

14th EDITION CANADA'S FOOD PRICE REPORT 2024



DALHOUSIE
UNIVERSITY



THE UNIVERSITY
OF BRITISH COLUMBIA

UNIVERSITY *of* GUELPH



UNIVERSITY OF
SASKATCHEWAN

AUTHORS AND ADVISORS

DALHOUSIE UNIVERSITY MEMBERS AND ADVISORS

Dr. Sylvain Charlebois
(Project Lead - Dalhousie
University)
Faculties of Management
sylvain.charlebois@dal.ca

Andrea Rankin
Faculty of Management
Andrea.Rankin@dal.ca

Stacey Taylor
Faculty of Computer Science
Stacey.Taylor@dal.ca

Dr. Vlado Keselj
Faculty of Computer Science
vlado.keselj@dal.ca

Dr. Gumataw Abebe
Faculty of Agriculture
gumataw.abebe@dal.ca

Dr. Stefanie Colombo
Faculty of Agriculture
scolombo@dal.ca

Dr. Tiff-Annie Kenny
Faculté de médecine, Université
Laval
tiff-annie.
kenny@crchudequebec.ulaval.ca

Dr. Kathleen Kevany
Faculty of Agriculture
kkevany@dal.ca

John Keogh
McGill Center for the
Convergence of Health and
Economics
John.keogh@mcgill.ca

Dr. Monika Korzun
Faculty of Agriculture
mkorzun@dal.ca

Dr. Paola A. Marignani
Faculty of Medicine
Paola.Marignani@Dal.Ca

Janet Music
Faculty of Arts and Social
Sciences
janet.music@dal.ca

Dr. Rick Nason
Faculty of Management
Richard.Nason@Dal.Ca

Dr. Armağan Özbilge
Faculty of Management
ozbilgea@dal.ca

Dr. Phoebe Stephens
Faculty of Agriculture
pstephen@dal.ca

Samantha Taylor
Faculty of Management
Samantha.Taylor@dal.ca

UNIVERSITY OF GUELPH MEMBERS

Dr. Evan Fraser
(Campus Lead - University of
Guelph)
Gordon S. Lang School of
Business and Economics
frasere@uoguelph.ca

Dr. Ethan Jackson
ChainML
jackson.ethan.c@gmail.com

Kristina Kupferschmidt
School of Engineering and
Vector Institute
kupfersk@uoguelph.ca

Dr. Graham Taylor
School of Engineering and
Vector Institute
gwtaylor@uoguelph.ca

Dr. Maria Corradini
Ontario Agricultural College
(OAC) & Arrell Chair in Food
Quality
mcorradi@uoguelph.ca

Dr. Jess Haines
Family Relations and Applied
Nutrition
jhaines@uoguelph.ca

Cody Kupferschmidt
Erode AI
Cody@erode.ai

Sara El-Shawa
School of Engineering and
Vector Institute
selshawa@uoguelph.ca

Paul Uys
Ontario Agricultural College
(OAC)
pauluys@uoguelph.ca

UNIVERSITY OF SASKATCHEWAN MEMBERS

Dr. Stuart Smyth
(Campus Lead - University of
Saskatchewan)
Agricultural and Resource
Economics
stuart.smyth@usask.ca

UNIVERSITY OF BRITISH COLUMBIA MEMBERS

Dr. Kelleen Wiseman
(Campus Lead - University of
British Columbia)
Faculty of Land and Food
Systems
kelleen.wiseman@ubc.ca

Dr. Richard Barichello
Faculty of Land and Food
Systems
rick.barichello@ubc.ca

Dr. Matias Margulis
School of Public Policy and
Global Affairs & Faculty of Land
and Food Systems
matias.margulis@ubc.ca

Xiaoyu Zhu
MFRE Educational Researcher
zaffor@student.ubc.ca

PRODUCTION TEAM

Janet Lord
Copy Editor

Kim Humes
Communications

Jann McFarlane
Designer
Jann McFarlane Digital Media

SUPPORT FROM





TABLE OF CONTENTS

Executive Summary	5
Overview of 2023: How We Did	12
2023 Highlights	16
Profiteering and Market Competition in the Grocery Sector	16
Labour Disputes	18
Dairy	19
Climate Disruptions	19
Consumer Protection Code of Conduct	20
Food Geopolitics	21
Methodology	22
Canada's Food Price Report: 2024 Forecast	22
Gap Vector Auto-Regressive (VAR) Model	23
Monte Carlo Simulations	23
2024 Macroeconomic Factors and Drivers	24
Food Prices by Province	25
The 2024 Watch-List Items	26
Grocery Competition in Canada-Bill C-56	29
What to Expect in 2024	29
Geopolitical Impacts	30
Federal Carbon Tax	31
Plastics	32
Household Budget Changes	32

Executive Summary

This marks the 14th edition of Canada's Food Price Report, an annual publication collaboratively produced by Dalhousie University, the University of Guelph, the University of British Columbia, and the University of Saskatchewan. Each of these universities contributes to enriching the report's depth and regional insight.

Last year's report predicted there would be an overall price increase of 5% to 7% in 2023. The current rate for food price increases is within the predicted range at 5.9% according to the latest available CPI data.¹ By category, all predictions were within the estimated range except for dairy, which was below the predicted increase, and bakery, which exceeded the predicted increase for 2023.

¹ Statistics Canada. (October 17, 2023). Consumer Price Index, monthly percentage change, seasonally adjusted, Canada, provinces, Whitehorse and Yellowknife-Food. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000403>



The report also provides readers with predictions on estimated annual food expenditures for individual consumers based on their age and gender. This allows readers to construct their household and estimate their corresponding annual food expenditures to reflect their reality.

**“
It is concerning to note that Canadians are, in fact, spending less per capita on food retail in comparison to last year, even in the face of elevated food prices.**”

It is important to note that Canadians are spending less on food this year despite inflation. Food retail sales data indicates a decline from a monthly spend of \$261.24 per capita in August 2022 to a monthly spend of \$252.89 per capita in August 2023, indicating that Canadians are reducing their expenditures on groceries, either by reducing the quantity or quality of food they are buying or by substituting less expensive alternatives.² Canadians are facing additional pressures including higher costs for rent and utilities, and rising personal debt. A recent report by TransUnion found that the average Canadian has a credit card bill of \$4,000 and a 4.2% increase in household debt compared to last year,³ all of which are possible contributors to reduced food expenditures for Canadians.

² Statistics Canada. (October 20, 2023). Monthly retail sales, price, and volume, seasonally adjusted (x1,000,000). Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2010006701&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2022&cubeTimeFrame.endMonth=12&cubeTimeFrame.endYear=2022&referencePeriods=20220101%2C20221201>

³ Amanat, H. (September 2, 2023). Canadian household debt up 4.2 per cent: TransUnion report. Retrieved from <https://www.ctvnews.ca/business/household-debt-rises-to-2-34-trillion-in-canada-as-average-credit-card-balance-jumps-to-4-000-transunion-report-1.6545592>

Based on the 2023 predictions and data from last year’s report, the total annual expenditure for a family with the following demographic composition: man (aged 31-50), woman (aged 31-50), boy (aged 14-18), and girl (aged 9-13), was originally projected to be \$16,288.40, based on what we considered to be a healthy diet. However, this year, in recognition of the reduced spending habits of Canadians, a more accurate estimate for the annual spending of a family of four in the past year is \$15,595.40.⁴ In other words, they spent \$693 less due to changes in shopping habits, despite higher food prices.

For 2024, the report uses the same food categories as in previous years and makes the following predictions:

**Table 1:
2024 Food Price Forecasts**

Food Categories	Anticipated Changes %
Bakery	5% to 7%
Dairy	1% to 3%
Fruit	1% to 3%
Meat	5% to 7%
Other	2% to 4%
Restaurants	3% to 5%
Seafood	3% to 5%
Vegetables	5% to 7%
Total Increase in Food Prices	2.5% to 4.5%

⁴ We calculated annual expenses for families and individuals by considering the decreased expenditure in the food and beverage retail sector, along with the observed 5.9% Consumer Price Index (CPI) increase.





Over the last 14 years, this report has considered many market instruments and macroeconomic factors in its forecast including financial indicators, recession signals, currencies, and Canada-specific information. The 2024 report forecasts that overall food prices will increase by 2.5% to 4.5%. This report maintains the same approach as last year and shows predicted annual food expenditures by individual consumers based on their age and gender.

Looking ahead to 2024, we anticipate that a family of four with the same demographic makeup will have an estimated expenditure of \$16,297.20. This represents an increase of \$701.79 compared to the previous year. **Additionally, our models also indicate that 2024 may witness a mild deflationary trend, resulting in lower prices for numerous essential food items.**

In the previous year, the report addressed the enduring consequences of COVID-19 such as supply chain disruptions, the implications of climate change and carbon taxes, global events like the conflict in Ukraine, and the phenomenon of "shelfflation," potentially contributing to the price increases faced by Canadians.

“
In 2023, there was a prevailing sentiment that grocers continued to profit excessively and exploit the ongoing inflationary trends.”

The issue of food affordability remained a top concern as prices continued to rise throughout the year. Food Bank Canada's **2023 Hunger Count** revealed there were nearly 2 million visits to food banks in Canada, a 32% increase compared

to March 2022 and a very significant 78.5% increase over March 2019.⁵ This is the highest level of food bank use in Canada on record.

⁵ Food Banks Canada. (2023). HungerCount 2023. Retrieved from <https://foodbankscanada.ca/hungercount/>

Furthermore, there were widespread concerns about corporate behaviour, with allegations of **profiteering** by Canada's major grocery chains frequently reported in the media and the subject of government attention. A significant 30.3% of Canadians believed that price gouging was the primary reason for the escalating food prices.⁶ Trust in the food and grocery sector came into question once more as the **Canada Bread Company** pleaded guilty to four counts of price-fixing under the Competition Act. These violations resulted in two price increases, in 2007 and 2011, and a fine of \$50 million.⁷ Price gouging remained a concern through 2023, but Bank of Canada data indicated that while firms' measured markups did grow after COVID-19, the markup was inflationary. Most of these markups occurred during 2020, and in 2022 were nearly zero or in fact negative.⁸

6 Agri-Food Analytics Lab (April 4, 2023). New Survey Suggests Majority of Canadians Distrust Grocers But Do Plame Other Factors For Higher Food Prices. Retrieved from <https://cdn.dal.ca/content/dam/dalhousie/pdf/sites/agri-food/Report%20Grocer%20EN.pdf>

7 Stober, E. (June 21, 2023). Canada Bread pleads guilty to price-fixing bread prices, fined \$50M. Retrieved from <https://globalnews.ca/news/9783925/canada-bread-price-fixing-guilty-fine/>

8 Bouras, P., Bustamante, C., Guo, X., and Short, J. (August 1, 2023). The contribution of firm profits to the recent rise in inflation. Retrieved from <https://www.bankofcanada.ca/wp-content/uploads/2023/08/san2023-12.pdf>



In 2024, it is probable that Canadians will continue to experience the strain of food inflation, compounded by increasing costs of housing, energy, and various other expenditures. It can also be expected that Canadians will see low economic growth based on Bank of Canada assessments of interest rates.⁹ The influence of climate change is expected to persist as a contributing factor to food price fluctuations in the upcoming year, particularly considering more frequent and impactful climate events.

Numerous experts have formed strong opinions on the impact of carbon fiscal policies on food retail prices. Ongoing studies have diligently explored the effect of carbon taxes on pricing and the identification of relevant factorial coefficients associated with carbon pricing. However, these studies have faced notable challenges in this regard. Furthermore, a more comprehensive examination of retail prices highlights the intricacies involved in establishing coefficients with a high degree of certainty. It would be misleading to assert that carbon pricing has a direct and straightforward impact on retail food prices, and it would be equally misleading to claim otherwise. Multiple factors come into play, including consumer behaviour and supply chain dynamics.

“
The available evidence as to whether the carbon tax is inflating prices is, at best, inconclusive.”



⁹ Parkinson, D. (October 26, 2023). Retrieved from <https://www.theglobeandmail.com/business/article-its-not-a-recession-its-low-positive-growth-quotes-from-the-bank-of/>



A critical challenge arises due to the absence of firm-level data necessary for accurately modelling the compounding effects of carbon pricing throughout the supply chain. Notably, the Bank of Canada and other public institutions have yet to conduct a comprehensive assessment of how carbon taxing influences the affordability of food.

Table 2:
2024 Provincial Breakdown of Food Prices

Province	2023 Change ¹⁰	2024 Forecast ¹¹
Alberta	5.5%	↑
British Columbia	5.9%	–
Manitoba	5.7%	↑
New Brunswick	6.4%	↑
Newfoundland and Labrador	6.3%	↓
Nova Scotia	6.2%	↑
Ontario	5.5%	↑
Prince Edward Island	6.7%	↓
Saskatchewan	5.0%	↑
Quebec	6.7%	↓

¹⁰ (↑) Expected above-average food price increase, (↓) Expected below-average food price increase, (–) Expected average food price increase. Lower confidence intervals at the provincial level.

¹¹ (↑) Expected above-average food price increase, (↓) Expected below-average food price increase, (–) Expected average food price increase. Lower confidence intervals at the provincial level.

Overview of 2023: How We Did

Food inflation is the gradual rise in the cost of all food products, whereas food price increase refers to the higher pricing of a product at the retail level. While Statistics Canada tracks inflation, Canada's Food Price Report specifically examines relative price hikes at retail. However, for our forecasting purposes, we can only rely on food inflation data.

In the 2023 forecasts presented in Table 3, the projections for food price increases fell within the expected range, except for dairy and meat, which experienced a lower-than-predicted increase, and bakery products, which exceeded the projected price increase.

Table 3:
2023 Food Price Results: 2023 Forecast vs Observed¹²

Food Categories	2023 Canada's Food Price Report Forecast	2023 Actual Change (CPI, Sept. '22 to Sept. '23)
Bakery	5% to 7%	8.0%
Dairy	5% to 7%	4.0%
Fruits	3% to 5%	3.0%
Meat	5% to 7%	4.4%
Other	5% to 7%	6.7%
Restaurants	4% to 6%	6.1%
Seafood	4% to 6%	4.3%
Vegetables	6% to 8%	7.6%
Total Food Categories Forecast	5% to 7%	5.9%

¹² Statistics Canada (October 17, 2023). Consumer Price Index, monthly percentage change, seasonally adjusted, Canada, provinces, Whitehorse and Yellowknife-Food. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000403>



The rise in prices can be attributed to various factors, including climate events that have had adverse effects on harvests, such as wildfires and flooding occurring throughout the country. Additionally, increased input costs for products, global events, and rising production costs have contributed to these price increases. It is crucial to reemphasize that climate change stands out as the most substantial challenge facing the agri-food sector.

The predicted annual expenditure for Canadian consumers based on age and gender was overall higher than the observed costs for 2023. This is the figure that allows readers to construct their household and estimate their corresponding annual food expenditures to reflect their reality. Predicted costs were based on a 7% increase, the higher end of the overall predicted price increase, and observed costs reflect a 5.9% increase. According to Statistics Canada's food retail data, Canadian consumers are spending less.¹³ This means that the calculation for observed costs in 2023 was adjusted to reflect this behaviour. In previous years, when calculating the observed spend for families and individuals, the amount from the previous year was adjusted for inflation and this gave a dollar value of what it would cost for a family to eat based on the ideal food basket. This year, however, because we know Canadians are spending less, we have adjusted the method to calculate the observed costs.



¹³ Charlebois, S. (May 24, 2023). Canadians Are Now Buying Less Food. Now What for Grocery Retailers? Retrieved from <https://retail-insider.com/retail-insider/2023/05/canadians-are-now-buying-less-food-now-what-for-grocery-retailers-op-ed/#:~:text=The%20figures%20indicate%20that%20in,per%20capita%20surging%20to%20%24309.19>.

Canadians are facing stricter budgets as they contend with higher costs of living as rent continues to increase, interest rates have risen, and household debt is up. Food and beverage retail data shows that between 2022 and 2023, Canadians reduced the amount they spend in food and beverage retail by 3.26%.¹⁴ This reflects the change in spending per capita from January–August 2022 to January–August 2023. The 2023 observed cost has been calculated taking this reduction into account, as well as the observed inflation. Table 4 shows the annual expenditures by age and gender using this new method. This provides a clearer picture of spending habits and an economic reality check of what families are really spending.

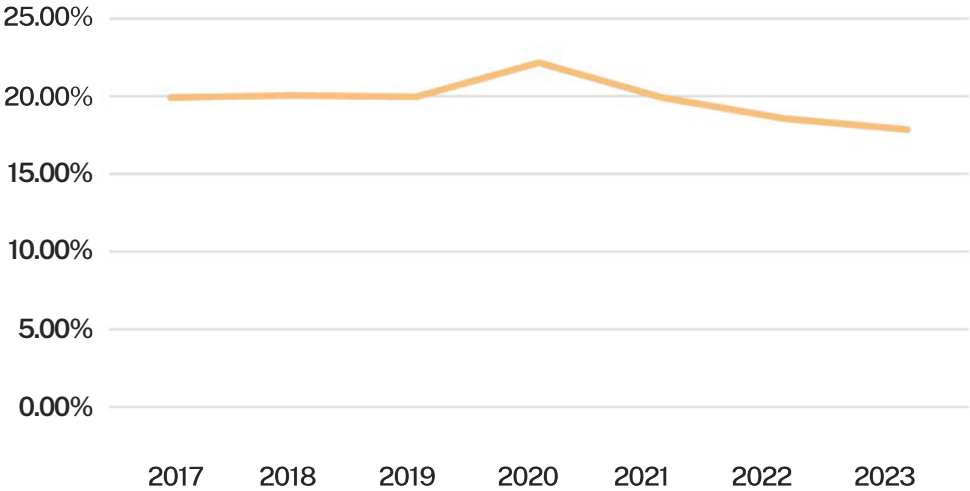
Table 4:
2023 Annual Food Expenditure by Age & Gender - Predicted vs. Observed

Demographics		Predicted Cost 2023	Observed Cost 2023	Difference
Child	6-11 Months	\$2,985.12	\$2,954.43	-\$30.69
	1-3 Years	\$2,361.61	\$2,261.13	-\$100.48
Boy/Man	4-8 Years	\$3,081.03	\$2,949.95	-\$131.08
	9-13 Years	\$3,966.77	\$3,798.00	-\$168.77
	14-18 Years	\$4,654.17	\$4,456.16	-\$198.01
	19-30 Years	\$4,380.18	\$4,193.83	-\$186.35
	31-50 Years	\$4,168.79	\$3,991.43	-\$177.37
	51-70 Years	\$4,049.27	\$3,876.99	-\$172.28
	70+ Years	\$3,891.94	\$3,726.36	-\$165.58
Girl/Woman	4-8 Years	\$2,950.87	\$2,825.32	-\$125.55
	9-13 Years	\$3,725.04	\$3,566.56	-\$158.49
	14-18 Years	\$3,867.62	\$3,703.07	-\$164.55
	19-30 Years	\$3,813.89	\$3,651.62	-\$162.26
	31-50 Years	\$3,740.39	\$3,581.25	-\$159.14
	51-70 Years	\$3,662.35	\$3,506.54	-\$155.82
	70+ Years	\$3,503.09	\$3,354.05	-\$149.05
Pregnant Woman	< 18 Years	\$4,333.82	\$4,277.42	-\$56.40
	19-30 Years	\$4,217.73	\$4,162.83	-\$54.90
	31-50 Years	\$4,173.06	\$4,118.75	-\$54.31
Nursing Woman	<18 Years	\$4,365.81	\$4,180.07	-\$185.74
	19-30 Years	\$4,347.81	\$4,162.83	-\$184.98
	31-50 Years	\$4,311.35	\$4,127.92	-\$183.43

¹⁴ Statistics Canada. (October 20, 2023). Monthly retail sales, price, and volume, seasonally adjusted (x 1,000,000). Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2010006701&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2022&cubeTimeFrame.endMonth=12&cubeTimeFrame.endYear=2022&referencePeriods=20220101%2C20221201>

The following graph illustrates the percentage decrease in Canadian spending in the food and retail sector compared to the total amount spent in retail sales annually since 2017. Starting with 2020, there has been a decrease in per capita spending following a substantial surge between 2019 and 2020.

Per Capita Spend Ratio of Food & Retail Sales to Total Retail Sales¹⁵



¹⁵ Statistics Canada. (October 20, 2023). Monthly retail sales, price, and volume, seasonally adjusted (x 1,000,000). Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tvaction?pid=2010006701&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2022&cubeTimeFrame.endMonth=12&cubeTimeFrame.endYear=2022&referencePeriods=20220101%2C20221201>

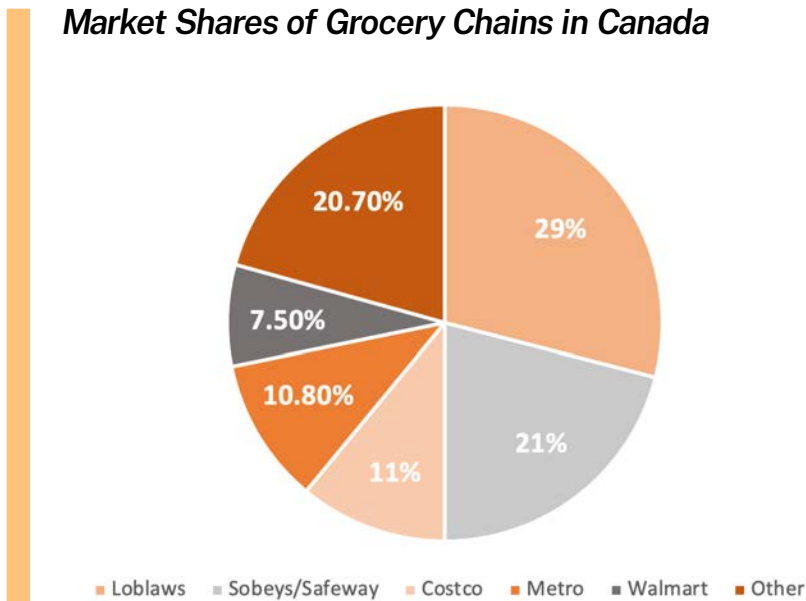


2023 Highlights

Profiteering and Market Competition in the Grocery Sector

Comparing G7 countries, Canada had the third lowest food inflation rate at 9.1% as of June 2023, after Japan at 8.9% and the United States at 4.6%.¹⁶ By comparison, the United Kingdom experienced the highest food inflation rate at 17.4%.¹⁷ Despite this, one of the most persistent topics in 2023 when discussing food prices was the perception major grocery chains are profiteering from food inflation and driving prices higher. In October 2022, the **Competition Bureau**, an independent federal agency, launched a study of grocery store competition in Canada.¹⁸ The aim of this study was to look at market concentration and competition, address food prices that were increasing above the inflation rate^{19,20}. Canada has a concentrated grocery industry and is a tough landscape for new players to break into which is ²¹. According to a recent report, 80% of the grocery market is controlled by five companies: Loblaws (29% market share), Sobeys/Safeway (21%), Costco (11%), Metro (10.8%), and Walmart (7.5%).^{22 23}

Market Shares of Grocery Chains in Canada



¹⁶ OECD. (August 3, 2023). OECD headline inflation continues its rapid decline in June 2023, reaching 5.7%. Retrieved from <https://www.oecd.org/sdd/prices-ppp/consumer-prices-oecd-08-2023.pdf>

¹⁷ Ibid.

¹⁸ Government of Canada (March 8, 2023). Market Study Notice: Competition in Canada's Grocery Sector. Retrieved from <https://ised-isde.canada.ca/site/competition-bureau-canada/en/how-we-foster-competition/education-and-outreach/market-study-notice-competition-canadas-grocery-sector>

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

²³ Finnigan, P. (April 2021). Room to Grow: Strengthening Food Processing Capacity in Canada for Food Security and Exports. Retrieved from <https://www.ourcommons.ca/Content/Committee/432/AGRI/Reports/RP11265969/agrip04/agrip04-e.pdf>

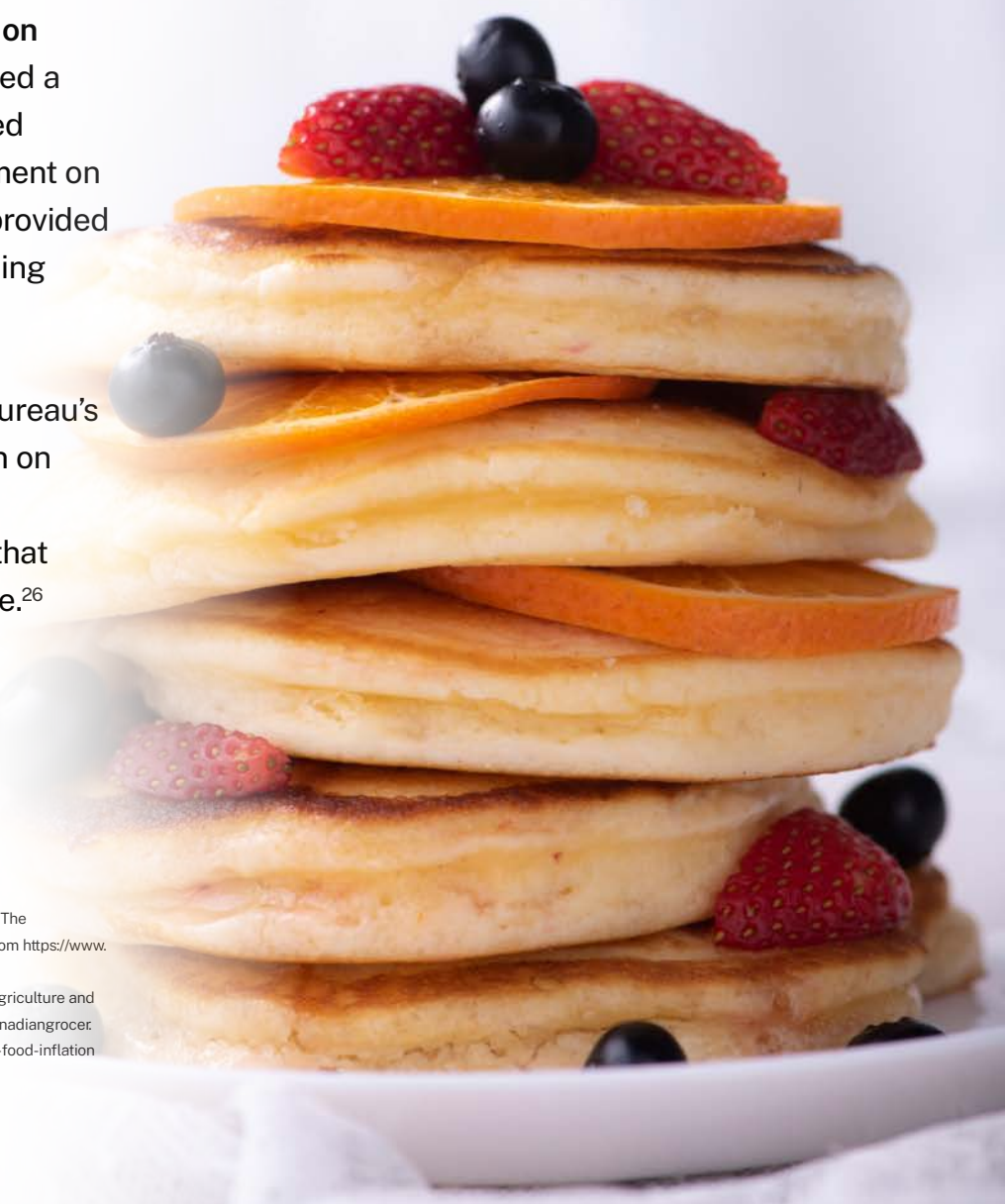
The Bank of Canada initiated a study to determine how markups have contributed to recent inflation. The study found that while firms' measured markups did grow after COVID-19, the markups were inflationary and most occurred in 2020. In 2022 when inflation was at its highest point, the growth in markups was nearly zero or in fact negative.²⁴

The federal **Standing Committee on Agriculture and Agri-Food** released a report in June 2023 that presented recommendations to the government on how to tackle food inflation.²⁵ It provided thirteen recommendations including addressing challenges around competition in the supply chain, strengthening the Competition Bureau's powers, improving data collection on prices in the supply chain, and addressing financial challenges that farmers and food processors face.²⁶

²⁴ Bouras, P., Bustamante, C., Guo, X., and Short, J. (August 1, 2023). The contribution of firm profits to the recent rise in inflation. Retrieved from <https://www.bankofcanada.ca/wp-content/uploads/2023/08/san2023-12.pdf>

²⁵ Canadian Grocer Staff (June 14, 2023). Standing Committee on Agriculture and Agri-Food releases report on food inflation. Retrieved from <https://canadiangrocer.com/standing-committee-agriculture-and-agri-food-releases-report-food-inflation>

²⁶ Ibid.





“

In 2023, employees felt empowered to seek improved working conditions and higher wages.

Labour Disputes

The pressure of inflation has strengthened the Canadian labour movement’s fight for better wages and benefits.²⁷ **Metro Inc.** grocery store workers went on strike for over a month in the Toronto area and reached a deal in August 2023 after months at the bargaining table.²⁸ The agreement reached reinstated the hero pay workers received during the pandemic and improved sick leave and health and pension benefits.²⁹ **Sobeys** was affected by a strike in Toronto this year as well.

Labour unrest impacted the food and grocery sectors this year including strikes by Sobeys employees at distribution centres just months after the Metro Inc. grocery workers’ strike.³⁰ As well, there was labour action at **ports in British Columbia** that shut down more than 30 terminals³¹ and an eight-day strike at the **St. Lawrence Seaway**, a major trade route between the United States and Canada.³² There are also impacts on the supply of sugar as the **Rogers Sugar refinery** strike started on September 28, 2023, and some stores in Vancouver are starting to see shortages of sugar.³³ It was the same for the **Windsor Salt** plant dispute, which lasted more than six months.

²⁷ Bharti, B. (September 25, 2023). What unions have won in hard-fought summer of strikes. Retrieved from <https://financialpost.com/news/economy/4-most-notable-labour-actions-canada-2023>

²⁸ Ibid.

²⁹ Ibid.

³⁰ CBC News. (October 15, 2023). Sobeys employees at Vaughan distribution centre walk off the job. Retrieved from <https://www.cbc.ca/news/canada/toronto/sobeys-teamsters-vaughan-strike-1.6997066>

³¹ CBC News. (August 4, 2023). B.C. port dispute ends as workers vote to accept new deal. Retrieved from <https://www.cbc.ca/news/canada/british-columbia/port-workers-vote-result-august-4-1.6928803#:~:text=Port%20workers%20in%20British%20Columbia,supply%20chains%20across%20the%20country.>

³² Aziz, S. (October 31, 2023). St. Lawrence Seaway strike is over after 8 days. How much did it cost? Retrieved from <https://globalnews.ca/news/10060606/st-lawrence-seaway-strike-cost/>

³³ Mackie, J. (November 4, 2023). Sugar in short supply as strike at Rogers Sugar refinery hits its sixth week. Retrieved from <https://vancouver.sun.com/business/local-business/sugar-in-short-supply-as-strike-at-rogers-sugar-refinery-hits-its-sixth-week>



Climate Disruptions

Canada has experienced an extremely volatile year in terms of weather and climate events, with the 2023 **Canadian wildfire season** causing the most devastation seen, with 14M hectares burned.³⁴ Data from scientists analyzing the conditions that caused the wildfires found that the climate crisis made them at least twice as likely, and fire-prone weather 20% more intense.³⁵ Historic rainfall also hit some areas of Canada, including Nova Scotia, which saw **significant flooding** in July 2023 with 250 millimetres of rain in less than 24 hours.³⁶ As agriculture is highly affected by weather and climate conditions; these erratic changes can impact harvest yields, growth periods, and quality of harvests. leading to shortages. In addition to Canadian weather, other climate events around the world have the potential to impact prices and availability in Canada. The United Nations predicts the El Nino effect will continue into 2024.³⁷ This could bring higher than normal rainfall in southern countries and dry conditions in others, potentially impacting crops, livestock, forests, and fishing.³⁸

Dairy

The recent recommendation by the Canadian Dairy Commission (CDC) for a 1.77% increase in farm milk prices in 2024 is commendable. This modest adjustment, originally proposed by the Dairy Farmers of Canada, reflects a careful assessment of current circumstances. Notably, the implementation has been delayed to May 1, 2024, given the ongoing challenges in maintaining stable food prices. This increase marks a departure from previous years when we witnessed substantial hikes that caused concern amid double-digit food inflation rates.

³⁴ Milman, O. (August 22, 2023). Climate crisis made spate of Canada wildfires twice as likely, scientists find. Retrieved from <https://www.theguardian.com/world/2023/aug/22/climate-change-canada-wildfires-twice-as-likely#:~:text=The%202023%20Canadian%20wildfire%20season,an%20area%20larger%20than%20Greece>.

³⁵ Ibid.

³⁶ Insurance Bureau of Canada (August 24, 2023). Nova Scotia flooding causes over \$170 million in insured damage. Retrieved from <https://www.ibc.ca/news-insights/news/nova-scotia-flooding-causes-over-170-million-in-insured-damage>

³⁷ Casas, J. (October 19, 2023). El Nino to continue into mid-2024, threatening agriculture. Retrieved from <https://www.reuters.com/business/environment/el-nino-continue-into-mid-2024-threatening-agriculture-2023-10-19/>

³⁸ Ibid.

“

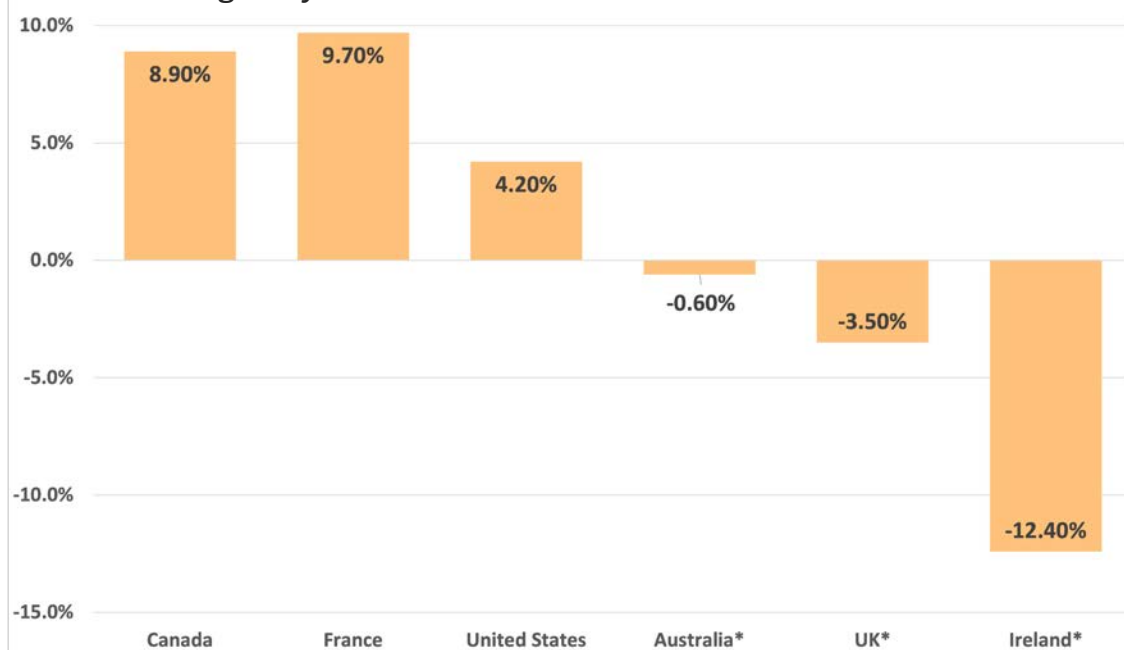
The grocer code of conduct is aimed at protecting consumers while promoting increased competition.

Consumer Protection Code of Conduct

The imminent introduction of a code of conduct in the Canadian food sector is a momentous development with promising implications for consumers and the industry. The code's objectives encompass mutual benefits, addressing the industry's dysfunctional power dynamics, enhancing transparency, stabilizing retail prices, promoting innovation, bolstering food security, and catalyzing investment in the agri-food sector. It is important to note that the code does not seek to impose a heavy-handed, top-down approach but rather aims to reintroduce discipline and rebuild trust in an industry plagued by breach of trust and a lack of transparency. Given the challenges of escalating inflation and consumer dissatisfaction, the code has the potential to address these issues and level the playing field for independent grocers. Notably, countries like Australia, the United Kingdom, and Ireland have already adopted grocery codes of conduct and their experiences show more modest increases in food prices when adjusted for inflation, as depicted in the figure below. This contrast in inflation rates between countries shows the potential benefits for consumers of implementing such a code in Canada.

Increase in food prices, adjusted for inflation, 2013 to 2023

**Countries with grocery retailers code of conduct*



Source: StatCan; U.S. BLS; UK Office of National Statistics; Ireland Central Statistics Office; Australia Bureau of Statistics; France-Insee

Food Geopolitics

The unlawful **Ukrainian invasion** started on February 24, 2022, yet its effects became most pronounced for Canadians at the grocery store towards the end of 2022 and throughout most of 2023. In recent months, there has been a slight softening of commodity prices, contributing to greater price stability. However, the ongoing situation in the **Middle East** remains a cause for concern, especially if it were to escalate further. Such a development could result in increased energy costs and potentially drive certain commodity prices higher over time.



Canada's Food Price Report: 2024 Forecast

Methodology

The 14th edition of Canada's Food Price Report leverages predictive analytics models, including machine learning, to enhance the analytical process of projecting future food prices. Produced collaboratively by Dalhousie University, the University of Guelph, the University of Saskatchewan, and the University of British Columbia, the report maintains its focus on food prices in Canada while providing valuable insights into industry trends. Dalhousie University harnesses its predictive analytics capabilities, drawing expertise from the Faculties of Agriculture, Management, and Computer Science to develop the forecasts.

In addition to these forecasting models, scholars from the participating universities contribute insights and expertise from diverse fields, encompassing macroeconomic factors influencing food prices, emerging trends, and expectations for the food industry in the upcoming year. This interdisciplinary approach includes consideration of climate variables, domain expertise, and economic variables. The methodology employed for this year's report combines techniques from the previous edition with the incorporation of the GapVAR Model and the application of Monte Carlo simulations.



Gap Vector Auto-Regressive (VAR) Model

This year, a new approach was added to the prediction of food price trends for 2024. It employs the same setup as the VAR model as its foundation, which has the advantage of being able to explicitly quantify the importance of exchange rates and overall inflation. It uses both endogenous and exogenous variables, and captures the dynamic interdependencies among variables. With this foundation, the GapVAR model predicts the gap between food CPI and general CPI inflation versus just food CPI directly, as was done in last year's VAR model. Once the gap is identified, it is added to the Toronto Dominion Bank's inflation forecast for overall inflation, annualized, and then the overall food inflation rate is obtained. This method also employs a mixed-frequency approach, using both high-frequency monthly data and less volatile quarterly data to provide an accurate view of food-specific inflation trends while it maintains alignment with external quarterly forecasts.

Monte Carlo Simulations

Using a VAR model, mean predictions were created that were then run in Monte Carlo simulations. This method ponders variable scenarios to assign either a high (90%) or low (10%) probability of occurrence to different scenarios. These simulations were run 100,000 times each and used weighted resampling. Weighted resampling accounts for the fact that future data could have a more significant impact on the target. It assigns a weight making it less likely to be sampled since it is unknown if this scenario will occur, and data with less significant impacts is assigned a higher weight making it more likely to be sampled. After the simulations were completed, adjustments were made to the weights to reduce the magnitude of the changes and scenarios.



2024 Macroeconomic Factors and Drivers

As shown in Table 5, this report assesses a range of macroeconomic factors that wield substantial influence in the worldwide context, the food and agriculture sector, and the broader Canadian economy. These variables encompass climate change, geopolitical conflicts, energy resources, raw materials, inflation rates, currency exchange rates, trade agreements, food retail and manufacturing statistics, consumer debt levels, expenditures, and the enduring impacts of COVID-19. Together, these variables played a pivotal role in shaping the projected food prices for Canada in 2024.

Table 5:
Macroeconomic Drivers for Canada’s Food Prices in 2024

Variables	Categories	Impact	Price Effects	Likelihood
Macro-Level	Climate Change	Very Significant	Increase	Very Likely
	Geopolitical Risks	Significant	Variable	Likely
	Input Costs	Significant	Variable	Likely
	Energy Costs	Very Significant	Increase	Very Likely
	Inflation	Very Significant	Increase	Very Likely
	Currencies & Trade Environment	Moderate	Variable	Likely
Sectoral-Level	Food Retail & Distribution	Moderate	Variable	Likely
	Food Processing	Moderate	Variable	Likely
	Policies & Regulations	Very Significant	Increase	Likely
	Consumer Awareness & Trends	Very Significant	Decrease	Likely
Domestic-Level	Consumer Indebtedness	Very Significant	Decrease	Very Likely
	Consumer Disposable Income	Very Significant	Decrease	Very Likely

Food Prices by Province

In 2024, Canada is expected to face a widespread increase in food inflation, as outlined in Table 6. This anticipated rise in food prices can be predominantly attributed to the rising costs of inputs, heightened transportation expenses, and the detrimental effects of climate change on crop yields. It is foreseen that all provinces may experience price increases of up to 4.5% in the coming year. While data remains scarce for Northern Canada, particularly for the Northwest Territories, Nunavut, and Yukon, it is probable that these territories will face higher food prices compared than the rest of Canada. They are more vulnerable to major factors affecting food prices.

Table 6:
2024 Provincial Breakdown of Food Prices

Province	2023 Change ³⁹	2024 Forecast ⁴⁰
Alberta	5.5%	↑
British Columbia	5.9%	–
Manitoba	5.7%	↑
New Brunswick	6.4%	↑
Newfoundland and Labrador	6.3%	↓
Nova Scotia	6.2%	↑
Ontario	5.5%	↑
Prince Edward Island	6.7%	↓
Saskatchewan	5.0%	↑
Quebec	6.7%	↓

³⁹ (↑) Expected above-average food price increase, (↓) Expected below-average food price increase, (–) Expected average food price increase. Lower confidence intervals at the provincial level.

⁴⁰ (↑) Expected above-average food price increase, (↓) Expected below-average food price increase, (–) Expected average food price increase. Lower confidence intervals at the provincial level.





The 2024 Watch-List Items

In summary, prices for all food categories could rise by as much as 4.5% in 2024, with the most significant increases of 5% to 7% evident in the categories of bakery, meat, and vegetables, as illustrated in Table 7.

Table 7:
2024 Food Price Forecasts

Food Categories	Anticipated Changes %
Bakery	5% to 7%
Dairy	1% to 3%
Fruit	1% to 3%
Meat	5% to 7%
Other	2% to 4%
Restaurants	3% to 5%
Seafood	3% to 5%
Vegetables	5% to 7%
Total Increase in Food Prices	2.5% to 4.5%

For Canada's Food Price Report 2024, we have adopted an approach that considers the diverse household compositions found across the country. We predict annual food expenditure by considering the age and gender of individual consumers, as detailed in Table 8. This methodology enables Canadians to make annual expenditure predictions that mirror the composition of their specific households, whether they consist of an individual living alone, a single-parent-led family, or a multi-generational family, among other scenarios.

Table 8:
Predicted Food Expenditures for Individual Consumers 2024

Demographics		Predicted Cost
Child	6-11 Months	\$3,087.38
	1-3 Years	\$2,362.88
Boy/Man	4-8 Years	\$3,082.70
	9-13 Years	\$3,968.91
	14-18 Years	\$4,656.68
	19-30 Years	\$4,382.55
	31-50 Years	\$4,171.05
	51-70 Years	\$4,051.45
	70+ Years	\$3,894.05
Girl/Woman	4-8 Years	\$2,952.46
	9-13 Years	\$3,727.06
	14-18 Years	\$3,869.71
	19-30 Years	\$3,815.95
	31-50 Years	\$3,742.41
	51-70 Years	\$3,664.33
	70+ Years	\$3,504.99
Pregnant Woman	< 18 Years	\$4,469.90
	19-30 Years	\$4,350.15
	31-50 Years	\$4,304.10
Nursing Woman	<18 Years	\$4,368.17
	19-30 Years	\$4,350.15
	31-50 Years	\$4,313.68

Table 9 presents various household compositions and their anticipated annual food expenditures for the year 2024. For instance, if we consider a family comprising an adult man (31-50 years old), an adult woman (31-50 years old), a teenage boy (14-18 years old), and a girl (9-13 years old), the annual food expenditure is projected to be up to **\$16,297.20**. This is an increase of up to **\$701.79** compared to the observed annual expenditure for a family with the same demographic composition in 2023.

Table 9:
Examples of Canadian Households and Predicted Annual Food Expenditures 2024

Household Demographics	Total Predicted Food Expenditure
Four People: Man (31-50), Woman (31-50), Boy (14-18), Girl (9-13)	\$16,297.20
Three People: Woman (19-30); Boy (4-8), Child (1-3)	\$9,261.53
Four People: Two Women (31-50), Girl (14-18), Boy (9-13)	\$15,323.44
Two People: Man (51-70), Woman (51-70)	\$7,715.78
Six People: Woman (70+Years), Man (31-50), Woman (31-50), Girl (9-13), Boy (4-8), Child (6-11 Months)	\$21,704.64
Two People: Man (19-30), Pregnant Woman (19-30)	\$8,732.71

It's essential to acknowledge certain limitations in the data presented in Tables 8 and 9. First, it relies on a rather conservative assumption of a 5% food waste rate. Secondly, the calculated expenditures do not encompass food service expenses, delivery fees, or service charges associated with online grocery ordering or pickup, nor do they account for the added costs linked to specialized diets. Additionally, these calculations assume that Canadians are exclusively preparing and consuming meals at home. Lastly, it's worth noting that there is data indicating a decline in food retail sales over the past year, suggesting that Canadians may be reducing their spending at grocery stores.

What to Expect in 2024

Grocery Competition in Canada-Bill C-56

In addition to the discussions about competition in the Canadian grocery sector, the federal government introduced Bill C-56, which proposes amendments to the Competition Act with the goal of enhancing affordability in the grocery market.⁴¹ This bill is designed to promote competition in the grocery sector by empowering the Competition Tribunal to terminate agreements between competitors that undermine competition and by providing the authority to terminate agreements between non-competitors if their intent is to diminish competition.⁴² Specifically, this could impact property controls in place that grocers may use to prevent competitors from opening nearby, providing Canadians more choice in their geographic area.⁴³ In general, increased competition leads to lower prices and we have observed the positive impact of heightened competition, such as the 14.7% reduction in cellphone plan prices that contributed to a decrease in the inflation rate in June 2023. This outcome resulted from the Competition Tribunal's decision that determined the Rogers-Shaw-Videotron deal would bolster competition and subsequently lead to lower prices.⁴⁴ The hope is that C-56 may have a positive impact on prices in the grocery sector by encouraging and increasing competition.

“
Considering the perceived ineffectiveness of the Competition Bureau over the years, Canadians have expressed a sense of being unprotected, which could potentially contribute to the collective frustration experienced in recent times.”

41 Osborne, M. (October 3, 2023). Bill C-56: the good, the bad, and the useless of the federal affordability legislation.

Retrieved from <https://www.theglobeandmail.com/business/commentary/article-bill-c-56-competition-law-grocery-prices/>

#:-:text=Bill%20C%2D56%20vests%20the,mandate%20-%20enforcing%20the%20Competition%20Act.

42 Ibid.

43 Ibid.

44 Ibid.



Bill C-56 also gives the Minister of Innovation, Science and Industry the ability to order an investigation into the status of competition of any industry in Canada.⁴⁵ This enhances the Competition Bureau’s ability to compel disclosure, which is a move in the right direction. However, this power only applies to investigations ordered by the Minister of Innovation, Science and Industry.⁴⁶ Lastly, the bill would repeal the efficiencies defence. This means if a proposed merger would result in significant prevention or reduction of competition in the market the efficiencies defence could be applied to save the merger because the negative effects of the merger are offset by gains in efficiency.⁴⁷

Geopolitical Impacts

Last year, the Canadian Food Price Report highlighted the ability of geopolitical events to impact food prices in Canada from thousands of miles away. Geopolitical conflicts can impact food in several ways including the restriction of trade and exports, disruption of supply chains, and impact on production due to conflict in the area. Last year, we saw how the war in Ukraine impacted several commodities including wheat, sunflower oil, and fertilizers and supply chain impacts have been seen this year. The collapse of the Black Sea deal resulted in an increase in global food prices including vegetable oil and wheat prices⁴⁸. Most recently, experts raised concerns about increased oil prices and inflationary pressure because of the escalating conflict in the Middle East⁴⁹. Historically speaking, geopolitical events have had the ability to impact inflation and food prices; however, in this instance, it is too early to assess the impact, if any, that the conflict has had⁵⁰.

45 MacLeod, D., Francis, B. and Slipp, D. (November 6, 2023). Anticipating Changes to the Competition Act: What Businesses Need to Know. Retrieved from www.mondaq.com/canada/antitrust-eu-competition-/1385592/anticipating-changes-to-the-competition-act-what-businesses-need-to-know

46 Ibid.

47 Ibid.

48 United Nations. (August 4, 2023). Black Sea deal collapse sparks rise in global food prices: FAO. Retrieved from <https://news.un.org/en/story/2023/08/1139437>

49 Rana, U. (October 11, 2023). What the Israel-Hamas conflict could mean for inflation, oil prices. Retrieved from <https://globalnews.ca/news/10017853/oil-prices-inflation-israel-hamas-conflict/>

50 Ibid.

Federal Carbon Tax

In September 2023, the Bank of Canada provided a figure of the impact that the federal carbon tax has on inflation at 0.15%⁵¹. While this figure provides some insight into the impact of the federal carbon tax, it only covers the direct impact of the carbon tax on gasoline, natural gas and other fossil fuels and does not include further effects⁵². On April 1, 2024, the federal carbon tax will reach \$75 a metric ton. Although this figure is seemingly small, the impact will continue to increase as the per-tonne rate will rise to \$170 by 2030⁵³. While we may not see the direct impact of the carbon tax on food prices yet, transportation and production costs will be impacted and eventually, may compromise the food industry's competitiveness over time, if proper levels of investments in decarbonizing the food economy are not maintained.

Climate change stands as the most substantial threat to the agri-food sector, and it will persist in driving food prices upward, impacting various food categories to varying extents. The efficacy of carbon-related measures in addressing climate change remains a subject of ongoing debate. As an alternative to carbon taxes, there are other measures that could reduce adverse climate disruptions that could support greater sustainability in food production and availability including reducing food waste and increasing selection of plant-options to public institutions.^{54 55}



51 Markusoff, J. (September 8, 2023). There's now a Bank of Canada number for carbon tax's impact on inflation. It's small. Retrieved from <https://www.cbc.ca/news/canada/calgary/carbon-tax-inflation-tiff-macklem-calgary-1.6960189>

52 Ibid.

53 Ibid.

54 Springman et al. (2020). The healthiness and sustainability of national and global food based dietary guidelines: modelling study. Retrieved from <https://www.bmj.com/content/370/bmj.m2322>

55 Willett et al. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. Retrieved from [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)

Plastics

Addressing plastic pollution in Canadian grocery stores is vital, but it requires a nuanced approach that harmonizes environmental goals with economic and logistical realities. While the Canadian government's Pollution Prevention Planning Notice (P2) for 2024 aims to reduce plastic packaging in the food sector, it must consider the potential consequences, including increased food waste and higher prices. The grocery industry's commendable efforts to reduce plastics are seemingly undervalued, and the government should consider the unique trade and logistical realities of Canada. A more balanced approach is needed to achieve environmental objectives without causing unintended harm to the food economy and consumers.

Household Budget Changes

As we know from Statistics Canada data, Canadians are spending less on food and beverage retail⁵⁶. For many, financial uncertainty has become the new normal⁵⁷. The survey noted that 77% of respondents were not able to save as much money as they would like to, and 72% are worried about taking on more debt⁵⁸. Food prices are not the only increase in expense that Canadians are facing as other commodities are still feeling the effects of inflation, and household expenses like rent and utilities are also increasing year over year.

⁵⁶ Statistics Canada. (October 20, 2023). Monthly retail sales, price, and volume, seasonally adjusted (x 1,000,000). Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2010006701&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2022&cubeTimeFrame.endMonth=12&cubeTimeFrame.endYear=2022&referencePeriods=20220101%2C20221201>

⁵⁷ The Canadian Press. (September 20, 2023). Rising cost of living tops Canadians' list of worries, RBC study finds. Retrieved from <https://www.ctvnews.ca/business/rising-cost-of-living-tops-canadians-list-of-worries-rbc-survey-finds-1.6569818>

⁵⁸ Ibid.





dal.ca/aal

 @DalManagement

 /DalManagement

 @dalmanagement



arrellfoodinstitute.ca

 @arrellfoodinst

 @arrellfoodinstitute

 /arrellfoodinstitute



saifood.ca

 @SAIFood_blog



mfre.landfood.ubc.ca

 @mfreUBC

 /mfreUBC