Valuing Food: The Economic Contribution of Canada’s Food Sector
Preface

This report examines the economic “footprint” of Canada’s food economy. It begins by considering the underlying forces shaping food supply and demand. This is followed by an analysis of Canada's current food economy and an overview of Canada’s engagement in the global food economy. It concludes with a summary of the major findings and their implications.
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The findings and conclusions of this report are entirely those of The Conference Board of Canada, not of the Centre investors. Any errors and omissions in fact or interpretation remain the sole responsibility of The Conference Board of Canada.

ABOUT THE CENTRE FOR FOOD IN CANADA
The Centre for Food is a three-year initiative of research and dialogue to help address one of the mega-issues facing our country today—food. Food impacts Canadians in an extraordinary range of ways. It affects our lives, our health, our jobs, and our economy.

The twin purposes of the Centre for Food in Canada are:
• to raise public awareness of the nature and importance of the food sector to Canada’s economy and society; and
• to create a shared vision for the future of food in Canada—articulated in a framework for the Canadian Food Strategy that will meet our country’s need for a coordinated, long-term strategy for change.

The Centre is taking a holistic approach to food. It focuses on food in Canada through three interrelated but distinct lenses: safe and healthy food, food security, and food sustainability. These lenses ensure that the Centre will be focused on the full range of important issues facing the food sector.
The work involves a combination of research and effective communications. The goal is to stimulate public understanding of the significance of the food sector and spur the demand for collaborative action. The Centre is working closely with leaders and partners from Canada’s food sector, governments, educational institutions, and other organizations to achieve its goals.

Launched in July 2010, CFIC actively engages private and public sector leaders from the food sector in developing a framework for a Canadian food strategy. Some 30 companies and organizations have invested in the project, providing invaluable financial, leadership, and knowledge support.

For more information about CFIC, please visit our website at www.conferenceboard.ca/cfic.

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EXECUTIVE SUMMARY

Valuing Food: The Economic Contribution of Canada’s Food Sector

At a Glance
- This report examines the economic “footprint” of Canada’s food economy. It begins by considering the underlying forces shaping food supply and demand.
- This is followed by an analysis of Canada’s current food economy and an overview of Canada’s engagement in the global food economy.
- The report is designed to shed light on the food economy from the broadest possible perspective, so as to inform discussion on the shape of the Canadian Food Strategy.

This report examines the economic “footprint” of Canada’s food economy. It begins by considering the underlying forces shaping food supply and demand. This is followed by an analysis of Canada’s current food economy and an overview of Canada’s engagement in the global food economy. It concludes with a summary of major findings and their implications.

The report is designed to shed light on the food economy from the broadest possible perspective, so as to inform the Centre for Food in Canada’s (CFIC) deliberations toward the Canadian Food Strategy. CFIC faces three challenges as it develops a framework for the Canadian Food Strategy: first, to understand the current reality of Canada’s food economy; second, to define a future desired state; and third, to suggest workable solutions for moving Canada from its current reality to the desired state.

As the global population is expected to expand by another 2 billion people by 2050, there is understandable concern about agriculture’s capacity to respond.

Valuing Food is one of two foundational projects that underpin CFIC’s work on the Strategy. Its companion piece, Governing Food, looks at the food policies, laws, and regulations (PLRs) that affect all aspects of food in Canada. By examining the fundamentals behind Canada’s food economy, its domestic nature, and its relationship to global food systems, we hope to stimulate a serious and substantive discussion of the choices facing Canadians.

The fact that the world now supports 7 billion people is very much due to the marvel of modern agriculture. But as the global population is expected to expand by another 2 billion people by 2050, there is understandable concern about agriculture’s capacity to respond.
Against this backdrop, Canadians are better fed than ever before, and are very likely to stay that way. Canada’s population in 2050 will be only 55 million people, and Canada will continue to be one of the richest countries in the world. It has a well-developed agriculture and agri-food system that has shown itself very adept at adopting productivity-enhancing technology. Basic food security is much less of a concern to most Canadians than obesity, nutrition, and the environmental and social impacts of food.

MAJOR TRENDS IN CANADA’S FOOD SECTOR

Today, more Canadians think about all aspects of food than ever before. This report examines demand-driven trends for food, which primarily originate from the consumer; and supply trends, which originate from producers and distributors.

DEMAND-DRIVEN TRENDS

Two big drivers are shaping Canada’s population and its relationship to food:

1. Aging: The average age of the Canadian population is increasing, and Canada has proportionately more old people than ever before. By 2031, the entire baby-boom generation will be over the age of 65 and the median age will be around 42 years old.

2. Diversity: Net population growth is increasingly dependent on immigration. Immigration levels are projected to increase to over 330,000 per annum by 2031. The sources of immigration are also much more diverse than ever before: the 2006 Census recorded over 200 distinct ethnic groups.

Rising education levels and women’s socio-economic development are also driving Canadian society. The latter factor is reflected in the emergence of smaller households and the growth in dual-earner households that put a premium on convenience, which gets expressed through value-added groceries that minimize post-purchase preparation and in dining out at restaurants, especially fast-food restaurants.

A longer-term factor that has a bearing on food consumption is the structure of the labour force. Many more people now work in sedentary jobs, but Canadians’ caloric intake has not adjusted to their sedentary life. The Canadian consumer is also very value conscious. Attitudinal surveys show that basic market value considerations like price and quality are most important to the Canadian food consumer.

SUPPLY-DRIVEN TRENDS

The food supply chain has shown itself to be remarkably adaptive to evolving consumer demands. There are essentially three key innovations:

1. Farms use biological engineering and fertilizers to increase yields, facilitate specialization, and expand variety.

2. Food processors create new foods to address specific lifestyle and dietary needs.

3. Distributors use process improvements to reduce the cost of getting food from the farmer to the consumer.

CANADA’S FOOD ECONOMY FOOTPRINT

Currently, each Canadian has about 3,300 calories of food, drink, and alcohol available to them daily. A healthy adult male requires no more than 2,700 calories per day, and other people require even less. This suggests that Canada produces or imports more than enough food for its caloric needs and, indeed, wastes a considerable amount of its food supply.

In 2010, spending on food—defined as spending on food and non-alcoholic beverages, consumption of alcohol, and spending at restaurants—accounted for about 16.4 per cent of total consumption. Real spending on food per person has increased over time as individuals have spent more on higher-value items. Spending on food should see continued modest growth over the next several years, supported by an anticipated post-recession resumption in real income growth.

Canada’s most important agricultural products in terms of value include wheat, canola, hogs, cattle, and milk. Canada is the world’s largest producer of products like canola, peas, lentils, and some specialty products like mustard seed and linseed. It is also a major global producer of products like wheat (fifth globally), pork (sixth globally), and soybeans (seventh globally).
The dependence of provincial economies on the food sector varies widely. In Prince Edward Island, about 16.5 per cent of the economic activity is generated directly by food-related industries. On the other hand, food industries account for only 4.7 per cent of GDP in Newfoundland and just 4.8 per cent in Alberta. In British Columbia, food industries account for 5.9 per cent of GDP, while in Ontario and Quebec, food manufacturing helps lift the direct contribution of food industries to 6.1 per cent and 7.2 per cent of GDP, respectively. Nova Scotia, New Brunswick, Manitoba, and Saskatchewan all attribute a significant share of their economies to food industries, rising, in that order, from 8.2 per cent to 9.5 per cent.

The food sector is responsible for more than 9 per cent of GDP and 2.3 million jobs, roughly 13 per cent of all employment in Canada.

The production of food in Canada has a much broader economic impact than just those industries directly associated with growing, processing, and distributing food. In all, the food sector is responsible for more than 9 per cent of GDP and 2.3 million jobs, roughly 13 per cent of all employment in Canada. This does not include the impact on GDP of the food value added due to home storage and preparation.

In 2010, the labour-intensive food services industry was responsible for 871,000 jobs. Other big employers included retail trade (528,000 jobs) and wholesale trade (100,000 jobs). Food and beverage manufacturing employed 272,000 Canadians, while another 280,000 worked at the agricultural end of food production. The retail and wholesale segments accounted for 3.7 per cent of Canadian employment in 2010.

Food and beverage manufacturing is the largest employer in the manufacturing sector in Canada. The most recent recession was hard on Canadian manufacturing. Canadian food and beverage manufacturers continued to expand their production while other manufacturers cut back, demonstrating that the industry is in some ways immune to the cyclical factors that affect other manufacturing. The food manufacturing sector, on the whole, experienced average growth in output of 3.6 per cent per annum from 2005 through 2010, and production rose by an average of 1.4 per cent per year and sales by 2.8 per cent.

Despite these gains, the sector continues to face substantial challenges to its ongoing viability. The food manufacturing sector has experienced an employment decline of almost 30,000 since 2004 (on a base of around 300,000 jobs). About a quarter of those job losses have come through high-profile plant closures, which have averaged about 10 per year and 160 jobs per closure, for a total loss from these 50 plant closures of 8,000 jobs during those years.

Clearly these job losses would be more of an issue if production, sales, and output were also declining, but they are not. Still, the loss of employment speaks to the need for this industry to evolve constantly to meet the challenges of competition. And because the industry is heavily regulated, it faces particular risks associated with regulatory changes that affect the viability of particular plants in Canada. For instance, in 2007, Hershey closed its last two plants in Canada, resulting in a loss of 1,000 jobs. At the same time, Hershey announced plans to create a new 1,500 employee facility in Monterrey, Mexico as part of a comprehensive three-year supply chain transformation program. Part of the reason for the closures in Canada is that Mexico gained unrestricted access to the United States via NAFTA, which, when paired with Mexico’s lower cost of production, greatly improved its competitiveness in relation to Canada.

A significant portion of the value added of the food economy is created in households. A good portion of the value of Canada’s housing stock is dedicated to kitchen space and associated capital.

In addition to meeting domestic consumer demand for food, Canada’s food sector is also a significant source of exports. Canada is an important global producer and exporter of grains, oilseeds, and red meats and, to a lesser extent, processed fruits and vegetables, fish and fish products, and other smaller items. The United States is the principal buyer of Canada’s agriculture and agri-food exports—it was the destination for about half of Canada’s agriculture and agri-food exports in 2010.
THE GLOBAL CONNECTIONS OF CANADA’S FOOD SECTOR

Strong economic forces are driving openness and connection to global food trade, including consumer preferences for certain foods, the aspirations of domestic firms to capitalize on global markets, and the desire to secure access to lower-cost foods and commodities. With rising international trade in food, nations are faced with two competing pressures:

- To what extent should they open their markets to international trade in food and seek to go global themselves?
- To what extent should they protect their domestic markets?

The current state of globalization in the food sector is a continuation of a long-term trend toward greater integration of food systems around the world. Today, some of the largest companies in the world are involved in the food business. Their activities can have significant impacts on supply chains and on the activities of the food sector around the world. In farming, the trend is toward increasingly large farms that generate higher rates of return and are then also able to invest more capital and resources in their businesses.

Globally oriented food companies in Canada are increasing their global reach in three key ways: by investing in or buying facilities around the world, by investing in their domestic facilities to capture global economies of scale, and by extending their supply chains to source products and resources around the world. The activities of McCain Foods over the past 10 years illustrate how these foreign direct investment and capital expenditures are driving the global reach of this company.

Since 1990, there has been a steady increase in the percentage of imported foods in the Canadian diet, currently 30 per cent of the foods that Canadians consume. Top imported foods to Canada include fruits and nuts, beverages and spirits, vegetables, and pasta and other grain preparations.

As global trade in food has risen, there has been a movement toward specialization. Specialization has helped to keep food prices low, but has also increased complexity in the food sector. The growing complexity of international food pathways has led to a rise in efforts by companies, governments, and international non-governmental organizations to design and implement food traceability initiatives.

Canada’s vast scale and geographic and climatic diversity, and its immense reserves of fresh water, provide a wealth of natural resources to support food production. It also has the skilled workers and technology that can enable the sector to thrive and grow. However, our relatively small population of just over 34 million (about 0.5 per cent of the global total) means that the potential for domestic growth is limited: Canadian food sector companies seeking to expand significantly must focus on growing their businesses through exports.

We can create the conditions that support growth while contributing to safe and healthy food, sustaining our environment, and providing greater access to food in Canada and around the globe.

Yet, agriculture remains one of the most heavily protected of all Canada’s economic sectors. Canada protects some foods from import competition through high tariff rates, notably the supply-management sectors of chicken, turkey, eggs, broiler hatching eggs, and, above all, dairy products.

Competition is increasing, however. The growth in the food sector of emerging economies like China and Brazil and major reforms in other food-exporting countries are increasingly creating competitive advantages for the food sectors in these countries. This report briefly examines government initiatives in the U.S, Brazil, Australia, and the United Kingdom. In the face of this competition, the ability of the Canadian food sector to participate in global integration will significantly determine the ability of Canadian food companies to compete on a global scale.
Opening markets for exports of Canadian foods is not the only way to create opportunity for food companies in Canada. Food companies are also increasingly using investment and acquisitions to achieve growth. Another strategy is to tailor products to specific market niches. It is not always about companies producing at low cost and scale. Sometimes it is about innovating to explore specific market niches. These types of strategies will ultimately be reflected in the scale of firms because niche strategies are likely to be pursued by smaller firms.

The food sector is in a unique position. On the one hand, aspects of food are highly integrated and involve complex relationships and supply chains around the world. On the other, aspects of the sector are intensely rooted in local communities. If Canada manages its agricultural resources well, there is no reason to believe that it will not continue to be a food-rich country over the long term.

The strategic imperative for the Centre for Food in Canada is to understand both the current reality of Canada’s food sector and its future direction. That future direction will be set through a combination of business and governmental initiative.

We have the opportunity today to create the conditions that will support the food sector’s growth as an economic engine, while also contributing to safe and healthy food choices in Canada, sustaining our environment, and providing greater access to food in Canada and around the globe. A modern and effective food sector, innovating using the latest science and technology, and working in a system that increases trade levels, could become an even greater force for economic and social good than it is today.
 CHAPTER 1

Introduction

For most of human history, however, people were not very good at finding or producing food, which severely limited human lifespans and greatly curtailed global population. In fact, before the invention of agriculture, the world food supply could not support more than 15 million inhabitants—just over the population of present-day Ontario. ¹ For many thousands of years, hunter/gatherer approaches to food were simply too unproductive and fragile to support large populations. Mortality rates inevitably pushed up against the limits of unproductive food supply systems. It has been only 11,000 years since humans began to cultivate food.² The fact that the world now supports 7 billion people—3.5 billion of them added in the last 50 years—is very much due to the marvel of modern agriculture, which has greatly expanded the world’s ability to feed its people.

Past success does not guarantee future security. As the global population is expected to expand by another 2 billion people by 2050, there is understandable concern about agriculture’s capacity to respond. Virtually all of this population growth will be in less-developed countries, many of which have poorly functioning agricultural systems.³ The growth rate in agricultural yields has

¹ Tellier, Urban World History, 26.
² Standage, An Edible History of Humanity, 4.
³ United Nations Economic and Social Affairs Division, World Population to 2300, 14.
already begun to slow, and the world is running out of arable land. Although there is significant room for improvement in yields on some of this arable land—particularly in developing countries—there are also concerns that agricultural technologies may be reaching biological limits that may limit further increases in agricultural yields. And these concerns have coincided with price spikes in food commodities, two of which have occurred in the last five years. So there is a lot of angst around food.

The advancement of agriculture in Canada means that Canadians are well insulated from the basic food security concerns that will continue to trouble billions.

Yet, against this backdrop, Canadians are better fed than ever before, and are very likely to stay that way. Canada’s population in 2050 will be only 55 million people, around 0.6 per cent of the world’s population. Canada will continue to be one of the richest countries in the world. It has a well-developed agriculture and agri-food system that has shown itself very adept at adopting productivity-enhancing technology. Today, basic food security is much less of a concern to most Canadians than obesity, nutrition, and the environmental and social impacts of food.

In its century-and-a-half history as a country, Canada has gone from having a large proportion of its people living on farms and in small towns, working the land, and subsisting largely on simple, starchy diets to having a highly urbanized population that consumes complex, protein-rich foods. Canadians have lived through periods of severe disruption in their food supply, most notably during the two world wars and the Great Depression. But the advancement of agriculture and agri-food in Canada means that Canadians are well insulated from the basic food security concerns that will continue to trouble billions around the world.

As Canada has developed, the share of our economy dedicated to feeding ourselves has steadily declined. Partly, this is due to the productivity of our agriculture and agri-food sectors. Partly it stems from productivity in other parts of the economy, which generates the wealth that allows us to trade internationally for food—food that would be expensive or impossible to produce domestically. All developed countries go through the stage of falling food expenditures as a share of household budgets while diets grow in complexity and richness (moving away from starches toward protein). With basic nutritional needs well in hand, developed societies increasingly focus on food variety and preparation in the home and in restaurants. These forces have seen food’s economic footprint expand away from the farm gate toward processing and consumption.

Our prosperity affords us the luxury of being wasteful with our food supply (especially in the home and restaurants).

As a simple matter of arithmetic, as the value added of food expands toward the processing and preparation segments of the supply chain, the impact of food commodity prices becomes less pronounced. The consumer who buys unprocessed rice will feel virtually the full impact of a 20 per cent increase in rice commodity prices. The “rich” consumer who consumes convertible rice from a box, purchased in a modern grocery store, may experience less than a 5 per cent increase in grocery prices from the same increase in commodity prices, because the food commodity forms a smaller share of the total value added, which includes processing, packaging, transportation, and storage.

As a result, Canadians are largely insulated from the more severe implications of an unstable food supply. Compared with the real food security concerns of low-income countries, our problems may even be envied by some. Our prosperity affords us the luxury of sometimes being wasteful with our food, especially in the home and restaurants. We are rich enough to maintain some agricultural policies that are arguably inefficient.

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4 The Economist, “The 9-Billion People Question.”
We subsidize the divergence of crops to biofuels, effectively moving food calories away from our mouths toward our cars. When it comes to agricultural policies, some argue that our wealth allows us to pay less attention to food security and market competitiveness than less richly endowed nations.

Despite our relative wealth and comfort, we are at a crossroads. Global issues of trade, food safety, security and sustainability, and population health are rising to the top of public policy agendas. These same issues are reshaping global food markets and highlighting the role of food in the global economy.

At the same time, domestic food issues are coming into prominence. The operating environment for food is highly competitive. It involves price-sensitive domestic consumers and a high degree of competition from global firms offering very low prices due to economies of scale and low-cost offshore production. This competitive pressure is pushing Canadian producers, processors, and manufacturers to innovate, fill domestic market niches, and become more efficient in order to remain economically viable. Yet, firms operating in Canada find themselves constrained by the highly regulated nature of the sector, which is making it difficult for them to change and be as responsive to markets as they would like.

It is to inform the difficult decisions facing Canadian decision-makers that this analysis is presented.

Foundational Projects and the Canadian Food Strategy

The Centre for Food in Canada (CFIC) faces three challenges as it develops a framework for the Canadian Food Strategy: first, to understand the current reality of Canada’s food economy; second, to define a future desired state; and third, to suggest workable solutions for moving Canada from its current reality to the desired state. Workable solutions need to take into consideration the realities of economic activity and market forces and sensible policy, laws, and regulations.

The Strategy will involve making choices about goals and actions.

We need to start with a clear view of the current realities of Canada’s food economy. This allows us to begin a dialogue about how global forces beyond Canada’s control will impact Canada’s role in the world food supply. This role will be determined by a combination of market forces; competition; innovation; and Canada’s policies, rules, and regulations, which frame how we operate domestically and in global markets. At the same time, our dialogue must include health and environmental sustainability and other important food-related issues. The connections between the economic activity of the agriculture and agri-food sector and the policies, laws, and regulations (PLRs) that govern the sector are also foundational to CFIC’s framework for the Canadian Food Strategy.

We have undertaken two foundational projects to underpin CFIC’s work on the Strategy. This current report, Valuing Food, considers the nature and dimensions of Canada’s food economy. Its companion piece, Governing Food, looks at the food policies, laws, and regulations that affect all aspects of food in Canada.

Note on Methodology

We use a well-established methodology to calculate the economic “footprint” of the food sector, based on assessing the supply chains of our domestic consumption and exports of food and food products.

We rely on Statistics Canada’s detailed model of the industrial structure of Canada’s economy to quantify the economy-wide impact of food produced in Canada for domestic consumption. The model simulations yield the supply chain impacts on the economy of changes in household purchases of food items, proportionally distributed among all of the foods typically consumed.

The same exercise is used to estimate the impact of food destined for exports. In this case, the model simulations are based on quantifying the supply chain effects of a proportional change in all of the food commodities and products we typically export.

The methodology allows us to identify the full impact, or footprint, of food on gross domestic product, employment, and other economic indicators in Canada. The production of food for Canadian households has a much broader economic impact than just those industries directly associated with growing, processing, and distributing food. We find that almost every industry group in Canada is, to some extent, involved in the process of growing, processing, transporting, and distributing food.
Major Trends in Canada’s Food Sector

This chapter considers major trends shaping Canada’s food sector. The statistical “footprint” of the food economy is simply the end result of complex interactions between consumer demand and supply chain capacity and innovation. Here, we explore the “why” behind the footprint and the directions for future evolution of the sector. This involves delving into the fundamental drivers of supply and demand.

At the outset, we should distinguish between food trends and food fads. Trends are the result of fundamental changes in technology, society, and the economy that play out over years or even generations. Fads are driven by changes in current preferences; they come and go from year to year. Rising obesity rates is a trend; all-protein sandwiches where meat replaces bread is a fad.

Arguably, the most important food-related change in the last 50 years is heightening “food awareness.” More Canadians think about all aspects of food—from how it is produced and what is in it, to where and when they eat it—than ever before. They are increasingly prone to anxiety about food safety, agriculture’s environmental impact, and nutrition.

Heightening food awareness makes it more difficult to distinguish between passing fads and durable market niches. For instance, is the Slow Food movement a passing fad or a niche trend? Likewise with the preference of some consumers for local food (e.g., 100-mile diets) and Fair Trade commodities: Are they fads or trends? They certainly reflect a concern about the socio-economic contexts of
food encapsulated in the mantra “Think globally, eat locally.” They are potentially more than just fads, inasmuch as they represent a significant market niche for years. It would have been easy to pass off organic agriculture as a passing fad, but it has shown itself to be a durable trend within a market niche. It is also a trend for people to express their individuality through food, and this is leading to a fragmentation of food markets that is affecting the entire food supply chain.

Another factor further bolsters food awareness: calorie counting. Canadians’ modern lifestyle creates a gap between calories available and those naturally burned in the course of a day. That makes calorie awareness more important, especially given Canada’s aging population. Older Canadians require fewer calories. They are prone to severe health problems that result from being overweight and aged. Yet food calories are relatively cheap in a rich society like Canada. That makes high-calorie diets within the reach of many people with low incomes, resulting in the historically unprecedented coincidence of low income and obesity.

Any two societies may ingest roughly the same number of calories per capita, but differ greatly in the food purchased and how it is distributed and prepared.

We organize this chapter into demand trends, which primarily originate from the consumer, and supply trends, which originate from producers and distributors. For each, we consider fundamental drivers and then work through implications. We conclude with reflections on the permanency of these trends and speculate on the likely shape of the food economy footprint over time.

### Changing Consumer Demands

Food is essential to life; people need food calories to survive. Any two societies may ingest roughly the same number of calories per capita, but differ greatly in terms of the food purchased and how it is distributed and prepared. The way a country gets its food calories is related to fundamentals such as demography, society, and economy. We highlight some key drivers for each of these broad categories.

### Demography

Two big drivers are shaping Canada’s population and its relationship to food:

1. **Aging:** The average age of the Canadian population is increasing, and Canada has proportionately more old people than ever before. In 2008, the median age in Canada was 39.4 years and 13.7 per cent of people were 65 years of age or older. By 2031, the entire baby-boom generation will be over the age of 65, the number of seniors will exceed the number of youth under the age of 15, and the median age will be around 42 years old.

2. **Diversity:** Net population growth is increasingly dependent on immigration, as Canada’s native population birth rate has fallen below replacement rates. Between 2001 and 2006, Canada had the highest net immigration rate of any Group of Eight major economy, as it added 1.2 million people through net migration. Immigration now exceeds births as a source of population growth. Moreover, the sources of immigration are much more diverse than ever before. The

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1901 Census recorded only 25 distinct ethnic groups; the 2006 Census recorded over 200. The share of visible minorities has increased from 9.4 per cent in 1991 to 16.2 per cent in 2006. Statistics Canada projects that, by 2031, immigration levels will increase to over 330,000 per annum from the current 250,000 per annum.

Despite improvements in longevity and senior’s health, aging still results in physiological changes that shape food calories requirements and the nutritional content, packaging, and preparation of food. The number of required calories falls steadily after the age of 24. Seniors’ slowing metabolisms mean they need about a quarter less food energy than young adults. (See Table 1.) That is likely to result in a desire for smaller food portions.

The risk of chronic conditions increases with age. (See Chart 1.) Cancer and cardiovascular diseases are particularly disabling and deadly. Women face a disproportionate (when compared with men) risk of osteoporosis as they age. Cancer rates increase steadily after the age of 40; the rate goes from about 185 per 100,000 for 40–44 year-olds to 1,676 for 65–69 year-olds, peaking at 2,388 for 80–84 year-olds. Given the relationship between these conditions and diet, aging is therefore also likely to have an impact on demand for particular nutrients. This is most likely to be reflected in falling demand for saturated fats and sodium and rising demand for non-saturated fats, minerals (e.g., potassium, calcium), and specific vitamins (e.g., B-12).

Ethnic and cultural diversity have a different impact. They are more likely to affect the demand for different varieties of food as immigrants bring their traditional diets with them to Canada. The overwhelming tendency for immigrants is to locate in the three largest census metropolitan areas (CMAs): Toronto, Vancouver, and Montréal. This creates economies of scale to service special dietary needs, which are catered to by specialized groceries, special sections in traditional groceries, and, of course, restaurants. Canada is a society that celebrates its diversity and, therefore, there is cross-fertilization between the traditional European cuisine of early immigrants and that of new entrants, especially from China and the Indian subcontinent.

As CIBC pointed out in a recent report, visible minorities are a very powerful influence on food retailing. The report highlights that ethnic food retailing is the fastest-growing segment of food retailing in Canada. This is because of visible minorities’ contribution to population growth, the relatively young age of this population, and its concentration in major metropolitan areas. (See Chart 2.) The report notes that “[e]thnic groups that might represent 15 per cent of retail purchasing power in the economy today could represent closer to 25 per cent in 10 years,” growing from about a $65-billion market in 2010 to $128 billion by 2020. If this is accurate, visible minorities could account for

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6 Public Health Agency of Canada, “Cancer Surveillance Online.”
7 Caicco and Petrie, “The Ethnic Consumer in Canada.”
over 70 per cent of the growth in food retail sales in the next 10 years. Clearly, this is a trend that food retailers ignore at their peril.

**SOCIETY**

Demography concerns the growth and composition of Canada’s population. Societal analysis considers how the population is organized into households and attitudes that shape food consumption. Two key interrelated factors are driving Canadian society: rising levels of education and women’s socio-economic development. This latter factor is reflected in the growth in dual-earner households and the emergence of smaller households.

Consider educational attainment over time. In 1971, only around 6 per cent of men and 3 per cent of women had university degrees. By 2009, the number with university degrees had increased markedly to 21 per cent of the population, and even larger numbers of Canadians are graduating with diplomas and degrees from community colleges (31 per cent). In 2010, more women (71 per cent) than men (65 per cent) aged 25 to 44 had completed post-secondary education. Between universities and colleges, Canada is a world leader in the number of people with post-secondary qualifications.

Women’s role in society is very much affected by their rapid increase in educational levels. Based on current enrolment, there will soon be more female degree holders than male degree holders. Rising female education is reflected in other socio-economic trends, including delayed family formation, smaller families, and greater labour force participation. This means more single-person households and smaller family households. The average age of marriage has risen steadily in the last 40 years and now stands at roughly the same as during the Second World War. Canadian women, on average, wait until they are 30 years old before having their first child. In the last census period (2001–06), the number of births, at 1.7 million, was the lowest since the 1971–76 census period—an era when Canada’s population was about a third lower than today. Average family size has fallen from 3.7 in 1971 to around 3 today.

The proportion of dual-earner families with children at home under the age of six has doubled since 1976.

Employment hours for all couples have increased 13 per cent, from an average of 58 hours in 1976 to 65 hours in 2008. The labour force participation rate of women has increased from less than 42 per cent in 1976 to 58 per cent in 2009. During the same period, male participation fell from over 72 per cent to just over 65 per cent, meaning that Canadian families are much more of an equal working partnership than ever before. Canadian families are most likely to have two earners, but the combined time that dual-earner couples spend at work has remained at 77 hours per week, with more of those hours attributable to women. The proportion of families with children at home under the age of six who were dual-earners has more than doubled, from 31 per cent in 1976 to 67 per cent in 2008, while the labour force participation rate for mothers with young children has doubled from 37 per cent to 74 per cent.

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9 Human Resources and Skills Development Canada, “Indicators of Well-Being in Canada.”

10 This section draws on statistics published in Human Resources and Skills Development Canada, “Indicators of Well-Being in Canada.”

On the face of it, Canadian women have made significant strides in education, jobs, and income. Somewhat slower to change has been women’s traditional role in food shopping, preparation, and housework. The 2006 Census does show that men now play an enhanced role in helping to care for children and, to a lesser extent, housework compared with the past. However women, on average, still spend about 50 per cent more time cooking than do men.

Survey respondents reported that they are most confident in Canadian farmers’ safety management and are least confident in foreign governments’ role in the same.

Higher levels of education result in a more aware and demanding consumer. Consumers are more likely to take a heightened interest in the where, what, and how of food.

Consider, for example, the findings of a survey conducted in 2008 by the Canadian Council of Food and Nutrition that found the most influential drivers of food choice to be (per cent of respondents):

- low trans-fat content (80 per cent);
- presence of whole grain content (78 per cent);
- low in sugar content (72 per cent);
- low in salt or sodium content (71 per cent);
- presence of omega-3 fatty acids (58 per cent);
- country of origin (50 per cent); and
- organically grown (41 per cent).

Arguably, Canadians are more aware of the nutritional content of food than ever before. The same survey found that the vast majority of Canadians read the nutritional content labels when purchasing.

Food awareness also extends down the supply chain as consumers are more interested in food safety and the environmental impacts of food production and distribution. Interestingly, heightened awareness does not generally lead to more negative attitudes about Canadian food safety. For instance, a 2010 survey for Agriculture and Agri-Food Canada by Ipsos Reid found that “nearly all consumers are confident in the safety of Canadian food with 14 per cent completely confident, 48 per cent very confident and 35 per cent somewhat confident.”

The same survey found that Canadians are more confident of the safety of Canada’s food supply than five years ago.

The Canadian Food Inspection Agency (CFIA) also canvassed Canadian food safety opinions, obtaining findings that broadly agreed with the Ipsos Reid findings. The CFIA survey, conducted by Decima Research in 2010, found that Canadians are more confident about the Canadian food system than foreign systems. Indeed, Canadians’ food safety confidence is directly proportionate to proximity to the Canadian farm gate: respondents are most confident in Canadian farmers’ safety management and are least confident in foreign governments’ role in the same. High-profile scares relating to imported Chinese pet food and melamine in milk has probably contributed to these attitudes.

The vast majority of people surveyed dine at home most of the time, with only 20 per cent of Canadian food expenditures purchased from restaurants.

The Ipsos Reid survey also delved into the issues around environmental stewardship and humane farming practices. About a third of respondents consider environmentally responsible production when making a spending decision in a grocery or a restaurant. Twenty per cent of respondents chose free range products or organically produced products.

The two-earner household is a busy household that puts a premium on convenience. That gets expressed in two ways: first, through value-added groceries that minimize post-purchase preparation; and second, in dining out at restaurants, especially fast-food restaurants. A Statistics Canada report found that about a quarter of respondents had eaten at a fast-food restaurant the day before being

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12 Statistics Canada, 2006 Census Tables.
13 Ibid.
14 Ipsos Reid, “Canadian Perceptions of Food Safety and Quality,” 7.
surveyed and that most of these favoured high-fat options like pizzas and hamburgers. Youn men were especially likely to favour these fast-food dining options.

Nonetheless, the vast majority of people surveyed dine at home most of the time, with only 20 per cent of Canadian food expenditures purchased from restaurants. Dual-income households are more likely to turn to ready-to-serve meals and other processed items. Because of improved labelling, it is generally easier for the grocery consumer to get information about nutritional content than a fast-food restaurant diner. Still, the Canadian consumer’s need for convenience may trump nutrition. The least processed and most nutritional food is probably raw fruits and vegetables that typically involve more time-consuming home preparation than pre-prepared food.

ECONOMY

Attitudinal surveys show that basic market value considerations are more important than secondary considerations, like the environment, when Canadians make food purchase decisions. In the Ipsos Reid survey, 86 per cent of respondents indicated that they considered “best value for money spent” either “always” or “often.” This was followed closely by “highest quality available,” “nutritional value,” and “reputation of brand,” all of which were mentioned by over 70 per cent of respondents. All this suggests that basic economic factors like price and quality are most important to the Canadian food consumer, notwithstanding media coverage of issues like the environment. Even seemingly strong environmental attitudes, like support for organic farming, can be interpreted as being expressions of concern for food quality.

Two economic “laws” govern the amount and distribution of spending on food as income increases. Engel’s Law, named after the 19th-century German statistician Ernst Engel, posits that the proportion of total income spent on food falls as income rises. Bennett’s Law states that starchy diets become more varied and complex as income rises.

It is important to keep Engel’s and Bennett’s laws in mind when interpreting the “footprint” of Canada’s food economy. As a fully developed, mature economy, Canada has already been through the stages of falling expenditures on food as a portion of consumer expenditures (even as total expenditure increased) and movement toward more complex diets. Food expenditures as a percentage of total personal expenditures fell from around 28 per cent in 1961 to 15 per cent in 2005. (See food expenditures for select countries in Table 2.) The falling portion of expenditure is actually a sign of development; Canada has an efficient food system that requires a smaller proportion of overall minimal expenditures for people to meet their basic nutritional needs, thereby freeing up income for other life-enhancing expenditures. Bennett’s Law is seen today in the rapidly developing economies of China and India, which are incorporating more protein into their traditional starchy diets.

Today, the Canadian consumer is more interested in value for money. There is an ongoing discussion as to the degree of Canadian food production that should be focused on the national market and how to grasp export opportunities, especially given that as incomes rise in emerging markets, people are demanding more protein and better-quality food.

15 Garriguet, Overview of Canadians’ Eating Habits, 8.
16 Statistics Canada, Detailed Average Household Expenditure, v13873702 and v13873723.
17 Statistics Canada, National Income and Expenditure Accounts.
The Conference Board of Canada produces an annual report card on Canada’s economic performance called How Canada Performs.18 Successive years of this report show that Canada has slipped in relative performance, compared with other major industrialized countries. The number one reason is because of Canada’s lacklustre productivity performance over the last 30 years. As the 2007 report notes, average labour productivity growth in the 10-year period to 2005 was just over 1 per cent per annum, compared with closer to 2 per cent per annum for the United States. This productivity performance is ultimately reflected in after-tax incomes, which grow slowly in good times and actually fall during major recessions. Canada’s per capita income has, in fact, slipped during the latest recession. There is now a per capita income gap with the United States of more than US$4,000 per annum.19

The theory of rising expectations suggests that people will continue to spend according to their expectations until faced with the full reality of diminished income prospects. This gap between income and expectations is reflected in rising levels of indebtedness. Although Canadians have largely avoided the excessive debt levels of the U.S., they still have notched sizable increases in indebtedness. As the Certified General Accountants of Canada noted in a recent report, the Canadian consumer debt-to-income ratio has risen from about 74 per cent in 1994 to 144 per cent today.20 For the most part, these increases are not a major concern, as they have coincided with increases in net worth. The average ratio of debt to net worth remained consistently below 19 per cent through the 1990s and early 2000s. However, since the recession in 2008, the ratio has surged as debt loads have increased faster than net worth, rising from 18 per cent in 2007 to 22 per cent in 2010. The current exceptionally low interest rate environment has muted the impact on household budgets, but this level of indebtedness exposes many Canadians to the risk of rising interest rates. For the foreseeable future, the Canadian consumer is likely to be constrained.

A 77-kg forestry worker burns over 600 calories per hour, whereas a similar-sized government bureaucrat burns 116 per hour while sitting in a meeting.

A longer-term factor that has a bearing on food consumption is the structure of the labour force. Put simply, many more people work in sedentary jobs that restrict their need for food calories than work in physically active jobs. It is well established that Canada has gradually moved away from active jobs in agriculture, mining, fishing, and manufacturing toward sedentary service sector jobs. To be sure, many people still work in high-calorie-burning jobs such as construction, but the majority of Canadians work in low-calorie-burning service sector jobs. The 2006 Census shows that the number one job category among both males and females is retail salespersons and sales clerks. (See Table 3.) According to the Statistics Canada Labour Force Survey, services now account for more than three-quarters of all employment in Canada.21 To illustrate the significance for food consumption: a 77-kg forestry worker burns over 600 calories per hour, whereas a similar-sized government bureaucrat burns 116 calories per hour while sitting in a meeting.22

Table 2

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenditure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>40.7</td>
</tr>
<tr>
<td>Mexico</td>
<td>27.3</td>
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<tr>
<td>France</td>
<td>24.0</td>
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<td>20.7</td>
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</tr>
<tr>
<td>United States of America</td>
<td>16.1</td>
</tr>
<tr>
<td>Canada</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Canadians’ caloric intake has not adjusted to their sedentary life. (See Chart 4.) Middle-aged men, for example, consume an average of 2,500 calories per day, yet typically burn only 2,200 calories in the course of a normal work day. This is one reason why new Canadian guidelines recommend that adults accumulate at least 150 minutes of moderate-to-vigorous physical activity a week. According to data from the Canadian Health Measures Survey (CHMS), only 15 per cent of Canadian adults are active. The survey notes that Canadian adults spend an average of about 9.5 hours a day in sedentary pursuits, the equivalent of about 70 per cent of their waking hours.23 That low level of activity would simply not happen if Canadians worked in physical jobs.

Although Canadian caloric intake has been fairly stable over time, the widening gap between caloric intake and expenditure results in widening waistlines, especially among males, who now show rising rates of obesity. Even children are affected.

The economic and social data combine to paint a picture of a price-/value-sensitive Canadian consumer, and one who looks for convenience. Essentially, more households will need two wage earners to maintain current living standards. But high debt levels and slow income growth create a value-conscious consumer. So consumers are sufficiently educated to care about quality, but are also income constrained, and so care about how much they pay for food. This conclusion is supported by attitudinal data from the Ipsos Reid survey mentioned earlier. (See Table 4.)

In this context, Canadian consumers are frequently faced with a trade-off between quality and price. They manage that trade-off in many ways. For instance, some may prefer simple, low-cost diets most of the time and save high-priced, quality expenditures for special occasions or periodic indulgences. Similarly, consumers may choose to trade off less preparation time for higher price, which will affect both the value-added grocery

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23 Statistics Canada, Health Measures Survey, Table 14.
marketplace and the restaurant sector. Women, who are more likely to work and cook at home, are likely to favour this trade-off between convenience and price. They may choose to simply give their children lunch money instead of packing a lunch for them. This is contributing to concerns about the dietary choices of children, who favour high-fat, sugar, and sodium diets.

The food supply chain has shown itself to be remarkably adaptive to evolving consumer demands, with three key areas of innovation.

Canadians, especially men, will likely continue to struggle with their weight. This will drive an ongoing demand for low-calorie foods to offset low caloric expenditure. In addition to weight considerations, today’s consumer is increasingly aware of the nutritional content of food, especially in grocery shopping, where standardized nutritional labelling facilitates easy comparisons.

### SUPPLY INNOVATIONS

The food supply chain has shown itself to be remarkably adaptive to evolving consumer demands. It is highly competitive across the farm, food-processing, and distribution subsectors, and all these are increasingly globalized. There are essentially three key innovations:

1. Farms use biological engineering and fertilizers to increase yields, facilitate specialization, and expand variety. (See, for example, Table 5.)
2. Food processors create new foods to address specific lifestyle and dietary needs.
3. Distributors use process improvements to reduce the cost of getting food from the farmer to the consumer.

### FARM-LEVEL INNOVATIONS

While many farm-level innovations include process and processing techniques to improve farm efficiency, some innovations involving biological processes are perhaps the most controversial. This is because this form of innovation often involves changes to the biological nature of food plants and animals. These changes are designed to increase crop yields, alter the nutritional content of foods, or create new foods that did not exist before. These types of innovations invariably run up against naturalists’ and environmentalists’ preferences that nature be left to its own devices, based on their view that man-made innovations upset nature’s balance and create hidden health threats.

Although there is some truth to their concerns, history has shown that farm-level innovation has made a major contribution to the well-being of humans. In his recent book, *The Rational Optimist*, author Matt Ridley makes a cogent case for supporting farm-level innovation. He points out that biological and fertilizer innovation has existed for hundreds of years.24 The advent of the Green Revolution seeds (dwarf wheat and rice) in the 1960s and the concurrent development of fertilizers and pesticides have greatly improved yields, reduced the incidence of famine, and therefore saved millions from malnutrition and starvation. Ridley notes that intensive agriculture

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has effectively reduced the size of food’s environmental footprint (because of less need for cultivable land) and trade has facilitated local and regional specialization. Canadian cereal yields per harvested hectare are over three times as great as in 1961. (See Chart 5.) More impressively, farm technology (and better farm policies) has increased yields in countries that formerly had very fragile food systems, such as India and China.

Those successes have spurred ongoing innovation at the farm level designed to raise yields (through a combination of intensity and resistance to disease and predators), minimize food loss, and create new foods. One line of innovation is genetically modified (GM) foods. GM foods have gained acceptance in North America, where they are seen to have a good track record.

A more controversial development is so-called novel foods, where genetic engineering is used to create new foods that change the fundamental taste or colour or the way food feels when eaten. Controversy also arises when biotechnology is used to increase the yield of livestock and fish and to change their genetic characteristics.

Consumers appear more accepting of these innovations when there is a clearly defined benefit for the consumer. They are less accepting when the innovation is targeted at increasing yields, or worse, at food aesthetics.²⁵ Some food innovations may push the envelope of consumer acceptability and have yet to establish a solid track record of food safety. Other countries are more skeptical than North America about these innovations and more aggressive about labelling GM products.

A counter-trend is the emergence of organic farming as an attempt to return to more “natural” farming, which itself is a form of farm-level innovation in response to consumer preferences. Organic farms in North America now sell over $20 billion of food and account for almost half of total global organic revenues.²⁶ The sector grew rapidly in the 2000s. This growth led to a need for regulatory clarification, which came to Canada in 2009. Although organic farming is generally less productive than conventional modern farming (and therefore requires more cultivated land), a percentage of consumers are willing to pay more for organic produce, given their concerns about pesticide use and biotechnology. Organic produce is readily available in most major grocery chains. Still, the market in organic food is less than 5 per cent of the total food sold in most industrialized countries.


²⁶ This section draws on Willer and Klicher, The World of Organic Agriculture.
PROCESSING INNOVATIONS

The food processing industry is more globalized than ever, resulting in greater specialization and more variety at lower prices. From 1991–2010, import penetration of food processing increased across the food processing subsectors, as the effects of free trade agreements in the 1990s drove trade and specialization, and again in the 2000s, as the rising dollar further reshaped the sector. Grains, sugar, and confectionery and specialized ethnic foods show the strongest import growth. Most of the growth has come from foods from the United States, but China and Brazil are also increasing their share of food imports to Canada. In 2010, food imports represented 21 per cent of processed food purchases (excluding imported raw commodities), up from 14 per cent in 1992.

Consumer nutritional awareness has prompted the food processing sector to respond by changing the characteristics of food and food products.

On the other hand, globalization has encouraged the rationalization of Canadian processing capacity, resulting in larger processing facilities and making the food processing industry more internationally competitive. The recent increase in the foreign exchange value of the Canadian dollar has increased import competition and constrained the growth of the food manufacturing sector by undermining its international competitive position.

Consumer nutritional awareness has prompted the food processing sector to respond by changing the characteristics of food and food products. For instance, the industry has taken the initiative to reduce trans fats and sodium content—some might argue before government regulation requires them to do so. Part of the processing industry now competes directly with the supplement and pharmaceutical industry. They are doing so through so-called functional foods and nutraceuticals. A functional food is valued for specific nutritional effects that arise from its natural state or through additives. On the other hand, a nutraceutical is a product that isolates and combines food nutrients, often in a medicinal form (e.g., a pill) and is usually distributed through homeopathic retailers or pharmacies. Such products may range from isolated nutrients and dietary supplements to genetically modified foods and herbal products. Canadians often turn to these products to either forestall the effects of aging and chronic disease or in the hope that they can improve these conditions without reliance on over-the-counter or prescribed medications. This trend is blurring the distinction between food and medications.

Statistic Canada’s 2005 Functional Foods and Nutraceuticals Survey indicated that 389 Canadian companies were engaged in activities related to either functional foods, nutraceuticals or both during 2004/05. This group of companies generated $29 billion in revenues, employed over 50,000 workers, and spent $74 million on research and development in 2004. The growth in these types of products is directly related to two current areas of policy concern: the health claims of food processors and the regulation of the nutraceutical industry. (This trend is addressed in further detail in the Governing Food report on food policy, laws, and regulations.)

Concern about anthropogenic climate change has resulted in food processors competing directly with fuel processors for agricultural crops. This trend is very much driven by policy. In Canada, for instance, biofuel legislation now requires all Canadian gasoline to include 5 per cent biofuel and 2 per cent of diesel fuel to include biofuel by 2012. The United States is even more aggressive, now requiring that around 10 per cent of gasoline contain biofuel. Some US$6 billion in federal ethanol tax credits recently became a target for fiscal hawks in the United States.

Not surprisingly, these quantitative mandates and fiscal preferences have encouraged the development of biofuel processing facilities, which now compete with food processors for feedstock. According to Ethanol.

27 Serecon Management Consulting Inc., Canadian Food Trends to 2020, 36.
28 Burt, “The Economic Outlook.”
29 Palinic, Results From the Functional Foods and Nutraceuticals Survey, 2005.
31 Reuters, “Canadian House Gives Green Light.”
Producer Magazine, the United States now has 218 ethanol plants with capacity of over 14.5 billion gallons per year (MMgy). The same source reports that Canada has 16 ethanol plants built or under construction, with a total annual capacity of 1.6 billion litres, produced from corn and wheat. In the United States, about 20 per cent of the maize crop is now used as feedstock for ethanol plants.

The growth of biofuels has coincided with at least two major spikes in food prices in the last five years. There is growing concern that the allocation of agricultural produce to fuel is, in part, behind these price spikes. More importantly, the direct substitutability between crops for food versus fuel has the effect of strengthening the link between food commodity prices and transportation fuel prices, which was already strong because of the use of fuel in food production and distribution. (See Chart 6.)

A review of the economic literature by University of Alberta economists suggests that corn and oilseed prices may increase by 65 to 75 per cent by the year 2020 because of biofuels. When second-generation biofuels are modelled, these figures decline to 45 to 50 per cent, still significant by any standard.

The substitution of food grain for biofuel grain has effectively established a floor for grain prices. Baffes and Haniotis note that a price of US$3/gallon of gasoline at the pump is the level at which the maize price is determined by the crude oil price. Yet the authors also observe that biofuels account for only about 1.5 per cent of the area under grains/oilseeds and that maize prices barely moved during the initial increase in U.S. ethanol production, while oilseed prices dropped when the European Union increased impressively its use of biodiesel. Given these ambiguities, the debate over the use of crops for fuel is likely to persist, especially during periods of food price increases.

The concern, effectively, is that food calories are being “wasted” to fuel our cars instead of being used to feed humans. Farmers and food processors can rightly counter that they have made considerable strides in reducing food waste throughout the supply chain, for instance by improving the conversion rates between feed and animal protein. A recent study by Gooch and others suggests that the Canadian consumer is actually a far more important source of waste than are farmers or food processors. The report points out that innovation, such as plastic packaging, actually contributes to a net reduction in greenhouse gas emissions by reducing food waste, which releases carbon and methane. The report estimates that about $27 billion worth of food finds its way into Canadian landfills annually, which is equivalent to 40 per cent of the value of all the food produced in Canada and more than Canadians spend in restaurants. About half of this waste is attributable to consumers carelessly throwing excess food into the garbage that ends up in landfills.

**DISTRIBUTION INNOVATIONS**

Perhaps consumers are careless about food because it is so cheap and plentiful. Indeed the entire food supply chain has become so efficient that the waste has moved away from the supply chain and toward the consumer. Consider comparisions between developed markets like the United States and United Kingdom versus developing countries. (See Chart 7.) The supply chain tends to be much more efficient in developed countries, but its consumers are wasteful; it is the exact opposite in developing economies.

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32 *Ethanol Producer Magazine*, “USA Plants.”
33 *See Chakravorty and others, “Fuel Versus Food.”
34 *Baffes and Haniotis, “Placing the 2006/08 Commodity Price Boom.”
35 *Gooch and others, Food Waste in Canada, 2.*
These efficiencies have been extended throughout the distribution end of the supply chain, including transportation, wholesaling, and retailing. As an example, the importance of the wholesale part of the supply chain has been reduced. About two-thirds of fresh fruits and vegetables in the United States are shipped directly from the producer to the retailer.\textsuperscript{36}

Wal-Mart Stores, Inc.’s arrival as a major food distributor reflects the trend to apply lean processes and economies of scale to the distribution of food. Since 1962, Wal-Mart has grown from one store in Arkansas to become by far the world’s largest retailer. Wherever it goes, it fundamentally changes the marketplace and compels the competition to change to its ways of doing business and its prices. Initially, Wal-Mart focused on clothing and electronics, but in 1988 it introduced food into its “Supercenter” concept, which combines food, dry goods, clothing, and electronic retailing in one massive store. Food has since grown to become a very important component of Wal-Mart’s total sales.

Wal-Mart’s logistical and distribution system is market leading. It uses advanced logistical technology to ensure that its warehousing, transportation, and retailing systems are as lean as possible and minimize wasted motion. It has a high degree of coordination between its marketing system and its distribution system, which allows it to move huge volumes through its stores. Its massive global scale facilitates the global sourcing of goods from the cheapest source. (It is a huge purchaser of Chinese manufactured goods.) It systematically uses its market power to negotiate the lowest possible prices with a wide variety of producers who, effectively, trade lower per unit profit for access to Wal-Mart’s large distribution network. Wal-Mart’s scale also gives it access to a lower cost of capital than most retailers.

Basker has attempted to estimate the impact of Wal-Mart on prices.\textsuperscript{37} He suggests that Wal-Mart has two impacts on the market: through an aggregate mechanism and a market-specific mechanism. The aggregate mechanism works through Wal-Mart’s interactions with both suppliers (manufacturers and importers) and other large retail chains and tends to create lower costs across the range of suppliers. The market-specific mechanism works through competition at the local level as competitors are forced to respond to Wal-Mart.

Some studies estimate that competing grocery stores reduce their prices by 1 to 1.2 per cent after the entry of a Wal-Mart Supercenter.

Basker focuses on the second effect. He looks at the price behaviour for 10 items before and after Wal-Mart enters the marketplace. His most statistically robust findings suggest that the biggest impacts were on the prices of shampoo, toothpaste, and laundry detergent, with magnitudes in the range of 1.5 to 3 per cent in the short run and four times as much in the long run.

\textsuperscript{36} McCullough and others, \textit{The Transformation of Agri-Food Systems}, 148.

\textsuperscript{37} Basker, “Selling a Cheaper Mousetrap.”
Courtemanche and Carden build on these results. Their analysis suggests that Wal-Mart maintains a price advantage of 8 to 27 per cent on various food items. Other studies estimate that competing grocery stores reduce their prices by 1 to 1.2 per cent after the entry of a Wal-Mart Supercenter. Yet the Wal-Mart Supercenters typically retain a 10 per cent price advantage on these stores, even after their competitors’ discount.

There will be growing pressure for Canada to engage in the global food system, as opposed to setting itself apart from it for reasons of domestic “food security.”

This is very pertinent to Canadian food retailing because of Wal-Mart’s announced plans to expand its distribution footprint in Canada, its third-largest market outside of the United States. Of 325 Wal-Mart stores in Canada, 120 are food-distributing Supercenters. By the end of 2011, the retailer will grow its presence to 333 stores, with almost half having a grocery store. The evidence indicates that this will put continued pressure on other food retailers to lower their own costs and compete on price.

CONCLUSION

By 2050, the world will have around 9 billion mouths to feed. Feeding them properly will require a very significant change in the way food is produced and distributed; it will stimulate a much larger international trade in food. Modern approaches to farming, processing, and distribution will need to be adopted by many more countries in order to support trade on the scale that will be required to feed all 9 billion people globally. Developed countries will also need to change through reductions in the current very high levels of food waste at the consumer level.

As demand for calories increases, it is questionable whether some fads are sustainable. For instance, will the West have the luxury of continuing to subsidize and substitute food calories for transportation fuel? Can it continue to support relatively low productivity organic farming techniques? This remains to be seen.

Will local production and consumption protectionism give way to a more integrated world food system? How will Canada be influenced by the interplay of global versus domestic forces in order to meet its population’s expectation for low-priced, high-quality food? There will be growing pressure for Canada to engage in the global food system, as opposed to setting itself apart from it for reasons of domestic “food security.” There will also be pressure to increase the productivity of all aspects of the food system. These issues will play out over many years and inevitably have implications for Canada’s strategy for food.

38 In addition to spawning competition among food retailers, Wal-Mart has inadvertently created a minor cottage industry in economic analysis. Numerous papers have been published over the last 15 years that attempt to gauge the impact of Wal-Mart on a wide variety of economic phenomena, including prices and wages. This research has broadened to include the impact of Supercenters in general on people’s health and community life. Courtemanche and Carden, Supersizing Supercenters? The Impact of Wal-Mart Supercenters on Body Mass Index and Obesity.

39 Shaw, “Wal-Mart Supersizes on Groceries.”
Canada’s Food Economy Footprint

Chapter Summary

- The food sector is responsible for more than 9 per cent of GDP and 2.3 million jobs, roughly 13 per cent of all employment in Canada. In 2010, the labour-intensive food services industry was responsible for 871,000 jobs. Other big employers included retail trade (528,000 jobs) and wholesale trade (100,000 jobs). Food and beverage manufacturing employed 272,000 Canadians, while another 280,000 worked at the agricultural end of food production.

- The production of food for Canadian households has a much broader economic impact than just those industries directly associated with growing, processing, and distributing food. A distinguishing feature of the food economy is that a significant portion of its value added is created in households, in the form of temporary storage and preparation. Household food activities drive significant commercial economy in ancillary food-related goods and services.

- Today, overall real spending on food is at an all-time high of $4,538 per person annually, representing 16.4 per cent of total consumer spending.

The production of food for consumption and export and for the ancillary food industries contributes more than 9 per cent of GDP and employs more than 2.3 million people—a contribution that ranks food near the top of all private sector industries in Canada (1 out of every 7.5 jobs in Canada).

This chapter discusses the nature of that contribution, and the importance of the agriculture and agri-food industries to the Canadian economy. It shows how food generates jobs across a range of industries and gauges an array of economic impacts created by Canada's food industry—the economic “footprint” of Canada’s food sector.

Consumers plan, purchase, and prepare meals each day largely oblivious of the economic forces that are responsible for providing them with food.

The imperative underlying the economy of the food sector is the need for Canadians to access and consume enough food calories each day to sustain themselves. Currently, each Canadian has about 3,300 calories of food, drink, and alcohol available to them on a daily basis.¹ A healthy adult male requires no more than 2,700 calories per day, and other people require even less. This suggests that Canada produces or imports more than enough food for its caloric needs and, indeed, wastes a considerable amount of its food supply.

¹ Statistics Canada, Food Statistics 2009. Statistics Canada estimates that Canadians consumed 2,358 kilocalories per person in 2009, with the difference being waste or spoilage in stores, restaurants, and households.
Consumers plan, purchase, and prepare meals each day largely oblivious of the economic forces that are responsible for providing them with food.

**WHAT CONSTITUTES THE FOOD ECONOMY?**

The food economy consists of all stages involved in the food value chain, from the production of food through to its preparation and ingestion. We lay out these stages in Exhibit 2: production, processing, distribution, storage, and preparation. Each stage requires intensive use of transportation to move production through the value chain. Food is a renewable resource, but much of it has a very limited shelf life (hence the waste). That means that the food system has to continually generate calories for human consumption. It is a perpetual motion machine that relies on very lean processes in order to be viable. The auto sector, for instance, can go through significant down periods if people decide to put off the purchase of a new vehicle. It can also build up large inventories. Large swaths of the food industry are immune to such downturns—people eat during recessions; large inventories are impractical because of spoilage.

**IT ALL STARTS WITH HOUSEHOLD SPENDING . . .**

The primary purpose of the food economy is to meet household demands. As such, we begin our analysis of the economic impacts by discussing how household demands relate to the supply chain. Canada’s food sector includes companies oriented exclusively to the domestic consumer, as well as those that are more export driven. Demand for Canadian food comes from both domestic and international households.

We utilize a detailed model of Canada’s supply chain to quantify the full impact that consumption and exports of food have on the Canadian economy. The production of food for consumption and export requires input from a variety of industries, each of which adds value at various stages of the supply chain.

In 2010, spending on food—defined as spending on food and non-alcoholic beverages, consumption of alcohol, and spending at restaurants—accounted for about $155 billion, or 16.4 per cent of total consumption. This is equivalent to $4,538 being spent for every man, woman, and child. About one-quarter of this demand is met through imports, meaning domestic producers address the lion’s share of domestic demand.

Overall, total real consumption on food, restaurants, and alcoholic beverages has declined as a share of total consumption over time. (See Chart 8.) As we discuss in Chapter 2, this reflects a well-known phenomenon known as Engel’s Law, which suggests that the percentage of income allocated to food will fall as a country becomes increasingly developed.

Nevertheless, real spending on food per person has increased over time as individuals have spent more on higher-value items. From 1961 to 1978, real per person
spending on food, restaurants, and alcoholic beverages increased by a steady 1.6 per cent per year. (See Chart 9.) During this period, real per capita consumption of alcohol doubled, while average per capita spending in restaurants increased by almost 50 per cent. Even consumption of food and non-alcoholic beverages increased significantly, as households increased their consumption of more expensive foods such as red meats and heavily processed or prepared food items. So we see that even while the percentage spent on food declines, the market for food and related services has increased over time. And the composition of that market has tended toward higher value-added foods and services.

Beginning in the 1980s, real disposable income growth stagnated. Then, for almost two decades, real per capita spending on food, restaurants, and alcoholic beverages actually declined. During this period, households froze their real per capita spending on food, while reducing spending on restaurants and alcohol. This left population growth as the only source for increased demand for the next 17 years. Then, in 1997, tightening labour markets helped rekindle growth in real wages and income, and growth in real per capita spending on all three categories of food again began to rise.

Although consumption of food is less susceptible to fluctuating economic conditions than demand in other sectors, tightening purse strings during the 2008–09 recession resulted in consumers substituting spending in restaurants for more in-home dining.

In fact, consumers roughly maintained their spending on food and non-alcoholic beverages, increased their purchases of alcohol, and reduced their spending in restaurants. Spending on food and non-alcoholic beverages has continued to increase as consumers purchase more expensive convenience foods. Spending in restaurants has also largely recovered following the recession and has almost reached its pre-recession levels. Taken together, real spending on food is currently at an all-time high. Spending on food should see continued modest growth over the next several years, supported by an anticipated post-recession resumption in real income growth.

**FOOD IMPORTS**

Imports accounted for nearly one-quarter, or $37 billion, of the $155 billion that consumers spent on food in 2010. Of these imports, slightly more than half were final goods imports, with the remainder being intermediate goods used in domestic production. For a list of the largest imported
food items, see tables 6 and 7. These 30 categories represent almost 87 per cent of all final goods food imports and 46 per cent of all intermediate food imports.

**FROM HOUSEHOLD CONSUMPTION TO JOBS AND PROFITS**

The production of food for Canadian households has a much broader economic impact than just those industries directly associated with growing, processing, and distributing food. We use Statistics Canada’s detailed model of the structure of Canada’s economy to quantify the economy-wide impact of food produced in Canada for our consumption. Later, we present a similar exercise to estimate the impact of food destined for exports. In conducting this analysis we found that most industry groups in Canada are, to some extent, involved in the process of growing, processing, transporting, and distributing food.

Even after accounting for imports, consumption of food generated almost $100 billion in economic activity in Canada in 2007. This production was spread throughout a wide array of industries.

**Table 6**

<table>
<thead>
<tr>
<th>Top 30 Food Imports of Final Goods (per cent)</th>
<th>Share of final goods of food imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meals (outside home)</td>
<td>16.9</td>
</tr>
<tr>
<td>Hotel and motel accommodation services</td>
<td>9.9</td>
</tr>
<tr>
<td>Fresh fruit, excluding tropical</td>
<td>6.5</td>
</tr>
<tr>
<td>Wine, including coolers, bought in stores</td>
<td>6.4</td>
</tr>
<tr>
<td>Other vegetables, fresh or chilled</td>
<td>5.1</td>
</tr>
<tr>
<td>Tropical fruit</td>
<td>4.2</td>
</tr>
<tr>
<td>Distilled alcohol beverages, bought in stores</td>
<td>2.7</td>
</tr>
<tr>
<td>Beer, including coolers, bought in stores</td>
<td>2.7</td>
</tr>
<tr>
<td>Fish and seafood products, canned or otherwise preserved</td>
<td>2.3</td>
</tr>
<tr>
<td>Chocolate confectionery</td>
<td>2.3</td>
</tr>
<tr>
<td>Fruit juices, excluding frozen concentrates</td>
<td>2.3</td>
</tr>
<tr>
<td>All other miscellaneous food products</td>
<td>2.2</td>
</tr>
<tr>
<td>Other confectionery</td>
<td>2.1</td>
</tr>
<tr>
<td>Other bakery products</td>
<td>1.9</td>
</tr>
<tr>
<td>Prepared meat products</td>
<td>1.8</td>
</tr>
<tr>
<td>Fish and seafood products, fresh, chilled, or frozen</td>
<td>1.7</td>
</tr>
<tr>
<td>Roasted coffee</td>
<td>1.4</td>
</tr>
<tr>
<td>Frozen fruit and juice concentrates</td>
<td>1.3</td>
</tr>
<tr>
<td>Nuts</td>
<td>1.3</td>
</tr>
<tr>
<td>Pickles, relishes, and other sauces</td>
<td>1.3</td>
</tr>
<tr>
<td>Biscuits</td>
<td>1.3</td>
</tr>
<tr>
<td>Beef, fresh, chilled, or frozen</td>
<td>1.2</td>
</tr>
<tr>
<td>Other fruit products, including dried fruit and fruit peel</td>
<td>1.2</td>
</tr>
<tr>
<td>Pasta products, excluding dry pasta</td>
<td>1.2</td>
</tr>
<tr>
<td>Breakfast cereal products</td>
<td>1.0</td>
</tr>
<tr>
<td>Food snacks, excluding potato chips and nuts</td>
<td>0.9</td>
</tr>
<tr>
<td>Poultry, fresh, chilled, or frozen</td>
<td>0.9</td>
</tr>
<tr>
<td>Cheese</td>
<td>0.9</td>
</tr>
<tr>
<td>Other preserved vegetables</td>
<td>0.9</td>
</tr>
<tr>
<td>Fish and seafood (except animal aquaculture), live, fresh, chilled, or frozen</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Source: Statistics Canada.

Even after accounting for imports, consumption of food generated almost $100 billion in economic activity in Canada.
The food industries employ a lot of people in Canada. Food-related economic activity is responsible for over 2.3 million jobs. Out of this, in 2010, the labour-intensive restaurant industry was responsible for 871,000 jobs. Other big employers included retail trade (528,000 jobs) and wholesale trade (100,000 jobs). Food manufacturing employed 272,000 Canadians, while another 280,000 worked at the agricultural end of food production. Together these five industries represent over 89 per cent of the jobs within the food sector.

In total, the food industries generated about $53 billion in wages and salaries in 2007 (the most recently available data), with the weighted average wage across the industries averaging $30,200. This is lower than the overall Canadian average wage of $40,800. The majority of employment in the food sector is in industries that pay lower-than-average wages, and many of the jobs are at less than full-time hours.

The food industry employs a lot of people in Canada. Food-related economic activity is responsible for over 2.3 million jobs in Canada.

Over 60 per cent of the employment related to food is in two industries: food services and retail trade. Both of these industries pay lower-than-average wages to employees. The food services industry has an average wage of just under $18,000. Some of this lower wage is explained by the fact that employees in this industry work less than full-time hours. Increasing the average hours to full-time equivalent hours increases the average annual wage to almost $25,000. The retail trade sector has a slightly higher average wage of $25,500. Similarly, if we adjust the hours to bring them to full-time equivalent hours, this increases the average wage to $33,300 per year, which is still below the overall average Canadian salary of $40,800.

### Table 7
Top 30 Food Imports of Intermediate Goods (per cent)

| Share of intermediate goods of food imports | Royalties and licence fees (excluding natural resource) 5.9 | Crude mineral oils 5.5 | Other administrative and support services 3.5 | Other vegetables, fresh or chilled 2.2 | Beef, fresh, chilled, or frozen 1.9 | All other miscellaneous food products 1.9 | Wine, including coolers, bought in stores 1.5 | Raw sugar 1.3 | Cocoa and chocolate 1.3 | Insecticides and herbicides 1.3 | Pork, fresh, chilled, or frozen 1.2 | Paper boxes, cartons, and drums 1.2 | Plastic film and sheet, not laminated 1.1 | Fresh fruit, excluding tropical 1.1 | Natural gas, excluding liquefied 1.1 | Non-life insurance 1.1 | Feeds from vegetable oil by-products, including oil cake and other residues 1.0 | Coffee, not roasted 1.0 | Plastic containers and closures 1.0 | Data processing services 1.0 | Other polymers 1.0 | Other professional, scientific, and technical services 1.0 | Chemical fertilizers 0.9 | Pharmaceuticals 0.9 | Fish and seafood products, fresh, chilled, or frozen 0.9 | Nuts 0.9 | Other flours and processed grains 0.9 | Hotel and motel accommodation services 0.9 | Truck transportation 0.8 | Poultry, fresh, chilled, or frozen 0.8 |

Source: Statistics Canada.
However, some food-related industries pay higher-than-average wages. Food manufacturers paid 13 per cent higher than the Canadian average ($46,000). Even higher average wages are seen in the wholesale trade sector, with average wages of $51,000 per employee.

In 2007, the consumer food sector generated $32 billion in other operating income, a measure of corporate profits. Almost 80 per cent of these profits were generated by six industries, with manufacturing accounting for the largest share. (See Table 8.) Industries that are more capital intensive tend to generate a greater share of profits. For example, manufacturing was responsible for 30 per cent of the operating surplus, despite accounting for 20 per cent of output.

### Table 8
Operating Income by Industry ($ billions)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Operating income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>6.54</td>
</tr>
<tr>
<td>Crop and animal production</td>
<td>2.18</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>2.17</td>
</tr>
<tr>
<td>Retail trade</td>
<td>2.06</td>
</tr>
<tr>
<td>Finance, insurance, real estate and rental, and leasing</td>
<td>2.06</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>1.91</td>
</tr>
<tr>
<td>Mining and oil and gas extraction</td>
<td>1.07</td>
</tr>
<tr>
<td>Utilities</td>
<td>0.92</td>
</tr>
<tr>
<td>Information and cultural industries</td>
<td>0.80</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Source: Statistics Canada.

Crop and animal production, also capital intensive, generated the next-largest amount of operating surplus. Despite providing only 4.1 per cent of production, the sector is responsible for 10 per cent of overall profits. By comparison, accommodation and food services, a highly competitive, labour intensive, low-margin sector, generated less than 10 per cent of the profits despite accounting for almost 22 per cent of total GDP.

### Chart 10
Share of Value-Added Production, by Industry Group (per cent)

- Accommodation and food services
- Manufacturing
- Retail trade
- Wholesale trade
- Finance, insurance, real estate and rental, and leasing
- Transportation and warehousing
- Crop and animal production
- Professional, scientific, and technical services
- Administrative and support, waste management, and remediation services
- Information and cultural industries
- Utilities
- Mining and oil and gas extraction
- Government sector
- Other services (except public administration)
- Arts, entertainment and recreation
- Construction
- Fishing, hunting and trapping
- Support activities for agriculture and forestry

Source: Statistics Canada.

### SUB-INDUSTRY BREAKDOWNS

The value chain of food is typically broken down into fishing and primary agriculture; food and beverage processing; wholesale, distribution, and retail food industries; commercial food preparation (restaurants and other food services); and farm input and service supplier industries (such as agricultural machinery producers and international commodity brokers). For statistical reasons, the output of these industries may be slightly different than the “food economy.” The reason is that some aspects of these industries address non-food needs (e.g., crops for biofuels) and therefore are not strictly part of the food supply chain. We focus our sub-industry analysis on dynamics that have a direct bearing on the food economy.
AGRICULTURE
Crop and animal production has always been a mainstay of Canada’s economy. Historically, the sector has undergone continuous structural change as increased technology and capital investment have resulted in fewer farms that are larger, more productive, and more cost-effective. Over the 1999 to 2006 period, intense global competition resulted in falling real prices for many agriculture commodities, but this trend has since been rapidly changing. Since 2007, strong global demand coupled with high energy prices and supply shortages have lifted agriculture prices. Looking ahead, rising global wealth (now coming largely from developing economies) is expected to put upward pressure on real agricultural commodity prices—a beneficial situation for Canada’s agri-food exporters.

Canada’s most important agricultural products in terms of value include wheat, canola, hogs, cattle, and milk. Other major products include potatoes, peas, and soybeans. As a major global producer of agricultural products, Canada is the world’s largest producer of products like canola, peas, lentils, and some specialty products like mustard seed and linseed. Canada is also a major producer of products like wheat (fifth globally), pork (sixth globally), and soybeans (seventh globally).

The most important agricultural products grown in Canada in terms of value include wheat, canola, hogs, cattle, and milk.

Agriculture is a crucial starting point for examining the value-added chain of production and distribution associated with food industries. In 2008, raw agricultural commodities accounted for 44 per cent of the value of material input into food and beverage processing. The grains and oilseeds and meat industries are the most important agricultural industries in the Prairies. In Ontario, grains and oilseeds account for the largest share of the provincial agricultural sector, but the rest of the sector is divided among many industries (such as meat, dairy, poultry and eggs, and fruits and vegetables). British Columbia’s agricultural sector is also a mix of those industries, but grains and oilseeds account for a very small share. In Quebec, the largest agricultural industry is dairy, followed by the meat industry.

Canadians consume a lot of dairy products, and almost all of this is produced domestically. In 2009, we each consumed, on average, over 81 litres of milk, 7.8 litres of yogurt, 12.3 kg of cheese, 5.6 litres of ice cream, and 2.8 kg of butter. Thus, dairy production accounted for 13.3 per cent of total farm market receipts in 2009, ranking third after grains and oilseeds and red meats.

The prices Canadian dairy producers receive for their milk and butter are two or three times world prices and growing faster than other consumer products.

Dairy products have two main markets: the fluid milk sold for consumption and industrial milk sold to be further processed into such products as butter, cheese, yogurt, ice cream, and milk powders. Historically, producers have been able to obtain a higher profit margin than other Canadian farmers, thanks to the price support implemented as part of the supply management system.

In fact, the prices Canadian dairy producers receive for their milk and butter are two or three times world prices and are growing faster than those for other consumer products. Since Canadian dairy prices are much higher than world prices, and the World Trade Organization prevents dumping (a term used to describe selling exports below domestic prices), it is difficult for Canada to export dairy products. In fact, in 2010, we exported just $338 million in dairy products, which accounts for 0.9 per cent of total food exports. Imports of dairy are similarly restricted, as a result of the supply management system in place. In 2010, we imported just $569 million in dairy, primarily cheese and powdered dairy products.

The aquaculture industry—which is classified as part of the agricultural sector—has grown into an important economic activity since it was introduced in the 1970s. Between 1997 and 2009, aquaculture receipts nearly

3 FAOSTAT, “Data.”
4 Goldfarb, Making Milk, 13.
doubled, reaching $908 million, although growth has stagnated in recent years. The industry is concentrated in a few provinces: British Columbia accounts for 52 per cent of production, New Brunswick for 21 per cent, and Newfoundland for 12 per cent of total industry output. While the long-term outlook for fishing production is muted (as discussed in the next section), strong investment in aquaculture in Canada suggests that the potential for growing our production of fish and fish products through aquaculture is promising.

**FISHING**
The fishing industry is mainly concentrated in Atlantic Canada (which accounts for about 80 per cent of total landings). This is where most lobster, crab, and shrimp are caught—and these high-value items account for 67 per cent of “the landed value of all fish and shellfish harvested in Canada.” About 16 per cent of total landings are on the Pacific coast. This is where salmon, clams, ground fish, and herring roe are caught. The remaining 4 per cent of total Canadian landings comes from the freshwater fishery.

About 80 per cent of the fish and seafood produced in Canada is exported, making Canada the seventh-largest exporter of fish and seafood products in the world. In 2008, Canada’s fish and seafood exports were valued at $3.9 billion, while the value of Canadian imports was around $2 billion. Most of Canada’s seafood exports are destined for the U.S. (about 62 per cent of seafood trade), followed by the European Union (15 per cent), Japan (8 per cent), and China (6 per cent). The Canadian fishing industry directly employs more than 130,000 Canadians and supports approximately 1,500 communities in rural and coastal Canada. However, the fishing industry has a limited growth potential because production is constrained by set quotas and chronic issues of shrinking stock in the seas.

**FOOD PROCESSING**
Food and beverage manufacturers are the largest employer in the manufacturing sector. In 2010, they accounted for 272,000 jobs. The size of the food and beverage processing industry partly stems from the fact that it is a collection of industries processing products at different stages. For example, wheat first goes through a flour mill before going into bakeries where it is used to make bread. Before a product is ready to be consumed, it may go through many stages of processing. About 14 per cent of food and beverage processing outputs are sold as input to other food and beverage processors. Agricultural products, fresh fish, and seafood account for almost half of the total value of material inputs into food and beverage processing. Food and beverage products that have already been partially processed represent 37 per cent of the total value. The remaining 16 per cent of total value comes from such things as packaging materials, energy, chemical additives, and equipment.

The most recent recession was hard on Canadian manufacturing. Canadian food and beverage manufacturers continued to expand their production while other manufacturers cut back, demonstrating that the industry is in some ways immune to the cyclical factors that affect other manufacturing. The food manufacturing sector, on the whole, experienced average growth in output of 3.6 per cent per annum from 2005 through 2010, and production rose by an average of 1.4 per cent per year and sales by 2.8 per cent.

Despite these gains, the industry continues to face substantial challenges in maintaining its viability. Those concerns focus on the fact that the food manufacturing sector has experienced an employment decline of almost 30,000 since 2004 (on a base of around 300,000 jobs). About a quarter of those job losses have come through high-profile plant closures, which have averaged about 10 per year and 160 jobs per closure, for a total loss from these 50 plant closures of 8,000 jobs during those years.

Clearly these job losses would be more of an issue if production, sales, and output were also declining, but they are not. Still, the loss of employment speaks to an industry that needs to constantly evolve to meet the challenges of competition. And because the industry is
heavily regulated, it faces particular risks associated with changes in regulation that affect the viability of particular plants in Canada. For instance, in 2007, Hershey closed its last two plants in Canada, resulting in a loss of 1,000 jobs. At the same time, Hershey announced plans to create a new 1,500 employee facility in Monterrey, Mexico as part of a comprehensive three-year supply chain transformation program. Part of the reason for the closures in Canada is that Mexico gained unrestricted access to the United States via NAFTA, which, when paired with Mexico’s lower cost of production, greatly improved its competitiveness in relation to Canada.

The Canadian food processing sector pays lower wages and has lower productivity across all food processing subsectors than the United States.

However, although the broad food manufacturing sector tends to experience slow stable growth, there can be significant variation in the performance among the subsectors that make up the industry over time. Major factors contributing to this variation include volatility in the production of underlying agricultural products and changes in trade rules. For example, grain and oilseed milling activity in Canada is highly correlated with the wheat, canola, and soybean harvests, which can vary considerably from one year to the next.

As well, trade barriers for food are common and include non-tariff barriers such as cultural preferences and labeling, tariff barriers, and outright trade bans. Changes in barriers can cause large short-term fluctuations in production, such as the trade bans on pork that were initially instituted when the H1N1 flu virus was first labelled as “swine flu.” They can also have longer-term implications. For example, after experiencing years of strong growth, Canada’s sugar and confectionery products industry has struggled since Mexico gained unrestricted access to the U.S. market for sugar products. In essence, sugar prices in Canada reflect the lower world price, while sugar prices in the U.S. are higher, thanks to domestic price supports. This discrepancy allowed the industry to grow in Canada, but Canada lost its monopoly on this comparative advantage once Mexico gained unfettered access to the U.S. market under the terms of NAFTA.

Meat, bakeries, other food processing, and dairy are the largest food and beverage processing industries. Together, they make up more than half of total food manufacturing output. Other segments include fruit and vegetable processing, grain and oilseed milling, sugar and confectionery products, seafood products, animal food manufacturing, and other beverages. The beverage industry, which includes bottled water, pop, and alcoholic beverages, is much smaller than the food industry. Since most non-alcoholic beverages are heavy to transport relative to market value, they are usually made locally. However, the industry is facing increasing competition from non-U.S. imports.

Most of the food manufacturing production takes place in Ontario and Quebec, which account for 67 per cent of Canadian food manufacturing output (in nominal terms), followed by the Western provinces, which accounted for over 25 per cent of food manufacturing output in 2007. The Atlantic provinces account for the remaining 8 per cent. Processed food is primarily sold to food retailers (40 per cent) and food service providers (20 per cent), or is exported (18 per cent).

One challenge facing the food processing sector is productivity. As research by the George Morris Centre has pointed out, Canada’s food processing sector is structurally similar to that of the United States. The Canadian industry accounts for about 13 per cent of manufacturing output, compared with 11 per cent in the United States. Yet, the study finds the Canadian industry pays lower wages and has lower productivity across all food processing subsectors. A key reason is because the scale of operation in the United States is significantly larger than it is in Canada. This shows that a focus on the share of manufacturing or GDP can mask underlying economic fundamentals like productivity, which is more important to the competitiveness of industry.

6 George Morris Centre, “Improving Productivity in Canada’s Food Processing Sector.”
DISTRIBUTION
Among food industries, the retail and wholesale segments are the largest contributors to GDP and the largest employers after the food service industry in the agriculture and agri-food system. In 2010, the industry accounted for 3.7 per cent of Canadian employment. The food retailers are the stores selling food to consumers (for example, Loblaw Companies Limited) and the food wholesalers are generally the intermediaries between the manufacturers and the retailers.

The industry has been undergoing changes recently. Supermarket chains have been facing increased competition from non-food retailers such as department stores, Wal-Mart, drug stores, and gas stations, which are now selling food. As such, their share of food sales has been declining, while the share of food sales by general merchandise stores has risen.

Canadians spent a total of $103.6 billion at food and beverage stores in 2010, of which $73.7 billion was spent at supermarkets and other grocery stores. The supermarket segment in Canada is concentrated, with reported revenues at just three companies (Loblaw Companies Limited, Empire Company Limited, and Metro Inc.) being equivalent to about 90 per cent of retail sales at grocery stores. Convenience stores and specialty food stores (most with fewer than 50 employees) account for $11.7 billion in sales, of which food constitutes a significant portion. In food retailing, in addition to the “big three” supermarkets, there are also numerous smaller operators. According to Statistics Canada’s business registry, there were 13,105 grocery and convenience store enterprises in Canada at the end of 2010. Many of these businesses (10,898, or 83 per cent) are single-store operations with fewer than 20 employees.

Although most food is purchased at supermarkets, their share of Canadian food expenditures has been gradually shrinking over time as other general merchandise stores, gas stations, and drug stores are also adding food to their product mix. In 2010, 11.4 per cent of food sales in Canada were through general merchandise stores (such as Wal-Mart and Canadian Tire), while 2.7 per cent of food sales were at gas stations and 1.7 per cent were at drug stores.

COMMERCIAL FOOD PREPARATION
As described earlier, the food service industry is labour intensive. It is the largest employer in the food sector, employing 871,000 people in 2010. The food service industry includes four different categories. Full service restaurants (where customers are seated when served) account for the largest share of all sales (44 per cent of monthly receipts) in the food service industry. Limited-service restaurants (which include cafeteria and take-out restaurants) account for the second-largest share (43 per cent). The last two categories are the contract and social caterers (8 per cent) and pubs, taverns, and nightclubs (5 per cent).7

HOUSEHOLD FOOD PREPARATION
A distinguishing feature of the food economy is that a significant portion of its value added is created in households, in the form of temporary storage and preparation (see the right-hand box under “Storage and Preparation” in Exhibit 2). We distinguish this stage from the other boxes (which represent commercial food supply) because much of this activity is “non-commercial” and therefore cannot strictly be compared with the commercial food economy. Nonetheless, the non-commercial economy is economically significant because it drives a significant commercial economy in ancillary food-related goods and services.

Moreover, as we discussed in the previous chapter, the functioning of household value added is a very important driver that shapes the commercial value chain. It leads, for instance, to more processing activity to cut down on home food preparation time. The 2006 Census shows that food shopping, preparation, and washing up consumes many hours of time for the typical household. Only 16 per cent of Canadians regularly dine at restaurants; most Canadian households see restaurants as a luxury.8 Restaurants see their business drop during recessions, not because people stop eating, but rather because they substitute restaurant preparation with less-costly home cooking.

7 Statistics Canada, Table 355-0006.
8 Canadian Restaurant and Foodservices Association, “Research.”
Canadians expect their residences to have a kitchen. A good portion of the value of Canada’s housing stock is dedicated to kitchen space and associated capital. A typical kitchen may amount to an eighth of the floor space of the typical home. According to Statistics Canada, the average household spends $10,683 a year on housing. If we apply the one-eighth ratio to this average spending, we find that households will spend $1,335 on average per year on their kitchen. With over 13.5 million dwellings in Canada at the end of 2010, we estimate that Canadians pay almost $18 billion a year to maintain their own food preparation facilities.

With over 13.5 million dwellings in Canada at the end of 2010, Canadians pay an estimated $18 billion a year to maintain their own food preparation facilities.

Households capitalize their kitchens with a variety of goods. (See Chart 11.) The modern kitchen includes refrigerators, freezers, ovens (conventional and microwave), coffee machines, cutlery, cookware, and dry goods storage. Almost 30 per cent of households have two refrigerators. Canadians spend about $2 billion per year out-of-pocket to equip their kitchens and to replace worn-out refrigerators/freezers, microwave ovens, and other cooking equipment. That sets the annual capital cost of preparation at close to $20 billion. By way of comparison, the food services industry spent $1.2 billion in 2010 investing in buildings, machinery, and equipment.

Finally, there is the labour component of home food preparation, also known as the “human capital” component. Table 9 provides estimates of the time spent in food preparation and washing up. Time spent preparing food also contributes to the economy through cooking instruction. Cookbook sales alone are estimated to represent almost 4 per cent ($80 million) of the $2-billion book industry in Canada. As food preparation in the home is a non-commercial activity, it is difficult to determine what value to put on it.

Clearly, the post-secondary education system prepares cooks and chefs for employment in the restaurant sector. But households supplement their human capital so as to improve the quality and variety of their food. Canadians take food courses, buy cookbooks, subscribe to cooking cable channels, and watch TV cooking shows. All these are part of the ancillary food economy that exists only because home food preparation is an important part of the food value chain.

**PROVINCIAL DIFFERENCES**

The dependence of provincial economies on the food sector varies widely. At one extreme is Prince Edward Island, where about 16.5 per cent of the economy is generated directly by food-related industries—the highest of any province. On the other hand, because so much of its output is due to offshore oil production, Newfoundland’s economy is the least dependent on food industries—where they account for only 4.7 per cent of GDP. Similarly, in Alberta food industries account for just 4.8 per cent of GDP. For all other provinces though, the economic weight of the food industries is much higher. The next-lowest

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9 Interview with architect on flooring standards. Also verified in U.S. data that reports an average kitchen space of 300 square feet in a typical home of 2,350 square feet. See Wallender, “Home Renovations.”
10 Statistics Canada, CANSIM, V28368488, V4427476, V4427477.
11 Statistics Canada, Detailed Average Household Expenditure.
12 Ibid.
for example, is British Columbia, where food industries account for a still substantial 5.9 per cent of GDP. In Ontario and Quebec, the importance of food manufacturing helps lift the direct contribution of food industries to 6.1 per cent and 7.2 per cent of GDP, respectively. Nova Scotia, New Brunswick, Manitoba, and Saskatchewan all attribute a significant share of their economies to food industries, rising, in that order, from 8.2 per cent to 9.5 per cent. (See Table 10.)

**CANADA’S FOOD EXPORT FOOTPRINT**

In addition to meeting domestic consumer demand for food, Canada’s food sector is also a significant source of exports. Using Statistics Canada’s input-output model, we took a closer look at the contribution of each industry involved in the overall food supply chain. In this section, we analyze the footprint for the food export market.

In 2008, Canada was the world’s fourth-largest exporter of food and agricultural products (after the U.S., the EU, and Brazil), with exports valued at $38.8 billion; and the sixth-largest importer of agriculture and agri-food products in the world (after the EU, the U.S., Japan, China, and Russia), with imports valued at $24.9 billion.14

Canada is a net exporter of food, which provides a positive contribution to our GDP and income. Overall, the country is an important global producer and exporter of grains, oilseeds, and red meats, accounting for 29.9 per cent, 20.3 per cent, and 19.6 per cent of the total value of agricultural and agri-food exports, respectively. The remaining exports (30.2 per cent) include processed fruits and vegetables (such as frozen french fries), fish and fish products, and other smaller items.15

### Table 9
**Estimating the Value of Domestic Food Preparation**

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population over 25</td>
<td>11,437,900</td>
<td>11,943,600</td>
<td>23,381,500</td>
</tr>
<tr>
<td>Participation rate in home food prep (per cent)</td>
<td>50</td>
<td>73</td>
<td>—</td>
</tr>
<tr>
<td>Part-time home cooks</td>
<td>5,718,950</td>
<td>8,718,828</td>
<td>14,437,778</td>
</tr>
<tr>
<td>Hours per day</td>
<td>0.8</td>
<td>1.2</td>
<td>1.04</td>
</tr>
<tr>
<td>Days per year</td>
<td>365</td>
<td>365</td>
<td>365</td>
</tr>
<tr>
<td>Total annual people hours</td>
<td>1,669,933,400</td>
<td>3,818,846,664</td>
<td>5,488,780,064</td>
</tr>
</tbody>
</table>

Sources: Statistics Canada; The Conference Board of Canada.

### Table 10
**Food as a Share of Provincial GDP**

<table>
<thead>
<tr>
<th></th>
<th>Food manufacturing</th>
<th>Crop and animal production (and fishing)</th>
<th>Food services</th>
<th>Food retail and wholesale</th>
<th>Total provincial food industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newfoundland</td>
<td>1.12</td>
<td>0.98</td>
<td>0.82</td>
<td>1.81</td>
<td>4.73</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>4.90</td>
<td>6.48</td>
<td>1.76</td>
<td>3.37</td>
<td>16.52</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>1.66</td>
<td>1.77</td>
<td>1.58</td>
<td>3.16</td>
<td>8.17</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>2.70</td>
<td>1.33</td>
<td>1.41</td>
<td>3.15</td>
<td>8.59</td>
</tr>
<tr>
<td>Quebec</td>
<td>1.62</td>
<td>1.19</td>
<td>1.66</td>
<td>2.72</td>
<td>7.19</td>
</tr>
<tr>
<td>Ontario</td>
<td>1.74</td>
<td>0.66</td>
<td>1.43</td>
<td>2.23</td>
<td>6.05</td>
</tr>
<tr>
<td>Manitoba</td>
<td>2.39</td>
<td>3.43</td>
<td>1.18</td>
<td>2.53</td>
<td>9.53</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>1.33</td>
<td>5.52</td>
<td>0.98</td>
<td>1.58</td>
<td>9.42</td>
</tr>
<tr>
<td>Alberta</td>
<td>0.80</td>
<td>1.23</td>
<td>1.27</td>
<td>1.49</td>
<td>4.79</td>
</tr>
<tr>
<td>British Columbia</td>
<td>0.91</td>
<td>0.70</td>
<td>1.60</td>
<td>2.68</td>
<td>5.89</td>
</tr>
</tbody>
</table>

Source: Statistics Canada.
The United States is Canada’s main trading partner, and this holds true for agriculture and agri-food products. The U.S. is the principal buyer of Canada’s agriculture and agri-food exports. In fact, it was the destination for about half of Canada’s agriculture and agri-food exports in 2010.16 Other major destinations for Canadian food exports are Japan (8 per cent of food exports), China (7 per cent), Europe (6 per cent), Mexico (2 per cent), and Hong Kong (1 per cent). All other countries each receive less than 1 per cent of Canadian food exports.

The largest share of Canada’s imports of agricultural and agri-food products (57 per cent in 2010) comes from the United States. The European Union is the second-largest source of Canada’s imports, accounting for 12 per cent of total Canadian imports in 2010.

Higher energy prices are expected to continue to bolster the global price of grains, including that of Canada’s main agricultural export, wheat.

However, competition from abroad, coupled with a strong currency, has led to a modest erosion in the contribution of net food exports to GDP. In real (inflation-adjusted) terms, net exports have edged down from 1.1 per cent of GDP in the 1980s to just 0.6 per cent of GDP in 2010.

As well, a substantial proportion of the inputs used to generate food exports were imported, lowering the overall impact on GDP. In fact, out of every dollar exported, 21 cents was spent importing intermediate goods. The integration of the industry’s supply chain helps to explain why the industry is concerned about rules like country-of-origin labelling. Although the manufacturing sector was responsible for the majority of these imports, crop and animal production also rely on a substantial amount of imports for their inputs. The largest imported items were chemicals and pharmaceuticals (such as fertilizers and antibiotics for animals); fruits and vegetables; mineral oils; and meat, fish, and dairy products.

Even after accounting for the large import share of exports, exports of food generated over $25 billion in economic activity in Canada in 2007. The largest industry involved was the manufacturing industry, which generated almost 28 per cent of the output, followed closely by the crop and animal production industry. The next three largest industries were the wholesale trade industry; the transportation and warehousing industry; and the finance, insurance, and real estate industry.

A $1 billion (3.2 per cent) increase in food exports would result in a net effect of an $800-million increase in domestic production.

The average wage associated with exports of food (excluding self-employed) was $42,300. Although crop and animal production, the largest employer, paid lower wages, the manufacturing, wholesale trade, and transportation and warehousing sectors required for processing and moving food across the border all paid relatively high wages. This is higher than the total food sector wage, but lower than the salaries paid by domestic food manufacturers ($46,000) and the wholesale trade sector ($51,000) per employee.

Over the longer term, the outlook for global agriculture prices is positive due to several competing demands, not all of which are related to food. Corn, for example, is used for animal feed, ethanol, and human consumption. Canada is not a large producer of biofuels, but in the United States and a number of other countries, ethanol production is putting more and more pressure on agricultural resources. Because of the link between food and fuel, higher energy prices are expected to continue to bolster the global price of grains, including that of Canada’s main agricultural export, wheat.

This is good news for Canada, economically. Higher agricultural commodity prices bolster income, profits, and investment in this country. Moreover, the impact on domestic retail food prices tends to be modest. The price of food on grocery shelves is more related to input costs associated with distribution, wholesaling, and retailing than it is with raw commodity prices. Less than 10 cents of every dollar that Canadian consumers spend on food is directly attributable to agricultural commodities.

16 Industry Canada, “Trade Data Online.”
INDUCED ECONOMIC IMPACTS OF AN EXPANSION IN FOOD EXPORTS

Exports of food have been rising since the early 1990s. Given the outlook for strong growth in global demand, it is interesting to ask what the impact on the economy, wages, employment, and profits would be of a continuation of this trend.

We calculate that increasing food exports would have significant positive impacts on GDP and job creation. We estimate that a $1 billion (3.2 per cent) increase in exports would result in a net effect of an $800-million increase in domestic production. This increase in economic activity would result in the creation of approximately 10,500 new jobs with an average income of $42,300—slightly above the Canadian average. Moreover, increased labour income would result in additional household spending, further increasing the impact on the economy. These secondary effects would result in an additional $242 million to GDP and the creation of an additional 2,700 jobs. In sum, for every billion-dollar increase in exports, including the impact of production required to produce the goods and the impact of increased spending from the increase in labour income, GDP could be expected to rise by just over $1 billion, creating an additional 13,000 jobs.

This analysis is not meant to suggest that exports can simply be switched on or off. Canada’s exports very much depend on the openness of foreign markets to our goods. As such, these results have to be seen in the context of the contribution that trade can make to the overall GDP of the agriculture and agri-food sector. Trade across borders facilitates the development of economies of scale and scope that improve the competitiveness of the Canadian agriculture and agri-food sectors. So, even accounting for the fact that imports may rise through trade, it is likely that a more open trading regime is likely to produce a more robust agriculture and agri-food sector that makes a higher contribution yet to GDP.

CONCLUSION

The production of food for consumption and export generates major economic activity across a multitude of industries. Despite our tendency to import a significant share of the food we eat, consumption and production of food for domestic use is responsible for 7.4 per cent of GDP and 1.95 million jobs. The industries responsible for most of this production are the wholesale and retail trade sectors, followed closely by the food services industry and the food manufacturing industry. Providing smaller contributions are the finance, insurance, and real estate industries; the transportation and warehousing industries; and the crop and animal production industries.

Furthermore, the production of food destined for export markets accounts for an additional 1.6 per cent of the Canadian economy and a further 350,000 jobs. The industries responsible for the majority of this production, ranked closely in order of importance, were the manufacturing industry and the crop and animal production industries. The next three largest industries were the wholesale trade industry; the transportation and warehousing industry; and the finance, insurance, and real estate industry.

In total, the food sector was responsible for 9 per cent of GDP and 2.3 million jobs in 2007.

In addition, ancillary food industries that are centred on non-commercial household food preparation are the source of multiple billions in annual spending, much of which is focused on outfitting kitchens for food preparation. Food shopping and preparation are major time-consuming activities for households, something that the commercial sector in the form of processors, retailers, and restaurateurs take into consideration when deciding on their offerings.
The Global Connections of Canada’s Food Sector

Chapter Summary

- The complexity and global reach of the food sector is directly related to the demands placed on it by Canadian consumers.
- With some notable exceptions, Canada’s food sector is highly integrated into the global economy. Canada is among a privileged group of 24 countries that are major net exporters of food.
- The North American consumer will continue to be an important driver of food sector business in Canada, but domestic demand in Canada and North America will be constrained by slow population growth and relatively small changes in the North American diet in the coming decades.
- The developing world will be a significant driver of growth in the demand for food—first, by population increases that will add more than 2 billion people in developing countries by 2050; and second, through the changing diets of a growing global middle class of consumers, many of them in the developing world, who seek a diet that is more diverse and where meat and fish protein play a larger role.

“*The fate of nations hangs upon their choice of food.*”

—Jean-Anthelme Brillat-Savarin

This chapter examines Canada’s connection to the global food economy. It addresses two key questions: how is the world’s food supply becoming more globalized, and what is Canada’s involvement in the global food trade and international investment in food?

We begin by exploring the global system of trade, multinational corporations, and international finance. We then examine Canada’s role as a trading nation in food. To conclude, we explore likely avenues of growth for the food sector in Canada and internationally, and examine how other countries are shaping their food sector to position themselves for growth.

The food sector is facing a dramatic shift in its customer base as globalization, population patterns, and demographics reshape where food companies will find growth opportunities in the coming decades.

Globalization transforms all industries as they become more integrated across borders. It promotes competition as firms and individuals seek the highest-profit/lowest-cost

1 As quoted in Standage, *An Edible History of Humanity*, xi.
opportunities. It fosters innovation, as high-performing companies search for greater opportunities while poorly performing companies go out of business or are bought out. Globalization forces specialization, causing companies to identify what they do best in order to maximize their unique advantage in the global market and remain competitive. It also reshapes the nature of economies of scale, as firms and suppliers get larger to service a global, rather than a local, market.

To what extent is Canada engaging in the broader world trade of food? Is Canada positioning itself to be a leader in supplying food to the world in the near future?

All of the features of globalization affect the food sector, but the food sector is not uniformly or equally integrated into the global economy. With rising international trade in food, nations are faced with two competing pressures:

- To what extent should they open their markets to international trade in food and seek to go global themselves?
- To what extent should they protect their domestic markets?

Strong economic forces are driving openness and connection to global food trade, including consumer preferences for certain foods, the aspirations of domestic firms to capitalize on global markets, and the desire to secure access to lower-cost foods and commodities. On the other hand, governments are also faced with the competing desire to limit trade and to protect domestic production for economic, social, and political reasons. The fundamental connection of food to human well-being means that food is often subject to special treatment and protections that are intended, at one level, to support greater access to food but that, in practice, impose limitations.

We should not underestimate the power of psychology here. Human history has often been driven by food and famine. The drive to eat is a primary force that affects the rise and fall of nations. In times of shortages and drought, food can become the sole preoccupation of a nation and a people. Fortunately, Canada is a food-rich country—at almost all points in its national history it has been able to produce more food than its population requires, and famine has been virtually unknown.

In a world with 7 billion people and a burgeoning middle-class, how food is traded affects access to food for people everywhere. Involvement in global trade in food also dramatically affects the competitiveness, profitability, and viability of the food sector in Canada. Although it may be technically feasible to grow oranges in a greenhouse in Toronto, the costs in terms of energy use, soil nutrients, and space availability make it prohibitive and wasteful. In this instance, it is relatively easy to determine that Canadians are better off trading with regions where the conditions are better for growing oranges. But to what extent is Canada engaging in the broader world trade of food? Is Canada positioning itself to be a leader in supplying food to the world in the near future?

THE GLOBAL ECONOMY OF FOOD

MULTINATIONAL CORPORATIONS AND INVESTMENT FLOWS
The current state of globalization in the food sector is not a radical break from the past, but a continuation of a long-term trend toward greater integration of food systems around the world.

FOOD COMPANIES ARE GLOBAL PLAYERS
Today, some of the largest companies in the world are involved in the food business. The activities of these globally active companies can have significant impacts on supply chains and on the activities of the food sector around the world. The world’s largest food manufacturing company is Switzerland-based Nestlé, with $109 billion in sales worldwide in 2010. Nestlé employs over 278,000 people; it ranked as the 44th-largest corporation in the world by sales in 2010. The world’s largest corporation, Wal-Mart, with overall sales of $400 billion, is also the largest food retailer globally, with a significant

proportion of its revenues coming from food.3 (See Chapter 2.) These large globally operating companies, and others like them, are capturing large market shares, thus providing the companies with significant influence over suppliers.

One example of this increasing market share is the competition between Nestlé and Unilever for the global market for ice cream. Together, these firms control more than a third of the global ice cream market and over 50 per cent of the U.S market. This market dominance was created by both companies in the past 20 years, largely through acquisitions. For Nestlé, market share was created by purchasing Häagen-Dazs, Dreyer’s, and Mövenpick. For its part, Unilever bought Breyers Ice Cream and Ben & Jerry’s. These acquisitions led to Nestlé having a 17.5 per cent share of the world ice cream market, while Unilever was close behind with 16 per cent in 2007.4

Between 2000 and 2008, Deloitte identified almost 1,500 mergers and acquisitions in the food and beverage sector in North America alone.

The overall trend in the food sector over the past 10 years has increased consolidation across all sectors. Between 2000 and 2008, Deloitte identified almost 1,500 mergers and acquisitions in the food and beverage sector in North America alone.5 Since then, merger and acquisition (M&A) activities have declined, due in large part to the recent financial crisis and recession. But even in this tightened economic climate, food companies have brokered some of the largest mergers and acquisitions in the world.

Of the 44 largest M&A deals in 2010, food companies were at the centre of the largest deal of the year when Kraft Foods became the second-largest food company in the world with its purchase of Cadbury plc for $19 billion.6 In 2010, there were four major cross-border food company deals, each with a value of over $3 billion. Though less spectacular, there is also a trend toward consolidation of farming into fewer, larger farms.

This concentration in the food sector has caused some governments to worry that food companies and large farms may be too powerful a force in the markets. For example, in 2009, the U.S. Government Accountability Office (GAO) was asked by U.S. Senator Charles Grassley to investigate whether concentration in the agricultural and food processing sectors had allowed firms to exert undue influence on commodity prices.

The study found that “[c]oncentration generally has increased at all levels of the food marketing chain in all sectors since the 1980s.” It went on to report that “at the farm level, less than 2 per cent of farms accounted for 50 per cent of total sales in 2007.”7 At the food processors level, a small number of companies accounted for a large and growing share of the sales in beef, pork, poultry, dairy, and grains. Despite this increase in concentration, the GAO report found that there was no evidence of market power being exerted or that the efficiency effects of the large scale were larger than the market power of concentration. In addition, the study reported that the trend toward concentration in the food sector is likely to continue into the future.

MULTINATIONAL CORPORATIONS TAKE THE LEAD TO ESTABLISH GLOBAL STANDARDS

The global scope of some of the largest food companies is also driving these companies to take the lead in developing and implementing global standards. In a 2009 study, the Food and Agriculture Organization (FAO) traced the rise of private sector standards in the food sector in the past 15 years.8 These standards relate to everything from food safety and the integrity of food safety systems to aspects of food such as provenance, environmental impact, and standards of conduct such as animal welfare.

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3 Fortune, “Global 500.”
4 Entrepreneur, “Nestle Battles It Out.”
6 UNCTAD, “Global and Regional FDI Trends in 2010.”
8 Henson and Humphrey, The Impacts of Private Sector Food Safety Standards.
The study noted that private sector standards for food production often went “beyond” government regulations in these areas. Private sector standards go beyond government standards in three key ways:

1. They sometimes set a higher standard for particular food product attributes by being more stringent or extensive than public standards.
2. They sometimes increase the scope of activities regulated by the standard, by extending vertically throughout the food supply chain and by adding new horizontal elements to the coverage of a standard through environmental or social considerations.
3. They are much more specific and prescriptive about how to achieve the outcomes defined by standards than is the case with public standards.9

The report notes: “In many cases public mandatory standards lay down the basic parameters of a food safety system, while private standards elaborate on what this system should ‘look like’ in order to be effective.”10

The Marine Stewardship Council is an independent non-profit organization that works “to promote the best environmental choice in seafood.”

An example of this type of standard is the Marine Stewardship Council’s (MSC) food certification. MSC is an independent non-profit organization that works with companies, researchers, conservation groups, and the public to promote the best environmental choice in seafood.11 MSC’s certification is increasingly shaping the activities of seafood companies and retailers as the market for sustainable seafood grows. Food sector retailers are also throwing their weight behind such standards. For example, in 2010, Loblaw Companies Limited made a corporate commitment “to sourcing all seafood including all canned, frozen, fresh, wild and aquaculture seafood from sustainable sources by 2013.”12 Given the retailer’s dominant market position in Canada, this commitment will likely have a significant influence on the seafood choices of Canadian consumers and on the activities of the seafood companies that supply Loblaw Companies Limited.

Another example of private sector collaboration is the Global Food Safety Initiative (GFSI) coordinated by the Paris-based Consumer Goods Forum. The Consumer Goods Forum is a global association that brings together the CEOs and senior management of around 650 retailers, manufacturers, service providers, and other stakeholders across 70 countries. Its mandate is to develop common positions on key strategic and practical issues affecting the consumer goods business and to focus on non-competitive collaborative process improvement.13

The GFSI is an industry-led food safety certification program. The objectives of the GFSI are to:

1. promote convergence between food safety standards by maintaining a benchmarking process for food safety management schemes;
2. improve cost efficiency throughout the food supply chain through the common acceptance of GFSI-recognized standards by retailers around the world; and
3. provide a unique international stakeholder platform for networking, knowledge exchange, and sharing of best food safety practices and information.14

Through initiatives such as the MSC and the GFSI, food companies can achieve two complementary goals. First, they can help to ensure that they move in tandem with their competitors to adopt new and higher standards for food safety or for sustainable practices. Second, they can create a framework to guide the development of the sector that is more reactive to business realities. By operating “beyond” any one government’s regulations, they help to establish a global market for their products and for the trade and movement of food.

9 Henson and Humphrey, The Impacts of Private Sector Food Safety Standards.
10 Ibid, iv.
11 Marine Stewardship Council.
12 Loblaw Companies Limited, “Sustainable Seafood Commitment.”
14 Global Food Safety Initiative.
COMMODITIES TRADING AND THE ROLE OF INTERNATIONAL FINANCE IN FOOD

The dramatic increases in commodity prices in 2007–08, and again in 2010, provide yet another illustration of how the factors shaping the food sector are becoming more complex and interconnected.

Between 2002 and 2008, the global prices of many food commodities rose steadily: nominal commodity prices more than quadrupled. During the spectacular 2007–08 run-up, food commodity prices surged by 56.7 per cent, but increases in consumer prices for food consumed at home in Canada were more muted and took a longer time to develop. Over the course of 2008, food prices increased by an average of 3.9 per cent versus the previous year.

Analysis by UBS has found that Canada is among the countries likely to suffer the least from higher food prices.

A variety of factors contributed to the muted increases in food prices in Canada during this period. The fact that raw agricultural products account for a small share of what consumers pay for their food is a key factor. As well, our highly integrated food system was a consideration. In 2007–08, increases in the prices of pasta, bread, and flour were offset by equally large drops in the prices of fruits and vegetables, which constitute Canada’s largest food imports. Fresh vegetable prices dropped 17 per cent during this time, while fresh fruit prices fell 4 per cent. This drop was also supported by the rise in the purchasing power of the Canadian dollar.

However, other countries did not fare as well as Canada in 2008. Europeans saw food prices rise 7.1 per cent, while Americans paid 5.9 per cent more. They escaped relatively unscathed in comparison with China, where food prices rose a full 22 per cent. Other countries had even more severe price shocks, which led to food riots in countries such as Haiti, Bangladesh, and Egypt.

During the same period, the number of futures and options contracts on commodity exchanges rose more than threefold. It has been tempting for some analysts to see a simple correlation between the parallel increases in prices and options contracts. They argue that financial speculators have disconnected food prices from market realities and have called for speculation to be reined in. The dramatic rise in commodity prices focused attention on the challenge of commodities futures prices (which are essential hedges for farmers as they prepare their crops) and the prices consumers pay for foods. Numerous studies have found that the surge in food prices was not due primarily to speculative activities. Rather, a range of complex and interconnected factors drove the food price surge.

The most important factors in the surge of food prices were the increase in crude oil prices between 2002 and 2007, the growth in demand for food from China and India, and the extreme weather incidents around the world in 2007 (including droughts in Australia, Romania, Somalia, and Ghana; floods in Ecuador, Bolivia, and Sri Lanka; and harsh winters in Southern China, Argentina, and Vietnam), as well as the increase in participation of financial investors. Secondary reasons include significant increases in U.S. and European biofuel production, and declining investments in research and development in agriculture.

In 2010–11, the FAO’s food price index surged once again, setting another record in December 2010. Increases in food prices were cause for significant concern about the impact of commodities markets on food prices. The 2010–11 surge once again raised the spectre of new regulations and limits on the involvement of global finance in commodities markets. The resurgence of

15 McFeat, “Brace Yourself, Canada.”
16 Ghanem and Cross, “Food Prices.”
food riots in Tunisia, Yemen, Morocco, and Egypt has also drawn significant attention to food prices around the world.

Despite the international concerns around the increasing food prices, analysis by UBS has found that Canada is among the countries likely to suffer the least from higher food prices, while countries such as Brazil, Turkey, and India would be the most affected from a sustained 20 per cent increase in world food prices.22

Ownership restrictions in many jurisdictions in Canada, particularly in the prairie region, limit foreign investment in agricultural land.

The concern over financial players affecting food prices, though so far largely unfounded, is being raised in part because food commodities and farmland are a relatively new asset class for the international investment community. We now examine the changing dynamic of farmland investments.

FARMLAND AS AN INVESTMENT OPPORTUNITY

Agricultural land is increasingly seen as a major investment opportunity, as the strong and predictable returns on agricultural land attract investors from around the world. For example, analysis by real estate company Knight Frank found that over the past 10 years, the asset performance of English farmland has significantly outperformed prime central London houses, country houses, and the FTSE 100. (See Table 11.)

The trend toward increasing farmland value is similar, if less pronounced, in Canada. The Farm Credit Canada Fall 2010 Farm Land Values Report shows a steady increase in farmland values over the past five years. (See Chart 12.) However, ownership restrictions in many jurisdictions in Canada, particularly in the prairie region, limit foreign investment in agricultural land. For example, in Saskatchewan, foreign investors are not allowed to own more than 10 acres. Prior to 2002, ownership of Saskatchewan farmland was restricted to Saskatchewan residents only and non-residents or investors were barred from purchasing these lands. In Prince Edward Island, farmland ownership is restricted to 1,000 acres for individuals and 3,000 acres for corporations.

These restrictions on foreign ownership and on farm size are reflected in the statistics. Of the $240 billion spent by businesses in 2010 in Canada on machinery, equipment, and non-residential construction, only $4.5 billion was spent on crop and animal production. In this area less than half of one per cent of that investment came from outside of Canada (virtually all from the United States).

<table>
<thead>
<tr>
<th>Table 11</th>
<th>Asset Performance of U.K. Farmland (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 months</td>
</tr>
<tr>
<td>Farmland</td>
<td>20</td>
</tr>
<tr>
<td>Prime London houses</td>
<td>16</td>
</tr>
<tr>
<td>Prime country houses</td>
<td>4</td>
</tr>
<tr>
<td>FTSE 100</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: Knight Frank, “Farmland Rules the Roost.”

<table>
<thead>
<tr>
<th>Chart 12</th>
<th>Semi-Annual Increases in Farmland Values in Canada (percentage change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Farm Credit Canada, “Fall 2010 Farm Land Values Report.”

---

22 Ratner, “Canada Safest.”
The concentration of flows of investment and financial-ization in the global food sector is an expected outcome of the forces of globalization. To the extent that Canadian food companies are engaged in the global market for food, we would expect to see the same trends in Canada. We will now explore the extent to which the Canadian food sector is globalized.

THE CANADIAN FOOD SECTOR—INCREASINGLY GLOBAL

Today it seems almost redundant to point out that the food Canadians eat is global in taste and in cuisine. The Thai restaurant down the street and the rise of ethnic foods and ethnic grocers in Canada are reflections of the internationalization of food and the increasing diversity in our diets. The bounty of fruits and vegetables we see year-round is another manifestation of globalization. This globalized diet produces a wealth of culinary opportunities for Canadians.

From 1996 to 2006, the number of small farms declined by over 20 per cent, while the number of very large farms more than doubled.

Canadians also demand that these foods be relatively inexpensive. The share of income Canadians allocate to food has steadily declined, and is today among the lowest in the developed world. The drive for ready access to inexpensive food throughout the year has virtually eliminated seasonal variations in food availability. By driving out seasons, foods and food inputs must be sourced from around the globe. The ability to keep store shelves stocked year-round with fresh fruits, vegetables, fish, and ready-to-eat meals takes a complex and interconnected web of suppliers, distributors, and transportation companies.

It would not be feasible for Canada to withdraw itself completely from food trade. Canadians expect to have access to fruits and vegetables year-round and they have also grown accustomed to spending a declining share of their income on food. The structure of the Canadian food sector reflects that global integration in many areas and reveals that the forces of globalization affecting the food sectors in other countries are present in Canada as well.

CANADIAN FOOD SECTOR FIRMS AND FARMS ARE GETTING LARGER

As is seen globally, the trend in Canada is also toward increasing consolidation in the food sector. A 2009 study by Deloitte found that between 2002 and 2009, the number of Canadian publicly traded food processors decreased from 35 to 25. However, they also noted that the number of publicly owned food and beverage processors is dwarfed by the number of privately owned operations, with an estimate of 1,050 privately owned food and beverage processors in Canada. The Deloitte study focused on the larger food and beverage processors in Canada. According to Statistics Canada’s Business Register, there were 5,518 companies that had employees in the food and beverage processing sector at the end of 2010. The vast majority of these are small businesses, with 4,755 reported to have fewer than 50 employees.23

Canadian farms are also getting larger. In farming, the trend is toward increasingly large farms that generate higher rates of return. This trend is compounded as larger farms are also able to invest more capital and resources in their businesses. In a 2008 analysis of farm size, a report for Statistics Canada found this trend is likely to continue as the larger farms were more financially successful and more likely to make greater capital investments. For example, the number of farms in Canada declined from over 206,000 in 1996 to 179,000 in 2006. The number of small farms (with revenues of less than $250,000) declined by over 20 per cent, while the number of very large farms (with revenues of over $2.5 million) more than doubled in the same 10-year span. (See Table 12.)

Canadian companies are not merely focusing on the Canadian market. Globally oriented food companies from Canada are increasing their global reach in three key ways: they are investing in or buying facilities

around the world; they are investing in their domestic facilities to capture global economies of scale; and they are extending their supply chains to allow them to source products and resources around the world.

By investing in facilities in other countries, or by acquiring local companies, it is possible to gain a foothold in a country while circumventing trade barriers.

Many food producers sometimes find it more cost-effective to invest in production and manufacturing facilities in other countries rather than shipping the products from a domestic source. Reflecting this trend, the stock of outbound foreign direct investment (FDI) from Canadian food manufacturers has more than doubled since 2000. (See Chart 13.)

Table 12
Farm Size by Revenue in Canada
(number of farms)

<table>
<thead>
<tr>
<th>Revenue class (dollars)</th>
<th>1996</th>
<th>2006</th>
<th>Change 1996–2006 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000–99,999</td>
<td>128,590</td>
<td>100,284</td>
<td>–22.0</td>
</tr>
<tr>
<td>100,000–249,999</td>
<td>50,733</td>
<td>39,971</td>
<td>–21.2</td>
</tr>
<tr>
<td>250,000–499,999</td>
<td>17,977</td>
<td>22,837</td>
<td>27.0</td>
</tr>
<tr>
<td>500,000–999,999</td>
<td>5,904</td>
<td>10,241</td>
<td>73.5</td>
</tr>
<tr>
<td>1,000,000–2,499,999</td>
<td>2,174</td>
<td>4,259</td>
<td>95.9</td>
</tr>
<tr>
<td>2,500,000+</td>
<td>676</td>
<td>1,643</td>
<td>143.0</td>
</tr>
<tr>
<td><strong>206,054</strong></td>
<td><strong>179,235</strong></td>
<td><strong>–13.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Sparling, Laughland, and Mitura Are Canada's Large Farms Really Different?*

IMPORTED FOODS: AN IMPORTANT CONTRIBUTION TO THE CANADIAN DIET

By investing in facilities in other countries, or by acquiring local companies, it is possible to gain a foothold in a country while circumventing trade barriers. It also allows the companies to use lower-cost resources while tailoring products to local tastes. The activities of McCain Foods over the past 10 years (see box “McCain Foods—Canadian Company and World French Fry King”) is an illustration of how these FDI and capital expenditures are driving the global reach of this company.

In light of these trends, we now consider the degree to which food in Canada is integrated into global markets by examining the role of imported foods and the contributions of food exports to the economy.

24 Ghanam and Cross, “Food Prices.”
25 WTO, “Merchandise Trade by Product.”
26 Canadian Food Inspection Agency, “Audit.”
Predictably, as global trade in food has risen, there has been a movement toward specialization. Specialization has helped to keep food prices low but has also increased complexity in the food sector. With specialization, the ingredients for food products are sourced from a variety of different suppliers which can be located anywhere around the world. Increasingly, the ingredients for a single food product come from many different companies and countries. The growing complexity of international food pathways has led to a rise in efforts by companies, governments, and international non-governmental organizations to design and implement food traceability initiatives.

**WHAT FOODS DOES CANADA CURRENTLY TRADE?**

Canada’s vast scale and geographic and climatic diversity, along with its immense reserves of fresh water, provide a wealth of natural resources to support food production. However, our relatively small population of just over 34 million (about 0.5 per cent of the global total) means that the potential for domestic growth is limited: Canadian food sector companies seeking to expand significantly must focus on growing their businesses through exports.
Exports are already important to Canada’s food companies. Canada’s food sector exports are worth over $38 billion annually.\textsuperscript{27} Over half of those exports go to the U.S., with Japan, China, Europe, and Mexico rounding out the top five food export destinations. Canada’s food exports include both raw commodities and final products. (See Table 13.)

Food exports are classified as either bulk commodities, intermediate commodities, or consumer-oriented goods. Bulk commodities receive little to no processing. Examples of bulk commodities are wheat, rye, barley, and soya beans. Intermediate commodities have received some processing, but they are generally not ready for final consumption. Examples in this category include wheat flour, vegetable oils, and live animals. Consumer-oriented agricultural products are those that are ready to eat and include snack foods, meat cuts and products, cheese, processed or fresh fruit and vegetables, beverages, and other processed and ready-to-eat foods.\textsuperscript{28}

\textsuperscript{27} Agriculture and Agri-Food Canada, “Agri-Food Trade Service, Canada.”

\textsuperscript{28} European Commission, Annex 4: “Definitions.”

### Labelling Initiative Runs Into the Complexity of Global Foods

The Canadian government ran into the new realities of food production and the critical role of imported ingredients in many of the foods Canadians eat when it introduced changes to the “Product of Canada” food label in late 2008. In an effort to clarify which foods were made and processed in Canada, the government announced that in order to qualify for the “Product of Canada” label, foods would need to meet the criterion that at least 98 per cent of its ingredients and processing be conducted in Canada. The new rules were a failure.

The Product of Canada label has virtually disappeared from Canadian grocery shelves, as producers could not meet the 98 per cent threshold. Supplies and ingredients that are essential for quintessentially Canadian products, including ice creams, jams, and pies, meant that companies could not claim that these products were Canadian. They were forced to remove the label from their products.

The government has since been exploring how it can better reflect the realities of global sourcing through exemptions for specific products or by reducing the threshold for Canadian-sourced ingredients. An indication of a potential compromise is found in a Standing Committee on Agriculture and Agri-Food recommendation introduced prior to the reform that suggested the threshold be 85 per cent. In the meantime, Canadian consumers are only slightly further ahead in understanding the sources of their food. If anything, the challenge in meeting the 98 per cent standard has served to highlight the global connections of the food they eat.

Source: The Conference Board of Canada.

### Table 13

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$</td>
<td>%</td>
<td>$</td>
</tr>
<tr>
<td><strong>To the U.S.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk</td>
<td>4,229</td>
<td>22</td>
<td>5,631</td>
</tr>
<tr>
<td>Intermediate</td>
<td>4,756</td>
<td>24</td>
<td>5,876</td>
</tr>
<tr>
<td>Consumer</td>
<td>10,581</td>
<td>54</td>
<td>10,865</td>
</tr>
<tr>
<td>Total</td>
<td>19,566</td>
<td>100</td>
<td>22,372</td>
</tr>
<tr>
<td><strong>To all other countries</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk</td>
<td>9,544</td>
<td>60</td>
<td>13,244</td>
</tr>
<tr>
<td>Intermediate</td>
<td>3,026</td>
<td>19</td>
<td>3,450</td>
</tr>
<tr>
<td>Consumer</td>
<td>3,226</td>
<td>21</td>
<td>3,744</td>
</tr>
<tr>
<td>Total</td>
<td>15,796</td>
<td>100</td>
<td>20,438</td>
</tr>
<tr>
<td><strong>Total exports</strong></td>
<td>35,362</td>
<td></td>
<td>42,810</td>
</tr>
</tbody>
</table>

Sources: Agriculture and Agri-Food Canada, “Agri-Food Trade Service: Exports—Agri-Food and Seafood for January to December 2008” and “Agri-Food Trade Service: Exports—Agri-Food and Seafood for January to December 2009.”
The composition of Canada’s food exports to our main trading partner varies significantly from what we trade to the rest of the world. On average, 50 per cent of food sector exports to the United States are higher value-added consumer-oriented goods (goods that are ready for consumption). Canadian food sector exports to the rest of the world reverse that trend, with over 60 per cent of these exports being from the bulk foods category.

One reason for this difference stems from the Canada-U.S. Free Trade Agreement and, later, the North American Free Trade Agreement. These agreements had the impact of removing many of the key barriers to trade in food between these countries (with some notable exceptions in the supply-managed industries). In an analysis of FDI flows and economic integration between the U.S. and Canadian agricultural sectors, Furtan and Olfert found that agricultural production in Canada and the U.S. is highly integrated, with production and investment at various stages of the production processes occurring across borders.29

As with other areas of the Canadian economy, the increase in the exchange rate over the past 10 years is having important effects on the food sector. In 2000, the Canadian dollar was worth only US$0.70, but over the ensuing 11 years, dollar values between Canada and the United States have converged to parity—and beyond. The Conference Board of Canada forecasts that the dollar will remain at or about parity until at least 2015. The increase in the value of the dollar has meant that the competitive environment for Canadian food companies has intensified. On the other hand, the stronger dollar is making the purchase of equipment and capital relatively less expensive for Canadian food manufacturers.

Trade with other areas of the world is much less integrated, explaining the dominance of bulk commodities in this component of Canadian exports. Along with cereal crops such as wheat, barley, and oats, Canada exports a wide variety of food products and is a world leader in some key commodity areas, including canola (see box “Canola Oil—The Canadian Oil Success Story”) and the pulse sector. According to the pulse industry association,

Canadian production of the eight major pulse and special crops (pea, lentil, bean, chickpea, mustard, sunflower, canary seed, and buckwheat) experienced a fivefold increase from 1990 to 2009. This growth was driven in large part due to exports. Of the 5.6 million tons of these eight crops grown in 2009, 75 per cent (4.1 million tons) were exported. These exports generate nearly $2.2 billion for the Canadian economy and Canada has seized 35 per cent of the global market for these eight crops.

**Table 14**

<table>
<thead>
<tr>
<th>Average Tariffs for the Agriculture Sector, 2009 (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy products</td>
</tr>
<tr>
<td>Animals and products thereof</td>
</tr>
<tr>
<td>Cereals and preparations</td>
</tr>
<tr>
<td>Coffee and tea, cocoa, sugar, etc.</td>
</tr>
<tr>
<td>Beverages and tobacco</td>
</tr>
<tr>
<td>Oilseeds, fats, and oils</td>
</tr>
<tr>
<td>Fruits, vegetables, plants</td>
</tr>
<tr>
<td>Other agricultural products, New Export System</td>
</tr>
<tr>
<td>Fish and fishery products</td>
</tr>
</tbody>
</table>

Source: WTO, “Tariff Profile—Canada.”

Driven by trade agreements, including NAFTA and at the WTO, tariff rates for agricultural products face a possible decline as consideration is given on how to reduce this form of protection for domestic producers. In Canada, the supply-managed sectors have experienced a decline

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29 Furtan and Olfert, *Economic Integration*. 

Find this report and other Conference Board research at [www.e-library.ca](http://www.e-library.ca)
in average tariffs. Nevertheless, as a result of high tariff rates, supply-managed sectors are still largely disengaged from the global food market.

Apart from the supply-managed industries, Canada’s food sector is highly integrated into the global market. Agriculture and Agri-Food Canada reports that between 1999 and 2008 Canada’s export share of world food trade was consistently around 5.5 per cent as Canadian exports kept up with the global growth of the food market.30 During these years, Canada was the fourth-largest food exporter in the world after the U.S., the EU, and Brazil.

Competition is rising however. The significant growth in the food sector of emerging economies, including China and Brazil, and major reforms in food exporting countries such as Australia and New Zealand, are increasingly creating competitive advantages for the food sectors in these countries. Food sector companies and producers from these countries are focusing their energies on becoming globally competitive businesses. In the face of this competition, the ability of the Canadian food sector to participate in global integration will significantly determine the ability of Canadian food companies to compete on a global scale. The openness of Canada to food trade and global integration will have important ramifications for food companies in the coming years as they assess the best opportunities for growth.

WHERE WILL THE FUTURE GROWTH FOR THE FOOD SECTOR COME FROM?

GROWTH IN CANADA WILL BE SLOW AND DRIVEN BY IMMIGRATION

As we discuss in Chapter 2, demand for food comes from both the Canadian consumer and through demand from consumers in other countries. In Canada, there are two major demand side drivers: population and income. As a mature food market, Canadian food sector growth is constrained by weak domestic population growth.


Canada’s population growth rate is likely to contribute only 1 per cent to annual growth.31 Set against this is the second factor affecting domestic food demand: income. Rising incomes can create marginal increases in per capita consumption of food by enabling people to substitute higher-cost goods and name brand foods in place of lower-costs goods. Additional factors that might further limit the growth of demand for food include efforts to combat the rising obesity epidemic and the decline in caloric intake associated with an aging population.


Canola is a true example of Canadian innovation and success. Canola, and the oil made from crushing its seeds, has risen from a product that was unfit for consumption to become one of Canada’s most valuable crops.

In the past, rapeseed, the plant from which canola has evolved, was unpalatable for both human and animal consumption. During the 1960s and 1970s, researchers in Saskatchewan and Manitoba were looking for a new edible oil for food preparation. Some of these scientists focused on the rapeseed plant. They identified two key barriers to using rapeseed as a food. To make rapeseed edible, they needed to reduce the instances of two compounds. First, they needed to reduce the levels of harmful acidic compounds (erucic acid). Second, they needed to reduce the sulphurous taste (caused by the sulphur compound glucosinolates) of the traditional rapeseed crop.

Among the researchers working to improve the quality of the rapeseed plant was Dr. Baldur Stefansson of the University of Manitoba. Dr. Stefansson was the son of a cattle farmer and a Second World War veteran. Following the war, Dr. Stefansson pursued a career in plant science, and his research eventually led him to join the search for a new source of edible oil and the research being conducted on the rapeseed plant. Through crossbreeding techniques, Dr. Stefansson and his Canadian colleagues were able to reduce the erucic acid level to below 2 per cent and to virtually eliminate the sulphur taste, leaving only trace amounts of glucosinolates in the new crops. These new plants were renamed canola—the world’s only made-in-Canada crop.

When crushed, canola produces canola oil, literally “Canadian oil.” Canola oil has risen from its humble beginnings to become Canada’s leading cooking oil. Today, almost half of the oil consumed by Canadians is canola oil. Canola is also a major driver of exports, as the plant’s oil, seed, and meal have become one of our leading food sector exports. Over 80 per cent of Canadian canola oil is exported around the world. Today, canola is one of the top food exports from Canada, and the Canadian crop generates over $3 billion in annual exports.

Sources: Casséus; Canola Council of Canada; University of Manitoba.
The Canadian consumer is also changing. Canada has one of the most diverse populations in the world; its diversity will continue to rise as immigration increasingly plays an important role in keeping the population’s work force growing. An estimated 70 per cent of the growth in consumer spending from 2010 to 2020 will come from visible minorities, who will constitute over 20 per cent of the Canadian population by 2017. Food companies are increasingly realizing the importance of servicing this growing segment of the population, recognizing that they want somewhat different foods and that foods have a special cultural importance for some immigrants. (See Chapter 2.)

GROWTH IN THE FOOD SECTOR IS IN THE DEVELOPING WORLD

One area where demand for food is booming and is likely to remain strong is the developing world. While the developed countries of the OECD experience below-replacement birth rates and aging populations, the developing world is going through a population boom. Although overall global population growth is slowing (it doubled between 1950 and 2000), the world’s population is still expected to rise from 6.8 billion today to 8 billion in 2030 and it is expected to reach 9 billion by 2050. These new “mouths” represent a major opportunity for food companies, as well as an imperative for governments around the world. A key goal for international government bodies, and of governments the world over, will be to foster an environment where those billions of people can access a varied and healthy diet.

WEALTHIER AND MORE URBAN

As its population grows over the next 30 years, the developing world will also become wealthier and increasingly urban. The increased wealth and urbanization of this demographic changes the nature of the food that will be needed.

Economic progress in a range of developing and emerging countries has contributed to the growth of a large and growing middle-class consumer base around the world. In 2010, a McKinsey Quarterly article estimated that the “rapidly growing ranks of middle-class consumers span a dozen emerging nations . . . and include almost two billion people, spending a total of $6.9 trillion annually.” Estimates from the report’s authors were that the spending of this group would rise to $20 trillion by 2020. The strong performance of countries such as China and Brazil through the economic recession of 2008 reinforces the forecast that wealth in developing countries will continue to rise. Rising incomes are important for the food sector because as people’s incomes rise, their diets also change. Increased wealth allows previously poor people to increase their consumption of calories per day and to shift their caloric intake to include more protein.

The United Nations predicts that, by 2030, over 80 per cent of the expected 8 billion people on the planet will live in cities.

At the same time, the world is seeing a dramatic shift in where people live. In 2008, as the world’s attention was focused on the financial meltdown and recession, the human race passed an invisible, but highly significant, milestone. For the first time in our history, over half of the world’s population lived in an urban environment, with over 3.3 billion people living in cities.

Urbanization is forecast to continue at a rapid pace. The United Nations Population Fund predicts that, by 2030, over 80 per cent of the expected 8 billion people on the planet will live in cities. City dwellers do not have the means to grow their own food and they must rely on networks of food suppliers to bring food into the city. The improving diets of the new middle class and the dynamics of an increasingly urban population will drive the growth of food sector companies that can best feed this market.


33 Caicco and Petrie, “The Ethnic Consumer.”

34 Court and Narasimhan, “Capturing the World’s Emerging Middle Class,” 12.

OPPORTUNITIES

An increasingly urban population places an emphasis on different aspects of the food chain. As detailed in a 2011 World Economic Forum report, the focus will need to broaden from improving farm-level output and yield toward improving effectiveness and efficiency in the whole value chain linking growers to retailers to consumers. In addition, the changing diet of urban consumers (who tend to favour more variety, processed foods, and ready-to-eat foods) increases the importance of processing, packaging, and logistics providers in the food system.36

Most of the countries where population growth is expected to be greatest are already net food importing countries. Many of these countries will require both significant increases in the productivity of their agricultural resources and major increases in food imports to avoid food shortages. Canadian companies have an opportunity to make significant contributions and to access these growing markets through foreign direct investment and through increased trade with these economies.

Net trade is obtained by subtracting the amount of food imports from the amount of food exports. Data on net trade are then converted into kilocalories by the FAO in order to calculate the share of net trade in the total dietary energy supply. In other words, the scores for each country are generated through food exports minus food imports, divided by calorie consumption. (Score = [food exports − food imports] / consumption [calories]).37 (See Exhibit 3.)

HOW ARE OTHER COUNTRIES PREPARING THEMSELVES FOR THE EMERGING MARKET FOR FOODS?

Reforms in a number of countries are creating a domestic environment supportive of a global food sector. While protectionism and domestic markets remain the focus of some governments, increasingly countries are opening their borders to foster closer connections between their food sector and the global market for food.

The following section briefly examines government initiatives in the food sectors of the U.S., Brazil, Australia, and the United Kingdom. These overviews do not attempt to present the full scope of food sector activities in each country. Instead, key policy initiatives are highlighted to shed light on major reforms in the food sector in these countries or key developments of importance for the Canadian food sector.

THE UNITED STATES

Because the U.S. is Canada’s most significant food trade destination, food sector companies in Canada pay close attention to the directions of the United States government and its approach to food. Given Canada’s integration with the U.S., actions in that country can have as much impact on the Canadian food sector as they do on the U.S.—or even more.

Given Canada’s integration with the U.S., actions in that country can have as much impact on the Canadian food sector as they do on the U.S.—or even more.

From the beginning of his presidency, Barack Obama has prioritized food safety reform.38 This focus produced a major new initiative on food safety this year when Congress passed the Food Safety Modernization Act in December 2010. This Act represents the biggest revision to the food safety system in the U.S. since 1938. The Act gives the food and drug inspection agency the ability to recall foods, calls for an increase in food inspectors, and introduces a number of measures relating to traceability.

Food companies in Canada will be watching closely to monitor implementation of the Act.

Measures relating to foreign supplier verification and traceability, in particular, could be used to promote protectionism rather than support food safety. For example, the Canadian pork and beef industries have been hard hit by the U.S.’s Country of Origin Labeling (C.O.O.L) legislation passed in 2002. This legislation, which entered

36 World Economic Forum, Realizing a New Vision for Agriculture.
37 FAOSTAT, “Net Trade in Food.”
38 Obama, “Weekly Address.”
Exhibit 3
Net Food Exporting Countries

Net trade scores*
- >50
- 25–50
- 0–25
- <0 (net food importers)

*Score = (food exports – food imports) ÷ caloric consumption
Note: Net food export is determined by calculating net trade.
Source: Food and Agriculture Organization of the United Nations.
into force in September 2008, made it mandatory that all meat items labelled “Product of U.S.A.” be from an animal born, raised, and slaughtered in the United States.

This negatively impacted the Canadian pork industry, in particular, because many producers are set up to export live hogs for feeding and processing in the United States. The COOL requirements effectively created a non-tariff barrier to imports of live swine by requiring their segregation through handling and processing. In addition to the COOL requirements, the industry was battered by the impact of the recession and the outbreak of H1N1.

The COOL legislation has been brought by Canadian and Mexican governments to the WTO, and the panel is expected to rule in July 2011 on whether the legislation violates WTO commitments.\(^{39}\) Regardless of the outcome of the WTO panel, the effect of this non-tariff barrier to trade has been significant for Canadian pork producers. The value of live hog exports from Canada to the United States fell from $709 million in 2007 to $379 million in 2010.

**BRAZIL**

Brazil has undergone a dramatic transformation of its economy and agricultural sector in the past 30 years. During these three decades, the country has transformed from a net food importer into one of the world’s largest food exporters. Through the 1990s, the Brazilian government scaled down government expenditures in price supports for agricultural goods and liberalized trade for both food imports and food exports. In contrast to the fears expressed before the reform that the reforms would restrict the sector to lower-revenue food products, the programs have yielded increased diversity in the Brazilian agricultural sector and a move toward higher value-added production.

The sector’s exports have shifted away from traditional tropical products such as coffee and orange juice toward soybeans, sugar, and meat (particularly poultry and pork). In addition, Brazil has emerged as the first tropical food-giant and has joined the traditional “big five” grain exporters (the United States, Canada, Australia, Argentina, and the European Union).\(^{40}\)

A 2010 article in *The Economist* on the Brazilian “agricultural revolution” highlights the dramatic scale of farming in Brazil through a 24,000-hectare farm in Jatoba. (In comparison, the average 2006 farm size in Canada is 295 hectares\(^{41}\)—the farm in Jatoba is fully 81 times larger than the average farm in Canada.)

In some areas, Canadian farms are gearing up for this global competition. One example is the December 2010 announcement by Sprott Resource Corp. that it would be investing $30 million in its One Earth Farms Corp. subsidiary to create Canada’s “biggest operating crop and cattle farm in 2011.” The farm is expected to include 60,700 hectares of farmland and 40,000 hectares of pastureland, and provide for 22,000 head of cattle.\(^{42}\)

The Brazilian food sector is also increasingly a global player in the food processing sector and value-added sector. For example, Brazilian company JBS S.A. is now the largest beef producer in the world, and Brasil Foods (formed by the merger of two Brazilian companies in 2009) has become one of the world’s largest exporters of poultry.

**AUSTRALIA**

The Australian agricultural sector has also undergone a significant transformation in recent years. Australia implemented reforms to its agricultural sector at the end of the 1980s that saw government support for agriculture, expressed as a percentage of gross farm receipts, fall from 17 per cent to its current level of 4 per cent—one of the lowest levels of producer support of all OECD countries. (See Chart 14.)

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\(^{39}\) Ontario Pork, “First Round.”

\(^{40}\) Piaui, “Brazilian Agriculture.”

\(^{41}\) Statistics Canada, “Canada at a Glance 2008: Agriculture.”

\(^{42}\) Reuters, “Sprott Aims to Build Canada’s Biggest Farm.”
An Australian government document characterized the reduction of producer supports as being a critical feature in improving the connections between production decisions on farms and market factors. The government view is that “in giving up the government’s protection, farmers became more productive and more influential.”

### The United Kingdom

In the U.K., a major policy initiative to map the future of the food sector in that country was released in January 2010 with the publication of the government’s *Food 2030* report. This report provided the first comprehensive food strategy for the U.K. in over 50 years. *Food 2030* set out a vision and framework for a desired end state for the U.K.’s food system by 2030. It provided guidance to farmers, the fishing industry, food processors, retailers, the food service industry, government, local and regional bodies, consumers, research and education bodies, and third-sector (civil society) organizations on their contributions to achieving a sustainable and secure food system by 2030. The plan’s vision for the U.K. in 2030 is:

- Consumers are well informed and able to choose and afford healthy, sustainable food. This demand is met by profitable, competitive, highly skilled, and resilient farming, fishing, and food businesses, supported by first-class research and development.

- Food is produced, processed, and distributed, so as to feed a growing global population in ways that:
  - use global natural resources sustainably;
  - enable the continuing provision of the benefits and services a healthy natural environment provides;
  - promote high standards of animal health and welfare;
  - protect food safety;
  - make a significant contribution to rural communities; and
  - allow the U.K. to show global leadership on food sustainability.

- Food security is ensured through strong U.K. agriculture and food sectors and international trade links with EU and global partners, which support developing economies.

- The U.K. has a low-carbon food system that is efficient in its use of resources—any waste is reused, recycled, or used for energy generation.

The U.K.’s effort to articulate a national food strategy has sparked calls for a similar strategy in a number of countries, including Australia and Canada.

*Food 2030* focuses on six dimensions of sustainable food: encouraging people to eat a healthy, sustainable diet; ensuring a resilient, profitable, and competitive food system; increasing food production sustainably; reducing the food system’s greenhouse gas emissions; reducing, reusing, and reprocessing waste; and increasing the impact of skills, knowledge, research, and technology.

Since the election of a new government in the U.K., the emphasis has shifted away from the *Food 2030* scheme. Despite the move away from *Food 2030*, the U.K.’s effort to articulate a national food strategy has sparked calls for a similar strategy in a number of countries, including Australia and Canada.

Countries such as Scotland and Japan had already developed their own strategies to guide their food sector prior to the publication of the U.K. report.

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43 Australian Government, “Advancing Agriculture Reform.”

44 U.K. Department for Environment, Food and Rural Affairs, *Food 2030*.

WHAT DOES A FOOD SECTOR SCALLED TO SERVICE DOMESTIC AND GLOBAL MARKETS LOOK LIKE?

Servicing both domestic and global markets for food will involve integration between numerous elements, including research, production, processing, manufacturing, distribution, and transportation networks across Canada and around the world.

The canola industry provides a good example of an agri-food industry scaled to service both domestic and global markets.

Before 2020, it is expected that over half of the total canola acreage in Canada will be dedicated to new kinds of canola developed to meet specific market needs.

According to the Canola Council of Canada, the canola industry in Canada includes over 50,000 canola growers and 13 processing plants in five provinces. The canola industry was created through the effective commercialization and adoption of a new crop developed through scientific research (see box “Canola Oil—The Canadian Oil Success Story”). There is a range of companies involved in specialized aspects of the canola business, including companies specializing in canola crushing; canola oil exports; canola meal exports; canola seed exports; canola oil packers; and canola biodiesel suppliers. Some companies have operations in more than one of these categories, while others specialize in one aspect of the canola value chain.

From the initial research in the 1970s, the canola producers sought greater commercialization opportunities through continued research aimed at opening markets. For instance, canola oil received its Generally Recognized as Safe (GRAS) status in the United States in 1985, opening the doors for exports to that country. In addition, the industry sought and won approval from the United States Food and Drug Administration, in October 2006, of a qualified health claim for canola oil stating: “Limited and not conclusive scientific evidence suggests that eating about 1.5 tablespoons (19 grams) of canola oil daily may reduce the risk of coronary heart disease due to the unsaturated fat content in canola oil. To achieve this possible benefit, canola oil is to replace a similar amount of saturated fat and not increase the total number of calories you eat in a day.”

The canola industry has also maintained its connections to research and innovation. The industry has been innovating to introduce new traits that benefit growers through the introduction of transgenic canola that is herbicide resistant; increases in yield; and reduced impacts through tillage, fertilizing, and fuel use. In addition, the industry is working to develop new product characteristics that address consumer interests, for example, by creating canola that is more stable for use in cooking, ultra-low saturated fat versions, and omega-3-enhanced canola. The canola industry forecasts that, before 2020, over half of the total canola acreage in Canada will be dedicated to new kinds of canola developed to meet specific market needs.

The lesson from canola is that there is room in the other parts of the food sector for corporate innovation, scale, and growth. If they set out to target global markets, Canadian industries can successfully compete in global markets by creating efficient and profitable businesses.

HOW IS CANADA CURRENTLY SEEKING TO BE A KEY PLAYER IN THE GLOBAL TRADE OF FOOD?

Canada has significant natural advantages in the food sector. It also has the skilled workers and technology that can enable the sector to thrive and grow. Given the sector’s domestic growth limits, ambitious companies will need to seize opportunities for growth outside of Canada. The Canadian government has an interest in promoting international expansion. Canada’s membership in the Cairns Group, a coalition of 19 developed and developing agricultural exporting countries, reflects Canada’s interest in expanding trade in food through the

47 This section draws on the Canola Council of Canada’s 2009 Annual Report and the Canola industry information provided through the Canola Council of Canada’s website.
WTO.\textsuperscript{48} With the WTO negotiations largely stalled over the past eight years, following the collapse of the Cancun Ministerial, the federal government is also actively pursuing bilateral trade agreements with a number of countries.

In addition to NAFTA, Canada has signed bilateral trade agreements with Panama, Jordan, Colombia, Peru, Costa Rica, Chile, and Israel. In addition, Canada is negotiating bilateral trade agreements with Turkey, Ukraine, Morocco, Korea, Dominican Republic, India, Singapore, and country groupings including the European Union, the Andean Community, the Caribbean Community, and a group of four Central American countries (Honduras, El Salvador, Guatemala, and Nicaragua).\textsuperscript{49}

Opening markets for exports of Canadian foods is an important avenue for creating opportunity for food companies in Canada, but it is not the only way. As we have seen, food companies are also increasingly using investment and acquisitions as an important element of their global food strategies to achieve growth.

Another important strategy for some food sector players is to tailor products to specific market niches. These companies trade on a product’s “premium quality” or production characteristics (environmental, nutritional, quality) to differentiate it from competitors. It is not always about companies producing at low cost and scale, as in grains and oilseeds. Sometimes it is about innovating to explore specific market niches. These types of strategies will ultimately be reflected in the scale of firms, because niche strategies are likely to be pursued by smaller firms. However, beyond opening markets, Canada does not appear to have a strategic overall goal for its food sector. In contrast to countries like the U.K., Brazil, and Australia, there have been limited efforts to craft a national plan for the food sector. Rather, Canada’s food sector operates in crop- or sector-specific silos.

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\textsuperscript{48} The Cairns Group countries are Argentina, Australia, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Indonesia, Malaysia, New Zealand, Pakistan, Paraguay, Peru, Philippines, South Africa, Thailand, and Uruguay.

\textsuperscript{49} Foreign Affairs and International Trade Canada, “Negotiations and Agreements.”

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The food sector is in a unique position. On the one hand, aspects of food are highly integrated and involve complex relationships and supply chains around the world. On the other, aspects of the sector are intensely rooted in local communities. If well managed, Canada’s agricultural land will continue to keep it a food-rich country through food grown and processed in the country. What is needed, in addition, to grow the sector, is a strategy for enhancing opportunities for trade created through our food exports and the diversity of foods imported to Canada.
Conclusion

Chapter Summary

- Canada’s high level of development and the sophistication of its food sector means Canadians will likely not face the severe food security issues that will plague billions of people in the coming decades.

- The near-term horizon for food companies offers a number of significant opportunities. The food sector should profit from food fads and trends, while tapping into increased consumer interest in food. Globally, increasing populations in developing countries will need to eat, and will increasingly be making different food choices than they have traditionally.

- The strategic challenge for the Centre for Food in Canada is to understand not only where Canada’s food sector is today, but also where it may be heading and what governments and businesses can do to help steer the course to achieve our economic goals.

However, in reality, Canada’s food sector is a highly complex, globally integrated, and thoroughly modern commercial industry that takes full advantage of science, technological advances, and the latest marketing techniques as it innovates for growth. High technology and innovation abound throughout the sector, from the development of radio-frequency identification (RFID) tracking technology to hyper-efficient processing plants; from scientific breakthroughs that address consumer desires for healthier food products to crops that increase the yields of farmers while decreasing their reliance on chemical pesticides.

Canadians prize their maple syrup, double-doubles, Montréal bagels, New Brunswick fiddleheads, and saskatoon berry pie.

In sum, the food sector is a key innovator and an exceptionally important business sector in Canada. For average Canadians, food awareness is also on the rise and with it the beginnings of greater attention to the sector itself, both for its economic importance and because of its socio-cultural significance. Canadians prize their maple syrup, double-doubles, Montréal bagels, New Brunswick fiddleheads, and saskatoon berry pie. These iconic products are built into our sense of identity. We can expect more additions to the food canon as our population becomes ever more diverse.

This report has detailed the extensive economic footprint of food. The picture of competition, innovation, and opportunity that emerges here will surprise some, since the food sector is often portrayed as traditional and pastoral rather than as a modern, profit-making industry.
FOOD AWARENESS IS ON THE RISE

Today, more Canadians think about all aspects of food (from how it is produced and what is in it, to where and when they eat it) than ever before. Increased consumer interest has given rise to a number of new market niches for food businesses, including organic, fair-trade, environmentally conscious, and local-food movements. While some of these niches will prove to be consumer fads, others may become important market niches for years. It is easier to predict with greater certainty the trends that will shape food consumption in Canada and around the world. In contrast to fads, trends are driven by fundamental changes in technology, society, and the economy that play out over years or even generations.

A failure to adjust caloric intake to lifestyle and age will contribute to increased obesity and chronic disease—with attendant health-care costs.

As described in Chapter 2, major trends that will shape food in Canada include population demographics, employment, and household trends, as well as ethnic diversity and immigration. In demographics, Canadians are getting older. The number of seniors in Canada will steadily increase over the coming decades, and Canadians over 65 will exceed the number of youth under 15 by 2031. Canadian workers are also increasingly choosing to work in sedentary occupations. These two trends are important for food because both require people to eat fewer calories. While a 24-year-old man requires 3,000 calories per day, a man who is over 75 requires only 2,000. Sedentary workers need far fewer calories than physical labourers. Consider an average forestry sector worker, who can expect to burn over 600 calories an hour, compared with the government office-worker, who will burn only 116 calories during an hour-long meeting. A failure to adjust caloric intake to lifestyle and age will contribute to increased obesity and chronic disease—with attendant health-care costs.

Another major food trend is related to Canada’s ethnic diversity. Immigration now exceeds births as a source of population growth for Canada. Between 2001 and 2006, Canada had the highest immigration rate of any G8 economy. Statistics Canada forecasts that the country will welcome over 330,000 new Canadians a year by 2031, up from 250,000 today. Increased ethnic diversity produces greater food diversity as establishments cater to these customers’ requirements for specialized groceries, special sections in traditional groceries, and restaurants.

Furthermore, the Canadian household is changing as female education rates rise, family formation is delayed, families are smaller, and labour force participation rates increase. All these trends affect how Canadian consumers spend their food dollar. Today, overall consumer spending on food is at an all-time high of $4,538 per person annually, representing 16.4 per cent of total consumption spending. Canadian consumers are diversifying their food-related dollars toward convenience, premium appliances, bigger and more luxurious kitchens, and increased interest in food preparation expressed through cooking classes and interest in food-related specialty television such as the Food Network. The interest in food is also reflected in the economic data.

THE FOOD SECTOR IS A MAJOR ECONOMIC DRIVER IN CANADA

The food sector is a major employer in Canada. As noted in Chapter 3, food manufacturing is Canada’s largest employer within the manufacturing sector and contributes more jobs than automobile manufacturing or high-technology manufacturing. The food sector is also a key economic driver: Canadian consumers spend almost $155 billion annually on food, while food exports generate an additional $38.8 billion in revenue for Canada. The sector is a major economic driver in most provinces, but it is particularly important to the economies of Prince Edward Island, Saskatchewan, and Manitoba.

Chapter 3 reveals that the food sector is somewhat recession proof. During the 2008–09 recession, Canadians shifted their food dollars from restaurants and premium foods to foods prepared at home or value-brand options, but the overall level of spending stayed consistent.

The economic footprint of the food sector extends well beyond the traditional food sector industries of agriculture, food manufacturing, grocers, and restaurants. Conference
Board analysis of the food sector shows the extended economic footprint of food includes significant economic activity in the transportation, warehousing, and scientific research industries as well as the many ways in which food contributes to arts, entertainment, and recreation facilities.

The analysis finds that the food sector is responsible for more than 9 per cent of GDP and 2.3 million jobs, roughly 13 per cent of all employment in Canada. This is just the market activity related to foodstuff and the preparation of foodstuff at restaurants. If one considers the important role that home storage and preparation play in food value added, the impact on GDP is considerably higher.

**THE FOOD SECTOR IS GLOBALLY INTEGRATED, GLOBALLY COMPETITIVE**

Food sector companies in Canada operate in a competitive North American and global market. Although parts of the food sector, such as the supply-managed industries, are focused on the domestic market, others, including grains, oilseeds, and seafood are more export oriented. Canada is among a unique group of 24 countries that are major net exporters of food. Food exports contribute over $38 billion in additional revenue to Canada. As described in Chapter 3, jobs related to food exports have an average salary that is higher than the average Canadian salary. Conference Board of Canada analysis found that an incremental increase of $1 billion in food exports creates over 10,500 new jobs and would yield GDP growth of just over $1 billion as the dollars from export sales are multiplied throughout the Canadian economy.

The complexity and global reach of the food sector is directly related to the demands placed on it by consumers in Canada. Food imports provide Canadians with a diet rich in fruits and vegetables year-round and have helped to provide access to inexpensive and increasingly diverse food options. Canada’s trade in food helps to generate income for food companies in Canada and for Canadian farmers, and to drive innovation through global competition.

**THERE ARE SIGNIFICANT GROWTH OPPORTUNITIES FOR CANADIAN COMPANIES**

The North American consumer will continue to be an important driver of food sector business in Canada but, as described in this report, domestic demand in Canada and North America will be constrained by slow population growth and relatively small changes in the North American diet in the coming decades. Even with rising rates of immigration, population expansion in Canada is expected to be only 1 per cent per annum. This slower rate of growth will spur some in the food sector to seek market niches for their products that will grow faster than domestic demand and produce higher profit margins. In contrast to the slow demand growth in Canada, there are greater opportunities for growth globally as demand for food and an increasingly urban and relatively wealthier consumer emerges in a number of developing countries.

The fact that the world’s population is increasingly becoming urban itself presents new opportunities and challenges in providing food to these populations.

As described in Chapter 4, there will be significant growth in demand for food products in the developing world in the coming years. This growth will be driven by two key factors: first, by population increases that will add more than 2 billion people in developing countries by 2050; and second, through the changing diets of a growing global middle class of consumers—many of them in the developing world—who seek a diet that is more diverse and where meat and fish protein play a larger role. The fact that the world’s population is increasingly becoming urban itself presents new opportunities and challenges in providing food to these populations. Increased effectiveness, efficiency, and affordability will be key features involved in creating healthy diets for this vast and increasingly urban global population.
All of these changes create important opportunities for Canadian companies and for Canada as a major food trading nation—it is up to us to decide if we want to embrace the opportunity or reject it.

**IMPLICATIONS FOR THE CANADIAN FOOD STRATEGY**

The strategic imperative for the Centre for Food in Canada is not only to understand where Canada’s food sector is today, but also to calculate where it may be heading and what governments and businesses can do to help steer the course to achieve our economic goals together with our health, environmental, and social goals.

This analysis of the economic contribution of Canada’s food sector has revealed a huge, complicated, global-seeking, locally operating, multi-actor system. It is a system that is still finding the balance between innovation and growth opportunities, and safeguards for its citizens, communities, and environment. The economic footprint of the food sector—more than 9 per cent of GDP and over 2.3 million jobs—is all the more impressive because the trends show that it has the potential to grow significantly and become even more important to our economy.

Canada is faced at the same time with economic opportunity and health, social, and environmental hazards. We have the opportunity today to create the conditions that will support the food sector’s growth as an economic engine, while also contributing to safe and healthy food choices in Canada, sustaining our environment, and providing greater access to food around the globe. A modern and effective food sector, innovating with the latest science and technology and working in a system that increases trade levels, could become an even greater force for economic and social good than it is today.

Our research agenda also explores how policies, laws, and regulations either facilitate or impede the innovation process. Our later reports will explore in some detail how governments can balance consumer protection and industry innovation. We begin to explore these issues in *Governing Food*, the companion volume to this report. A subsequent report will look at the specific issue of how policies, laws, and regulations impact industry performance.

A number of organizations in Canada, including the Canadian Federation of Agriculture and the Canadian Agri-Food Policy Institute (CAPI), have called for Canada to develop a national food strategy for the food sector. They want Canada to follow initiatives launched by the U.K. in 2010 and by other countries, including Scotland and Japan. Ideally, this strategy will be rooted in the realities of the sector, including the economic realities.

**Canadians will not face the severe food security issues that will plague billions of people in the coming decades.**

Canada is blessed as a nation with healthy soils, significant freshwater reserves, fertilizers, raw materials, and technologically sophisticated and highly innovative food sector players at all stages of food production and distribution. Canada’s high level of development and the sophistication of its food sector means Canadians will not face the severe food security issues that will plague billions of people in the coming decades. But that does not mean that we will gain all the benefits we want. That will require concerted action by business, government, and others—the purpose of our planned Canadian Food Strategy. The lessons learned from our research, and the questions they raise, which are presented below, provide important signals about what key elements need to be covered in the Strategy.

**LESSONS LEARNED AND RELATED QUESTIONS**

1. The production of food in Canada has a much broader economic impact than just those industries directly associated with growing, processing, and distributing food. In all, the food sector is responsible for more than 9 per cent of GDP and over 2.3 million jobs, roughly 13 per cent of all employment in Canada. Accordingly, changes to the food system are likely to have far-ranging and significant impacts throughout the economy.
2. Canada’s food sector is already highly integrated into the global food supply chain. Food companies operate in a highly complex and competitive market for food in Canada and internationally. Should further integration be encouraged? How can integration into global supply chains generate additional economic advantage for our firms?

3. The near-term horizon for food companies offers a number of significant opportunities. The food sector can profit from food trends and fads while tapping into increased consumer interest in food. Globally, rapidly growing populations in emerging markets will need to eat more, and will increasingly be seeking to add protein to their traditional diets. Should Canadian companies seek to build on their capacity to produce protein and GM foods and increase their market share in emerging markets?

**Innovation**

4. Canadian companies can innovate and have important impacts on global food supply chains, as demonstrated by the examples of McCain Foods, which has fuelled its growth in the global french fry market through foreign acquisitions and expansion; and canola, which has risen through research and innovation to become the number one cooking oil in Canada and one of the country’s top food exports.

5. Innovation is increasingly important to expanding the global food supply. Process innovations, and scientific research and discovery leading to new and improved products, will play a key role in feeding the 9 billion people who are expected to inhabit the Earth by 2050. How can Canadian businesses and governments work together to create an innovative environment in agriculture and agri-food that will allow our food sector to be part of the global solution to increasing the food supply?

6. Food companies are increasingly using investment and acquisitions to achieve growth. Another strategy is to tailor products to specific market niches. How can we help food producers and processors become more strategic in their decision-making and long-term business planning?

7. Some farm-level innovations entail biological processes that involve changing the biological nature of food plants and animals. These changes are designed to increase crop yields, alter the nutritional content of foods, or create new foods that did not exist before. Should Canada more strongly embrace the use of novel processes in food production? Are they the best option to increase food yields? What are the most effective farming methods to meet the growing demand for food?

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Canada’s food system is still finding the balance between innovation and growth opportunities, and safeguards for its citizens, communities, and environment.

**Trade**

8. Trade in food is an essential element in the economic success of Canada’s food sector, and reduces costs and expands food choices for domestic consumers. Exports are an important economic opportunity for Canada and for food companies; imports provide important dietary choices for Canadian consumers and help secure access to low-cost ingredients for food companies. In addition, interprovincial trade widens the variety of foods and ingredients available to consumers across Canada.

9. With rising international trade in food, nations are faced with two competing pressures: To what extent should they open their markets to international trade in food and seek to go global themselves? To what extent should they protect their domestic markets? What is the best balance for Canada to serve our national interests and safeguard consumers? What policies would best promote our chosen trade objectives?

**For Consumers**

10. Today, more Canadians think about all aspects of food (from how it is produced and what is in it, to where and when they eat it) than ever before. Basic food security is now less of a concern to most Canadians than obesity, nutrition, and the environmental and social impacts of food. How can we better educate and engage consumers to promote and achieve improved health outcomes? Should we continue to allow unrestrained consumer choice while helping consumers choose wisely, or should we adopt taxation and other instruments to change individual behaviours?
11. Consumers want convenient, quality food products at a good price. They seek value-added groceries that minimize post-purchase preparation, and increasingly dine out at restaurants, especially fast-food restaurants. How can Canadian food companies best satisfy these consumer demands while providing healthier food options to consumers?

12. Currently, as much as 40 per cent of food that is purchased for household and restaurant consumption is wasted, at considerable cost and with harmful effects on the environment. How can consumer and restaurant behaviours be modified to reduce the level of wastage?

For Government

13. Canada produces or imports more than enough food for its caloric needs and, indeed, wastes a considerable amount of its food supply. Currently, each Canadian has about 3,300 calories of food, drink, and alcohol available to them daily. A healthy adult male requires no more than 2,700 calories per day, and other people require even less. How can we adjust consumer demand so that their caloric acquisition and consumption matches intake requirements to support good health and minimize obesity?

14. The dependence of provincial economies on the food sector varies widely. In Prince Edward Island, about 16.5 per cent of the economic activity is generated directly by food-related industries. On the other hand, food industries account for only 4.7 per cent of GDP in Newfoundland and just 4.8 per cent in Alberta. Should food-focused provinces seek to diversify their economies or try to increase their concentration on food production to become greater specialists and producers for domestic and international markets?

15. Food traceability is becoming increasingly important and will provide opportunities for companies that can specialize in this area. How much can enhancing traceability contribute to increasing food production and trade? How can Canada become a global leader in food traceability?

16. Canada’s vast scale and geographic and climatic diversity, and its immense reserves of fresh water, provide a wealth of natural resources to support food production. How can Canada maximize benefit from its natural resource supply in food production and protect its natural resources at the same time?

17. Agriculture is one of the most heavily protected of Canada’s economic sectors. Canada protects some foods from import competition through high tariff rates, notably the supply-management sectors of chicken, turkey, eggs, broiler hatching eggs, and, above all, dairy products. Is supply management an effective way to both protect farmers’ incomes and stimulate the sector’s productivity and growth?
Bibliography


McCain South Africa. “About Us, McCain South Africa.” www.mccain.co.za/AboutUs/Pages/default.aspx.


The Conference Board of Canada has launched a major multi-year initiative—the Centre for Food in Canada (CFIC)—to address one of the mega-issues facing our country today. Food impacts Canadians in an extraordinary range of ways: it affects our lives, our health, our jobs, and our economy.

Key Objectives
CFIC’s key objectives are to:
• raise public awareness of the nature and importance of the food sector to Canada’s economy and society; and
• create a shared vision for the future of food in Canada articulated in a framework for the Canadian Food Strategy.

Achieving these purposes requires a combination of research and effective communication to stimulate public understanding of the significance of the food sector and spur the demand for collaborative action.

Who Should Invest
CFIC will appeal to investors from both the private and public sectors. Private sector firms have an interest in understanding the long-term food trends in Canada. These firms also have experience in the operation of their businesses, and they understand the opportunities and challenges their businesses face.

Public sector organizations clearly have an interest in the operation of Canada’s food sector. They are responsible for the policy and regulatory environment within which the private sector corporations operate. In addition, public sector organizations understand the interconnections between food and Canada’s health-care system, the nutrition of its citizens, and the health and viability of its communities. They are also familiar with the complexities and interrelationships among federal departments and, as well, among these federal departments and their provincial counterparts.

Membership from these organizations, each of which has a vested interest in the food system in Canada, will help to ensure that a balanced and holistic research approach is taken—one that reflects the priorities and concerns of Centre members.

E-MAIL contactcfic@conferenceboard.ca to receive more information.