

Trade, Food, Diet and Health

Perspectives and Policy Options

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Trade, Transnational Corporations and Food Consumption: A Global Value Chain Approach

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6.1 Introduction

The spread of obesity, particularly in developing countries, has been linked to economic globalisation, notably the interrelated expansion of trade, foreign direct investment and transnational corporations (TNCs). Many studies have placed local increases of obesity, and associated changes in food consumption patterns, in this global context, stressing how the availability and diversity of internationally traded food products have transformed local agriculture and food systems and, thereby, food prices and availability (see, for example, Kennedy *et al.* 2004; Lang 2003; Popkin & Gordon-Larsen 2004).

What has been lacking from this literature thus far is a detailed theoretical framework that situates why, how and what global economic processes are transmitted to the local level. This chapter attempts to fill this void by developing a global value chain (GVC) framework for the study of global economic processes, food consumption patterns and obesity. A methodology already widely used in the social sciences to understand global industry structure, GVC analysis focuses on the role of lead firms in global industries (in this case global agri-food companies, like Cargill, Kraft, PepsiCo and McDonald's), and how they interact with local-level companies. This is particularly pertinent given the attention received by TNCs as purveyors of fast foods, snacks and other highly processed foods.

The chapter first defines and describes the main concepts and methods of GVC analysis, and outlines how this approach can be used to analyse changes in food consumption patterns. It then applies the GVC framework to examine the linkages between trade, foreign direct investment and food consumption in three illustrative country case studies (China, Mexico and Trinidad and Tobago), and highlights the role of TNCs as drivers of food consumption through two company case studies (McDonald's and PepsiCo).

6.2 Concepts and methods of GVC analysis

GVC analysis examines the actors and mechanisms that shape and transform global economic processes and various types of inter-firm relationships (see the Center

on Globalisation, Governance, & Competiveness global value chains web site, <http://www.globalvaluechains.org/concepts.html>). It seeks to identify why and how an industry is globally organised, how local economic processes are conditioned by global arrangements, and where change is most likely to happen (Gereffi & Kaplinsky 2001). GVC analysis incorporates the full range of activities of lead firms and their suppliers to bring a product from its initial conception to the consumer; these activities are spread far and wide across geographic space and yet have profound consequences at the local level. Such activities impact jobs, technologies, standards, regulations, products, processes and markets in specific industries and places (Gereffi 2005; Sturgeon 2009).

GVC research has its foundation in world-system theory, which posits that countries are located in the core, periphery and semi-periphery of the global economy, with their position reflecting their development capabilities (Bair 2009; Gereffi 2005). World-system theory focuses on nation-states (i.e. countries), its fundamental principle being that power and hierarchy are embodied in the relations between nation-states and their position in the global economy. GVC analysis embodies this core principle but shifts the focus to the powerful role of TNCs, which operate fluidly across borders. The first incarnation of GVC analysis was the global commodity chains framework (Gereffi & Korzeniewicz 1994). The concept of 'value' was incorporated into the framework when researchers started to use the analysis to show where value is captured in a particular industry, which firms have that value and where they are located, and how firms (and the countries they are based in) can move to higher value positions in their industries (Gereffi & Kaplinsky 2001; Gibbon & Ponte 2005). Traditionally, GVC analysis was applied to manufacturing industries such as apparel (Gereffi 1999), electronics (Sturgeon 2002) and automobiles (Humphrey & Memodovic 2003), but its application can be much broader.

The GVC framework has proven particularly useful when applied to understanding practical, real-world problems. Because the integrative conceptual scheme of GVC analysis connects the global and local levels of analysis, anyone interested in reform – researchers, firms, policy makers, or non-governmental organisation (NGO) activists – can search for leverage points whereby specific business practices and development conditions can be championed or criticised, and pathways for change can be sought (Gereffi *et al.* 2009; Oxfam International 2004). For example, countries that wish to upgrade into higher value segments of an industry, or to switch to an entirely different one, can use the framework to understand their competitive strengths, along with the challenges they must overcome to improve their position (Dolan & Humphrey 2004; Gibbon & Ponte 2005). Labour unions or activists can use the framework to identify why firms move offshore and where to exert pressure on firms to provide better labour rights and protection at home or abroad (Raworth & Kidder 2009). GVC analysis can also be applied by environmental and health groups to show how global economic processes interact in local contexts to environmentally degrade land, water and air quality, or to change the types of food available in schools and communities.

The GVC model employs specific methodological tools organised into a series of discrete research steps. First, the stages and actors in the value chain are identified by tracing the entire input–output process that brings a product or service from initial conception into the consumer’s hands. The main segments in the value chain follow a typical sequence: research and development → design → production → distribution → marketing → sales. The analysis then identifies the actors in each segment, their relative size and importance, and how their roles may be changing. These actors include the lead firms of each industry and their suppliers. Companies are described as ‘lead firms’ if they have the market power or control over key technological or information assets that allow them to establish the parameters that other major actors in the industry must comply with. In addition to their purchasing power (Sturgeon 2009), the strength of lead firms also comes from whether they have direct and/or indirect control of key stages in the supply chain, product or process standards, brand recognition and technological innovation (Gereffi *et al.* 2009). Typically, lead firm status derives from having multiple or overlapping sources of power.

The second step is to determine the geography of the chain. The relative ease with which companies are able to relocate their production facilities in order to gain access to raw materials, new markets and lower labour costs reflects major advances in global communication and transportation technologies. Developing countries are under constant pressure to devise strategies to maintain their position in extant production networks or to upgrade to higher value-added segments of GVCs.

Third, after identifying the input–output structure and the geographical spread of a value chain, the ties between firms in the industry are analysed. These relationships are described as ‘governance’ structures that dictate how the chain operates and who controls the diffusion of technology, standards and brands within the chain. Traditionally, value chains were characterised as either ‘producer driven’ or ‘buyer driven’ (Gereffi 1994). A producer-driven chain tends to be vertically integrated and connects firms through ownership or tightly knit production alliances. A buyer-driven chain is characterised by lead firms (retailers, marketers and ‘manufacturers without factories’ that retain brands but have outsourced their production capabilities) that utilise a wide array of independent suppliers, which in turn are linked to one another through complex global sourcing networks and intermediary firms (Gereffi 1999).

In recognition of the variety of inter-firm relationships in the global economy, a more comprehensive typology of GVC governance structures has been put forward, with five distinct kinds of relationships: markets, hierarchies (vertical integration through ownership) and three types of networks – modular, relational and captive (Gereffi *et al.* 2005). This typology recognises that there are new network forms of organisation within GVCs that involve some explicit coordination beyond simple market transactions, but which fall short of vertical integration (‘hierarchies’). Researchers have also addressed the increased complexity of GVCs by showing how an industry can have multiple governance structures that vary over time or

across distinct segments of the chain (Dolan & Humphrey 2004; Gereffi *et al.* 2005; Sturgeon 2009).

Lastly, the coordination, power and linkages of GVCs would not be complete without an analysis of the institutions – that is, governments, unions, trade associations, NGOs, multilateral agencies and regulatory bodies – that influence the activities of the chain. GVCs are embedded in multiple ways in these institutional arrangements. Frequently, the lead firms or drivers of GVCs exhibit more power in influencing an industry than government laws and regulations. The latter are typically hindered by enforcement difficulties, whereas if suppliers do not comply with lead firm standards, they face harsh penalties or can be dropped from the chain.

6.3 A GVC framework for analysing the linkages between global economic processes and food consumption

The GVC approach highlighted here is industry and firm-centric, but GVCs do not operate in a vacuum. The role of government policies, social context and external factors all matter in the operation of the chain. The strength of the GVC framework is that all actors can try to take advantage of their position in the chain to influence business practices or government policies in a manner consistent with their goals and interests. This is where a public health agenda can come into play, particularly as it relates to food consumption and childhood obesity. Concretely, a GVC approach can evaluate why and how diets are changing through the global economic processes that shape or constrain the food options available to consumers. It can be used to identify how supply chains shape the availability of foods, the interaction between global and local chains, the role played by TNCs throughout the chain and the leverage points for change. Each of these GVC elements related to food consumption is now described.

6.3.1 GVC analysis shows how food supply chains shape the availability of food

GVC research identifies every segment of food production systems, following products from ‘farm to fork’. The food supply chain can be broken down into three broad steps: (i) farm and harvest; (ii) processing and manufacturing; and (iii) retail. Taking the case of a French fry, the chain would begin with russet potato seeds and the companies that supply them, and then move on to examine the firms that grow the russet potato, followed by the manufacturers that process the potato into cut, frozen French fries, which then move to final sale. At the retail end, restaurants, supermarkets and institutions like governments and schools all buy large quantities of frozen French fries. Restaurants also purchase the fat needed to fry the potatoes before they are consumed.

At each segment of the chain, there are dominant firms that play key roles. The lead firm buyers of French fries (e.g. McDonald’s, Wendy’s or Wal-Mart) are

supplied by large manufacturers of French fries (e.g. McCain Foods, J.R. Simplot), which purchase russet potatoes from big growers/shippers (e.g. United Fresh Potato Growers of Idaho) that receive seeds, herbicides and pesticides from crop science firms (e.g. Bayer Crop Science). Understanding the French fry chain helps us explain the nutritional properties of French fries, how they are marketed to different sets of consumers, and at what price.

Relatively few firms in the chain have the status of lead firms. To be classified as lead firms, companies must have a critical marketing, technological or financial edge that permits them to set the standards or specifications for other companies they deal with. Without this advantage, even quite large companies may find themselves relegated to the role of suppliers of commoditised bulk products, with relatively thin profit margins and little capacity to influence the activities of other firms in the supply chain.

6.3.2 GVC analysis maps the interaction between global and local value chains

Each stage of the food production system connects countries on a global scale, and these connections are driven by the practices of lead firms in developed countries. Figure 6.1 depicts the interaction of global and local food value chains. Within the GVC (the top four boxes), there are the global agri-business companies, food manufacturers, fast-food franchises and retailers. These segments of the chain are linked to each other at the global and local levels. Agri-business conglomerates, like extremely large chicken, potato and lettuce suppliers, operate transnational

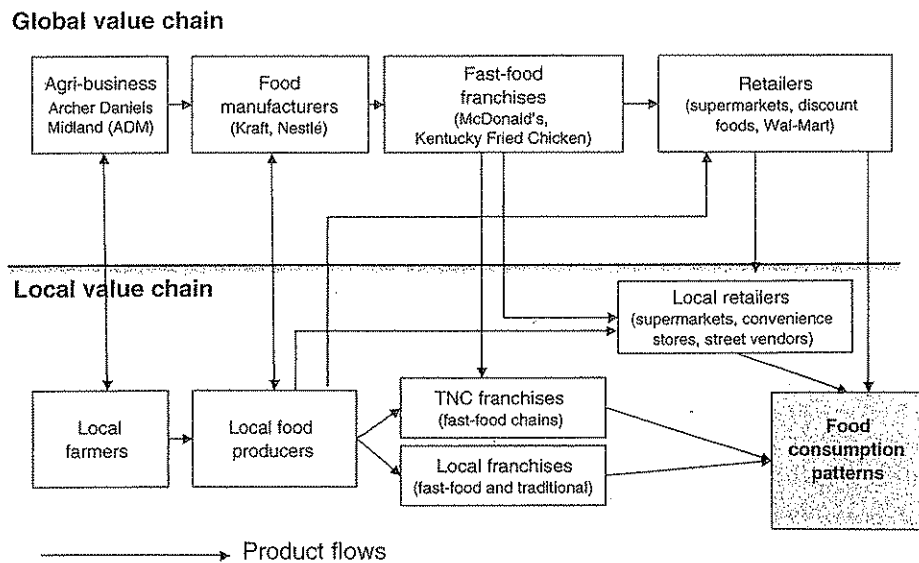


Figure 6.1 Interaction of global and local food value chains.

subsidiaries across the world or buy crops from small- and medium-sized farms in local economies. They then supply food manufacturers, which in turn sell their processed goods to fast-food chains and global retailers.

The interaction between the global and local categories may be direct, such as setting up large farming operations and producing for local markets in developing countries, but it often is captured through indirect effects. For example, continuing with French fries, in 2007, China was the world's leading potato producer, growing 72 million tons of potatoes, which is 23.3% of the world's supply of potatoes (FAO 2008). China's domestic potato growers run their own farms, but they also sell to developed-country food manufacturers that operate subsidiaries in developing economies. Interestingly, McCain Foods, the largest manufacturer of frozen French fries, is also the second largest manufacturer of ethnic Chinese foods. McCain initially brought their food technology expertise overseas to change the way food is produced and presented to consumers in Taiwan. In addition to their consumption of modern processed foods from the West, the developing world is also creating processed versions of traditional dishes, such as dumplings, steamed buns and rice rolls in China. Thus, the traditional diets of developing countries are being transformed because more meals are now available for consumers in the fast food, calorie-rich format of developed countries, while utilising the technological prowess of modern food processing to make these appealing, abundant and cheap.

6.3.3 GVC analysis identifies the role played by TNCs throughout the chain

At various stages of the food production value chain, lead firms dominate the outcomes and linkages within the chain. The power relationships they have with their competitors and suppliers determine the governance structure of the chain. For example, Kentucky Fried Chicken (KFC) is one of the world's largest buyers of chicken and therefore dictates what type of chickens farmers should raise, and the product and process standards these chickens must meet in order for KFC to purchase them. Because these standards call for a high level of technological sophistication and efficiency, only the largest chicken conglomerates, such as Tyson's and Pilgrim's Pride, can become a supplier for KFC.

Similarly, TNC manufacturers like McCain that buy russet potatoes for McDonald's French fries dictate product standards to the potato growers that supply them. McCain may choose to have more vertical control (i.e. direct ownership) over the processing, packaging and distribution stages of the supply chain for their French fries because these practices entail sophisticated production techniques that are best performed in-house. Alternatively, TNCs may peg their business practices to the demands of global retail buyers. In fact, retail giants, such as Wal-Mart, are likely to refuse to sell McCain's or J.R. Simplot's frozen French fries unless they meet specific pricing and packaging requirements.

Factors associated with childhood obesity can be linked to the behaviour of lead firms in global food production systems. Researchers have adopted the 'energy in'

and 'energy out' model of childhood obesity (Cutler *et al.* 2003; Glass & McAtee 2006). 'Energy in' refers to the reasons why children consume specific foods and 'energy out' refers to active/sedentary lifestyle behaviours. Factors highlighted by the 'energy in' literature, such as a corporate food culture targeted to youth and the availability of unhealthy snack foods, are reflected in the business practices of food TNCs. Their reach and power include the influence they have over children and parents in providing 'instant food' options that cater to a modern culture, busy lives and youth perceptions. TNCs are drivers of the global fast-food technology, processed foods and Western cultural norms that have become so prevalent in developing countries. The global-local interactions they spark accelerate the speed at which local food producers, manufacturers and retailers adopt transnational business strategies and tailor them to domestic needs.

6.3.4 GVC analysis identifies leverage points for change

The GVC framework allows us to identify the lead firms within the agribusiness, manufacturing, and retail segments, their influence upon the rest of the chain and avenues for change within the chain. For example, lead firms tend to define the standards for conduct and performance in an industry. Many food TNCs have already been compelled by government regulations or induced by consumer preferences to change certain practices along the food value chain, such as procuring healthy ingredients for their products and imposing stricter standards upon their suppliers. But GVC analysis can likewise be used to examine if these new business practices are only 'skin deep'. While firms may be promoting nutritional foods in their marketing campaigns, they also may be lobbying against government health regulations or moving to countries with lax regulatory environments.

A key form of change in GVC analysis is 'upgrading', that is how firms or countries are able to move to higher value-added activities or more profitable roles within the chain for a particular commodity or to enter into a new value chain (Gereffi 1999; Milberg 2004). It is necessary to analyse industrial policies, indigenous capabilities, corporate strategies and the governance structures of lead firms and institutions in GVCs in order to understand the dynamics of upgrading. The fact that domestic manufacturers and fast-food firms in developing countries have been able to position themselves within global food chains and establish their own brands demonstrates that developing countries can upgrade to higher value-added segments in the chain. Thus, individuals in developing countries are finding it easier to acquire Western diet options not only through Western brands but also through local imitators.

The instant noodle phenomenon is a revealing case. Instant noodle technology was first developed by Japan. However, Taiwan has been the leader in adopting advanced technology in instant noodles and bringing it to Asia, particularly China, the world's biggest market for instant noodles. Tingyi, a Taiwan-based firm with its Master Kong brand, has a 43% share of the market in China, beating the Japanese joint venture Nissin Hualong, which has 14% of China's instant noodle sales

(Dobson 2008). Taiwan has used the technology pioneered by developed countries to become the leading provider of instant foods for the Chinese market. They are also conforming to the business practices of consolidation and brand marketing. In addition to Tingyi, Taiwan is home to Uni-President Enterprises, the country's largest food conglomerate, which encompasses several stages of the food and agriculture value chain. The company procures commodities, such as soya beans and corn, and processes them into animal feed. They also manufacture processed foods, such as instant noodles, frozen foods, baked goods and soft drinks (Google Finance 2008).

6.4 From global to local: a GVC analysis of trade, foreign direct investment and food consumption

Trade is a global economic process that connects the global and local levels of GVCs. By focusing on the linkages between the global and the local (Figure 6.1), the GVC framework provides insights about the impact of trade on local food systems and food consumption that go beyond the global flows of foodstuffs per se. For example, it is often assumed that the direct trade (i.e. imports and exports) of processed foods is responsible for their diffusion into developing countries from the West, and this helps account for the growth of obesity. In fact, processed food is just a small portion of developing countries' imports: only 10% of the \$3.2 trillion in global processed food sales in 2002 were traded products (Regmi & Gehlar 2005).

More importantly, a GVC analysis shows that most processed foods are created 'in-country' and connected to local supply chains and production facilities, and that the key role of imports and exports is to provide the ingredients that go into a wide array of food products. Global processes also play a key role through the transfer of Western-style food processing into local firms. This is illustrated by the cases of soya beans in China, corn in Mexico and the overall food supply in Trinidad and Tobago, which are reviewed below.

6.4.1 The dynamics of soya bean production, trade and consumption in China

Trade liberalisation and China's accession to the World Trade Organization have had a profound impact on China's agricultural system and domestic food supply. Soya beans are emblematic of the modern redefinition of Chinese agriculture. Soya beans, along with grains and sugar, are land- and labour-intensive crops grown in the western and northern regions of the country. Exports of these commodities have fallen while products of higher value, such as horticultural and animal products in the eastern and southern regions of China, have increased. While soya bean exports have decreased, China has imported large quantities of soya beans rather than use its domestic supply (as also discussed in Chapter 3). Before 2000, the soya bean tariff rate was as high as 114%, but it was lowered to 3% and then 1%. In 2007,

soya bean imports were estimated at 31 million tons and up to 50 million tons if one includes oil made from soya beans (Xinhua News 2008).

Imported soya beans have altered the food value chain in China. The sharp increase of imports spurred by liberalisation is a response to rising demand for soya bean-based oils and animal feed (Tuan *et al.* 2004). Imported soya beans are highly sought because they are cheaper and contain higher oil content, partly due to the bioscience techniques employed by foreign growers. Soya bean oil is replacing traditional rapeseed oil in China. The crushing of soya beans has become a profitable segment of the value chain. Crushing creates numerous fat products that are integral to many styles of cooking. Partially and fully hydrogenated soya bean oils are used in pan frying, deep frying and baking. Soya beans are also crushed into soya bean meal, which is fed to animals in China's booming livestock industry. Cooking techniques have changed with the use of soya bean oils, and soya bean meal has made livestock cheaper and more abundant.

There are soya bean processors in Heilongjiang, Shandong, Jiangsu, Guangdong and Sichuan provinces. Xinhua News (2008) estimates that 80% of soya bean processing facilities in China are subsidiaries or joint ventures of foreign firms. Archer Daniels Midland (ADM) is the largest soya bean processor in China. ADM Hong Kong/Shanghai is a wholly foreign-owned subsidiary that engages in import/export trade and wholesale distribution, while ADM Tianjin provides vegetable oil concentrate and ADM Dalian creates soya bean meal.

Soya beans as an input commodity have led to foreign direct investment in manufacturing and the adoption of foreign food-processing practices. The commodity has affected several food supply chains, especially livestock. Chinese firms are emulating foreign business practices. Following the path of developed countries, pig and poultry plants in China have become more concentrated, and large specialised household operations and commercial facilities are expanding (Tuan *et al.* 2004). China is reorienting its agricultural system to cultivate products they can export, such as horticultural goods, rather than meeting the domestic demand for food, thus sparking higher local prices for vegetables and potential grain shortages (Tuan *et al.* 2004). All of these factors affect the availability and price of healthy food options in Chinese cities and rural communities. According to Pingali (2007: 281), these globalisation trends in China will stimulate a new form of diet where wheat, lots of protein and energy-dense foods will characterise Chinese food choices.

6.4.2 Corn production, trade and consumption in Mexico

Corn is a traditional crop in Mexico that has great cultural, religious, political and economic significance for the indigenous groups in the country. Since the North American Free Trade Agreement (NAFTA), the rapid expansion of US corn exports has transformed the cultivation of corn in Mexico to mimic those types available in the United States. Between 2003 and 2004, US corn exports to Mexico increased by 240% (Zahniser & Coyle 2004). As of 1 January 2008, all tariffs on corn

were abolished after a decade-long phase out. This change is expected to further accelerate the segmentation of the corn market in the region, with real consequences for farmers, processors and the sustainable diversity of Mexican-based corn varieties.

Yellow corn, which is primarily used as an input for animal feed, is the dominant US corn export that supplements and competes with Mexican production. The increase in demand is attributed to the expanding livestock industry, particularly pig and poultry that use corn-based feed (as opposed to soya beans in China). It is projected that Mexico's livestock industry will become more consolidated, similar to the structure of US livestock producers. White corn, which goes into tortilla production, is still mostly based in Mexico, although US exports of white corn have risen since 2000.

Corn in Mexico is grown on small farms, where farmers typically have around 10 hectares of farmland and little access to tractors and irrigation. In comparison, corn in the United States is grown on farms with a typical size of over 270 hectares and its cultivation is highly mechanised. Corn in Mexico goes to one of the country's 10,000 corn millers and 45,000 tortilla producers. Due to government support for the tortilla industry, Mexican producers have an advantage in the market. Corn flour production in Mexico is very concentrated, with Mexican companies Gruma and Grupo Minsa controlling more than 90% of domestic corn flour production (Zahniser & Coyle 2004).

While Mexico has its own large companies in the tortilla and corn flour production segments of the market, the reduction in tariffs associated with NAFTA has brought a flood of cheap corn from the United States and stiff competition for local farmers. It is estimated that Mexico's corn imports may reach 14 million metric tons by 2013. The corn being imported is mostly a genetically modified US variety and Monsanto is hoping to bring their genetically modified seeds to Mexico for local farmers to use. These seed varieties will require pesticides and fertilisers manufactured by transnational chemical companies (Ross 2007).

The survival of many of the *ejidos* (community farms) in Mexico is in jeopardy because of the new tariff phase-out. According to Ross (2007), in the first 13 years of NAFTA, 6 million Mexican farmers abandoned their farms, potentially making 59 distinct Mexican corn varieties extinct. Overall, tariff changes, continuing urbanisation and a complex distribution system are driving further structural changes in Mexico's food system that could lead to future economic and social problems. For example, food consumption patterns may change at faster rates as campesino farmers and their families begin to eat more energy-dense high-caloric foods as they migrate to urban centres for work. This is because the flood of US corn may create cheaper commodity inputs (high fructose corn syrup) for processed food varieties. The prevalence of cheap imported corn from the United States has also undermined the viability of large swaths of Mexico's smallholder, corn-based rural economy, thereby fuelling the migration from rural to urban areas in Mexico, and onward to the United States, resulting in the depopulation of rural areas and swelling the ranks of the unemployed and underemployed informal workers in metropolitan centres.

6.4.3 Import dependence in Trinidad and Tobago's food supply

The Caribbean islands of Trinidad and Tobago show how an entire country's food supply system can be dependent upon imports (see also the example of the Pacific Islands by Thow and Snowdon in Chapter 9). Yet, Trinidad and Tobago's domestic manufacturers still play a key role in the foods available on the islands, further demonstrating the interaction between global and local food systems. Trinidad and Tobago is a net food importer. They have a high overall level of import dependence, reaching 100% for products like corn oil, infant food, wheat, potatoes, many fruits and vegetables, chocolate products, tea, black pepper, milk and cheese (Lovendal *et al.* 2007). The United States is the largest supplier for Trinidad and Tobago's imports of meat, dairy, fresh vegetables and fruit, cereals, fats and grains (Logan 2006). The imported products go directly to retail outlets or they are inputs for local manufacturing facilities.

The food-processing sector accounts for almost half of Trinidad and Tobago's manufacturing gross domestic product and it is a large contributor to non-oil exports (Lovendal *et al.* 2007). Most of their trade goes to other Caribbean Community countries, with Trinidad and Tobago being the lead exporter within the region. According to Logan (2006), the structure of the food-processing industry within the Eastern Caribbean region is categorised in five groupings: transnational firms, large-, medium-, small-scale domestic firms and micro-sized enterprises. Nestlé Trinidad and Tobago Ltd. is the largest food-processing company in the country, but the domestic market for food is dominated by big local firms such as Erin Farms Ltd., Hummingbird Rice Mills and Willie's Homemade Ice Cream. Yet, these local firms rely on imported ingredients: only 20% of inputs that go into local manufacturing facilities are procured domestically, while 80% come through imports.

Trinidad and Tobago illustrate that the food system in a small nation can be reliant on imports and western food-processing techniques, and still maintain a significant role for locally owned facilities. Because Trinidad and Tobago are so reliant on imported inputs, however, they cannot ensure the availability of many foods essential for a healthy diet, such as fruit and vegetables. Food consumption in the country is already dominated by cereals and sugar crops, and this reliance will only increase if the prices for processed-food inputs stay low, while fresh produce prices rise. Thus, the high prices of imported healthy foods make it hard for locals to consume these products, and domestically owned firms are not offering healthier alternatives.

The above examples from China, Mexico and Trinidad and Tobago show how the GVCs of food products connect developed and developing countries in direct and indirect ways. China has substantial amounts of foreign direct investment in its food manufacturing sector, but trade liberalisation has increased the availability of key agricultural commodities like soya beans, with significant impacts on its local agricultural and food systems. While Mexico and Trinidad and Tobago have strong local firms, these companies have adopted the food-processing practices of TNCs in developed countries. These practices have a ripple effect throughout the countries in changing the types of food available for consumption. The recent evolution of global food and agricultural value chains favours the adoption of Western supply

chain dynamics in developing countries. The story at the local level is one where global economic processes influence food consumption in ways that can be both positive and negative for healthy diets.

6.5 Drivers of food consumption: TNCs as drivers of food consumption

One of the most effective techniques used in GVC analysis is case-based comparisons of lead firms in GVCs. A look at specific companies facilitates the analysis of broad corporate strategies as well as inter-firm linkages in the value chains being studied. This is done here for five lead firms in the global food value chain: three from the food and beverage manufacturing category (Kraft, Nestlé and PepsiCo), and two from the fast-food category (McDonald's and Yum! Brands, the owners of KFC and other restaurant chains).

Table 6.1 provides brief company profiles of these firms (see the Annual Reports for Kraft, Nestlé, PepsiCo, McDonald's and Yum! Brands 2000–2007). Kraft, Nestlé, PepsiCo, McDonald's and Yum! Brands had combined global sales of about \$320 billion in 2007. Because of the firms' different reporting methods, this estimate is based on total sales for some firms (Yum!, McDonald's, PepsiCo and Nestlé) and net revenues for others (Kraft). Moreover, McDonald's and Yum!'s figures combine company and franchise sales. These multibillion dollar corporations are engaged in global multi-branding strategies across the world, and together they employ more than 3 million workers. Yum! and McDonald's are located in over 100 countries, manufacturers Nestlé and PepsiCo are in more than 200 countries and Kraft in over 150. For all of the corporations, international sales play a key role in their overall profitability.

Table 6.1 Profiles of leading food transnationals, 2007.

Companies	Global sales	Employees	Main brands	Number of countries
Yum! (based on total company sales, franchise sales and employees)	\$34 billion	1 million+	Kentucky Fried Chicken, Taco Bell, Pizza Hut, A&W	100+
McDonald's (based on total company sales, franchise sales and employees)	\$47 billion	1.6 million	<i>Has owned:</i> Chipotle, Boston Market, Donatos Pizzeria	118
Kraft (based on net revenues)	\$37 billion	104,000	Nabisco, Oscar Meyers, Post Cereal	155
Nestlé (based on total sales)	\$90 billion	276,050	Nescafe, Hot Pockets, Crunch, Kit Kat	Almost worldwide
PepsiCo (based on total sales)	\$98 billion	185,000	Pepsi, Frito-Lay, Gatorade, Tropicana	200

Source: Company Annual Reports and web sites.

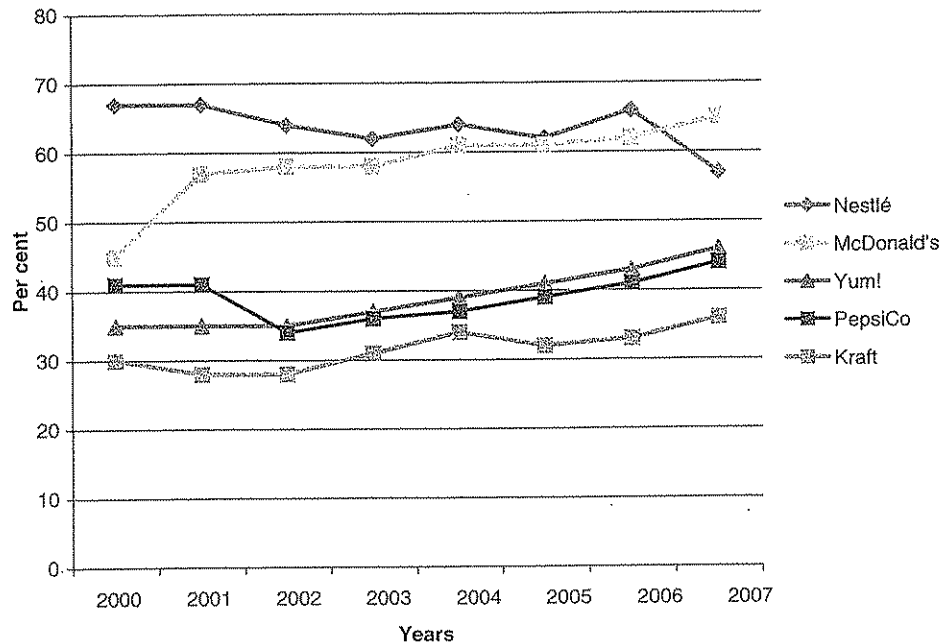


Figure 6.2 Global sales of food and beverage transnationals (as per cent of total sales), 2000–2007. *Source:* Company Annual Reports. *Note:* International is everything other than the United States except for Nestlé, which is everything other than Europe. For McDonald's, 'Corporate' and 'Other' sales are counted as United States. For Nestlé, 'Pharma' and 'Other Food & Beverages' are counted as International. Nestlé sales since 2002 only include food and beverages. McDonald's 2000 includes franchise sales and not solely franchise revenue.

Figure 6.2 shows the percentages of international sales compared to total sales since 2000. All of the corporations have a strong global presence, with international sales close to or over 40% of their totals for 2007. ('International' is defined as everything but the United States for all the companies except Nestlé, where it is everything but Europe.) Nestlé's international sales went down slightly due to the strength of their performance in Europe, but total sales have increased. McDonald's has consistently high figures since 2000. The global share for McDonald's would be even higher if the total sales of international franchise units were included, instead of just its corporate licencing revenues. Total sales for Kraft and PepsiCo would also be much higher than their net revenues.

A more detailed analysis of the global expansion and shifting food consumption strategies is provided below for two of the most recognised food companies in the world: McDonald's and PepsiCo. Both companies have sought to leverage their global brand with localisation efforts that also address growing international pressures for healthy diets.

6.5.1 McDonald's

Unlike their competitors, McDonald's has chosen to focus solely on a one-brand image, their McDonald's restaurant chain. Formerly, they owned Chipotle, Boston

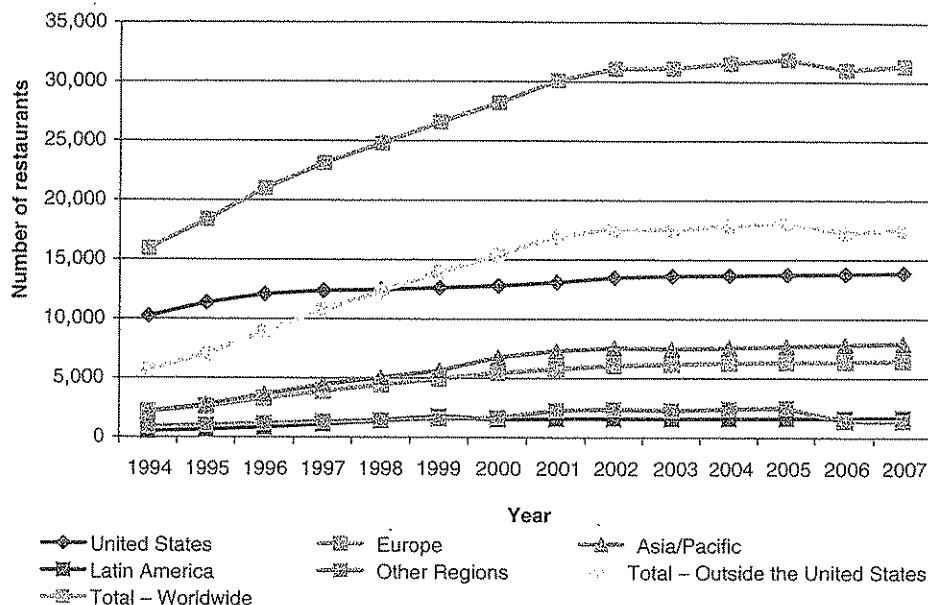


Figure 6.3 McDonald's global restaurants, 1994–2007, by region. Source: McDonald's Annual Reports (1998–2007).

Market and Donatos Pizzeria, but over the last 5 years they used their corporate strength solely for the McDonald's restaurant brand. Although they have maintained a one-brand strategy, they were one of the original fast-food multinationals to aggressively pursue overseas expansion.

Figure 6.3 shows the rapid escalation in the number of McDonald's restaurants outside the United States since 1994. Growth in the Asia-Pacific region is particularly strong. In 1994, the company had just over 2,000 restaurants in the region, but by 2000 that number had tripled. Europe has expanded as well, while Latin America has remained relatively steady. Overall, these figures show the strength of McDonald's operations. As of 2007, they had a total of 31,377 system unit restaurants with nearly 18,000 of those in international localities. In 2008, they expected to open 550 restaurants worldwide.

China is a key emerging market for McDonald's and its performance to date is positive, with strong new unit growth, including drive-thru locations as it looks to tap into rising levels of car ownership. McDonald's has more than 800 restaurants on the Mainland, and in 2008, they planned to open 125 more restaurants in China. McDonald's main competitor in China is KFC (a subsidiary of Yum! Brands), which benefited from its first-mover status and the fact that chicken is more widely consumed by the Chinese than beef. McDonald's is trying to cater towards a more chicken- and fish-friendly menu in order to tap into local consumer preferences.

McDonald's also promotes local sourcing. DaChan Food, the Dalian-based integrated chicken meat and feed producer in China, is the largest chicken supplier

of KFC and the major supplier of McDonald's, Dicos and other local outlets in China. The standards the chicken must meet, as required by Western firms like McDonald's, are being transmitted into the type of chicken provided by non-Western outlets too, as the example of Dicos, a Taiwan-based company, shows.

McDonald's has been a front-runner in providing more extensive nutritional information on their menu items and promulgating health-friendly, balanced-lifestyle campaigns. Starting in 2000, they introduced salads, low-fat desserts and a wider choice of chicken and fish burgers; they also included more regional menu variation and began experimenting with new formats, such as cafes and kiosks. In 2004, after much publicised consumer and government concerns regarding the obesity crisis, McDonald's discontinued its super-size option and began a new range of salads. They are addressing the claim that they are contributing to the obesity crisis directly through their corporate social responsibility strategies highlighted in their Worldwide Corporate Responsibility Report (McDonald's 2006).

McDonald's launched a number of programmes in keeping with their 'balanced lifestyles' platform that focuses on three areas: food choice, education and physical activity. One of the key components is 'Go Active!' which was tied with sponsorship of the Athens 2004 Olympic Games. In 2006, they began to print nutritional information directly on their packaging, the first major restaurant company to do so. The format is icon-based and can be understood independently of the consumer's language; the icons represent calories, protein, fat, carbohydrates and sodium. Finally, in 2006, McDonald's announced a collaboration with Scripps Research Institute (QSR 2006). McDonald's will financially support research that focuses on understanding solutions to childhood obesity and type 2 diabetes, with an initial contribution of \$2 million. This amount remains tiny in comparison to McDonald's total profits or the magnitude of the health problem being addressed.

6.5.2 PepsiCo

PepsiCo merged with Frito-Lay in 1965 to create PepsiCo Inc. It is now the second largest soft drink company in the world behind Coca-Cola. PepsiCo's main brands are Pepsi Cola, Frito-Lay, Tropicana, Gatorade and Quaker. Its two core brands are Pepsi Cola in the soft drink market and Frito-Lay in the packaged-food industry. The United States and Mexico remain two of the top markets for PepsiCo soft drinks and snack food products. However, PepsiCo has more than doubled its net sales in non-North American countries from 2000 to 2007. Figure 6.4 shows a breakdown of PepsiCo's global net sales since 2000 for the United States, Mexico, the United Kingdom, Canada and all other countries. Net sales in the United States are still the strongest, but international markets are increasing (Euromonitor International 2007).

FDI Magazine (2002) reported that in 1982 PepsiCo was one of the first TNCs to set up operations in China following the open-door policy. The venture was not smooth: investing in China involves joint ventures with Chinese partners in order

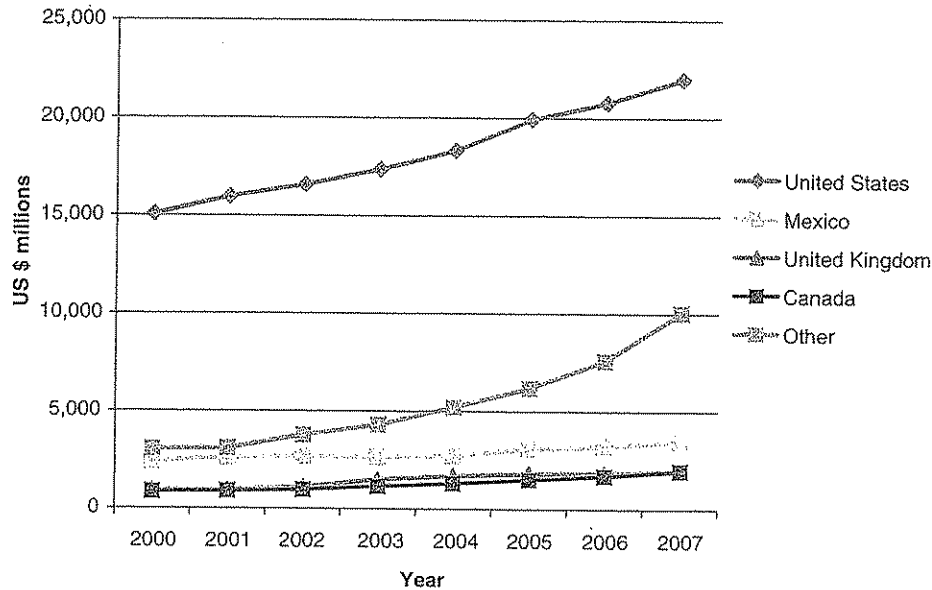


Figure 6.4 PepsiCo global sales (Net), 2000–2007 by geographic breakdown. *Source:* PepsiCo Annual Reports.

to enter the highly competitive market. In 2002, PepsiCo terminated a joint venture with a Chinese bottling firm after 8 years because the local Chinese partners wanted a larger share of profit margins and expansion outside of their contractual regions. The profit-sharing issues with Chinese partners were exacerbated by government protection of domestic beverage makers. Moreover, the Chinese government controls the location of foreign plants in order to spread competition across the country. PepsiCo claimed that it was pouring money into advertising and marketing, with investment liabilities still outweighing revenues after 20 years.

PepsiCo now has 40 joint and solely owned ventures in China, which is its second largest soft drink market outside the United States. PepsiCo owns 25 bottling plants and four packaged food factories, and their new strategy aims at doubling the Chinese workforce over the next 5 years in order to match growth potential in that market. Their aggressive marketing tactics in the past decade have included brand building using celebrity endorsements and sports sponsorships. In a survey by A.C. Nielsen in 2002, Pepsi had a 44% market share in major Chinese cities (FDI Magazine 2002).

An important strategy that has solidified Pepsi's global strength is their belief in localisation. A PepsiCo spokesperson stated to *Beverage Daily* that in order to succeed in the industry on a global scale, all business strategies, particularly marketing and product development, must reflect the preferences and desires of the countries they are operating in (Merret 2007). Investment in China alone totals over one billion dollars, and PepsiCo plans to expand its Chinese market by investing an additional \$850 million between 2006 and 2009.

In order to penetrate emerging markets, PepsiCo adapts its products to local preferences (Brush 2006). The company has expanded using joint ventures and has hired local managers who have expertise in the market's preferences. Frito-Lay in Mexico sells chips with chili flavours, while Frito-Lay in China sells crab- or duck-flavoured chips. By utilising partnerships with local bottlers and local suppliers, PepsiCo appeals to consumers' nationalist sentiments while also impacting local food production systems. Sabritas in Mexico and Yazhou in China are both popular brands sold by PepsiCo with regional-sounding names. To increase their understanding of their target market, PepsiCo opened its first research and development site outside the United States in Shanghai in 2006.

PepsiCo was ranked number 1 globally in 2005 for sweet and savoury snacks, and 80% of the company's net sales is from packaged foods. In 2003, *trans* fat was removed from all chips as they switched to using corn oil. By 2006, Lay's and Ruffles chips were made using sunflower oil. PepsiCo also strove to reduce sugar and sodium in their snack foods and expanded their product range to include more nuts and healthy snacks. In the snack foods sector, the pressure to shift away from the sweet and high fat snacks market has led PepsiCo to explore two potential development paths. The company can pursue the 'impulse channel' (the convenient, on-the-go foods which dominate food markets today) or move towards acquiring more healthy and organic snack options.

PepsiCo launched its 'Smart Spot' marketing campaign in 2004, which includes labelling healthy products as well as exercise campaigns to promote smart lifestyle choices (PepsiCo 2007). All products labelled with a Smart Spot sign meet nutrition criteria set by the Food and Drug Administration and the National Academy of Science. By 2006, more than 40% of PepsiCo's annual revenues in the United States and Canada came from Smart Spot eligible products, which include Baked Cheetos, Baked Lays and Diet Pepsi. PepsiCo was also one of the first companies to voluntarily restrict advertising as part of the Children's Food and Beverage Advertising Initiative set up by the Council for Better Business Bureaus. They partnered with the Alliance for a Healthier Generation to limit direct advertising to children under 12 to only Smart Spot products.

Developing countries like India and China are seeing the emergence of a middle class that can now purchase inexpensive consumer products. Urban Chinese children are spending more on snacks and play items, and are influencing their parents' spending (McNeal & Yeh 1997). PepsiCo's sales figures and profit margins should continue to expand in developing markets because they have already established strong domestic partnerships and a solid infrastructure.

6.6 Conclusions

The severity of the global childhood obesity pandemic calls for innovative research agendas and theoretical approaches that address the macro factors and social contexts that affect this public health crisis. Applying a GVC framework to food production and consumption patterns around the world is one such approach that can be used to understand how the global context influences dietary and health

outcomes, including increasing rates of childhood obesity. The GVC perspective incorporates economic and political factors at the global, national and local levels that have been ignored in much of the previous medical and epidemiological literature on this topic (Glass & McAtee 2006).

This chapter has outlined a GVC framework that can be applied to food consumption and sketched out some of the preliminary insights provided by this analysis for understanding the linkages between trade, TNCs and food consumption. The GVC approach is well suited to linking the global and local levels of analysis, with a focus on both production and consumption. It shows, for example, that the impact of trade on food consumption in developing countries is primarily indirect rather than direct, and is captured at the national and local levels through the adoption of Western products and practices by domestic food systems. This helps us identify the key points through which trade processes could be leveraged to encourage healthier consumption points. Applying this analysis beyond these initial steps is needed to identify win-win scenarios in which healthier diets and lower childhood obesity rates become central in the business models of domestic enterprises and TNCs.

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