry and exit, leading to enhanced efficiency. The second set addresses the absorptive capacity of a market by ensuring that innovators are able to earn a positive return on their activities. The final set of interventions ensures improved international market access of domestic firms through multilateral and regional trade negotiations. However, when technology moves faster than government action, additional concerns of market failure and information asymmetries may exist, leading to questions whether the role for policy needs to evolve in a fast-paced globalized food economy.

6.1 How do firms look to the global arena as they look for growth?

The review of three cases finds that firms are looking globally for new markets for their existing products as a means to achieve growth by leveraging the expertise and capacity to service markets beyond their domestic borders. In the case of Snyder's, the mature market for pretzel in North America is an additional driver to expand sales abroad. The emphasis is not on developing new product platforms for external markets that service future business growth.

Access to global markets is a challenge for these firms. In addition to border measures implemented by governments, unfamiliar or new marketing channels remain a challenge for all firms. In particular, Snyder's has built its business on efficient manufacturing technology and quality products that are integrated with a direct-store delivery system. When going global, they must find marketing channels to send their products where these channels have to rapidly distribute their short-shelf-life products to consumers. The shelf-life of pretzels is already at the outer bound with transportation from U.S. based manufacturing to off-shore distribution points taking four weeks. Maintaining a U.S.-based manufacturing strategy is especially constraining. The technological feasibility of producing in other countries is not a major barrier; however, the cost structure of production offers a cost advantage for domestic-based production.

Another access-related barrier facing firms is the set of regulations and policies that are implicitly focused on ingredients. With little harmony between the U.S. and EU on the use of genetically modified material as ingredients, US sugar import policy lead domestic producers to use high fructose corn syrup as a substitute sweetener but EU restricts the importation of food products containing ingredients emanating from genetically modified crops (such as corn from which begets the corn syrup). This has been of particular concern to Heinz, which is unable to export any U.S. manufactured ketchup into European markets.

6.2 What forces weigh heavily as they plan for trade?

While the three firms discussed in this paper make plans for future expansion, they find policies and regulations at home and abroad are limiting their potential for growth. This may be a natural complaint. Entrepreneurs seek to move very quickly as they see and create opportunities rapidly, switch to new opportunity rapidly, and exit poor ones rapidly. In contrast, governments tend to lag behind entrepreneurs since data gathering, processing and interpretation can require considerable time. Generally, a government's role is to remedy market failure, which by definition implies a response to market conditions resulting from firms' actions.

The sluggish adjustment of government and policy to entrepreneurial activity leads to technology moving faster than policy and testing allows. In the process, certain existing regulations may become impediments to progress. Further complicating the situation in the US food manufacturing and marketing arena is that both FDA and USDA have regulatory oversight responsibilities that can overlap and create confusion for manufacturers (table 1). Many companies have USDA inspectors in the plant but the final product is controlled by FDA (for example, frozen pizzas). Conflicting government oversight responsibilities creates confusion of firms as they plan for new products and a challenge for government, more broadly, in designing coherent policy.

Another area where policy and regulations lag behind innovations is with the Standards of Identity which identify a given food product. This includes the product name, and the ingredients that must be

used, or may be used in the manufacture of the given food product. Food standards ensure that consumers get what they expect when they purchase certain food products. These food standards prescribe minimum amounts of certain ingredients, such as meat, poultry or milk fat a product is required to contain to be identified as such; maximum fat and water contents allowed in different products; recommended methods of processing, cooking and preparation; labeling of optional safe and suitable ingredients, and/or identifying expected or characterizing ingredients. Food standards ensure that the basic nature of foods is maintained to meet consumers' expectations no matter where they buy the product[11].

Fonterra provides a case in point where Standards of Identity has not kept pace with technological innovations in food manufacturing. This concerns Fonterra's use of dairy ingredients in the production of dairy-based products. According to FDA, cheese is defined as fresh or matured product obtained by draining the whey (the moisture or serum of the original milk) after the coagulation of casein, milk's major protein. The definition of cheese precludes the use of milk protein concentrates, even though the ingredients include all milk-derived agents as ingredients. The point of contention is the use of milk proteins as an additive and the temporary solution is to refer to such cheese as a "cheese product"[12].

6.3 Is there a new role for policy for food firms facing a global market?

An emerging policy concern, therefore, is the need to shift away from a product-oriented perspective toward one that focuses more on processes and ingredients. Ingredients are figuring prominently as the linkage between products and processes, with a concomitant complication of policy issues. Currently, health and welfare related policy focuses on what ingredients are in foods in terms of negative health impacts. For example, these may be related to obesity as well as the development of nutraceuticals that promote health. But technology-related innovations that permit fractionating technologies in creating milk proteins are now creating confusion in product definitions. Similarly, the promotion of R&D related to the development of genetically modified techniques in creating new food products are now subject to regulation and trade restrictions. This highlights the difficulties with harmonizing the full range of policies to support and promote growth at the firm-level or at the sector level in food and agriculture. Namely, how far does harmonization need to flow? Dovetailing agricultural research initiatives at the state and federal level with domestic agricultural trade policy, trade policies of other nations, and the objectives of the World Trade Organization is obviously overreaching. However, is there a position short of full harmony that can offer progress?

6.4 Final remarks

Managing firm competitiveness in global markets offers challenges to firm decision makers and those in a policy making position. Firms have obligations to the owners of their assets. But firms operating in multinational contexts tend to be more complex as they produce multiple products in multiple markets, and oftentimes using multiple business units which all tend to be linked with the hook of arbitraging their inherent assets (e.g., marketing channels, branding opportunities) and knowledge (e.g., technological processes). Policy makers have other obligations as globalization challenges them with an expanding dimension of players to address in the international political and trade policy administration community. When policy makers focus on the needs and nurturing of a competitive environment in terms of institutions, infrastructure, governance and policy, in general, firms can react with their own strategies and decisions that focus more on creating value rather than exploiting artificial opportunities created by regulations. Policy makers can play an intervening role to ensure the competitiveness of a sector such as by building on the infrastructure needs to address information asymmetries.

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Table 1. Examples of FDA and USDA Cross-Oversight

	Under FDA Control	**Under USDA Control**
Meat	Frozen meats & prepared meals in freezer	Slaughtered meat
Eggs	Frozen eggs	Fresh eggs

Figure 1. R&D expenditure as percent of value added

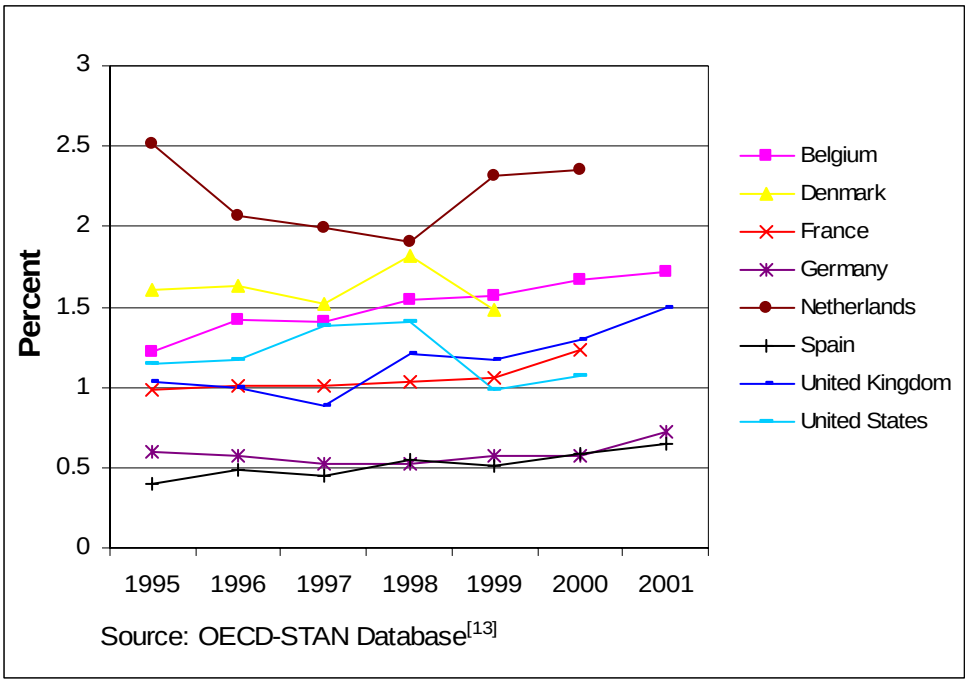


Figure 2. U.S. processed food exports are becoming more regional

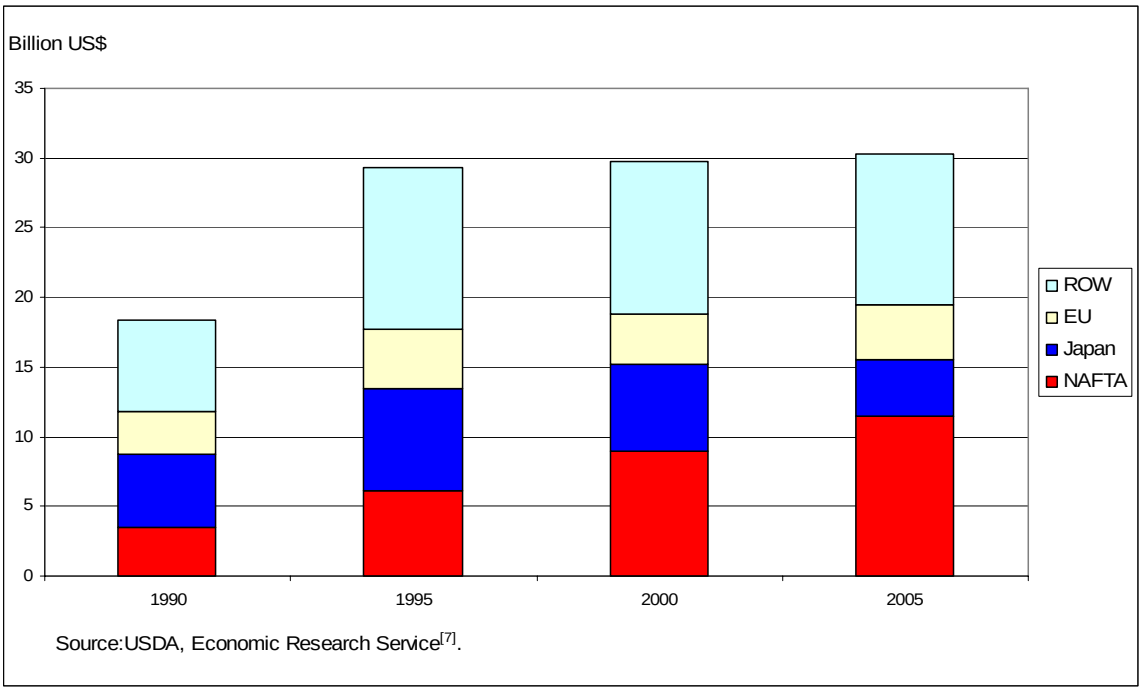


Figure 3. A small proportion of U.S. foreign direct investment is going to emerging markets

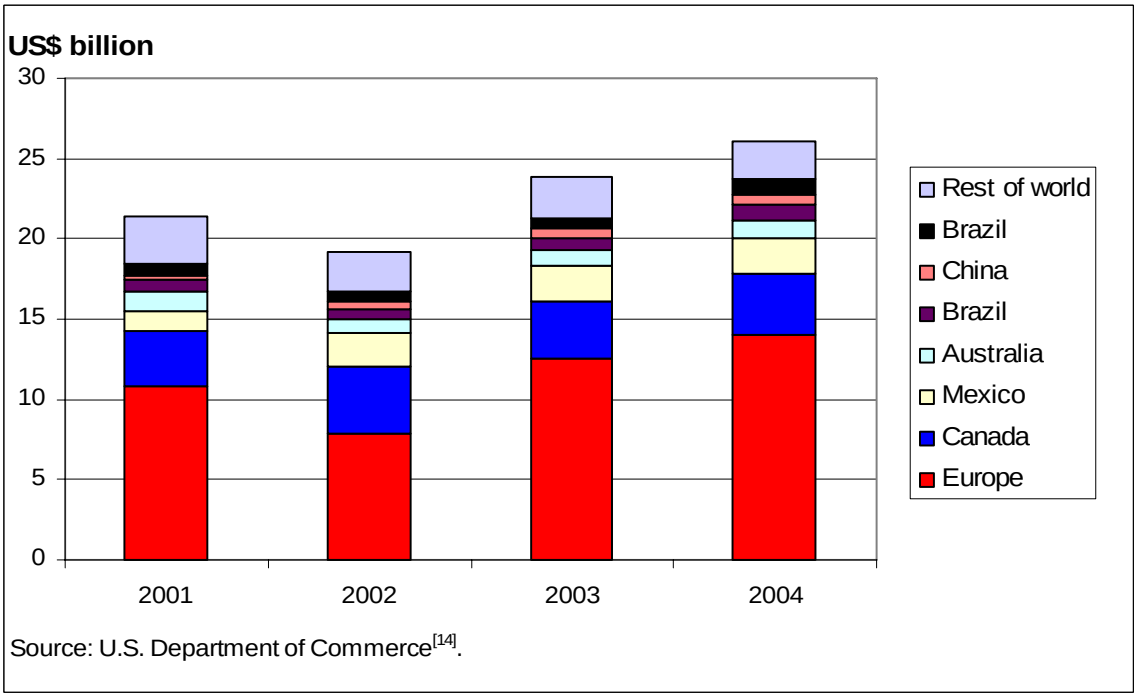
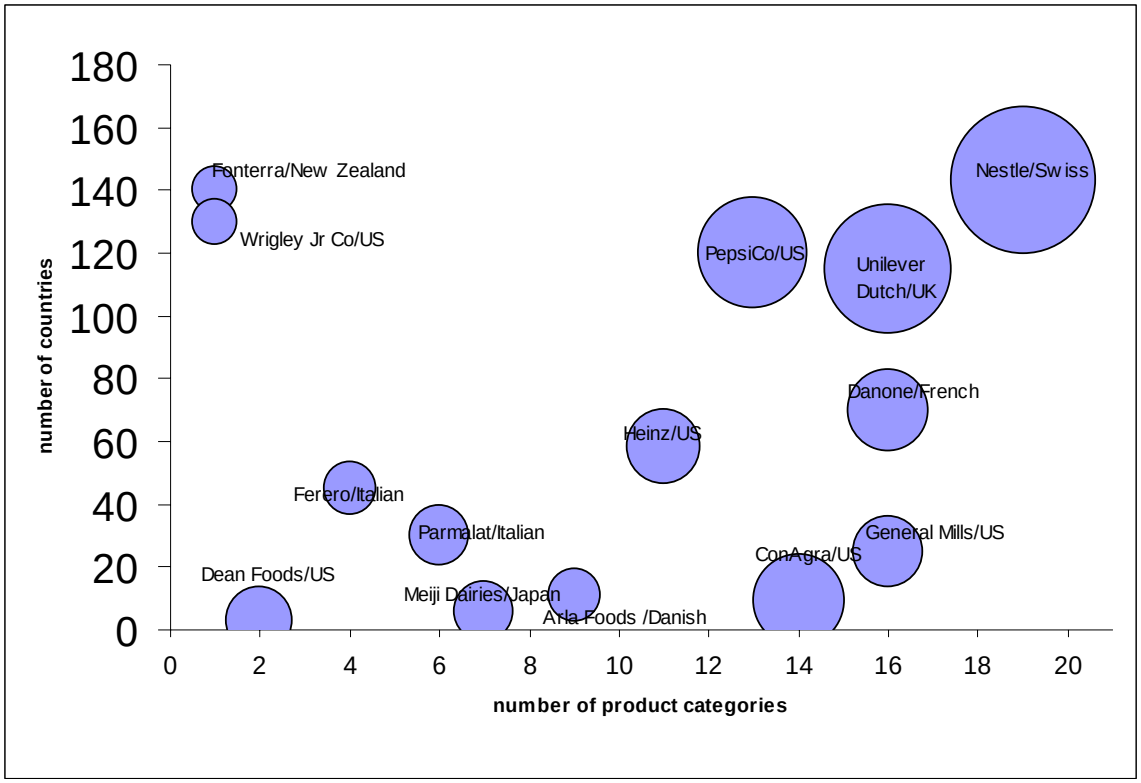


Figure 4. Firms grow by diversifying in products or expanding geographically



Source: Euromonitor[8].