



CANADIAN FOOD MANUFACTURING

An Overview in 2010, 2020 and
Forecast to 2030

May 2021

PROJECT TEAM

The Agri-Food Analytics Lab (AAL) at Dalhousie University is distinctively designed to both broaden and deepen food knowledge. It is the first Lab in the country developed solely to tackling our country's food issues along the entire agriculture and food continuum by collecting, monitoring, and mining data continuously, in Canada's both official languages.

Proven analytical tools are the cornerstone guiding our studies to discover, interpret and communicate significant trends found in the gathered data. The primary focus is on the Canadian market while acknowledging that disrupting forces can come from abroad. Nationally and internationally the food landscape is changing fast and it is imperative to better understand the future of food and how we can connect agriculture and food communities together. As such, AAL offers current food knowledge and expertise to drive understanding, innovation and action on the world's food issues. Our goal is to better understand the future of food and how we can connect agriculture and food communities together.

Project Lead:

Dr. Sylvain Charlebois

Professor, Food Distribution and Policy, Faculty of Management
Professor, Faculty of Agriculture
Senior Director, Agri-Food Analytics Lab
Dalhousie University

Research Assistant:

Amy Hill

Schulich School of Law, School of Public Administration, Dalhousie University

Project Coordinator:

Janèle Vézeau

Executive Director, Agri-Food Analytics Lab

EXECUTIVE SUMMARY

This report uses 24 variables to examine the Canadian food and beverage manufacturing industry and the context in which it operates. Data is collected to examine the state of the industry in 2010 and 2020, and to forecast where the industry will be in 2030 should it continue on the current trajectory. All data is from publicly available sources.

Over the past decade, a number of factors have challenged Canadian food and beverage manufacturing. The industry transitioned in the early 2010s with plant closures, but over the past decade has seen approximately 20 new federal facilities open. Food manufacturing is also experiencing a labour shortage, which has been attributed to an ageing workforce, and struggles to recruit new, skilled workers. Canada's education programs have been ineffective in supporting the industry, which struggles to recruit those under 30, women and underrepresented minorities.

Technology provides not only some excitement for the future of food manufacturing, but also some solutions. Investments in Canadian food manufacturing, however, have been waning and Canada as a whole sees just 2 per cent growth in *Greenfield* investments annually compared to 7 per cent in OECD companies. Food manufacturing is also receiving only limited support from the federal government. With thin margins and additional grocers' fees, there is limited capacity left to innovate. Canada is home to many aging food manufacturing facilities with outdated technology, and the question is quickly becoming not only whether to abandon rather than upgrade old facilities, but also whether to abandon doing business in Canada all together.

Despite all of this, there is hope. Food manufacturing has remained one of Canada's top two manufacturing industries over the past decade. In recent years, Canada has seen new investments from major agribusinesses, including Roquette, Kraft-Heinz and Labatt. The industry also provides 70 per cent of all food and beverage products supplied domestically. Canada continues to ratify trade agreements and expand the international market for food and beverage manufacturers. Food and beverage manufacturing plays a key role in supporting farmers, and the rest of the supply chain. It needs to be broadly recognized through better, and more supportive policy.

Canada has the potential to be a global force in innovation and food processing. As we have seen through the pandemic, domestic manufacturing is critical to Canadian security – food security included.

TABLE OF CONTENTS

PROJECT TEAM	2
EXECUTIVE SUMMARY	3
INTRODUCTION: SOME CONTEXT	6
METHODOLOGIES	8
Section 1: Market Overview – Food and Beverage Processing in Canada	9
Section 2: The Production Environment and Costs of Production	10
Section 3: Situating Food and Beverage Manufacturing in the Canadian Economy	11
Section 4: Situation Canadian Food and Beverage Manufacturing Globally	12
Section 5: Government Environment	13
Section 6: The Environment and Technology	13
LIMITATIONS	14
RESULTS	15
1. MARKET OVERVIEW	15
SUMMARY AND KEY OBSERVATIONS – SECTION 1.....	15
1.1 Market Structure.....	15
1.2 Employment.....	18
1.3 Annual Sales.....	21
1.4 Margin.....	23
1.5 Foreign Ownership and Foreign Direct Investment.....	24
2. THE PRODUCTION ENVIRONMENT AND COSTS OF PRODUCTION	26
Summary and Key Findings – Section 2.....	26
2.1 Industrial Product Price Index (IPPI).....	26
2.2 Machinery and Equipment Price Index (MEPI).....	28
2.3 Non-Residential Building Construction Price Index (NRBCP).....	29
2.4 Unit Labour Cost.....	30
2.4 Farm Production Prices Index (FPP).....	31
2.5 Transport Costs: Freight Rail Services Price Index (FRSPI).....	32
2.6 Fees from Grocers.....	33
3. SITUATING FOOD AND BEVERAGE MANUFACTURING IN THE CANADIAN ECONOMY	35
Summary and Key Findings – Section 3.....	35
3.1 Percentage of Total GDP.....	35
3.2 Size of Industry Relative to Other Manufacturing Sectors in Canada.....	36
3.3 Size of Grocery Market in Canada.....	37
3.4 Food Price Inflation in Canada.....	38
4. SITUATING CANADIAN FOOD MANUFACTURING GLOBALLY	40
Summary and Key Findings – Section 4.....	40
4.1 Food and Beverage Goods Imported to Canada.....	40
4.2 Top 5 Destinations for Canadian Food and Beverage Goods.....	41
4.3 Canada’s Trade Balance on Food Manufacturing Goods.....	42
4.4 The Effects of Trade Deals.....	43

5. GOVERNMENT ENVIRONMENT	46
Summary and Key Findings – Section 5.....	46
5.1 Government Financial Support for the Sector	46
5.2 Federal Legislation	48
6. THE ENVIRONMENT AND TECHNOLOGY	51
Summary and Key Findings – Section 6.....	51
6.1 Technology	51
6.2 The Environment.....	52
2030 ECONOMIC FACTORS AND DRIVERS.....	56
CONCLUSION.....	57
APPENDICES	58
Appendix I: MEPI Measures chosen (for 2.2)	58
Appendix II: Complete Data – Food Price % Change YoY, 2019 and 2020 (Stats Can).....	58
Appendix III: Percentage Growth of Prices	61

INTRODUCTION: SOME CONTEXT

Food and beverage manufacturing has and continues to be one of Canada's most important industries. In 2019, the sector generated 17 per cent of total manufacturing sales in Canada and contributed 2 per cent to Canada's GDP.¹ The industry is also the largest manufacturing employer in Canada, employing 290,000 Canadians in 2019.²

Despite the industry's size and breadth in Canada, it has seen challenges over the past decade, including the losses of 40,000 jobs from small plant closures and a lack of investment curtailing innovation.³ Reportedly smaller mom-and-pop operations as well as larger multinational companies are struggling to set up business in Canada and are choosing to build their businesses elsewhere.⁴ These challenges were exacerbated this past summer, almost six months into the COVID-19 pandemic, with the announcement of additional, unilaterally imposed fees by Canada's large grocers.

On August 4, 2020, Michael Graydon wrote in the *Toronto Star* accusing Walmart Canada of "[putting] the nation's food supply at risk with new fees."⁵ Walmart had announced new supplier fees in July 2020. In October of the same year, Loblaw followed suite, notifying suppliers of increased fees to put products on their shelves.⁶ Metro, through the UGI buying group, was not far behind. Grocers said these fees were to support e-commerce expansion and to mitigate climate change. Five grocers in Canada hold 80 per cent of the market, resulting in significant market power.⁷ Despite the decision of the other large grocers, Sobeys CEO, Michael Medline, broke line and announced Sobeys would not be increasing supplier fees, speaking out instead in favour of a Code of Conduct as has been put in place in the UK and Australia.⁸ Suppliers have been calling for a Code of Conduct in Canada for years, if not the last decade.

A cross-governmental working group has been hearing evidence on the state of the grocery industry over the past year, but in March, 2021, Sobeys and FHPC took matters into

¹ Agriculture and Agri-Food Canada, "Overview of the Food and Beverage Processing Industry" (last modified 16 July 2020), online: *Government of Canada* <<https://www.agr.gc.ca/eng/canadas-agriculture-sectors/food-products/processed-food-and-beverages/overview-of-the-food-and-beverage-processing-industry/?id=1174563085690>> at para 1 [*Industry Overview*].

² *Ibid.*

³ Sylvain Charlebois et al, "Canada's Food Price Report 11th Edition" (2021), online: *Dalhousie University* <www.dal.ca> at p 26 [*Food Price Report 2021*].

⁴ See example from Maple Leaf foods, who recently set up a \$300 million plant in the US, even though a significant amount of their ingredients come from Canada (*Food Price Report supra* note 3).

⁵ Michael Graydon, "Walmart Canada Puts Nation's Food Supply at Risk with New Fees", *The Toronto Star* (4 August 2020), online: <www.thestar.com>.

⁶ "Loblaw Follows Walmart in Imposing New Fees on Suppliers to Help Pay for Upgrades", *The Financial Post* (23 October 2020), online: <www.financialpost.com>.

⁷ Sylvain Charlebois et al., "Global Food Innovation Index" (2021): Data sheet Pillar 2.3.1 – Large-scale Competitors [*Food Innovation Index*].

⁸ Brett Bundale, "Sobeys CEO Calls Competitors' Fee Increases on Suppliers 'Repugnant'", *The Toronto Star* (28 October 2020), online: <www.thestar.com>.

their own hands. With the help of Christine Tacon, who was previously responsible for enforcing the UK's code, FHCPC and Sobeys released a joint draft Code of Practice.⁹ The draft Code of Practice covers supply agreements, payments, marketing, shrink and listing, forecasting and administration.¹⁰ The draft code has been put before the cross-governmental working group with the hopes that it will form the basis for a national, government-implemented code for the industry.¹¹

In the meantime, aggregated and summarizing data is needed to help policy makers understand where the industry has been and where it will be going without intervention. This study purports to help fill the gap in data by examining the state of the industry in 2010, 2020 and into 2030.

⁹ "Sobeys' Parent Company Teams up with Manufacturers to Draft Code of Conduct for Embattled Grocery Sector", *The Financial Post* (25 March 2021), online: <www.financialpost.com>.

¹⁰ Summary of Proposed Grocery Supply Code of Practice for Canada (2021 Proposal), online: <www.fhcpc.ca> [Draft Code].

¹¹ Rebecca Harris, "Code of Practice Proposal a 'Watershed Moment' for Grocery Industry", *Canadian Grocer* (25 March 2021), online: <www.canadiangrocer.com>.

METHODOLOGIES

This study will use 24 variables from 6 categories to examine Canadian food and beverage manufacturing in 2010 and 2020, and to provide a forecast of the sector in 2030. The variables will focus on the sector itself, while also providing context of the greater environment in which the sector operates. For example, external factors such as government regulation and trade deals with other countries impact the sector and must be considered.

Section 1: Market Overview – Food Manufacturing in Canada	Section 2: The Production Environment and Costs of Production	Section 3: Situating Food Manufacturing in the Canadian Economy	Section 4: Situating Canadian Food Manufacturing Globally	Section 5: Government Environment	Section 6: The Environment and Technology
<ul style="list-style-type: none"> i. Market Structure ii. Employees iii. Annual Sales of Manufactured Goods iv. Margin v. Foreign Direct Investment 	<ul style="list-style-type: none"> i. Industrial Product Price Index ii. Machinery and Equipment Price Index iii. Non-Residential Building Construction Price Index iv. Unit Labour Cost v. Farm Production Prices Index vi. Freight Rail Services Price Index vii. Fees from Grocers 	<ul style="list-style-type: none"> i. Percentage of Total GDP – Canada ii. Size of Industry Relative to Other Manufacturing Sectors in Canada iii. Size of Grocery Market in Canada iv. Food Price Inflation Index 	<ul style="list-style-type: none"> i. Food and Beverage Goods Imported to Canada ii. Top Five Destinations for Canadian Food and Beverage Goods iii. Canada’s Trade Balance on Food and Beverage Manufactured Goods iv. The Effects of Trade Deals 	<ul style="list-style-type: none"> i. Government Financial Support for the Sector ii. Federal Legislation 	<ul style="list-style-type: none"> i. Technology ii. Environment

In many cases, data is available from government websites for the food and beverage manufacturing sector. Where data is not available from government websites, it will be collected from academic articles, company webpages and news outlets.

The following sections of this methodology will explore the 24 variables. For each variable, there is a justification for its inclusion, a description of what the variable is, and finally, where data will be found to measure the variable.

Section 1: Market Overview – Food and Beverage Processing in Canada

1.1 Market Structure

Food manufacturers are licensed both provincially and federally. Provincially licensed manufacturers send their products only within the province they are licensed, whereas federal manufacturers can send their products anywhere in Canada or export them globally. As this study is concerned with forecasting not only the food manufacturing market domestically, but also how it performs in terms of trade, the focus of this study will be federal food manufacturers. Market Structure will describe the number of federally licensed manufacturers in Canada, and the number of small, medium and large manufactures in the market. Data will be available on federal government websites.¹²

1.2 Employees

While outputs are an important part of manufacturing, so too are those who work in manufacturing facilities. Further, Canada’s population is ageing, which means so too is its workforce in all sectors.¹³ The Employees variable will consider the number of employees in food manufacturing and the demographics of the workforce. General data is available from government websites and from Food Processing Skills Canada.

1.3 Annual Sales of Manufactured Goods

Annual sales provide an indication of the size of a business. Aggregate annual sales will be considered and compared against other key manufacturing sectors. Sector-wide data is also available on government websites.

1.4 Margin

Margin estimates what percentage of sales become profit in a sector, and accounts for the costs of production in that sector. Margin will provide an estimate for profit in the food processing industry. Data estimates measured as a percentage are available online for the sector.

1.5 Foreign Direct Investment (FDI)

Foreign direct investment (‘FDI’) can be described in two ways: as *greenfield* investments, where a purchaser invests in a company’s infrastructure and production capacity; or as

¹² FHPCPC, “Membership”, (2020), online: <www.fhcp.ca>.

¹³ Demography Division, “Canadian Demographics at a Glance: Second Edition”, *Statistics Canada* (19 February 2016), online: <www150.statcan.gc.ca>.

brownfield investments which involves acquisitions of Canadian businesses.¹⁴ FDI can also be examined in terms of money flows *into* Canadian businesses or *from* Canadians into businesses abroad. Where data can be found, both the type and flows of FDI for food manufacturing will be considered. Data will be accessed from government websites or databases.

Section 2: The Production Environment and Costs of Production

2.1 Industrial Product Price Index

The Industrial Product Price Index (IPPI) has been used in Canada to measure performance of the manufacturing sector, and its economic health. IPPI measures the price of products manufactured in Canada sold “at factory gate.”¹⁵ While IPPI measures all manufactured goods in Canada, there are specific measures available for categories of food and beverage products which will be used. All data will be collected from Statistics Canada and will be measured for the sector in aggregate.

2.2 Machinery and Equipment Price Index

The Machinery and Equipment Price Index (MEPI) measures the prices of any equipment and machinery purchased by Canadian industries.¹⁶ For example, MEPI measures price changes in anything from pallets to refrigeration equipment to communications equipment. MEPI will be used to provide an indication of the costs of production for the sector in aggregate. Data is available from Statistics Canada.

2.3 Non-Residential Building Construction Price Index

An important consideration in the expansion of the manufacturing industry might be construction costs where new buildings are required to house facilities. The Non-Residential Building Construction Price Index (NBCPI) uses the prices reported by contractors to build new non-residential buildings.¹⁷ NBCPI measures are available online from Statistics Canada for the year 2010, and up until 2017. To measure for 2020 and 2030, patterns from the existing data will be used to forecast.

¹⁴ Tyler Betcher, “How Foreign Investment Could Boost Canada’s Exporting Superpower”, *Farm Credit Canada* (28 August 2020), online: <www.fcc-fca.com> [FCC FDI].

¹⁵ Statistics Canada, Industrial Product Price Index, by Industry, Monthly (Table: 18-10-0267-01).

¹⁶ Statistics Canada, Machinery and Equipment Price Index, By Commodity, Quarterly, Inactive (Table: 18-10-0057-01).

¹⁷ Statistics Canada, Archived – Non-Residential Building Construction Price Index, By Class Structure, Quarterly (Table: 18-20-0049-01).

2.4 Unit Labour Cost

Labour remains an important cost for most businesses, including manufacturing. Unit labour cost measures the labour cost per unit of output.¹⁸ Hourly wage rates will be considered and also compared to wage rates in other manufacturing sectors as well as the consumer price index. All data will be retrieved from government websites.

2.5 Farm Product Prices Index

While the IPPI accounts for the prices received by the manufacturer at “factory gate,” the Farm Product Prices Index (FPPI) measures the prices received by farmers at “farm gate.”¹⁹ Farms provide raw materials used in food and beverage manufacturing, and their prices are therefore an important consideration. The FPPI data is available on Statistics Canada, and is measured as an aggregate index.

2.6 Freight Rail Services Price Index

Included in the cost of production is often the costs associated with transportation. The Freight Rail Services Price Index (FRSPI) provides a measure for the cost of transporting goods by rail in Canada. Measures are available from Statistics Canada.

2.7 Fees from Grocers

These fees will be reported as a percentage of product price. Estimates of fees will be collected from the five major grocers in Canada: Sobeys, Loblaw, Metro, and Walmart. Estimates of these values will be made from information online, including news articles and company news releases.

Section 3: Situating Food and Beverage Manufacturing in the Canadian Economy

3.1 Percentage of Total GDP – Canada

Gross Domestic Product (GDP) provides a measure of the goods and services produced in a country. To situate the food and beverage manufacturing sector in the Canadian economy, its contribution to national GDP will be considered, measured as a percentage of total GDP. This measure is available from Statistics Canada.

¹⁸ Bank of Canada, “Wages and Costs: Definitions, Graphs and Data” (n.d.), online: *Bank of Canada* <<https://www.bankofcanada.ca/rates/indicators/capacity-and-inflation-pressures/wages-costs-definitions/>>.

¹⁹ Statistics Canada, Farm Product Price Index (FPPI), Annual (2007=100) (Table: 32-10-0099-01).

3.2 Size of Industry Relative to Other Manufacturing Sectors in Canada

The size of the food and beverage manufacturing industry in Canada will be compared to Canada's other manufacturing sectors. Industry size will be measured using sales of goods manufactured, indexed in 2020-dollar values. Data will be available online from Government websites.

3.3 Size of Grocery Market in Canada

The grocery industry is an important destination for food and beverage products from manufacturers. The size of the market will be measured in terms of major competitors, and market structure and market shares. The structure of the grocery industry impacts the power dynamics in negotiations with suppliers. Data will be available from online sources and past studies.

3.4 Food Price Inflation Index

While manufacturers are not providing products directly to consumers, manufactured food products are for consumer consumption. The food price index will provide an indication of the consumer-side of the market to complement the picture of the grocery side of the market. Food price index measures are available from Statistics Canada.

Section 4: Situation Canadian Food and Beverage Manufacturing Globally

4.1 Food and Beverage Goods Imported to Canada

To provide further context to the food and beverage manufacturing environment in Canada, it is important to know from which countries Canada is importing food products. These countries provide competition to the domestic market. Government databases will provide this data.

4.2 Top 5 Destinations for Canadian Food and Beverage Goods

Countries which Canada trades with provide an indication of the market Canada is competing with, but also an indication of where Canada's relationships are as a result of the political environment and trade agreements, among other things. Canada's top five trading partners for food and beverage goods will be considered. Data will be available online from Statistics Canada or Global Affairs.

4.3 Canada's Trade Balance on Food and Beverage Manufactured Goods

Canada's trade balance indicates the food and beverage products Canada is buying from other countries relative to how much it is selling to other countries. The trade balance brings

together data from exports and imports in 4.1 and 4.2 to provide an overall picture of the state of trade in food and beverage products. Data is available from Statistics Canada.

4.4 The Effects of Trade Deals

Trade deals provide an environment for goods to be exported or imported from other countries – or not. This variable will consider three of Canada’s major trading agreements: the new NAFTA, CUSMA; the Canada-EU Comprehensive Economic and Trade Agreement (CETA); and, the Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPTPP). Those agreements will be analyzed to consider their effects on food manufacturing. Data will come from government websites and academic articles.

Section 5: Government Environment

5.1 Government Financial Support for the Sector

Government grants, subsidies or loans to sectors can be an important source of financial support. This section will focus exclusively on federally provided support to the food and beverage manufacturing sector in aggregate. Data will be available from the Federal Government’s website.

5.2 Federal Legislation

Federal legislation provides an important framework which might support or, instead, place time and monetary costs on manufacturing. This study will examine Canada’s major laws which affect manufacturers, comparing them in 2010 and 2020. Data will be available from Justice Canada or from legal databases.

Section 6: The Environment and Technology

6.1 Technology

Technology plays an important role in manufacturing by improving efficiency, reducing costs and increasing food safety. Technology, including artificial intelligence, is also changing and evolving at a rapid rate. This section will consider the key technology advances in 2010, 2020 and predict those in 2030 with academic and industry papers.

6.2 Environment

Environmental concerns affect all business sectors in Canada. Climate change is something everyone should be concerned about. This section will consider the main environmental concerns for food and beverage processing in 2010, 2020 and into 2030 using academic articles, newspapers and data from government websites.

LIMITATIONS

All data collected for this report is from publicly available sources such as Statistics Canada, academic paper databases, company webpages and news outlets. In some cases, where data was available, a complete data set with points for both 2010 and 2020 was not available. In these instances, a measure was constructed for the missing points based on past trends. In other cases, there was insufficient data to construct a variable and a forecast. For example, government regulations contribute significantly to operating costs; however, there was not enough data to cost the impacts of regulations nor make a forecast. Future editions of this report should consider expanding the list of variables if more data is available.

Another consideration in this report is the economic uncertainty caused by the COVID-19 pandemic. In the second quarter of 2020, Canada's GDP contracted by 11.4 per cent, but has since rebounded.²⁰ Unemployment, however, remains high at 9.4 per cent in January of 2021.²¹ On February 25, 2021, the Parliamentary Budgetary Office (PBO) released its review of economic and fiscal projections with the caveat that it had excluded its projections for 2020 due to the "high level of uncertainty resulting from [the pandemic]."²² The effects of the 2008 crisis were considered to help model uncertainty, but there is considerable difference in the economic effects of the 2008 crisis and the COVID-19 crisis. The biggest difference in this crisis compared to 2008 is two-fold: (1) consumers had money 'in their hands' this time; and, (2) the Bank of Canada immediately propped up markets through the widespread purchase of bonds in early 2020.²³ While Canada's economy is still recovering, manufacturing, including food manufacturing has reportedly almost fully recovered from the economic downturn caused by the pandemic.²⁴

Despite a promising recovery, the food manufacturing industry does not operate in a vacuum. Forecasts are made in this report, but with some added uncertainty due to the COVID-19 pandemic, especially for those variables or sections which involve situating food manufacturing in the greater Canadian economy (section 3), and the world's economy (section 4).

²⁰ Tim Kiladze, "2008's Financial Crisis was a Global Disaster. When COVID-19 Hit, Its Lessons Were Canada's Saving Grace", *The Globe and Mail* (28 December 2020), online: <www.theglobeandmail.com> [Kiladze].

²¹ Statistics Canada, Labour Force Survey, January 2021 (Released: 2021-02-05).

²² PBO, "Review of PBO Economic and Fiscal Projections" (25 Feb 2021) [PDF] at p. 4.

²³ Kiladze *supra* note 17.

²⁴ Industry Strategy Council, "Restart, Recover and Reimagine Prosperity for All Canadians: An Ambitious Growth Plan for Building a Digital, Sustainable and Innovative Economy" (2020), online: *Innovation, Science and Economic Development Canada* <www.canada.ca> at p 74 [Restart and Recovery Plan].

RESULTS

1. MARKET OVERVIEW

SUMMARY AND KEY OBSERVATIONS – SECTION 1

- Canada has had a small number of large companies operating federally, but that number has been shrinking over the past ten years with approximately 20 new federal facilities opening in the recent decade compared to 4,000 in the US.
- Manufacturing is experiencing a labour shortage, but there are concerns that the shortage is due to working conditions and wages which are unattractive and unable to retain workers. Women and underrepresented peoples also present an opportunity which has not yet been fully realized by the sector.
- Compared to Canada’s other top manufacturing sectors, chemicals and transport, food manufacturing has seen a steady increase in annual sales over the past decade. In 2020, where overall manufacturing sales decreased, food manufacturing annual sales still increased.
- A lack of greenfield investments is stunting both innovation in food manufacturing and the upgrades of old facilities and old technology.

1.1 Market Structure

Considering 2010 and 2020

In 2020, Canada’s market is characterized by a small number of larger players and a large number of small players. The most recent 2019 data, which aggregates provincial and federal facilities, shows that the Canadian food and beverage manufacturing sector has 9,796 establishments, of which 0.9 percent are large with 500 or more employees.²⁵ The majority of establishments, 63.9 per cent, are small establishments with 5-99 employees. Micro firms of fewer than five employees make up 26 per cent of the market, and medium firms with 100-499 employees represent 9.2 per cent of the market.

The manufacturing market also differs, usurpingly, by region in Canada. The chart below shows the major players in each market, and the key commodities. What this chart also shows

²⁵ Innovation, Science and Economic Development Canada, Food Manufacturing - 311 (last modified 26 February 2021), online: *Businesses – Canadian Industry Statistics* <<https://www.ic.gc.ca/app/scr/app/cis/businesses-entreprises/311>>.

is that each provincial region in Canada hosts several large manufacturers of whom many are also large multinationals.

Region ²⁶	BC	Prairies	QC	ON	Atlantic
Key Strengths	Wild seafood, aquaculture, meat processing, greenhouse vegetables	Grains and oilseed, cattle, hog breeding and meat production, lentils	Hogs, hens, chickens, dairy, sugar and confectionary	Dairy, soybeans, wheat and corn, meat processing, bread, tortillas, bakery products, sugar and confectionary	Wild seafood, aquaculture, potatoes
Leading Companies	Village Farms, Calyx Bio-Ventures Inc., Grieg Seafood, Marine Harvest, Rogers Sugar	Cargill Inc., Can-Oat Milling (Richardson International), JBS Food Canada, Keystone Grains (Legumex Walker), Viterra, Simplot, Roquette	Danone Inc., Saputo, Agropur, Olymel, Lassonde Industries Inc., Bonduelle, Biscuits, Leclerc, Barry Callebaut, Twin Rivers Technologies	Kraft Canada Inc., General Mills Inc. Nestlé Canada, Unilever Canada Inc., Kellogg Canada, Campbell Company of Canada, Maple Leaf Food, Grupo Bimbo, Mars Inc., Dr. Oetker, Ferrero	Ocean Spray Inc. (DSM), Ocean Nutrition Ltd., Cavendish Farms, Halibut PEI Inc., McCain Foods Canada, Clearwater

Table 1 Key Strengths and Main Suppliers in Canada

Between 2006 and 2014, reportedly 143 food plants – provincially and federally regulated – closed accompanied by a loss of 23,807 food and beverage manufacturing jobs in Canada.²⁷ Over the same period, Canada saw 63 new plants open and major investment announcements by 67 companies, which suggests from 2010 onwards, the industry’s structure was transitioning.²⁸ Another article suggests that over the past decade, from 2009-2019, Canada has only seen 20 new *federal* food processing plants open whereas in the same period the US had seen 4,000.²⁹ While there were few openings federally, Canada has seen federal closures, including in 2018 the Campbells facility in Toronto,³⁰ and the Dr. Oetker plant in Grand

²⁶ Global Affairs Canada, “Invest in Canada: Canada’s Competitive Advantages, Agri-Food Processing Sector” (2018) at p 3 [*Invest in Canada*].

²⁷ David Sparling & Sydney LeGrow, “The Changing Face of Food Manufacturing in Canada: An Analysis of Plant Closings, Openings and Investments,” (2014), *The Canadian Agri-Food Policy Institute* at p 4.

²⁸ *Ibid.*

²⁹ Sylvain Charlebois, “Maple Leaf Foods, U.S.A.?” , *The Chronicle Herald* (10 April 2019), online: <www.thechronicleherald.ca> [*Maple Leaf Foods, USA*].

³⁰ Hollie Shaw, “Grocery Aisle ‘Bloodbath’; What We Eat, How We Cook, and Where We Shop are Killing Iconic Food Companies”, *National Post* (10 February 2018), online: <www.nationalpost.com>.

Falls.³¹ There were talks of Maple Leaf opening a new \$660 million plant in London, ON, but it appears the company has built their new plant in Indiana instead.³² Further, Quebec has seen losses or acquisitions of some of its major brands which have resulted in production either moving out of the province or even out of Canada.³³

Canada markets itself as a country with “progressive tax reductions” which are “a significant advantage for companies operating in Canada,” a country with “an exceptional abundance of natural resources,” and a country with “the lowest business costs among G7 countries.”³⁴ In addition to these benefits, the provinces and federal government have also partially subsidized new plants. In 2018, Ontario announced a \$34.5 million contribution towards a poultry processing plant³⁵ and just this year, the federal government announced it will be providing \$5 million towards a new Babybel plant in Quebec.³⁶ There is a willingness to put taxpayer money towards new plants, and new plants are coming, but slowly. Other announcements this year include: Kraft Heinz ketchup will return to production in Montreal;³⁷ Labatt will be brewing Stella Artois and Corona at its plant in London;³⁸ and, a plant-based protein facility was opened in Merritt, BC this year.³⁹ Following a transitional decade, these new announcements provide some hope.

Looking to 2030

The concern moving into the next decade is new openings and investments *in* Canada. Plant closings seem to have slowed. Government subsidies are important but do not appear to be enough of an incentive. Production environment challenges such as old infrastructure and lacking innovation may push suppliers away from setting up shop in Canada.⁴⁰ In 2019, Maple Leaf decided to build their new \$300 million plant in Indiana while continuing to use Canadian

³¹ Sylvain Charlebois, “Jobs Die Off Along with National Food Brands; Over the Last Decade, Food Manufacturing Positions are Estimated to Have Been Cut by 30,000” *The Chronicle Herald* (1 February 2018), online: <www.thechronicleherald.ca> [*Jobs Die with National Food Brands*].

³² “Maple Leaf to Consolidate Ontario Poultry Processing: Company to Build New at London, Shut Three Older Plants”, *Glacier Farm Media* (27 November 2018), online: <www.agcanada.com> ; *Maple Leaf Foods, USA supra* note 29.

³³ Pierre Lussier, “Fleurons québécois: que rest-t-il de nos amours?”, *Le journal de Québec* (15 Mars 2021), en ligne: <www.journaldequebec.com>.

³⁴ *Invest in Canada supra* note 26 at p 4.

³⁵ *Jobs Die with National Food Brands supra* note 31.

³⁶ Jim Cornall, “Government Funds Help New Babybel Plant in Canada”, *Dairy Reporter* (9 March 2021), online: <www.dairyreporter.com>.

³⁷ Brett Bundale, “Kraft Heinz Says Production of Its Iconic Ketchup to Move to Montreal”, *Global News* (17 November 2020), online: <www.globalnews.ca>.

³⁸ Norman De Bono, “Labatt to Brett ‘Iconic Brands’ Corona, Stella Artois in London”, *The London Free Press* (23 November 2020), online: <www.lfpress.com>.

³⁹ Cory Knutt, “Merit Opens Winnipeg Plant-Based Protein Facility”, *Steinbach Online* (14 February 2021), online: <www.steinbachonline.com>.

⁴⁰ *Maple Leaf, USA supra* note 29.

ingredients in their products.⁴¹ Maple Leaf will likely not be the last food manufacturing company to leave Canada.

The effects of market structure are likely positive and moderate on the industry's future growth in relation to the other variables considered in this study. Any extreme transitions appeared to have already occurred in the early 2010s. With the recent news of new openings, it is likely that the food and beverage manufacturing sector will continue to expand over the next decade to some degree in Canada.

1.2 Employment

Considering 2010 and 2020

The number of employees in Canadian food and beverage manufacturing for 2010 is unreported. News articles, however, report that Canadian food manufacturing lost 30,000 jobs between 2008 and 2018.⁴² Over the same period Statistics Canada reports that the sector's employment increased by 1.43 per cent to employ 298,200 people in 2018.⁴³ This shows a discrepancy in reporting, which may be a result of what is being measured. Regardless, the most recent data, from 2019, shows food and beverage manufacturing employs 290,000 Canadians.⁴⁴ Further, food manufacturing companies surveyed in Canada reported a turnover rate of about 19 per cent on average in 2020.⁴⁵ The main issues for hiring in 2020 appear to be expected wages are too high or applicants lack proper training, but despite that employee referrals are the most common recruitment strategy.⁴⁶

It is also important to note that temporary foreign workers are an important source of labour in the sector. It was reported, in 2020, that 3.4 per cent of workers in food manufacturing are temporary foreign workers ('TFWs').⁴⁷ The COVID-19 border and travel restrictions have created challenges for manufacturers welcoming TFWs in 2020, and additional costs. In March 2021, the Government announced special requirements for TFWs entering

⁴¹ *Food Price Report 2021 supra* note 3.

⁴² *Jobs Die with National Food Brands supra* note 31; Hollie Shaw, "Out of the Box; Packaged Food Manufacturers are Closing Up Factories as Consumers Look to Eat Fresh", *The Vancouver Sun* (10 February 2018), online: <www.thevancouversun.ca>.

⁴³ Agriculture and Agri-Food Canada, "Overview of the Canadian Agriculture and Agri-Food Sector 2018" (last modified November 11, 2020), online: <<https://agr.gc.ca/eng/canadas-agriculture-sectors/sector-overviews-data-and-reports/overview-of-the-canadian-agriculture-and-agri-food-sector-2018/?id=1605883547264&wbdisable=true>>.

⁴⁴ *Industry Overview supra* note 1.

⁴⁵ Food Processing Skills Canada, "2020 Labour Market Information Survey" (2020) at p 4 [*Food Processing Canada Survey*].

⁴⁶ *Ibid.*

⁴⁷ Yuqian Lu, "The Distribution of Temporary Foreign Workers Across Industries in Canada," (3 June 2020), online: *Statistics Canada* <www150.statcan.gc.ca>.

Canada⁴⁸ as well as additional funding of \$85 million to assist with the isolation requirements under the *Quarantine Act*.⁴⁹ Further, applications for TFWs in food and beverage processing are being prioritized by the government due to food and beverage processing being considered an essential industry.⁵⁰

Finally, many plants in Canada have unionized workforces. Statistics Canada reports that for manufacturing writ large, in 2020 approximately a quarter of workers were covered by unions, but anecdotally that number is higher in food and beverage plants.⁵¹ The level of unionization in Canadian food and beverage processing is generally higher than US counterparts as well.

Looking to 2030

i. Employment Gap and Working Conditions

Food processors and manufacturers have warned that in the next decade, they expect to experience an employment gap.⁵² Food Processing Skills Canada estimates the employment gap to be as high as 65,000 jobs by 2025.⁵³ This gap has been attributed to attrition and an ageing workforce, which is not being replaced by Canadians under 30.⁵⁴ Labour advocates argue that a shortage of labour is not the problem, but rather low wages, lacking benefits, and the working conditions in food manufacturing are creating recruitment and retention issues.⁵⁵ The average pay across goods producing industries was reported to be approximately \$30.36, while the average pay in food manufacturing was \$21.20.⁵⁶

Issues filling positions will likely persist in food manufacturing. Manufacturing plants across Canada have had to deal with COVID-19 outbreaks reported upon very publicly and for the most part very negatively, while trying to remain open and supply food to Canadians.⁵⁷

⁴⁸ Employment and Social Development Canada, “Government Announces Comprehensive Plan to Better Protect Foreign Workers in Order to Secure Canada’s Food Supply Chain”, (16 March 2021), online: *Canada* <www.canada.ca>.

⁴⁹ Agriculture and Agri-Food Canada, “Government of Canada Invests \$16.9 Million to Improve Worker Safety and Strengthen the Food Supply Chain in British Columbia,” (5 March 2021), online: *Cision* <www.newswire.ca>.

⁵⁰ Employment and Social Development Canada, “Program Requirements for Low-Wage Positions”, (11 March 2021), online: *Canada* <www.canada.ca>.

⁵¹ Statistics Canada, Union Status by Industry (Table 14-10-0132-01).

⁵² Rosa Saba, “Food Processing Industry Warns of 25% Labour Gap”, *The Toronto Star* (17 December 2020), online: <www.thestar.com> [Saba].

⁵³ “Labour Market Information”, (2021), online: *Food Processing Skills Canada* <<https://fpssc-ctac.com/lmi/>>.

⁵⁴ *Saba supra* note 52.

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*

⁵⁷ Stefanie Marotta, “Ontario, Quebec See Workplace Cases Spike”, *The Globe and Mail* (4 December 2020), online: <www.theglobeandmail.com>.

Government benefits during the pandemic, such as CERB, have also meant that for those Canadians who perhaps could be working, they have been more likely to stay home.⁵⁸

ii. *Diversity and Inclusion*

In 2020, it was reported that over half of firms surveyed in Canada were making efforts to recruit women and people under 30, but the same efforts were not being made for underrepresented cultural and ethnic groups.⁵⁹ While calls for diversity in the Canadian manufacturing workforce are not new, the Black Lives Matter ('BLM') movement this past summer reinvigorated discussions around diversity and inclusion in Canadian society. Diversity is also an important concern for the manufacturing sector moving forward when it comes to both black, indigenous and people of colour ('BIPOC') as well as women. Canada has long been uncomfortable collecting data related to race,⁶⁰ so data on the employment of BIPOC people in (food and beverage) manufacturing in Canada appears non-existent at this point.

Despite lacking data on BIPOC people, Canada *does* record gender in labour surveys. From 2010-2020, the proportion of management occupations held by women stayed fairly consistent at 35 per cent with almost no growth.⁶¹ In manufacturing specifically, one study reported in 2019 that women were 28 per cent of manufacturing workers.⁶² Another study reported that number to be 35 per cent.⁶³ The number of women in senior positions in manufacturing is lower at 23 per cent (see chart below).

Occupation in Manufacturing ⁶⁴	Clerical Support Workers	Craft & Trade Related	Elementary Occupations	Legislators, Senior Officials & Managers	Plant and Machine Operators and	Professionals	Service Workers and Shop and Market Sales Workers	Skilled Agricultural and Fisheries	Technicians & Associate Professionals
Percentage of Women, 2017 (%)	81	9	23	23	26	38	39	16	30

Table 2 Percentage of Women in Manufacturing Roles

Diverse workforces are not only important to bring a variety of perspectives to the table, but there is also a business case in favour of being diverse. McKinsey found a 48 per cent difference in performance between the most and least gender-diverse companies in their study

⁵⁸ Sylvain Charlebois, "Job Numbers Better, But Not in Agri-Food", *The Chronicle Herald* (15 October 2020), online: <www.thechronicleherald.com> [Job Numbers Better].

⁵⁹ *Ibid.*

⁶⁰ July 2020 was first time Statistics Canada began collecting employment data regarding race, spurred by the unequal effects of the pandemic on different groups in Canada, see: "Statistics Canada to Start Collected Race-based Jobs Data in July", *The Globe and Mail* (11 June 2020), online: <www.theglobeandmail.com>.

⁶¹ Statistics Canada, Proportion of Women and Men Employed in Management Positions (Table: 14-10-0335-03).

⁶² Sandrine Devillard et al., "The Present and Future of Women at Work in Canada", *McKinsey & Company* (2019) at p 12 [Women in the Workforce Report].

⁶³ *Food Processing Canada Survey supra* note 42 at p 4.

⁶⁴ *Women in the Workforce Report supra* note 54 at p 33.

of over 1,000 companies worldwide.⁶⁵ When it comes to cultural and ethnic diversity, similar themes emerged with companies in the top quartile for diversity performing better than those just one quartile below by 36 per cent in terms of profitability in 2019.⁶⁶ Diverse workforces will be an important differentiator in the success of companies moving forward.

iii. Education and Retooling

In the next decade, managing productivity will have important consequences for employment. In 2020, companies reported that education programs for the food and beverage sector were inadequate or non-existent, resulting in hiring challenges.⁶⁷ These challenges will only continue if educational reforms are not pursued as advances in production technology place new demands on the workforce. For the remaining workforce, these new technologies will require upskilling or reskilling.⁶⁸

Relative to the other variables, the effects of employment are moderate. The effects on the industry could see the industry contract in the most serious case where the employment gap persists. Technology, however, may substitute labour in production during the next decade, meaning the labour shortage could be less of a problem. Regardless of which way the change goes, from an expansion or contraction of industry, labour will have some moderate impact in the next decade.

1.3 Annual Sales

Considering 2010 and 2020

Annual sales of Canadian food and beverage manufactured products was reported at \$82.4 billion in 2010 and grew to \$110 billion in 2020.⁶⁹ This represents an increase of 34 per cent between 2010 and 2020. The graph below compares food manufacturing performance in annual sales to Canada's other top manufacturing industries. Annual sales of food and beverage manufactured products have been consistently increasing year over year. In 2020, where the other three top industries saw decreases in annual sales, likely due to the effects of the pandemic, food and beverage manufacturing saw an increase year over year of 3.43 per cent, above the annual growth average for the past decade of 2.60 per cent.

⁶⁵ "Diversity Wins, How Inclusion Matters", *McKinsey & Company* (2020) at p 3.

⁶⁶ *Ibid* at p 4.

⁶⁷ *Food Processing Canada Survey supra* note 45 at p 4.

⁶⁸ "2021 Manufacturing Industry Outlook", *Deloitte* (2021) at p 6.

⁶⁹ Statistics Canada, *Manufacturers' Sales, Inventories, Orders and Inventory to Sales Ratios, by Industry: Food Manufacturing* (Table: 16-10-0047-01).

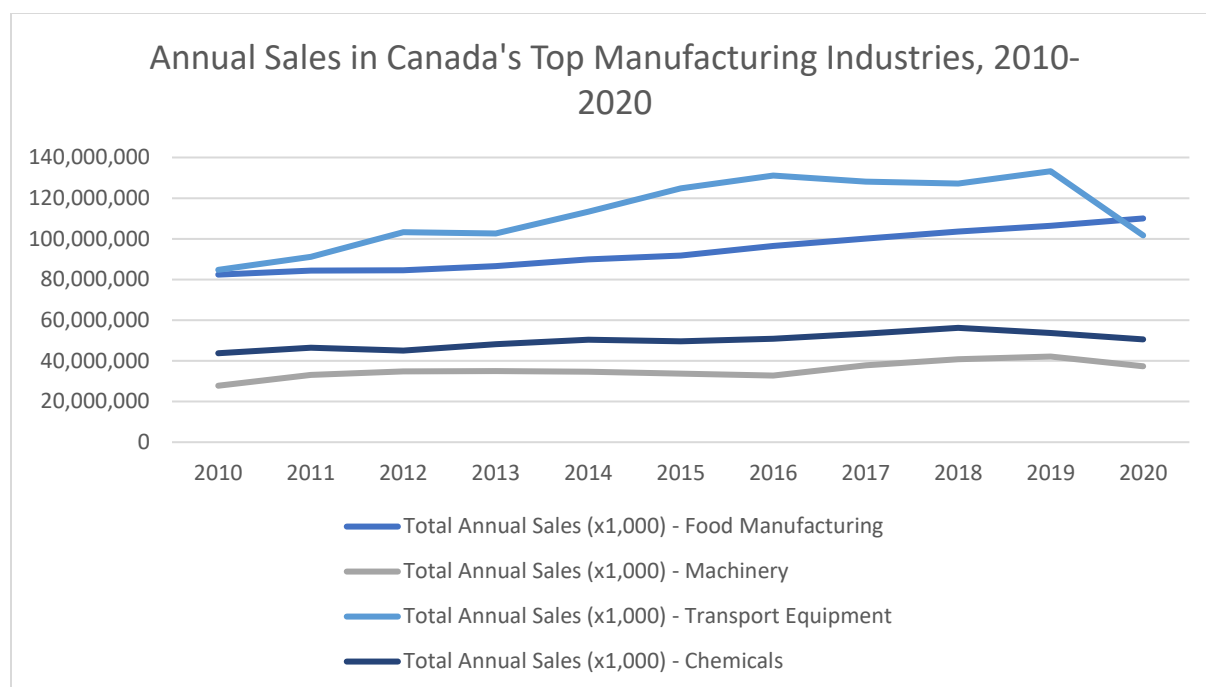


Figure 1 Annual Sales in Canada's Top Manufacturing Industries, 2010-2020

Notably, in 2016, the sector experienced year-over-year growth of 5.20 per cent which is almost double average annual growth between 2010-2020 of 2.60 per cent. In 2006-2014, there were plant closures as well as major investments, acquisitions and mergers so the above-average growth in 2016 may be a manifestation of those sectoral changes. In Canada's other top 3 manufacturing sectors – chemicals, transport and machinery – transport was the only other industry to experience above-average growth in 2016. As such, there may be external factors in 2016 in addition to those specific to the food industry which explain the significant growth.

Year	Total Annual Sales (x1,000) - Food Manufacturing	% Change - YoY	Total Annual Sales (x1,000) - Machinery	% Change - YoY	Total Annual Sales (x1,000) - Transport Equipment	% Change - YoY	Total Annual Sales (x1,000) - Chemicals	% Change - YoY
2010	82,397,257	0	27,773,094	0	84,749,991	0	43,742,750	0
2011	84,377,099	2.40%	33,151,819	19.37%	91,211,186	7.62%	46,428,879	6.14%
2012	84,510,971	0.16%	34,792,547	4.95%	103,226,471	13.17%	45,074,406	-2.92%
2013	86,572,466	2.44%	34,946,144	0.44%	102,598,534	-0.61%	48,127,985	6.77%
2014	89,850,302	3.79%	34,605,580	-0.97%	113,258,127	10.39%	50,439,974	4.80%
2015	91,759,050	2.12%	33,699,925	-2.62%	124,784,658	10.18%	49,624,705	-1.62%
2016	96,531,189	5.20%	32,733,687	-2.87%	131,140,186	5.09%	50,867,611	2.50%
2017	100,104,107	3.70%	37,789,241	15.44%	128,071,349	-2.34%	53,440,286	5.06%
2018	103,601,055	3.49%	40,803,996	7.98%	127,213,833	-0.67%	56,227,080	5.21%
2019	106,368,173	2.67%	42,118,888	3.22%	133,228,091	4.73%	53,765,721	-4.38%
2020	110,019,701	3.43%	37,272,692	-11.51%	101,761,963	-23.62%	50,572,071	-5.94%

Table 3 Change in Annual Sales for Top Manufacturing Industries: Food, Machinery, Transport Equipment and Chemicals, 2010-2020

Looking to 2030

Over the past decade, food and beverage manufacturing sales in Canada have grown on average 2.60 per cent annually. Manufacturing in Canada, including food and beverage manufacturing, has almost fully recovered from the effects of the pandemic in terms of annual sales which points to a continued growth in annual sales, all other things equal.⁷⁰ All other things equal, it is not unreasonable to expect food manufacturing to continue growing on average 2.60 per cent annually. Fees by grocers, however, and other barriers to manufacturing in Canada might see a decline in Canadian food manufacturing sales should manufacturers choose to move their businesses to another country. Further, if small companies are unable to enter the Canadian marketplace, one can expect the majority of annual sales to be concentrated in a small number of large players.

The effects of annual sales, relative to other variables, have been classified as insignificant as the food and beverage processing industry over the past decade has shown consistent growth despite any challenges. It is likely that this growth will continue.

1.4 Margin

Margin in food and beverage manufacturing was not publicly reported anywhere for 2010. In 2019, an FHPC study reported that margins in food and beverage manufacturing were the lowest of all manufacturing categories at about 4.4 per cent.⁷¹ Grocer margins are anecdotally reported at about 10 per cent. The Bank of Canada's target interest rate remains low, at 0.25 per cent in January 2021,⁷² but pressures from additional grocer's fees may reduce margin in food manufacturing.

Projecting into 2030 is difficult given the lack of data. There appear to be no reports of extreme or significant changes in margin, however, over the past decade. Margin may decrease should grocer's fees continue to increase, but at this point any forecasts are unclear so the impacts are determined unlikely.

⁷⁰ *Restart and Recovery Plan supra* note 24.

⁷¹ Kelsey Johnson, "Canada's Food Processing Industry Stressed as Investor Confidence Slumps", *iPolitics* (2019 April 26).

⁷² "Policy Interest Rate: Recent Data", *Bank of Canada* (2020), online: <<https://www.bankofcanada.ca/core-functions/monetary-policy/key-interest-rate/>>.

1.5 Foreign Ownership and Foreign Direct Investment

Considering 2010 and 2020

Compared to 2010, in 2019, FDI in Canadian food manufacturing had increased by 125 per cent.⁷³ The only manufacturing sectors with higher growth in FDI were mining (164 per cent), transportation (302 per cent), and real estate (209 per cent).

The US and Europe are the major sources of FDI in the Canadian food manufacturing industry prior to 2010,⁷⁴ but from 2015 onwards the share of FDI of the US has decreased to approximately 22 per cent with increased FDI from countries such as France, China and Norway.⁷⁵ There are conflicting reports, however, about the composition of FDI in Canada. One account, from 2014, reported that the industry's capital stock growth was lacking (greenfield investments), and indicated that increasing proportions of the industry were controlled or owned by businesses outside Canada (brownfield investments).⁷⁶ Another account, in 2018, reported that a majority of FDI constituted greenfield investments.⁷⁷ Regardless, in the period 2010-2015, Canada as a whole attracted far fewer greenfield investments in general compared to "best practice" nations and in 2018⁷⁸ annual growth of greenfield investments was reported at 2 per cent lagging behind an average of 7 per cent across OECD members.⁷⁹

In terms of Canadian FDI ('CFDI') in other countries, CFDI in food manufacturing increased by 147 per cent from 2010-2019.⁸⁰ That is, CFDI grew by more than 20 per cent compared to FDI into Canadian food manufacturing. Prior to 2010, half of greenfield CFDI was going to the US, and between 2015-2017, that share had increased to 64 per cent of CFDI.⁸¹ Prior to and following 2010, half of CFDI has targeted fruits and vegetables.⁸² CFDI is important for creating export opportunities within supply chains and expanding the global reach of Canadian food manufacturing businesses.⁸³

⁷³ Statistics Canada, International Investment Position Canadian Direct Investment (Table 36-10-0009-01) [*FDI Data*].

⁷⁴ Douglas Hedley & the Canadian Agri-Food Policy Institute, "Project 6a: Innovation Insights, Capital Investment in Canadian Food Processing" (2014) at p 5.

⁷⁵ *FCC FDI supra* note 14.

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*

⁷⁸ Advisory Council on Economic Growth, "Bringing Foreign Investment to Canada", (2016 October 20) at p 5.

⁷⁹ *Ibid.*

⁸⁰ *FDI Data supra* note 73.

⁸¹ Tyler Betcher, "Growing the Global Foodprint of Canadian Food Processors", *Farm Credit Canada* (4 September 2018), online: <www.fcc-fac.ca>.

⁸² *Ibid.*

⁸³ *Ibid.*

Looking to 2030

i. Food Manufacturing in Canada is a Strong Industry, but needs FDI to Innovate and Compete

Canada's food manufacturing industry has remained strong over the decades, but recent developments discussed in this study may drive FDI flows to other countries instead. A lack of FDI, in particular greenfield investments, into Canada will be detrimental to innovation in food manufacturing, which is necessary for the Canadian industry to compete globally. At this point, manufacturers are struggling to innovate with 83 per cent of products sold in Canada developed internationally.⁸⁴

ii. Old Infrastructure: Upgrade or Abandon?

Canada has a long history of food manufacturing, and accompanying that history, ageing infrastructure. Depending on the location of that infrastructure, companies may decide it is not viable to invest in updating or expanding operations. Should that be the case, Canada is at risk of losing those companies. For example, in 2018, Maple Leaf decided to abandon a plant in London, Ontario, citing that due to the plant's location, it was not possible to upgrade and expand the plant as was required.⁸⁵ At the time, for one of the remaining plants, the Ontario taxpayers were helping foot the bill of expansion, contributing \$34.5 million.⁸⁶

FDI in the next decade will have a significant impact on food and beverage processing and manufacturing, with a variable effect depending on whether or not Canada can attract FDI. Regardless of whether the industry contracts or expands, it is very likely that there will be some change and pressures in the next decade to keep up with American competitors.

⁸⁴ *Maple Leaf Foods, USA supra* note 29.

⁸⁵ Kristin Rushowy, "\$34.5 million Pledged for Maple Leaf Foods Plant; New Poultry-Processing Plant in London Will Create Jobs, Raise Productivity, Ford Says", *Toronto Star* (28 November 2018), online: <www.thestar.com>.

⁸⁶ *Ibid.*

2. THE PRODUCTION ENVIRONMENT AND COSTS OF PRODUCTION⁸⁷

Summary and Key Findings – Section 2

- Fees by grocers are not a new practice, but they are an increasingly used practice in 2020 to structure supplier-grocer relationships. This section notes the example of Lactalis, who told grocers it would not pay additional fees over the 2020 holiday season and appears to have been successful in doing so. This does not, however, constitute a long-term solution to the challenges of grocers' fees.
- The price of food products at factory gate has been steadily increasing, but might be eroded by measures such as grocer's fees. Factory gate prices rose by 27 per cent, compared to prices at farm gate which rose by 25 per cent over the same time period.
- Machinery and equipment prices have increased by 36.1 per cent over the past decade, and will continue to do so.
- Home renovations and regional lockdowns in 2020 have impacted construction and put upward price pressure on the construction of new facilities, which may be a deterrent or at least a consideration for companies wishing to expand or build their businesses in Canada.
- Wages, in constant dollars, have increased by 16 per cent over the past decade, two per cent above inflation of goods and services at 14 per cent. Hourly food manufacturing wages remain below the average for the goods producing industries of \$30.36. Food manufacturers may be pressured to increase wages to retain skilled workers.
- As new players such as Google and Amazon enter the transportation market, advances in transportation in the future may benefit food manufacturers and reduce costs.

2.1 Industrial Product Price Index (IPPI)

Considering 2010 and 2020

Between 2010 and 2020, the price at factory gate for food products has increased 27 per cent.⁸⁸ For comparison, beverage and tobacco product manufacturing factory gate prices

⁸⁷ See Limitations section for notes about limits on economic forecasting.

⁸⁸ Statistics Canada, Industrial Product Price Index, by Industry, Monthly (Table: 18-10-0267-01).

increased by 19 per cent and manufacturing in aggregate increased by 17 per cent.⁸⁹ Throughout 2020, on a monthly basis, the industrial product price for food manufactured products showed a decrease in IPPI in July and August 2020 of almost 3 per cent, recovering in September 2020 to positive growth but not as high as previously in May 2020 (see graph below). In the same time period, manufacturing as a sector did not see the decreases in July and August 2020 which food manufacturing experienced.

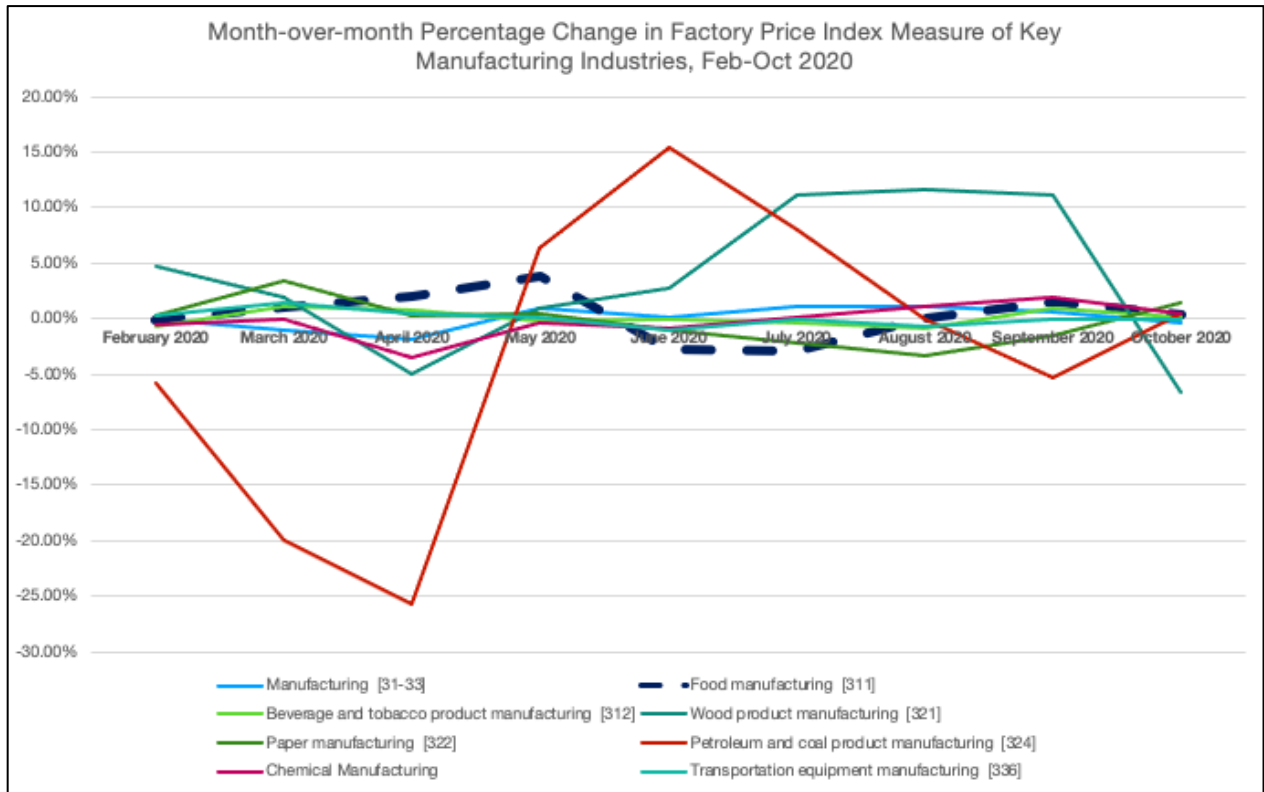


Figure 2 Month-over-month Percentage Change in Factory Price Index, February-October 2020

In the graph above, January was when the COVID-19 pandemic began but panic buying in Canada did not properly start until March and the proceeding months which might explain the uptake in food prices at factory gate. In July, Walmart imposed fees on food manufacturers, with other grocers following over the next few months (see *Section 2.6 Grocers Fees*). The graph below provides a comparison of factory gate prices compared to the consumer price index for all items and for food items specifically (see *Figure 3*). The graph shows quite extreme changes over 2020 in factory gate prices compared to a fairly stable CPI measure for food items, measured from the consumer’s perspective.

⁸⁹ *Ibid.*

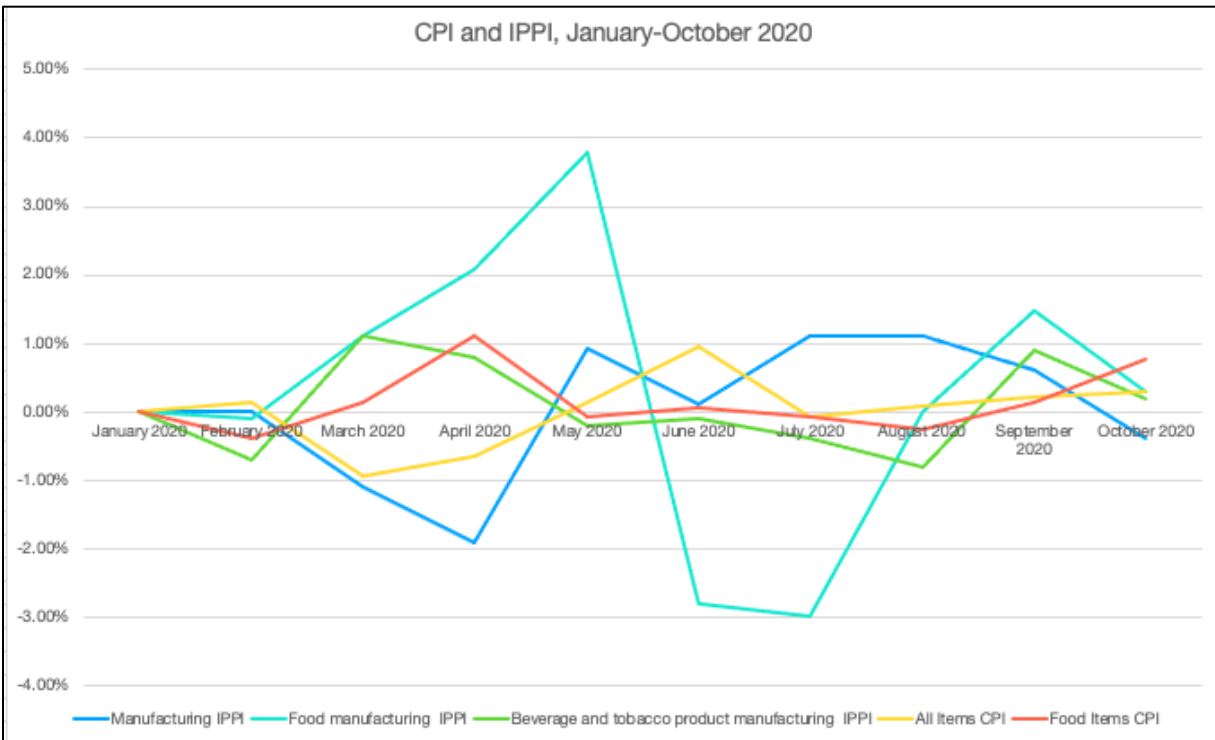


Figure 3 CPI versus IPPI, January-October 2020

Looking to 2030

By the end of 2020, food manufacturing factory gate prices appear to be recovering somewhat, but slowly, towards positive growth. In the coming years, growth of factory gate prices may be somewhat eroded by factors such as grocers' fees, as well as competition from firms which have moved south to the US.

Relative to other variables in this study, the effect of IPPI is considered moderate and the effects of impacts could contribute to a contraction in industry growth. The impact is, however, unlikely due to consistent growth and recovery following the COVID-19 pandemic.

2.2 Machinery and Equipment Price Index (MEPI)

Considering 2010 and 2020

MEPI measures over 60 different machinery and equipment inputs, but 27 were singled out for food manufacturing (see *Appendix I*). Relative to 2010, the prices of these inputs have increased on average by 36.1 per cent over the past decade or 3.6 per cent per year. In 2020, particular commodities have risen, which would skew the average higher, namely:

Commodity ⁹⁰	Price Increase 2010-2020 (%)
Rubber and Plastic Hoses and Belts	67.6%
Glass and Glass Products	49.3%
Hand Tools and Cutlery	47.5%
Metal Valves and Pipe Fittings	72.4%
Pumps and Compressors	58.4%
Electric Motors and Generators	52.7%

Examining data from 2006-2009, it appears that for most variables reported, they continued to still increase in price throughout 2008 and into 2009 by approximately one percent year over year.⁹¹ These inputs are used across all manufacturing sectors in Canada, which is one of Canada's fundamental industries in normal times and during crises.

Looking to 2030

These materials are standard across all manufacturing sectors, which remain strong industries in Canada, so likely these prices will continue to increase annually. What may, however, put downward pressure on these prices is technology. Depending on what technology is adopted by food manufacturers, they may see their demand shift for different machinery and equipment inputs. If technology is substituted for labour, however, more machinery and equipment will be needed and at least initially will result in increased costs.

MEPI measures are important, especially should processors be updating facilities and technology. The effects relative to other variables in this study will be moderate with a variable impact on industry growth due to the discussion above. Despite the variable magnitude and direction of the impact on industry growth, there will likely be some sort of impact from MEPI changes.

2.3 Non-Residential Building Construction Price Index (NRBCP)

Considering 2010 and 2020

NRBCP is reported for the period 2010-2017. Based on previous trends, a measure was constructed for 2020 using annual averages. Over the period 2010-2020, the NRBCP index shows a 31.5 per cent increase in non-residential building construction prices. Otherwise put, the NRBCP showed an approximate 3.2 percent annual increase.

⁹⁰ Statistics Canada, Machinery and Equipment Price Index, by Commodity, Quarterly (Table: 18-10-0057-01).

⁹¹ *Ibid.*

Looking to 2030

Moving into the next decade, the pressures from the expanding home renovation market and regional lockdowns have affected the construction supply chain and may result in inflated prices into the early 2020s.⁹² This will affect construction of new facilities for manufacturers hoping to expand. The magnitude to which higher construction prices will tip the scales in favour of not expanding remains unclear. It will, however, be at a minimum an important consideration.

The effects of construction prices are relatively insignificant due to the benefits of scale in construction of manufacturing facilities. If construction prices increase significantly despite the benefits of scale, the industry could be negatively impacted. The effects on industry growth, therefore, are unlikely but variable.

2.4 Unit Labour Cost

Considering 2010 and 2020

In 2010, the average annual earnings by hour for manufacturing writ large were reported at \$21.27 in 2010-dollar values.⁹³ No value was available for 2020, but in 2019, average hourly earnings for manufacturing were reported at \$25.24.⁹⁴ In nominal terms, wages increased by 1.85 percent. In real terms, wage inflation was 16 per cent, two per cent above CPI inflation of 14 per cent.⁹⁵ So, wages in manufacturing in Canada have grown above CPI inflation for the last decade. In food manufacturing specifically, wages in 2020 were reportedly between \$21 and \$23, which is above minimum wage yet remains below the average for manufacturing.⁹⁶

Looking to 2030

Wage costs per worker may increase in the next ten years for a couple reasons. First, hazard pay in the pandemic and the CERB benefits may have changed workers' wage expectations. With the COVID-19 virus' ongoing effects in Canada, workers may demand higher pay for the risks of coming to work and for choosing to come to work. Second, as discussed in section 1, new technologies may reduce the number of workers in food manufacturing and as a result decrease wage costs, but the reskilling required in some cases for remaining workers to use new technology may result in higher wage costs. While food manufacturing in the next

⁹² Don Wall, "Concrete, Lumber Supplies Under the Microscope at CCA Webinar", *Daily Commercial News* (2020 Oct 26), online: <<https://canada.constructconnect.com/dcn/news/economic/2020/10/concrete-lumber-supplies-under-the-microscope-at-cca-webinar>>.

⁹³ Statistics Canada, Average Hourly Earnings for Employees Paid by the Hour, by Industry, Annual (Table: 14-10-020601).

⁹⁴ *Ibid.*

⁹⁵ Statistics Canada, Consumer Price Index, Monthly, Seasonally Adjusted (Table: 18-10-0006-01).

⁹⁶ *Job Numbers Better supra* note 58.

decade may require fewer workers, it will likely require higher-skilled and therefore more costly workers.

Relative to the other variables, this variable is significant. There is an apparent labour shortage to be filled, which some attribute to a shortage of labour whereas others attribute to lacking benefits and low wages in the sector. If technology substitutes for some labour in the next decade, food and beverage manufacturing could see a decrease in labour costs. If, however, the industry is unable to attract and retain skilled labour at current wage rates, the industry may be forced to increase wages. Either way, it is likely that in the future, unit labour costs will impact the industry's growth.

2.4 Farm Production Prices Index (FPP)

Considering 2010 and 2020

The FPP index measures total farm production prices at an index of 104.7 in 2010 with 2007 as a base year.⁹⁷ That number rose to an index of 131.0 in 2019,⁹⁸ showing that farm production prices rose by 25.1 per cent over the past decade. Compared to prices at factory gate, farm production prices are not currently rising as quickly and remain at a lower level.

Looking to 2030

Farm product prices will continue to rise in Canada over the next decade. Farmers are an ageing population, and this may result in fewer farms to provide food to a growing population. Further, the next generation of farmers will have the effects of climate change to contend with, none of which promise to reduce farming costs. Manufacturers may decide to seek farm products from other countries, but growing consumer trends point towards consumers caring not only what is in their food, but also *where* it comes from. Local has a different meaning to everyone across the country, but it at least means within Canada. Food manufacturers have the example of French's and Heinz ketchup to look back when considering consumer preferences for local products.

FPP measures, compared to the other 24 variables, will have a relatively insignificant effect in the next decade. Farm gate prices have been increasing, and there is some risk that the prices at factory gate will not be high enough to outpace farmgate and grocers' fees, which could see a negative impact on industry growth, but this is unlikely.

⁹⁷ Statistics Canada, Farm Product Price Index (FPPI), Annual (2007=100) (Table: 32-10-0099-01).

⁹⁸ *Ibid.* No measure recorded for 2020.

2.5 Transport Costs: Freight Rail Services Price Index (FRSPI)

Considering 2010 and 2020

Data recorded from 2018-2020, shows that freight rail services have increased by 6 per cent over the three years. This data is very limited.

Looking to 2030

There is not much which can be done about Canada's vast geography, but the Canadian population is expected to swell to 48.8 million in 2050 with major growth in cities.⁹⁹ Two major disruptions in transportation are expected moving into the next decade: (1) technology; and, (2) green transportation.

Currently, new players are entering the transportation market, including Amazon and Google, to explore different delivery methods such as unmanned aircraft and automated vehicles.¹⁰⁰ There have also been advances in satellite-based remote sensing and smart infrastructure to increase safety in transportation networks.¹⁰¹ Innovation Canada has cited transportation as an important priority for investments to help Canada's economic recovery from the pandemic. As these new technologies are still being developed, and then the regulatory environment will also have to catch up, it is unlikely the advantages of them will be accessible until at least the later half of the next decade. When they do become accessible, however, they will likely decrease transportation costs.

In the meantime, however, transportation in Canada accounts for one quarter of Canada's greenhouse gas emissions, and so there are pressures to convert to greener transportation. This conversion will cost the transportation sector and may mean some of those costs are passed on to users of those networks, including food suppliers.¹⁰²

Into the future, the effect of transportation costs relative to the impacts of other variables is for comparison's sake insignificant. The impact is forecasted to be variable based on the discussions above. The effects of these factors on the industry, while variable, are likely.

⁹⁹ "Canada's Cities Are About to Add Millions of New Residents. They Can't All Drive to Work", *The Globe and Mail* (3 January 2020), online: <www.theglobeandmail.com>.

¹⁰⁰ Transport Canada, "Transportation in Canada" (2016) at p 38.

¹⁰¹ *Ibid.*

¹⁰² *Ibid.*

2.6 Fees from Grocers

Considering 2010 and 2020

While grocers' fees were significantly increased this year, they are not new. In 2013, Sobeys asked for a 1 per cent fee from suppliers following the purchase of Safeway.¹⁰³ In 2016, Loblaw asked for a 1.45 per cent cost reduction from suppliers, which Metro followed in asking for.¹⁰⁴ The same year, Loblaw returned to suppliers asking for a supply chain fee of 0.79 per cent.¹⁰⁵ In 2018, grocers' "listing fees" to put new products on shelves were anywhere from \$150,000 to as high as \$300,000.¹⁰⁶ Grocers also use fees to punish suppliers for infractions such as late deliveries or not unloading products upon arrival.¹⁰⁷ Fees are fast becoming an important tool for grocers in how they structure their relationships with suppliers, whether that be to gain entry to their stores or to punish them. Due to the market structure of Canada's grocery sector, with five major grocers holding 80 per cent of the market, grocers hold immense power.¹⁰⁸

Early in the pandemic, grocers apparently paused fees due to the pressure on food suppliers to meet an increased food demand amidst concerns about food security in Canada.¹⁰⁹ In July 2020, however, Walmart told suppliers it would add a 1.25 per cent fee for goods sold in stores as an "infrastructure development fee" and a 5 per cent fee on goods sold through e-commerce as an "e-commerce development fee" to help pay for a \$3.5 billion infrastructure upgrade.¹¹⁰ Metro has also decided to increase fees. This past summer, Loblaw also announced an increase in fees of 1.2 per cent on the largest suppliers with some additional fees for "loyalty offers and online promotions."¹¹¹ Sobeys was the only major retailer to not impose fee increases on suppliers this year, breaking step with the major grocers in Canada. This past year, Sobeys agreed to a draft Code of Practice with FHPC, which included guidance for how contracts should be varied.¹¹² There is hope that the Code will encourage other grocers to sign on, and form the basis for a government-regulated Code in the future.

¹⁰³ "Food Suppliers Feeling Pinched as Grocers Hike Fees", *The Financial Post* (31 July 2020), online: <www.financialpost.com> [*Grocers Fees*].

¹⁰⁴ *Ibid.*

¹⁰⁵ *Ibid.*

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.*

¹⁰⁸ *Food Innovation Index supra* note 7.

¹⁰⁹ "Cheese Giant, Canadians Grocers in Fees Standoff, Lactalis", *The National Post* (25 November 2020), online: <www.thenationalpost.com> [*Cheese Giant*].

¹¹⁰ *Grocers Fees supra* note 95; The Canadian Press, "Grocers' Fee Increases on Suppliers 'Just Plain Bad for Canada': Sobeys CEO", *Bloomberg* (28 October 2020), online: <www.bnnbloomberg.ca>.

¹¹¹ *Grocers fees supra* note 103.

¹¹² *Draft Code supra* note 10.

Looking to 2030

The large grocers are continuing to expand their businesses and market shares. For example, most recently in March 2021, Sobeys acquired the independent grocer Longo's.¹¹³ With the major grocers holding 80 per cent of the grocery market and no interventions, it seems that these fee increases will likely continue. Suppliers have asked the Federal Government to intervene and impose a code of conduct, which has been done in the UK and Australia. If these fee increases continue, it is likely they will contribute to driving manufacturing into the US and out of Canada.

The example of Lactalis Canada is worth noting. Over the 2020 winter holidays, Lactalis told supermarkets that it would not pay penalty fees over the winter holidays in 2020 until January 11, 2021.¹¹⁴ There is no evidence of pushback from grocers from this announcement. Lactalis responded to the unilateral decision to apply fees with a unilateral decision to not pay them over their busiest season. Manufacturers, over busy seasons, may have some room to push back on fees, but there is no guarantee this would be successful and it is not a long-term solution to the issue.

Compared to the other variables, the impacts of these fees in the next ten years will be likely significant and negative. It is not clear that governments at the provincial or federal level are willing to regulate the relationship between suppliers and grocers, but the new draft Code from Sobeys and FHPC may help guide future intervention. While at the same time, the major grocers appear to be increasing in size and market power.

¹¹³ Brett Bundale, "Sobeys' Parent Buys 50% Stake in Longo's for \$357 Million", *Global News* (16 March 2021), online: <www.globalnews.ca>.

¹¹⁴ *Cheese Giant supra* note 109.

3. SITUATING FOOD AND BEVERAGE MANUFACTURING IN THE CANADIAN ECONOMY

Summary and Key Findings – Section 3

- Food manufacturing contributed \$26.5 billion to Canadian GDP in 2020.
- Just ten manufacturing sectors, including food manufacturing, contribute 80 per cent of manufacturing's total contribution to GDP.
- Despite the last decade seeing few new food plants open and significant closures, food manufacturing was the second largest manufacturing sector in Canada after transportation equipment in 2020. Food manufacturing also still managed to grow its GDP contribution from 13.18 per cent in 2010 to 13.47 per cent in 2020.
- Food prices continue to climb in Canada, but grocers' fees in addition to low margins may not see manufacturers benefit from these rising prices.

3.1 Percentage of Total GDP

Considering 2010 and 2020

Food manufacturing in Canada has remained one of the key contributors to Canadian GDP. From 2010-2020, food manufacturing's contribution to Canadian GDP grew by 15 per cent from \$23 billion to \$26.4 billion.¹¹⁵ Animal food manufacturing, grain and oilseed milling, fruits and vegetable preserving and specialty manufacturing, and bakeries and tortilla manufacturing all grew by at least 30 per cent over the past decade. Dairy and meat product manufacturing sectors decreased by 3 per cent and 6 per cent, respectively.¹¹⁶ Other food manufacturing grew by 48 per cent.¹¹⁷

Looking to 2030

Food manufacturing has continued to grow its contribution to GDP in Canada, despite its challenges over the past decade. There is a limit, however, to how much growth the industry can sustain if major players begin to leave Canada and produce elsewhere. The flight of major multinationals could cause a significant hit to food manufacturing and overall Canadian GDP in the next decade. New plant openings provide some optimism, however, that food manufacturing will continue to grow its contribution to Canadian GDP.

¹¹⁵ Statistics Canada, Gross Domestic Product (GDP) at Basic Prices, By Industry, Annual Average, Industry Detail (x 1,000,000) (Table: 36-10-0434-06) [*GDP Data*].

¹¹⁶ *GDP Data supra* note 115.

¹¹⁷ *Ibid.*

Based on the discussion above, relative to the other variables, the impacts of food manufacturing’s contribution to national GDP are likely relatively insignificant but positive for the next decade.

3.2 Size of Industry Relative to Other Manufacturing Sectors in Canada

Considering 2010 and 2020

Of total manufacturing contribution to GDP, 10 sectors contribute 80 per cent of manufacturing GDP. The 10 sectors are:

- | | |
|--------------------------------|------------------------------|
| 1. Food | 6. Primary Metals |
| 2. Paper | 7. Fabricated Metal Products |
| 3. Petroleum and Coal Products | 8. Machinery Manufacturing |
| 4. Chemicals | 9. Transportation Equipment |
| 5. Plastic and Rubber Products | 10. Motor Vehicles |

In 2010, food manufacturing made the largest contribution to overall manufacturing GDP in Canada, contributing 13.18 per cent. Ten years later, in 2020, food manufacturing contributes 13.47 per cent but has been overtaken by transportation equipment which has grown to 14.18 per cent of manufacturing GDP in Canada. This growth of food manufacturing has occurred despite the challenges discussed in thus far.

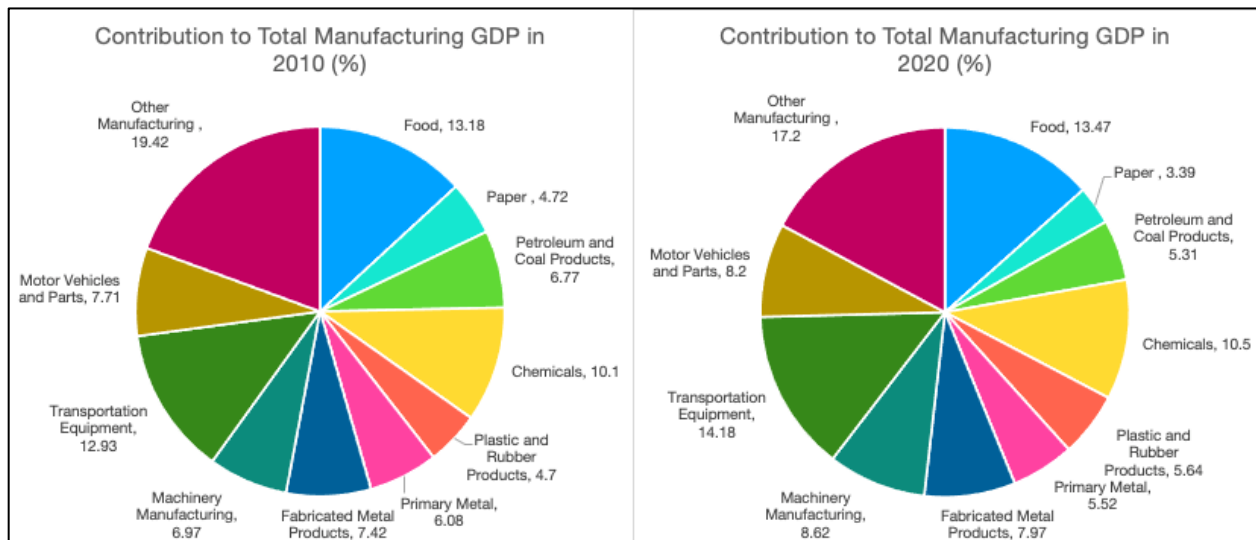


Figure 4 Contribution to Total Manufacturing GDP by Manufacturing Section, 2010, 2020

Looking to 2030

Despite the challenges and lacking support for food manufacturing in Canada, the industry has managed to not only remain in the top two manufacturing sectors in Canada, but also to sustain some growth. It seems, however, that as the challenges mount and as

businesses decide to set up outside of Canada, food manufacturing could see its contribution to overall GDP as a top manufacturing sector shrink in the next decade.

Given a record of positive growth thus far, however, it is likely that the size of the industry relative to others will continue to be large. Given the discussion above, relative to the other drivers in this study, the relative size of food manufacturing will have a moderate impact on the industry but likely contribute to continued positive growth.

3.3 Size of Grocery Market in Canada

Considering 2010 and 2020

Canadian suppliers contribute 70 per cent of domestic supply of food and beverage in the Canadian market.¹¹⁸ In doing so, in 2020, suppliers face a grocery industry in which five major competitors hold 80 per cent of the market: Loblaw (29%), Sobeys (21%), Metro (10.5%), Costco (11%) and Walmart (8%).¹¹⁹ This is considerably better than the situation in 2010 where just two grocers, Loblaw and Sobeys, dominated the market with 60 per cent of the market, but it still leaves suppliers with minimal bargaining power against the grocery oligopoly.

Looking to 2030

Into the next decade, there are calls for a code of conduct as the UK and Australia have implemented. British Columbia and Quebec have shown interest in this, but it has only gone as far as informal discussions.¹²⁰ A code in one province, without similar action across other provinces would likely not solve the issue. Instead, this is a matter where federal leadership is required to create standards across the country. If the federal government and industry decide to proceed with a Code of Conduct, there is a risk. A code which is too onerous could cause grocers to source their products from the US instead. There is a careful balance to be struck in any government intervention into the grocer-supplier relationship.

Into the next 30 years, the impact of the grocery market's structure will be significant on manufacturers, with a forecasted very likely negative impact due to the factors discussed above.

¹¹⁸ *Industry Overview supra* note 1.

¹¹⁹ *Food Innovation Index supra* note 7.

¹²⁰ Sylvain Charlebois, "Canada's Grocery Industry Needs a Code of Conduct", *The Globe and Mail* (29 October 2020), online: <www.theglobeandmail.com>.

3.4 Food Price Inflation in Canada

Considering 2010 and 2020

Over the past ten years, the price of food in Canada has increased every year. In 2019 and 2020, food saw the largest increase of all goods reported in the consumer price index basket by 3.37 per cent and 2.33 per cent, respectively.

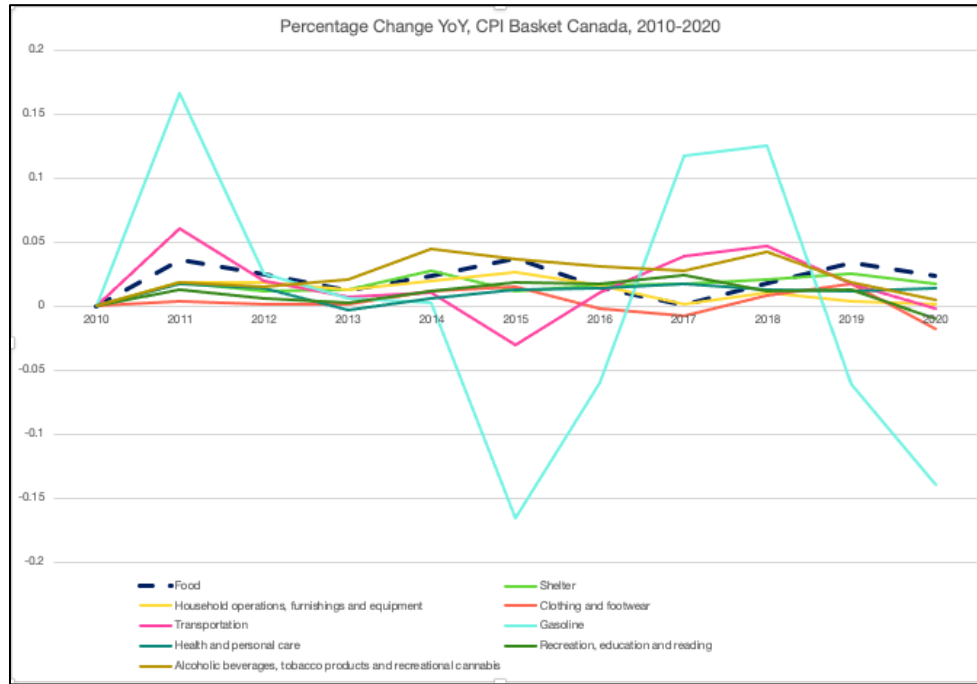


Figure 5 CPI Basket Goods, Percentage Changes Year-over-year, 2010-2020 (see Appendix III for the Charted Values)

In terms of food prices specifically, the following table examines price changes in major food categories (see Appendix II for the complete list of food and beverages products with their percentage price changes year-over-year).

Food Categories	January 2009- January 2010, YoY % Change	January 2010- January 2011, YoY % Change	January 2019- 2020, YoY % Change	January 2020- 2021, YoY % Change
Bakery	1.2	1.3	2.8	-2.7
Dairy	1.8	0.8	1.5	1.8
Fresh Fruit	-5.9	2.6	5.4	-2.1
Meat	-0.3	4.0	6.3	1.2
Restaurants	2.6	2.7	2.1	2.8
Fish, seafood and other marine products	4.5	-1.5	2.3	-0.6
Vegetables	-7.7	2.0	5.0	0.2
Total Increase in Food Prices	1.4	2.1	3.2	1.0

Table 4 Percentage Changes for Food Prices of Key Food Commodities (Statistics Canada)

For the period leading up to 2020 and into early 2021, food prices were impacted by both domestic and international events. In terms of domestic events, in 2019 there were E. coli outbreaks in Canadian romaine lettuce, and salmon prices in BC skyrocketed due to climate change affecting the salmon supply.¹²¹ Internationally, Canada saw trade uncertainty with the US create uncertainty across markets, and China reduce canola imports and bar pork imports from Canada, while seeing partnerships grow through agreements like the *Comprehensive and Progressive Agreement for Trans-Pacific Partnership* (CPTPP).¹²² This volatile period affected food prices, seeing spikes in vegetables, meat and fresh fruit. From 2020-2021, some of those price affects seem to be subsiding or even reversing to an extent, but prices overall for food still increased over the period by a single percent.

The pandemic also sent shocks to particular products. For example, Canadian farmers were left with a massive excess of potatoes after country-wide restaurant closures.¹²³ Manufacturers reportedly told farmers to store potatoes.¹²⁴ As the business sitting between farmers and the consumer, manufacturers did not have to take on the costs of excess supply and might even have benefitted from lower prices due to excess supply. Where manufacturing was adversely affected, however, was in the meat industry in particular. Plants in Ontario and Alberta, for example, experienced compulsory COVID-related closures due to outbreaks in their workforce.¹²⁵

Looking to 2030

Food prices will continue to rise, and they will continue to rise above other consumer goods as they have done for the past 20 years.¹²⁶ If margin in manufacturing continues to be eroded by grocers' fees, it is unlikely manufacturers will benefit from these increased prices.

Given the discussion above, the forecasted impact of food prices is estimated to be relatively moderate compared to the other drivers and the impact to variable. It is likely, however, that there will be some sort of impact either way in the next 30 years.

¹²¹ Sylvain Charlebois et al, "Canada's Food Price Report, 10th Edition" (2020) at p 6 [*2020 Food Price Report*].

¹²² *Ibid* at p 7.

¹²³ Laura Brehaut, "Canadians Urged to Eat More Fries as 200 Million Pounds of Potatoes Become Latest COVID-10 Victim", *The National Post* (2020 April 29), online: <www.nationalpost.com>.

¹²⁴ *Ibid*.

¹²⁵ David Akin, "Canada's Meat-and-Potato Problem: Coronavirus Pandemic Hits the Food Supply Chain", *Global News* (26 April 2020), online: <www.globalnews.ca>.

¹²⁶ *Food Price Report 2021 supra* note 3 at p 8.

4. SITUATING CANADIAN FOOD MANUFACTURING GLOBALLY

Summary and Key Findings – Section 4

- About 70 per cent of all processed food and beverage products in Canada come from domestic manufacturers.
- Where foods are imported, over half of Canada’s food imports come from the US, but over the past ten years that value has contracted to make room for new import partners.
- Despite difficult Canada-US relations from 2016 onwards, Canada increased its trade with the US from a share of 65.1 per cent of exports to 70 per cent of exports in 2020. Biden’s “Buy America” policy may cause challenges in the next decade.
- Bumpy relations between China and the US saw Canada’s exports to China grow over the past five years, with significant exports in lobster and other seafood to China.
- Canada has and continues to be a strong net-exporter of food products and global leader in food and beverage product exports. Should manufacturing begin to leave Canada in the coming years, there will be implications for that position.
- From the recent vaccine procurement, Canada has unfortunately seen that while it has a strong reputation globally, its trading partners will prioritize their own populations first. Domestic production is important. This principle may also be applied to food manufacturing in Canada and concerns over Canada’s food security moving forward.
- Trade deals over the past decade, including the new CETA and TPP alongside the new NAFTA, have increased access to global markets for Canadian food products and given Canadian producers preference over other countries.

4.1 Food and Beverage Goods Imported to Canada

Considering 2010 and 2020

In 2019, it was reported that domestic manufacturers provided about 70 per cent of all processed food products in Canada.¹²⁷ In 2010 and 2020, for the remaining 30 per cent of food products, Canada’s top import partners were as follows:

¹²⁷ *Industry Overview supra* note 1.

Canada's Top Import Partners – Food Manufacturing ¹²⁸	
2010	2020
US (64.9%)	US (59.9%)
China (4.2%)	China (4.2%)
Brazil (3.7%)	Italy (incl. Vatican City State) (2.6%)
Thailand (3.3%)	Thailand (2.5%)
Italy (incl. Vatican City State) (2.1%)	Brazil (2.36%)

Looking to 2030

Despite the challenges of American-Canadian relations over the past few years, overall, Canada has increased the proportion of food imports from the US over the past 10 years. Prepared food, fresh fruits and vegetables, “snack foods” and non-alcoholic beverages make up the bulk of imported goods from the US.¹²⁹ While the next decade should see Canada-US relations repaired with the Biden administration, in the current Canadian climate, there is a risk that food manufacturers will move their businesses south. Should this happen, Canada might need to increase its imports over time should food manufacturing move south dramatically. Given new openings over this year, however, it is uncertain the magnitude of flight risk.

As the overall outlook is positive and relatively unchanged over the past decade, this driver is forecasted to have a very likely positive impact on industry growth, yet an insignificant impact relative to the other variables.

4.2 Top 5 Destinations for Canadian Food and Beverage Goods

Considering 2010 and 2020

Despite Canada-US relations hitting a stumbling block following the election of Trump in 2016, over the past decade the proportion of Canadian exports to the US have still grown by almost 5 per cent. Canadian trade with China was also impacted by the US election, seeing Trump’s trade war with China cause China to turn to Atlantic Canada rather than Maine for lobster, as an example.¹³⁰ When it comes to Japan, between 2010 and 2020, Canada’s trade balance has remained positive and expanded from \$1.4 billion to \$2.2 billion.¹³¹ Decreases in the proportion of exports going to Japan and Mexico could simply be a result of the new trade agreements which Canada has signed over the past decade coming into effect and adding new partners to the roster.

¹²⁸ Canada, “Search by Industry (NAICS codes) – Trade Data Online”, (2020), online: <www.ic.gc.ca>.

¹²⁹ Office of the United States Trade Representative, “Canada: US-Canada Trade Facts” (n.d.), online: <www.ustr.gov>.

¹³⁰ Rachel Siegel, “Lobster on the Line: China Loves Maine Lobster, but Trump’s Trade War Means Canada is Filling the Demand”, *The Washington Post* (1 November 2019), online: <www.washingtonpost.com>.

¹³¹ Statistics Canada, “Canadian Trade Balances, NAICS 311-Food Manufacturing 2010-2020”, online: <www.ic.gc.ca> [*Trade Balance Data*].

Canada's Top Export Partners – Food Manufacturing ¹³²	
2010	2020
US (65.1%)	US (70.0%)
China (7.9%)	China (11.4%)
Japan (7.5%)	Japan (5.8%)
Mexico (2.4%)	Mexico (1.8%)
Hong Kong (1.6%)	Korea, South (1.5%)

Looking to 2030

With President Biden's election, Canada-US relations are healing, but on January 25, 2021 Biden signed an executive order colloquially titled "Buy America," which specifically states support for domestic manufacturing in its preamble.¹³³ Protectionist and regionally focused policies such as this might adversely affect Canada's food product exports, yet at the same time these policies down south are not new.

Given the apparent stability of exports, it is forecasted that exports will have a very likely positive impact on the industry, yet one which is insignificant compared to the other variables.

4.3 Canada's Trade Balance on Food Manufacturing Goods

Considering 2010 and 2020

In 2010 and 2020, Canada maintained a positive trade balance on food manufactured goods.¹³⁴ Over the past 10 years, that trade balance grew by over 200 percent. Examining Canada's top trading partners can explain the extreme growth. The trade balance with the US over the past ten years increased from \$1.8 billion in 2010 to \$9.1 billion in 2020.¹³⁵ Similarly, the trade balance with China also increased from \$0.9 billion to \$3.2 billion in 2020. A positive increase in Canada's trade balance for food manufactured goods is a common trend across most of Canada's trading relationships over the past decade. One partner, however, which does not follow this trend is Mexico, a country with which the trade balance in fact decreased from \$3.0 billion in 2010 to just \$0.7 billion in 2020. Trade deficits with the UK, France, Italy and New Zealand all increased over the period. Across the board, Canada has increased trade and deepened trading relationships.

¹³² *Ibid.*

¹³³ The White House, "President Biden to Sign Executive Order Strengthening Buy American Provisions, Ensuring Future of America is Made in America by All of America's Workers" (25 January 2021), online: *Briefing Room* <www.whitehouse.gov>.

¹³⁴ *Trade Balance Data supra* note 131.

¹³⁵ *Ibid.*

Looking to 2030

Historically, Canada has been a net exporter due to strong agri-food industries. Food manufacturing plays an important role in helping the products of farmers get to market. Canada's strong international reputation for food safety and strong diplomatic relations will contribute to a continued role as a net exporter. Should manufacturing begin to leave Canada, however, depending on the rate at which food manufacturing exits, Canada could see that net exports balance decrease. This decrease will be accompanied by concerns for food security. The pandemic has highlighted that while Canada may have strong relationships internationally, when it comes to a crisis those countries will act in the interests of their own citizens first. Canada must consider how it will sustain domestic production in key industries.

Canada's trade balance will very likely positively impact the industry's growth. In comparison to the other drivers, however, the impact is considered relatively insignificant.

4.4 The Effects of Trade Deals

The reduction of tariff barriers is a common theme across all three of the following agreements. These reductions create openings in foreign markets for Canadian goods, including food manufacturing goods. At the same time, these openings also create more competition domestically for Canadian goods. In the next decade, Canada plans to enter into more bilateral agreements to expand the international market and reduce both tariff and non-tariff barriers.¹³⁶

i. CUSMA/NAFTA

NAFTA came into effect in 1989, and over its lifetime, removed tariffs and other trade barriers for a wide range of goods, including agricultural goods.¹³⁷ The agreement also included committees on products such as Dairy, Fruits, Vegetables and Processed Foods to better implement trade between the US and Canada.¹³⁸ The reduction of tariff barriers allowed goods, including inputs to food manufacturing production, to flow between Canada and the US. Another result, however, has been to enable companies to produce in one country while using a majority of inputs from the other.

The Committees established under NAFTA to promote trade in particular food areas were eliminated by CUSMA, as they were acknowledged to be inefficient and ineffective.¹³⁹ The major changes for food producers in Canada from CUSMA related to dairy and poultry, the

¹³⁶ *Restart and Recovery Plan supra* note 24 at p. 105.

¹³⁷ John Romalis, "NAFTA's and CUSFTA's Impact on International Trade" (2007) 89:3 *The Review of Economics and Statistics* 416 at 416.

¹³⁸ William A Kerr, "Agriculture in the United States, Mexico, Canada Agreement: Agreeing to Keep Things Pretty Much the Same" (2019) 68 *Cand J Agr Econ* 129 at 130 [Kerr].

¹³⁹ *Ibid* at 129.

supply managed industries in Canada from which Canada relinquished quotas to American producers.¹⁴⁰

ii. CETA

The Canada-EU Trade Agreement (CETA) was signed in 2017. CETA removed tariffs for many goods which increased market access for food manufacturers in all countries party to the agreement. An estimated 94 per cent of EU agricultural lines are now duty-free under CETA, such as prepared vegetables, fresh apples, cherries and fruit juices.¹⁴¹ Despite these wins, many non-tariff barriers remain in place, for example food safety barriers, which in 2009 were estimated to add costs as high as 40 per cent to imported goods.¹⁴² Certain products, including sugar, confectionary, cereals, preparations of fruit and vegetables, and fish and crustaceans, have reported high CETA utilization rates of over 93 per cent.¹⁴³ This agreement gave Canadian manufacturers preferential treatment over manufacturers in countries which do not have trade agreements with the EU.

In 2020, trade with many EU countries increased. In the case of the Netherlands, Finland, Portugal and Hungary, Canada saw not only significant trade increases but also significant trade balance increases. In the cases of Ireland, Greece, France, Spain and Germany, Canada's trade balance with those countries on food manufactured goods remained negative, but trade overall still increased.¹⁴⁴

iii. CPTPP

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was signed in 2018. The agreement means Canadian producers have preferential access to markets in Asia-Pacific with which Canada did not previously have a trade agreement.¹⁴⁵ These countries include, for example, Australia, Japan, Malaysia, New Zealand and Singapore.¹⁴⁶ A major action of this agreement was the elimination of tariffs. Some examples include: the elimination of about 31 per cent of tariffs on agriculture and agri-food products to Vietnam and Japan and 92 per cent for Malaysia; elimination of all tariffs except one tariff line for Australia; and NZL eliminated 99 per cent of tariff lines, with remaining lines to be eliminated within 5 years of

¹⁴⁰ *Ibid.*

¹⁴¹ Global Affairs Canada, "Opportunities and Benefits of CETA for Canada's Agriculture and Agri-Food Exporters" (last modified 13 January 2020), online: <www.international.gc.ca>.

¹⁴² Stephen Devadoss & Jeff Luckstead, "Implications of the Comprehensive Economic and Trade Agreement for Processed Food Markets" 66 *Canadian Journal of Agricultural Economics* 415 at 417.

¹⁴³ Global Affairs Canada, "Canada's Merchandise Trade Performance with The EU after the Entry into Force of CETA" (last modified 18 August 2020), online: <www.international.gc.ca>.

¹⁴⁴ *Trade Balance Data supra* note 122.

¹⁴⁵ Global Affairs Canada, "About the Comprehensive and Progressive Agreement for Trans-Pacific Partnership" (last modified 16 July 2019), online: <www.international.gc.ca>.

¹⁴⁶ *Ibid.*

coming into force.¹⁴⁷ The agreement also created new markets for supply-managed products such as dairy, poultry and eggs, a sector which lost some ground in the re-negotiation of NAFTA/CUSMA more recently.

Forecast to 2030

Given intentions to create and expand trading agreements, the effects of this variable will be very likely positive on food and beverage manufacturers and processors. The impact is considered to be of moderate importance when compared against impacts of the other 24 variables.

¹⁴⁷ Global Affairs Canada, “CPTPP and Canada’s Agriculture and Agri-food Sector” (last modified 8 February 2019), online: <www.international.gc.ca>.

5. GOVERNMENT ENVIRONMENT

Summary and Key Findings – Section 5

- Federal government support for food and beverage manufacturers, at least direct monetary support, has historically been limited.
- The pandemic’s spotlight on the food supply chain has resulted in more federal government support than ever before.
- It is possible that federal support is lacking because a majority of support comes from provincial governments. It may also be a matter of food and beverage manufacturing’s strong performance in contributions to GDP making it appear unsympathetic to government support.
- Federal food legislation underwent the biggest changes in over 100 years in the early 2010s. This period saw the federal legislative framework go from five separate laws to just two. There remain, however, concerns about the ability of these food laws to address growing food fraud concerns.

5.1 Government Financial Support for the Sector

Considering 2010 and 2020

In both 2010 and 2020, there appears to be limited federal government support for food and beverage manufacturing. In the 2010 Federal Budget, there were four main supports for food manufacturing in the form of funding, but also in the form of tax breaks and tariff relief.¹⁴⁸ These four supports include:

1. \$56 million for red meat processors in Canada;
2. 50 per cent capital cost allowance rate for 2010 on manufacturing equipment, inputs and machinery;
3. The elimination of tariffs on machinery and equipment; and,
4. \$7.2 million for the seafood industry, including manufacturers.¹⁴⁹

It appears, at least in 2010, that the federal government had not specifically targeted food manufacturers for government support. Fortunately for food manufacturers, they have been able to benefit from wider manufacturing-focused benefits such as tariff relief and capital cost allowances. The lack of focused food and beverage manufacturing support is likely the result of being a historically strong industry.

¹⁴⁸ Canada, “Budget 2010: Leading the Way on Jobs and Growth” (4 March 2010).

¹⁴⁹ *Ibid* at pp 68, 204, 258.

In 2020, with the strains on the food system from COVID-19, including increased demand to a reduced workforce and plant closures, the federal government released a host of supports for food and beverage processors and manufacturers, including:¹⁵⁰

1. Through Farm Credit Canada (FCC), which reports to the Minister of Agriculture, the deferral of principal and interest payments for up to 6 months on existing loans; deferral of principal payments up to 12 months; and additional line of credit up to \$500,000;
2. Additional lending capacity for FCC up to \$5 billion;
3. Additional support through Forage Capital Partners;
4. Emergency Processing Fund for PPE, to adapt health protocols or to automate and modernize facilities, operations and processes of up to \$5 million non-repayable;
5. An additional \$125 million for producers with added COVID-19-related costs, such as cattle and hog management to allow processors to adapt to the new market;
6. Increases in the Dairy Commission's borrowing limit up to \$200 million for costs associated with the temporary storage of cheese and butter; and,
7. An additional \$62.5 million for seafood processing through the Seafood Stabilization Fund.

Food manufacturers were also able to take advantage of programs for all businesses, such as the Canada Emergency Wage Subsidy, Emergency Rent Assistance, and additional support for foreign-worker quarantine costs.¹⁵¹

Compared to 2010, in 2020 there were not only more supports for food and beverage manufacturing, but also more supports specifically for the industry. The year 2020 was a year of crisis and these increased supports are a reflection of that. At the start of the COVID-19 pandemic, panic buying caused grocery store shelves to be raided and left empty, and there was public concern about a lack of food in Canada.¹⁵² These concerns did not disappear as pandemic life continued, and articles were appearing as late as September of 2020 warning of food shortages in the second wave of the virus.¹⁵³ The public concern and spotlight on Canada's food supply chain is likely a significant reason why in 2020 food manufacturing saw more and also industry-specific supports put forward by government.

Government support also includes policy decisions. In 2019, Health Canada released an updated national food guide.¹⁵⁴ A PowerPoint released by Health Canada's Office of Nutrition Policy and Promotion stated that "industry-commissioned reports were excluded to reduce the

¹⁵⁰ See Agriculture and Agri-Food Canada, COVID-19 Financial Support for Farmers and Food Processors (last modified 7 January 2020), online: *Canada* <www.agr.gc.ca>; Canada, "Supporting Canadians and Fighting COVID-19: Fall Economic Statement 2020" (2020).

¹⁵¹ *Ibid.*

¹⁵² Kait Bolongaro et al., "Canadians Could Face Food Shortages, Higher Prices This Summer Amid Turmoil in Supply Chain", *The Financial Post* (14 May 2020), online: <www.financialpost.com>.

¹⁵³ Erica Alini, "Time To Stock Up Again? The Likelihood of Empty Shelves in a Second Coronavirus Wave", *Global News* (17 September 2020), online: <www.globalnews.ca>.

¹⁵⁴ Health Canada, Canada's Food Guide (last modified 4 September 2021), online: <www.canada.ca>.

potential for, or the perception of, conflict of interest” in creating the new food guide.¹⁵⁵ Interestingly, apparently the Department of Agriculture and Agri-Food Canada was lobbying for at least the interests of the Dairy Farmers of Canada when providing feedback on the new food guide.¹⁵⁶ Overall, however, the food guide represents a national policy which shapes consumer habits, and appears to highlight unprocessed foods and beverages.

Looking to 2030

Into the next decade, the Industry Strategy Council has stated that public sector investments in Canada’s agri-food sector are an important part of the “Restart Plan.”¹⁵⁷ No specific details have been released at this point regarding those investment plans. Last June, however, the Federal Government did invest \$100 million in plant-based food in Canada.¹⁵⁸ Hopefully these investments will continue into the next decade.

The food and beverage manufacturing sector is in a difficult position. On one hand, the sector continues to be one of Canada’s top manufacturing sectors. This position does not make it sympathetic to government support. On the other hand, external activities, such as increased grocers’ fees, are resulting in businesses choosing the US to set up shop over Canada. These trends warrant government intervention or support some kind.

Government intervention was forecasted to be of moderate importance, relative to the other drivers. Its impact is forecasted to be variable as government has expressed intentions for support in the form of investments, but this support seems unlikely at this point due to the government’s financial position from pandemic-related investments.

5.2 Federal Legislation

Considering 2010 and 2020

Food regulation laws in Canada date pre-Confederation. As early as 1805, laws were in place in Lower Canada requiring the inspection and marking of meat before it was sold.¹⁵⁹ Centuries later, in 2012, Canada saw a consolidation of existing federal food statutes. The effects of these legislative changes were to bring Canada’s federal framework from five laws to just two with accompanying regulations: (1) the *Safe Food for Canadians Act*, which applies to

¹⁵⁵ Office of Nutrition Policy and Promotion, *The New Food Guide (2019)*, online: *Health Canada* <www.canada.ca> at slide 8.

¹⁵⁶ D Vanden Brink, E Pauze & M Potvin Kent, “Strategies Used by the Canadian Food and Beverage Industry to Influence Food and Nutrition Politics” (2020) 17 *The International Journal of Behavioural Nutrition and Physical Activity* 1 at 11.

¹⁵⁷ *Restart and Recovery Plan supra* note 24 at p 67

¹⁵⁸ Helena Hanson, “Trudeau Just Announced a \$100 Million Investment Into Plant-Based Food in Canada”, *Narcity Ottawa* (22 June 2020), online: <www.narcity.com>.

¹⁵⁹ *Halsbury’s Laws of Canada (online)*, *Food (2018 Reissue)*, “Governing Law and Its Evolution: Regulating Food Safety: Overview” at HFD-1 (Cum Supp Release 4).

imported foods or those prepared for interprovincial or international trade;¹⁶⁰ and, (2) the existing *Food and Drugs Act*, which applies to all food sold in Canada.¹⁶¹ This period was the most transformative for Canadian food law in over 100 years.¹⁶² Unfortunately these changes came about following listeriosis outbreaks in processed meat in 2008 from which 23 Canadians died.¹⁶³

The purpose of these changes was to create single standards and a more simplified legal framework food regulation. For example, the *Safe Food for Canadians Act* created a single licensing and registration scheme which would both address non-compliance of domestic producers and create accountability for importers as well.¹⁶⁴ Under the new single scheme, the penalties are much harsher, and inspectors under the *Act* have an expanded toolbox to enforce compliance.¹⁶⁵ On serious offences, penalties can include a fine not more than \$5 million or imprisonment for two years, or both.¹⁶⁶ For less serious convictions, penalties include fines up to \$250,000 or imprisonment of six months or both, a penalty which becomes more severe if someone reoffends.¹⁶⁷

Looking to 2030

Into the next decade, there are concerns that Canada's food laws do not adequately address the growing concern around food fraud. Food fraud is estimated to cost the global food industry somewhere between \$10 and \$15 billion annually, and to affect 10 per cent of all commercially sold food products.¹⁶⁸ Under the current Canadian food laws, food fraud would be understood as:

*[...] an action taken that results in a food product that is not what it is presented as being (i.e. false, misleading, deceptive).*¹⁶⁹

Some critics take issue with this definition, arguing that while a food might not be fraudulent, if it does not meet requirements of compositional standards then it will likely be in contravention of food laws, under which the activities could be dealt with using regulatory

¹⁶⁰ Foods prepared for intraprovincial trade are subject to provincial regulations. These foods are outside of Federal jurisdiction.

¹⁶¹ *Ibid.*

¹⁶² Halsbury's Laws of Canada (online), *Food (2018 Reissue)*, "A Sea of Change to the Federal Framework: Regulating Food Safety: Overview" at HFD-2 (Cum Supp Release 4) [HFD-2].

¹⁶³ John F Blakney et al, "Safe Food for Canadians Act" (2013) 54:3 Can Bus LJ 396.

¹⁶⁴ HFD-2 *supra* note 162.

¹⁶⁵ *Ibid.*

¹⁶⁶ *Safe food for Canadians Act*, SC 2012, c 24, s 39(1)(a) [*Safe Food for Canadians Act*].

¹⁶⁷ *Ibid* at s 39(1)(b).

¹⁶⁸ Canadian Food Inspection Agency, "Food Fraud" (last modified 24 November 2020), online: *Canada* <www.inspection.canada.ca>.

¹⁶⁹ Brigitte Cadieux et al., "Gap Analysis of the Canadian Food Fraud Regulatory Oversight and Recommendations for Improvement" (2019) 102 Food Control 46 at 49 [*Cadieux*].

actions such as seizure or disposal, or by prosecution which could result in a fine or even imprisonment.¹⁷⁰

Food fraud cases are only beginning to see prosecution under the new legislative framework. In 2016, Canada saw the largest investigation in CFIA history of a case involving *Mucci Farms* which was misrepresenting produce from Mexico as Canadian.¹⁷¹ As these cases see the court and judges develop jurisprudence around the new laws, only time will tell if legislators will need to make changes and critics were right.

The effects of federal laws are seen to be relatively moderate compared to the entire set of variables, but likely positive as the trend is towards streamlining legislation and regulations. It is likely that streamlining will continue in the next decade. Further, legislative streamlining might be one of government's preferred interventions as it requires time and human resources which are easier to justify than direct government subsidies.

¹⁷⁰ *Ibid.*

¹⁷¹ *Ibid* at 50

6. THE ENVIRONMENT AND TECHNOLOGY

Summary and Key Findings – Section 6

- The digitization of food manufacturing has been on the horizon for some time, but a majority of Canadian food manufacturers have not implemented the transition to Industry 4.0.
- In 2010, consumers were thought to be the main cause of food waste, but this has been found to be untrue. Numbers from 2020 indicate that food processing and manufacturing account for some 37 per cent of food waste.
- Food waste, where not rescued, ends up in the land fill and produces emissions equal to putting an additional 12 million cars on the road in Canada each year.
- With increasing concerns about plastics, there will be more pressure than ever in the next decade for manufacturers to approach packaging differently.

6.1 Technology

Considering 2010 and 2020

In 2020 and 2021, Industry 4.0 has been touted as the beginning of a “fourth industrial revolution,”¹⁷² but in reality, the idea was introduced a decade ago in 2011.¹⁷³ Perhaps rather than a revolution, Industry 4.0 is better described as an incremental transition. One survey from 2020 reported that at least in Canada, few food manufactures had implemented 4.0 production processes, but many had made efforts in the direction of Industry 4.0.¹⁷⁴ Whatever the path, the overarching purpose of 4.0 is digitization across the supply chain.¹⁷⁵ In Canada, manufacturing was assessed as “under-digitized,” compared to “relatively high digitization” in sectors such as utilities, finance, and the insurance and ICT sectors.¹⁷⁶ Industry 4.0 is supposed to change all aspects of the production process, which is daunting and seemingly costly and may explain why food manufacturing has historically been under-digitized in Canada.

¹⁷² Matthew Wetmore, “Industry 4.0: An Opportunity for Canadian Manufacturers to Shine”, *PwC Canada* (2020) [Wetmore].

¹⁷³ Sima et al, “Influences of the Industry 4.0 Revolution on the Human Capital Development and Consumer Behaviour: a Systematic Review”(2020) 12 *Sustainability* 1 at p 4.

¹⁷⁴ *Food Processing Canada Survey supra* note 45 at p 6.

¹⁷⁵ *Wetmore supra* note 172 at p 2.

¹⁷⁶ *Restart and Recovery Plan supra* note 24 at p 94.

Looking to 2030

Digitization, analytics and the Cloud will be three key themes for the next decade of manufacturing technology.¹⁷⁷ These processes involve a lot of “buzz words,” and it remains somewhat unclear what these processes will look like in a concrete and practical sense. In the digital realm, ideas such as the Internet of Things (‘IoT’) and the Digital Twins are being discussed as beneficial to manufacturing.¹⁷⁸ IoT technology will allow manufacturers to monitor the entire plant and also help identify less-efficient processes.¹⁷⁹ Until this point, the IoT has been used in food traceability throughout food supply chains, but otherwise it has not been used to its full potential.¹⁸⁰ The overall purpose of these technological advances remains optimization and efficiency in production.

Food manufacturers can expect to see further development in robotics and automation, which will promote both efficiency and safety. These developments may be spurred forward by the pandemic’s effects on the workforce where concerns about workers in close quarters have resulted in compulsory closures. Technology might have a role as well in filling the labour gap in food manufacturing.

Given the discussion above, technology is forecasted to have a likely significant positive impact on the industry into the next decade.

6.2 The Environment

Considering 2010 and 2020

One of the concerns in 2020 is off-shoot pollutants which leak from food manufacturing. One common example of this comes from oilseed production. This production involves N-Hexane, which is safe for humans as used by food manufacturers, but over time as it escapes facilities leaking through pipes or vents, it can affect air quality across Canada.¹⁸¹

Another growing concern over the past years has been food waste. Food waste is an environmental concern because wasted food goes to the landfills, where it releases methane gas – a more serious greenhouse gas. A study by Value Chain Management International released in 2019 attributed 13 per cent of food waste in Canada to manufacturers, and 34 per cent to food processors.¹⁸² In total, 37 per cent of food waste occurs at the processing and

¹⁷⁷ “Tech Trends 2020” (2020) *Deloitte Insights* at p 10.

¹⁷⁸ *Ibid* at p 11.

¹⁷⁹ Sandeep Jagtap et al, “Optimisation of the Resource Efficiency of Food Manufacturing via the Internet of Things” (2021) 127 *Computers in Industry* at 2 [*Optimization for Efficiency*].

¹⁸⁰ *Ibid* at p 2.

¹⁸¹ Tim Lougheed, “From Plant to Pantry: Tracking Pollution in Canada’s Food Production”, *Ingenium Channel* (2019 August 6), online: <www.ingeniumcanada.org>.

¹⁸² Ann Hui, “Vast Majority of Canadian Food Waste Takes Place Within The Food Industry – and Not at the Household Level, Study Finds”, *The Globe and Mail* (17 January 2019), online: <www.theglobeandmail.com>.

manufacturing stage. This is contrasted with the view in 2010, which blamed households for 51 per cent of food waste, a number adjusted to just 14 per cent in 2020.¹⁸³ In 2020, it was estimated total Canadian food waste is equal to driving 12 million additional cars a year in Canada.¹⁸⁴

In food manufacturing specifically, it is estimated that 1 per cent of sugars or syrups and 10 per cent of meat, field crops and products which enter production facilities become avoidable food loss.¹⁸⁵ Food waste occurs for a host of reasons, including:

- “Process and equipment inefficiencies and malfunctions resulting in products that do not meet quality specifications;
- Lack of flexibility to reincorporate or repurpose off-spec products;
- Inaccurate supply and demand forecasting;
- Rejection due to quality standards;
- Poor quality inputs;
- Production line changes; [and,]
- Trimming and culling.”¹⁸⁶

Food waste in manufacturing is both a result of technology and processes, but also consumer pressures and consumer culture.

Emissions are another environmental concern in food manufacturing. The difficulty for food manufacturing, it appears, is that its emissions outputs can be calculated and aggregated with agricultural outputs which paints a much worse picture. For example, the UN FAO looks at the carbon footprint of food products, lumping agriculture with manufacturing and processing.¹⁸⁷ This is not to say that manufacturing does not contribute significant emissions, but rather that the contribution of food manufacturing to emissions appears to be relatively small compared to farming, which uses a significant amount of water and fertilizer. In 2019, the UN FAO did, however, report that processing had the lowest contribution to both carbon footprint and food wastage globally compared to the remaining phases of the food supply chain.¹⁸⁸

Finally, packaging has also been an environmental concern over the past decade. There have been calls for both reduced packaging to reduce waste, but also concerns about the type of packaging. Packaging has an important role in food safety and preserving nutritional

¹⁸³ *Ibid.*

¹⁸⁴ *Ibid.*

¹⁸⁵ Waste Reduction and Management Division, *Reducing Food Loss and Waste in Canada* (2019), Environment and Climate Change Canada at p 9 [*Waste Reduction Report*].

¹⁸⁶ *Ibid.*

¹⁸⁷ “Food Wastage Footprint & Climate Change” (n.d.) Food and Agriculture Organization of the United Nations, online: <www.fao.org> at p 2.

¹⁸⁸ *Ibid.*

contents, but the debate has been going on for years about how to do packaging better.¹⁸⁹ This year, Loop partnered with Loblaw to try out a reusable packaging system for groceries and household items as a solution to wasteful packaging.¹⁹⁰ Loop already operates in the UK and US. More innovative solutions between manufacturing and the food sector writ large will be important.

Looking to 2030

Leading multinational food companies in Canada have committed to reducing food loss and waste (the list includes: Maple Leaf Foods, McCain Foods, Kraft Heinz Canada, Unilever Canada, General Mills, Nestlé and Kellogg's).¹⁹¹ Into the next decade, it will be important that large suppliers take leadership actions such as this in the industry. A Government report suggests that "formal agreements" should be made with industry to address this issue, but those agreements do not appear to have been pursued.¹⁹² Manufacturers should consider more partnerships to expand creative ways to use food losses, as has been done in the past with pharmaceuticals and animal feed.¹⁹³ When it comes to plastics, it is worth noting that a recent survey found 93.7 per cent of respondents were "personally motivated to reduce consumption of single-use plastic food packaging."¹⁹⁴ There is pressure on food manufacturers to be leaders alongside other industry partners in reducing food and packaging waste, but it will also be to their benefit given consumer preferences.

When it comes to manufacturing emissions, Innovation Canada plans to work with manufacturing and other sectors in Canada to develop a national or pan-Canadian framework to be a net-zero emitter by 2050.¹⁹⁵ This goal will challenge manufacturers to green their systems where possible. As the population grows and the demand for food increases, all things equal, so too will emissions. While food manufacturing has historically contributed the lowest carbon food print and emissions in the food process, there will be both government and public pressure to continue to reduce those emissions, which in the long-run will benefit companies but in the short-run will likely involve added costs to make the transformation to greener manufacturing. Technological advances, such as automation and digitization, should help with these processes and long-term costs.

¹⁸⁹ Accorsi et al, "Economic and Environmental Assessment of Reusable Plastic Containers: A Food Catering Supply Chain Case Study" 152 *Int J Production Economics* 88 at 88.

¹⁹⁰ Emily Chung et al, "A Big Test of Reusable Packaging for Groceries comes to Canada", *CBC News* (15 February 2021), online: <www.cbc.ca>.

¹⁹¹ *Waste Reduction Report supra* note 185 at p 9

¹⁹² *Ibid* at p 10.

¹⁹³ *Ibid*.

¹⁹⁴ Walker et al, "Single-use Plastic Packaging in the Canadian Food Industry: Consumer Behaviour and Perceptions" (2021) 8 *Humanities and Social Sciences Communications* 1 at 1.

¹⁹⁵ *Restart and Recovery Plan supra* note 24 at p 25.

In the next decade, it is forecasted that environmental concerns will have a very likely significant impact on the industry, but what that impact will be is variable and depends on how the industry adapts to environmental demands and expectations.

2030 ECONOMIC FACTORS AND DRIVERS

This report examines 24 different economic factors and drivers for the past, current and future trajectory of Canadian food and beverage manufacturing and processing. In the analysis of each section, the impact’s significance, its effect on industry growth and the likelihood of the impact was considered for the next ten years. The table below summarizes that analysis.

Categories	Variables	Impact ¹⁹⁶	Effect on Industry Growth ¹⁹⁷	Likelihood ¹⁹⁸
Market Overview	Market Structure	Moderate	Positive	Likely
	Employees	Moderate	Variable	Likely
	Annual Sales of Manufactured Goods	Insignificant	Positive	Very Likely
	Margin	Moderate	Negative	Unlikely
	Foreign Direct Investment	Significant	Variable	Very likely
Production: Environment & Costs	Industrial Product Price Index	Moderate	Negative	Unlikely
	Machinery and Equipment Price Index	Moderate	Variable	Likely
	Non-Residential Building Construction Price Index	Insignificant	Negative	Unlikely
	Unit Labour Cost	Moderate	Variable	Likely
	Farm Production Prices Index	Insignificant	Negative	Unlikely
	Freight Rail Services Price Index	Insignificant	Variable	Likely
	Fees from Grocers	Significant	Negative	Likely
Situating Food Manufacturing in the Canadian Economy	Percentage of Total Canadian GDP	Insignificant	Positive	Likely
	Size of Industry Relative to Other Canadian Manufacturing Industries	Moderate	Positive	Likely
	Size of Grocery Market in Canada	Significant	Negative	Very likely
	Food Price Inflation Index	Moderate	Variable	Likely
Situating Canadian Food Manufacturing Globally	Food and Beverage Goods Imported to Canada	Insignificant	Positive	Very likely
	Top 5 Destinations for Canadian Food and Beverage Goods	Insignificant	Positive	Very likely
	Canada’s Trade Balance on Food and Beverage Manufactured Goods	Insignificant	Positive	Very Likely
	The Effects of Trade Deals	Moderate	Positive	Very likely
Government Environment	Government Financial Support for the Sector	Moderate	Variable	Unlikely
	Federal Legislation	Moderate	Positive	Likely
The Environment and Technology	Technology	Significant	Positive	Likely
	Environment	Significant	Variable	Very likely

¹⁹⁶ Varying between insignificant, moderate, significant.

¹⁹⁷ Varying between negative, variable, positive.

¹⁹⁸ Varying between unlikely, likely and very likely

CONCLUSION

Suppliers have faced challenges over the past decade. Major challenges have included a lack of investment to spur innovation; an ageing and shrinking workforce; and, new grocers' fees more recently. The industry, despite these challenges, has continued to perform as one of Canada's top manufacturing sectors.

The past decade has been largely characterized as one in which manufacturers have not seen strong government support – federally, at least. The pandemic, however, slightly improved those conditions for a couple of reasons. First, the very public panic about food security and Canada's food supply chain helped raise the status of food manufacturing issues. Second, while Canada has many trading relationships around the world, the country has struggled to procure vaccines and lacks domestic production facilities. This experience has highlighted the importance of domestic manufacturing.

Into the next decade, government should consider intervention. Given the significant federal government debt, increased subsidies are likely not an easily justified option. It is not, however, only financial support which is needed from the Federal Government. Suppliers have been long calling for a Code of Conduct between grocers and suppliers, and the new draft Code from Sobeys and FHCPC provides a basis for a government code. As discussed in this study, an onerous Code of Conduct may risk more flight of manufacturers, but what it would do is help with the power imbalance between the major grocers and suppliers. There is a balance to be struck between giving the code 'teeth' while still allowing grocers and suppliers an appropriate amount of autonomy and flexibility in how they go about their business in Canada.

While grocers' fees have exacerbated an already difficult situation for food manufacturers, they are not the only problem. The industry needs investments in new facilities and new technologies to allow it to continue to be a leader in Canadian manufacturing. With slim margins, additional fees, and limited federal support, innovation is not likely to happen. Further, this climate may encourage more manufacturers to set up business elsewhere.

Regardless of whether a government Code of Conduct is the right step forward or not, there are some serious questions to consider not only about the relationship between industry and the federal government, but also between suppliers and Canada's large grocers. Partnerships are needed if the industry is to continue to provide food security to Canadians, and if Canada is to address some of its biggest challenges in the next years, including climate change.

APPENDICES

Appendix I: MEPI Measures chosen (for 2.2)

1. Wood containers and pallets
2. Rubber and plastic hoses and belts
3. Glass and glass products
4. Boilers, tanks and heavy gauge metal containers
5. Hand tools and cutlery (except precious metal)
6. Metal valves and pipe fittings
7. Agricultural, lawn and garden machinery and equipment
8. Other industry-specific machinery
9. Commercial and service industry machinery
10. Industrial and commercial fans and blowers, and air purification equipment
11. Heating and cooling equipment (except household refrigerators and freezers)
12. Other engine and power transmission equipment
13. Pumps and compressors
14. Other miscellaneous general-purpose machinery
15. Computers and computer peripheral equipment
16. Telephone apparatus
17. Other communications equipment
18. Small electric appliances
19. Major appliances
20. Electric motors and generators
21. Switchgear, switchboard, relays and industrial control apparatus
22. Passenger cars
23. Light-duty trucks, vans and sport utility vehicles
24. Medium and heavy-duty trucks and chassis
25. Freight and utility trailers
26. Other transportation equipment and related parts
27. Office furniture

Appendix II: Complete Data – Food Price % Change YoY, 2019 and 2020 (Stats Can)

Products and product groups 3 4	Jan 2009 to Jan 2010	Jan 2010 to Jan 2011	Jan 2019 to Jan 2020	Jan 2020 to Jan 2021
	% change	% change	% change	% change
Food 5	1.4	2.1	3.2	1
Food purchased from stores	0.9	1.9	3.8	0.1
Meat	-0.3	4	6.3	1.2

Fresh or frozen meat (excluding poultry)	-1.2	4.3	4.4	1.3
Fresh or frozen beef	-0.9	3.8	5.5	0.9
Fresh or frozen pork	-2.8	6.5	3.3	2.1
Fresh or frozen poultry	-1	2.8	6.5	1.3
Fresh or frozen chicken	-1.3	3.6	7.5	0.2
Processed meat	1.8	4.7	8.2	1.1
Ham and bacon	0.1	6.8	-1.1	7.9
Other processed meat	2.6	3.8	10	-0.1
Fish, seafood and other marine products	4.5	-1.5	2.3	-0.6
Fish	5.8	-1.8	3.4	-0.8
Fresh or frozen fish (including portions and fish sticks)	7	-1.3	1.8	-1.3
Canned and other preserved fish	3.1	-2.9	7.7	0.8
Dairy products and eggs	1.6	0.9	2.1	2
Dairy products	1.8	0.8	1.5	1.8
Fresh milk	1	2	-0.1	1.7
Butter	-0.9	-0.4	-1.6	9.9
Cheese	2	0.2	4.5	2.9
Ice cream and related products	2.1	0.7	2.4	1.3
Eggs	-0.6	1.9	7.9	4.1
Bakery and cereal products (excluding baby food)	0.8	0.7	2	-1.7
Bakery products	1.2	1.3	2.8	-2.7
Bread, rolls and buns	-0.6	2.6	2.7	-3.2
Cookies and crackers	1.2	-1.8	0.7	-2.5
Other bakery products	4.6	1.2	4.2	-2.2
Cereal products (excluding baby food)	0.2	-0.4	0.8	0.1
Rice and rice-based mixes	-1.4	-5.6	4.3	-3.2
Breakfast cereal and other cereal products (excluding baby food)	3.5	2.4	0.3	1
Pasta products	-4.5	-3.1	0.2	0.8

Flour and flour-based mixes	-1.9	-1.7	0.6	-2.8
Fruit, fruit preparations and nuts	-2.9	2.2	4.7	-1.1
Fresh fruit	-5.9	2.6	5.4	-2.1
Apples	-10.5	-0.6	-2	4.4
Oranges	-9.4	2	4.4	-1.6
Bananas	1.3	1.8	-1.4	0.7
Other fresh fruit	-5.2	4.1	8.5	-3.9
Preserved fruit and fruit preparations	1.6	1.6	3.6	1.1
Fruit juices	-0.6	2.6	5.2	1.2
Other preserved fruit and fruit preparations	8.1	-1.2	1.4	1
Nuts and seeds	-0.3	3.9	2.8	0.2
Vegetables and vegetable preparations	-3.9	1.1	4.8	0.1
Fresh vegetables	-7.7	2	5	0.2
Potatoes	-19.1	2.5	-0.9	0.5
Tomatoes	4.3	-9.9	10.8	-7.5
Lettuce	-0.3	-0.6	0.2	0.6
Other fresh vegetables	-9.3	5.7	5	1.7
Preserved vegetables and vegetable preparations	8.6	-1.3	4.5	-0.3
Frozen and dried vegetables	4.6	-1.3	4	-3.7
Canned vegetables and other vegetable preparations	11.3	-1.3	4.7	1.2
Other food products and non-alcoholic beverages	4.9	2.1	2.7	-0.1
Sugar and confectionery	7.5	10.7	1.9	-1
Edible fats and oils	-0.2	0.8	0.1	0.8
Coffee and tea	5.8	4.6	0.1	0.6
Condiments, spices and vinegars	3.7	2.5	-0.2	1.8
Other food preparations	3.6	1.6	2.2	0
Non-alcoholic beverages	7.2	-2.6	9.4	-1.2
Food purchased from restaurants 5	2.6	2.7	2.1	2.8

Food purchased from table-service restaurants 5	2.6	2.9	2.1	2.6
Food purchased from fast food and take-out restaurants 5	2.4	2.1	2.2	3.1

Appendix III: Percentage Growth of Prices

Item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Food	0	3.60%	2.43%	1.22%	2.34%	3.69%	1.49%	0.07%	1.82%	3.37%	2.33%
Shelter	0	1.83%	1.19%	1.26%	2.72%	1.13%	1.57%	1.69%	2.03%	2.56%	1.73%
Household operations, furnishings and equipment	0	1.89%	1.89%	1.24%	1.92%	2.66%	1.67%	0.16%	1.07%	0.32%	0.16%
Clothing and footwear	0	0.33%	0.11%	0.11%	1.19%	1.50%	-0.21%	-0.74%	0.85%	1.69%	-1.77%
Transportation	0	6.05%	1.99%	0.70%	1.09%	-2.99%	1.11%	3.91%	4.67%	1.73%	-0.21%
Gasoline	0	16.65%	2.53%	0.60%	0.22%	-16.54%	-6.00%	11.79%	12.59%	-6.06%	-13.96%
Health and personal care	0	1.71%	1.37%	-0.34%	0.59%	1.26%	1.41%	1.72%	1.29%	1.19%	1.41%
Recreation, education and reading	0	1.23%	0.57%	0.28%	1.13%	1.86%	1.74%	2.43%	1.14%	1.30%	-0.94%
Alcoholic beverages, tobacco products and recreational cannabis	0	1.84%	1.47%	2.03%	4.42%	3.68%	3.16%	2.74%	4.22%	1.91%	0.47%