

# CANADA'S FOOD PRICE REPORT

2018





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*Canada's Food Price Report 2018*

is a collaborative effort between Dalhousie University, led by the Faculty of Management, and the University of Guelph's Arrell Food Institute.

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# EXECUTIVE SUMMARY

This is the 8<sup>th</sup> edition of *Canada's Food Price Report*, published by both **Dalhousie University** and the **University of Guelph**. Some of our predictions for 2017 were realized, but most of the food categories were affected by a significant structural change, which started in September 2016. We believe major discounting and disruption within the Canadian food distribution landscape caused by the increasing pressures coming from **Walmart**, **Costco** and **Amazon** led to this major shift in the market. Coupled with these sectoral changes were misleading macroeconomic forecasts set forth by most financial institutions 12 months ago. Most believed the **Bank of Canada** would decrease its overnight rate in 2017, and that the **Canadian Dollar** would be below \$0.70, in comparison to the U.S. Dollar. However, the Bank of Canada increased its rate, twice, and the Canadian Dollar is now worth more than \$0.78. Both events contributed to keeping prices much lower than predicted, in some categories.

Food inflation over the last 12 months has been reasonable for Canadian households, a trend which is expected to continue. In 2018, food prices in Canada are expected to rise **1% – 3%**. This is a slightly lower estimate than last year's forecast, but still higher than what we have experienced to date in 2017. Annual food expenditure for a family of 4<sup>1</sup> is expected to rise by **\$348** to a total of **\$11,948** in 2018.

**Vegetables** and **food purchased at restaurants** are expected to see the highest increase in 2018. Vegetable prices are expected to be affected mainly by unaccommodating climate patterns. The food service industry is expected to be responsible for **59%** of the anticipated food expenditure

| Food Categories | Expected Increase |
|-----------------|-------------------|
| Restaurants     | 4% – 6%           |
| Dairy           | 0% – 2%           |
| Fruits          | 1% – 3%           |
| Bakery          | 0% – 2%           |
| Meats           | 0% – 2%           |
| Vegetables      | 4% – 6%           |
| Seafood         | 0% – 2%           |
| Food            | 1% – 3%           |

1      Family of four: Man (31–50), Woman (31–50), Boy (14–18), Girl (4–8).





| Provinces <sup>2</sup>    | Forecasted Change for 2017 <sup>3</sup> | Results | Forecasted Change for 2018 |
|---------------------------|-----------------------------------------|---------|----------------------------|
| Newfoundland and Labrador | ↓                                       | ↓       | ↑                          |
| Prince Edward Island      | –                                       | ↓       | ↑                          |
| Nova Scotia               | –                                       | ↓       | ↑                          |
| New Brunswick             | ↓                                       | ↓       | ↑                          |
| Quebec                    | ↓                                       | ↓       | –                          |
| Ontario                   | ↑                                       | ↑       | ↓                          |
| Manitoba                  | ↓                                       | ↑       | –                          |
| Saskatchewan              | –                                       | ↑       | –                          |
| Alberta                   | ↓                                       | ↓       | ↓                          |
| British Columbia          | ↑                                       | ↑       | ↑                          |

increases in 2018. The average family is expected to spend **\$208** more when eating out. In other words, we expect the average Canadian family to increase its food-away-from-home expenses by **almost 8%** in 2018. The average home is expected to spend **almost 30%** of its food budget in food service, the highest level in history.

While the province of **Saskatchewan** surprisingly experienced the highest increase in food prices, **Nova Scotians** saw their food prices drop by more than 1% overall in 2017, to date. But for 2018, food price increases are expected to affect most provinces, including the **Atlantic Region** and **British Columbia**. The Atlantic Provinces will likely see food prices go up, after a year of food price stagnation. For British Columbians prices will continue to increase, due to a higher general inflation rate. Both **Ontario**

and **Alberta** will be faced with a more competitive marketplace, which will entice grocers to keep prices low. Higher minimum wages will not have an impact on food prices, since most companies are finding innovative ways to cut operating and labour costs and the focus on protecting margins will be enhanced as a result.

Food price increases in **Quebec** should follow the Canadian average. But generally, we expect food inflation to be somewhat consistent with the **general inflation rate** for 2018, across the country. However, there is consensus that the aggressive discounting strategies being employed by major grocers cannot continue indefinitely.

Major food topics for 2018 are expected to be the ongoing aversion to **animal proteins**, the new **Canada's Food Guide**, and the rise of the **Grocerant**<sup>4</sup>.

2 Confidence intervals were too small to estimate food inflation for Territories.

3 (↑) Expected above average food price increase, (↓) Expected below average food price increase, (–) Expected average food increase.

4 Blend of "Grocery" and "Restaurant".



## 2017: STRUCTURAL CHANGE IN THE FOOD INDUSTRY

As predicted last year, food fraud<sup>5</sup> attracted a lot of attention in 2017. A recent study from **Dalhousie University** published in the *Journal of International Food and Agribusiness Marketing* shows 63% of consumers are concerned about food fraud, defined as food products found to be counterfeited, adulterated, or misrepresented in some way.<sup>6</sup> Additionally, 40% of those polled said they had purchased a food product which had been incorrectly labelled. The **University of Guelph** also released disturbing results from a study in 2017, published in *Food Control*.<sup>7</sup> Using innovative DNA-based technology, scientists estimate that more than **20% of sausages may be mislabelled** in Canada. With food prices barely increasing since September 2016, pressures to maintain food quality levels have increased. Supply chain transparency gained market currency in 2017, a focus which will only continue. The “Canadian Table” was highlighted in 2017 as part of the Canada 150 celebrations, but how Canadian food was highlighted this year across the country was underwhelming.

Our 2017 forecast was accurate for some categories. Our forecast for **fish, seafood, and food service** was accurate. The price of **chicken** did increase by 4%, but both **pork** and **beef** products brought prices lower for the entire category. Demand for these products was mixed, and supplies were more abundant than in previous years.

“  
Food fraud  
remains, after  
climate change,  
one of the most  
significant  
challenges the  
food industry is  
facing today.”

- 
- 5 Food fraud is the act of purposely altering, misrepresenting, mislabeling, substituting, or tampering with any food product at any point along the food supply chain (FSNS, 2017).
  - 6 Charlebois, S., Juhasz, M., Foti, L., & Chamberlain, S. (2017). Food Fraud and Risk Perception: Awareness in Canada and Projected Trust on Risk-Mitigating Agents. *Journal of International Food & Agribusiness Marketing*, 29(3), 260–277.
  - 7 Naaum, Shehata, Chen, Li, Tabujara, Awmack, ... Hanner. (2018). Complementary molecular methods detect undeclared species in sausage products at retail markets in Canada. *Food Control*, 84, 339–344.



**TABLE 1: FORECASTING RESULTS (SO FAR)**

| Categories                 | Anticipated change for 2017 (12/2016) <sup>8</sup> | Results (09/16 to 9/17) |
|----------------------------|----------------------------------------------------|-------------------------|
| Meat products              | 4.0% to 6.0%                                       | 1.1%                    |
| Fish and seafood           | 4.0% to 6.0%                                       | <b>5.6%</b>             |
| Dairy products and eggs    | 0.0% to 2.0%                                       | -1.1%                   |
| Bread and cereals          | 0.0% to 2.0%                                       | -0.5%                   |
| Fruits and nuts            | 3.0% to 5.0%                                       | 1.8%                    |
| Vegetables                 | 4.0% to 6.0%                                       | 2.8%                    |
| Food service (Restaurants) | 2.0% to 4.0%                                       | <b>2.7%</b>             |
| <b>All categories</b>      | <b>+3.0% to +4.0%</b>                              | <b>1.4%</b>             |

Dairy products, **eggs**, and **bread products** continue to be used as **loss leaders** by major grocers, putting downward pressure on prices. Increases were expected in **fruits**, **nuts**, and **vegetables**, but an unanticipated stronger dollar has allowed prices for these two categories to increase moderately. A year ago, most financial institutions were expecting the **Bank of Canada** to decrease its overnight rate in 2017.<sup>9</sup> However, it increased its rate twice this year, so the **Canadian Dollar** against the American Greenback is worth more than \$0.78 while many were expecting our dollar to be worth below \$0.70 by year's end. One analyst even predicted it would reach \$0.59.<sup>10</sup>

What is really affecting food prices, since **September 2016**, is somewhat unprecedented. Historical data indicates a fundamental, structural change in the price of major food items, including **bread**, **rice**, **eggs**, **milk**, **cheese**, **coffee**, **tea**, **sweeteners**, and **oils**. A structural change is an economic phenomenon in which a shift in an industry's parameters results in a significant transformation in how the industry functions. In this case, the shifted parameter is price and the changed industry is food.

“  
What we are  
experiencing with  
food prices since  
September 2016  
is historically  
unprecedented  
in Canada.  
”

8 Based on June 2017 revised forecast.

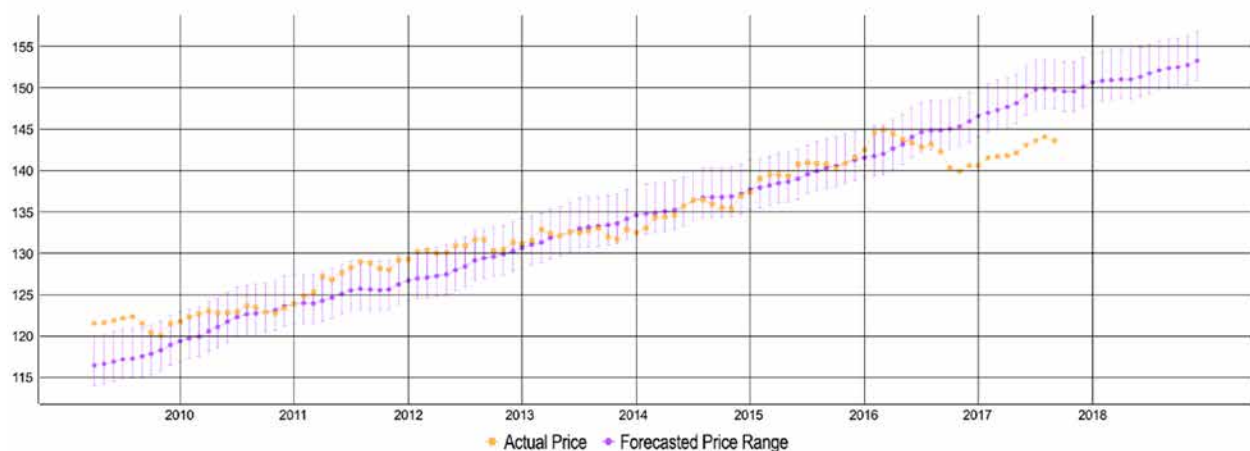
9 Blatchford, A. (2016, December 07). Bank of Canada keeps key rate at 0.5% amid stronger yet uncertain global economy. *The Canadian Press*.

10 Critchley, B. (2016, April 21). About that 59-cent dollar... Analyst walks back prediction. *National Post (Index-only)*.



**Figure 1**, below, illustrates the shift in Canadian food prices over the past nine (9) years (in orange) plotted against our best forecast for that period (in purple). The time series chart shows a structural break in the price of food as of September 2016. We have seen this with several food categories. Based on the opinions of our expert panel, food prices are being kept artificially low due to the aggressive **discounting practices** of the major Canadian food retailers. Increased competition from pop-up farmers' markets and ready-to-eat food alternatives has also had a significant impact on food prices in 2017.

**FIGURE 1: FOOD PRICES IN CANADA: ACTUAL VS. FORECAST**





## FOOD PRICES AND THE PURSUIT OF CONVENIENCE

What needs to be underscored is the continuing shifting in our food purchasing habits, which may not be appropriately captured by Statistics Canada's CPI report.<sup>11,12,13</sup> While food prices at retail are barely increasing, the restaurant industry is experiencing something very different: Prices are going up.

Indeed, despite deflationary pressures, food service seems immune to what is happening with food prices in general. The cost of food purchased at restaurants rose by 2.7% over last year.

**This is almost double the rise in food prices at retail.** While food purchased at restaurants became 0.2% more expensive in the last month, food prices in grocery stores dropped by 1.3% in the same period. Menu prices are still moving up, while retailers are trying to figure out how to remain competitive.

“  
*By 2035 or even sooner, we could see most Canadian households spending half of their food budget at restaurants.*  
”

Essentially, this phenomenon can be explained by how consumers view and manage their relationship with food these days. People eat out, eat on the go, or eat at their desks more often than ever before. Meals, in the traditional sense, are slowly disappearing in Canada. Convenience is now trumping price as a key decision factor for an increasing number of consumers. Food inflation data may be hiding the fact that Canadian consumers are in fact paying more for food, not less. They just seem to be spreading their food budget around more.

“  
*Food inflation data may be hiding the fact that Canadian consumers are in fact paying more for food, not less. They just seem to be spending more on ready-to-eat solutions and food service.*  
”

11 [globalnews.ca/news/3828492/healthy-food-cost-canada/](http://globalnews.ca/news/3828492/healthy-food-cost-canada/)

12 [beta.theglobeandmail.com/report-on-business/the-logic-and-lunacy-of-calculating-the-inflation-rate/article25008805/?ref=http://www.theglobeandmail.com&](http://beta.theglobeandmail.com/report-on-business/the-logic-and-lunacy-of-calculating-the-inflation-rate/article25008805/?ref=http://www.theglobeandmail.com&)

13 Zochodne, G. (2017, August 19). Could inflation help grocery stocks survive a minimum-wage apocalypse? Report forecasts a boon for grocers as increased labor costs lead to price hikes. *National Post (Index-only)*, p. D.2.



Americans reached the 50/50 mark in 2016. **Consumers in the U.S. are now spending equally at restaurants and at retail.** At our current rate, Canadians could reach that benchmark by 2035, perhaps even earlier. For the food industry, and apart from what non-traditional grocers like Costco and Walmart are doing, this represents a seismic shift compared to the last few decades. Retailers will need to remain competitive with aggressive pricing, with new ways to engage consumers at the point of purchase or online, and most important, with new and different talent.

Most grocers, including Loblaws, Metro and Sobeys, have laid off workers to cut costs. But to prepare for what is happening across the industry, grocers will need to think differently; in fact, they will need a change in basic assumptions in the way they think about food retailing. To get there, grocers will have to take on new people — human capital — who believe the grocery business should embrace new ways, new technologies, and new methods in order to follow changing demand. This is what is happening right now.

It's no longer about setting up nice merchandising displays — a perfect pyramid of tomatoes or apples — or even making sure the aroma of the bakery section is strategically synchronized with the peak shopping times in the store. It's about consumers finding time to shop for food amidst all the other daily tasks, and with their struggle to achieve a healthy work/life balance while still having high quality options.

In food service, while we have seen some consolidation, we have also seen new independent restaurants and new chains emerging with innovative approaches. We have seen grocers acquiring pharmacy chains, meal kit providers, and specialty stores. We shouldn't be surprised to see grocers searching harder for inspiration from the food service industry. Grocers will continue to find ways to follow consumers and their money.





## THE “AMAZON EFFECT”

In 2017, **Metro** had a very busy year, acquiring **Jean Coutu** and shares of **MissFresh**, a well-established meal-kit provider in Quebec. After years of negotiations, the deal came to fruition in 2017. But the most significant transaction of the year in food retailing was the acquisition of **Whole Foods** by Seattle-based **Amazon**. For most of us, seeing Whole Foods being acquired was nothing surprising. The company takeover had been the subject of rumours for months.<sup>14</sup> But to see mammoth-sized Amazon, which barely makes a profit, making the biggest deal in its history, was surprising for many. On the surface, this acquisition looked odd, but Amazon acquiring troubled Whole Foods is more than timely for both companies.

One thing should be made clear: Amazon is positioning itself to be the most powerful retailer in the world, and it cannot achieve this goal without food. Food retailing, which was once more of a distraction for Amazon, is now becoming a key piece of Amazon's long-term focus. After all, food is a \$700 billion sector in the U.S., and almost \$120 billion in Canada.<sup>15</sup> This is too much for Amazon to ignore. Most important, the food space allows Amazon to create habits among consumers, and the company is desperate to grow its grocery business. Purchasing Whole Foods is a quick way to build a high-margin business in the food retail industry.

Amazon is known for its low prices and quick execution. On the other hand, Whole Foods intimidates those consumers looking for food products at low prices. Although Whole Foods has a strong brand, it also has very high prices. Through its advanced technologies, **Amazon can make Whole Foods more democratic and economically accessible**. More selection, lower prices and delivery accuracy will be the cornerstone of making this acquisition work. Amazon can make Whole Foods work again by using the high-valued brand, prime locations, and convenient supply chains of high-quality organic products already in place at Whole Foods. Since capacity and reliability are always challenges in organic procurement, this is very good news for Amazon.

The other component that makes Amazon so impressive is its ability to use and value data science. It knows consumers better than consumers know themselves. Its cashier-less stores, called **Amazon Go**, allow consumers to walk into a store,

“*Essentially, Amazon is doing to the grocery sector what Apple did to the music business almost 20 years ago. It's disrupting an entire sector from the outside.*”

14 Girotra, K. (2017, July). Unpacking the Amazon-Whole Foods Deal. *INSEAD Articles*.

15 Low, E. (2017, June 16). What Amazon's Whole Foods Deal Means for Retail. *Investor's Business Daily*.





pick up food products, and leave without physically paying. All transactions are made through smart phones. For a growing number of consumers, the old-fashioned practice of waiting in line to give money away no longer works in the 21<sup>st</sup> Century. But with Amazon, sensors in their stores allow them to understand **the human nature of grocery shopping**, more so than any other company. While most grocers try to figure out what to do with the immense amount of data collected, Amazon generates data and uses it to adapt to a shifting clientele.

Essentially, Amazon, **Walmart** and **Costco** are doing to the grocery sector what Apple did to the music business almost 20 years ago. The music industry kept on selling its products the same way until many figured out how to download music for free, and illegally. That's when Apple came in with its revolutionary iPod and iTunes. Few believed people would be willing to pay a dollar per song, but it happened. Today, more songs are sold every year than ever, but the music industry is still struggling financially. Apple came in with its own rules, dictating a new regime to an old guard in a completely different sector.

“  
*Walmart is on track to become the number one food retailer in Canada within 20 years. Its successor could very well be Amazon.*  
”

The same fate awaits food retailing if it doesn't embrace what is coming. **Amazon killed the bookstore, and its next prey could be the food store.** Only time will tell. But given its ability to fuse efficient distribution and strong strategic market insight, it is quite foreseeable that Amazon could become the number one food retailer in Canada and North America.

The threat from Amazon is real, and things will change quickly. Amazon still considers Canada to be essentially a pilot project, but that may change. Undoubtedly, Amazon has served notice to Canada's food distribution establishment. That is why strategies are being revamped, and price points at retail are affected as a result. Canadian food companies, most of which are barely in the online game, are still trying to build their omnichannel, **harmonizing the bricks and mortar approach with their virtual space.** The fact that food sales are not the core of Amazon's business is likely keeping the executives of Loblaw's, Sobeys and Metro up at night. Recent layoffs will allow many of them to hire new talent and develop new business models. Amazon's size and reach gives it the ability to beat most competitors on price. And since Millennials already have a long-standing relationship with online shopping, such a competitive advantage is key. With a portfolio of new, fashionable private labels like Happy Belly, Wickedly Prime, Presto! and Mama Bear, Millennials are clearly on Amazon's mind.

Whole Foods is now owned by a company that did not even exist 25 years ago, and which has failed to make a profit to date. But this is a whole new world. With a \$13 billion takeover, Amazon clearly made a statement in 2017 and the “Amazon Effect” will continue to influence food distribution in Canada for years to come.



# CANADA'S FOOD PRICE REPORT OUR FORECAST

## METHODOLOGY

This year, Canada's Food Price Report employed two (2) predictive analytical models: **Machine learning**<sup>16</sup>, often used in computer science, and **econometrics**<sup>17</sup>, often used in economics. Both models were used to support our annual conversation around the future of food prices. For machine learning<sup>18</sup>, we paired six (6) popular machine learning algorithms against the major food categories of Statistics Canada's Consumer Price Index.<sup>19</sup> The Waikato Environment for Knowledge Analysis (WEKA) software was the primary analytical tool in this approach. Each algorithm forecasted 16 months into the future and calculated the Mean Absolute Error (MAE) as well as the Mean Absolute Percentage Error (MAPE) at each step, at a 95% confidence level and with a 16-step sliding window.

With econometrics, we employed Seasonal Autoregressive Integrated Moving Average (SARIMA) models with exogenous regressors. The R programming software and its "forecast", "tseries" and "stats" packages were the primary analytical tools in this approach. The Box-Jenkins model selection procedure was used to model the seasonally adjusted food price series and the forecast performances of the models were evaluated with the Root Mean Squared Error (RMSE) and Mean Absolute Error (MAE).



*Combining machine learning with econometrics made for a most interesting conversation between our two universities.*



- 
- 16 Machine learning is a field of computer science that gives computers the ability to learn without being explicitly programmed (IBM's Arthur Samuel, 1959).
  - 17 Quantitative method in economics used to make better, more informed economic decisions.
  - 18 Harris, Faculty of Computer Science, Master of Electronic Commerce, N/A, Dr. Vlado Keselj, Dr. Carolyn Watters, ... Yes. (2017). *A Machine Learning Approach to Forecasting Consumer Food Prices*.
  - 19 CPI reports are adjusted frequently by Statistics Canada after their initial publication date. This does have an impact on our models.





**TABLE 2: MACHINE LEARNING AND ECONOMETRIC VARIABLES<sup>20</sup>**

|                                      | Machine Learning                                                                | Econometric                                                              |
|--------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Number of variables in dataset       | 580                                                                             | 15                                                                       |
| Broad topics represented in the data | Bonds<br>Commodities<br>Currencies<br>Canada Specific<br>Productivity<br>Stocks | Commodities<br>Exchange Rates<br>Fertilizer<br>Gasoline<br>Oil<br>Energy |
| Time series length                   | March 1985 – August 2017:<br>390 Months                                         | January 1990 – September 2017:<br>333 Months                             |

## FUNDAMENTAL DRIVERS FOR 2018

Coupled with results coming from our models, Canada’s Food Price Report also examines several key drivers that are likely to impact food prices in the upcoming year. It contextualizes the output of our models. To identify and assess these fundamental drivers better, information is catalogued from the most recent food-related news articles and data from respected international organizations including Statistics Canada, the World Bank, the United Nations, the European Union, the Food and Agriculture Organization and the International Monetary Fund.

**Table 3**, below, outlines the impacts, effects on price, and the likelihood for each driver. Drivers are at macro-level, which refers to global drivers directly or indirectly affecting food systems; sectoral-level, which is generally associated with national and regional industry-related drivers; or domestic-level, which represents national drivers that primarily affect the Canadian consumer.

20 More information about our methodology can be found in *Canada's Food Price Report 2018: Supplementary files*.





**TABLE 3: FUNDAMENTAL DRIVERS OF CANADA FOOD PRICES 2018**

| Variables             | Categories                              | Impact                  | Price Effects     | Likelihood           |
|-----------------------|-----------------------------------------|-------------------------|-------------------|----------------------|
| <b>Macro-level</b>    | Climate                                 | <b>Significant</b>      | <b>Variable</b>   | <b>Very Likely</b>   |
|                       | Geopolitical Risks                      | <b>Very Significant</b> | <b>Variable</b>   | <b>Very Likely</b>   |
|                       | Input Costs                             | <b>Significant</b>      | <b>Downward</b>   | <b>Likely</b>        |
|                       | Energy Costs                            | <b>Moderate</b>         | <b>Upward</b>     | <b>Likely</b>        |
|                       | Inflation                               | <b>Minimal</b>          | <b>Negligible</b> | <b>Likely</b>        |
|                       | Currencies and Trade Environment        | <b>Significant</b>      | <b>Variable</b>   | <b>Very Likely</b>   |
| <b>Sectoral-level</b> | Food Retail and Distribution Landscape  | <b>Very Significant</b> | <b>Downward</b>   | <b>Very Likely</b>   |
|                       | Food Processing Industry                | <b>Significant</b>      | <b>Upward</b>     | <b>Very Likely</b>   |
|                       | Policy Context                          | <b>Moderate</b>         | <b>Negligible</b> | <b>Very Unlikely</b> |
|                       | Consumer Food Awareness and Trends      | <b>Significant</b>      | <b>Upward</b>     | <b>Very Likely</b>   |
| <b>Domestic-level</b> | Consumer Debt and Deleveraging          | <b>Significant</b>      | <b>Downward</b>   | <b>Very Likely</b>   |
|                       | Consumer Income and Income Distribution | <b>Significant</b>      | <b>Downward</b>   | <b>Likely</b>        |





**Macro-level drivers** will continue to influence Canadian food prices in 2018. This year we have paid considerable attention to **immigration**, after the recent announcement of plans to invite one million new permanent migrants to Canada by 2020.<sup>21</sup> This will compel our food industry to think differently about food demand in general.<sup>22</sup> Intertwined with immigration is the issue of **food security**. It is important to note that refugees accounted for an increasing percentage of the approximate 850,000 Canadians seeking assistance at food banks in 2016.<sup>23</sup> But with the number of refugee migrants expected to increase by 150,000 over the next 3 years, food security for migrating populations is likely to be at the forefront of public debate in the near future.

**Climate change** has become one of the most significant threats to global food security. In November, the National Oceanic and Atmospheric Administration (NOAA) forecasted the second consecutive winter of La Nina **conditions** which could result in below average precipitation in farming-intensive regions of the southern United States.<sup>24</sup> A new study from the **University of Guelph** also highlights the effects of climate change in revealing new arable land in Northern Canada, Europe and Russia.<sup>25</sup> As **California** proves to be an unreliable source for food production due to a mix of wildfires, floods, and droughts in recent months, Canadian importers will be forced to hedge against climate change to procure food products at affordable prices for the domestic market. We are in fact starting to see an increasing number of Canada-based importers able to edge against the effects of climate change, offering more stability to food retail prices.

“  
An increasing number of Canadian food importers are getting better at mitigating risks related to climate change.  
”

“  
Global food trade will be negatively affected by the U.S. Administration's resolve to provoke and create an unsettling level of uncertainty.  
”

- 
- 21 Bascaramurty, D. (2017, November 02). Canada aims for immigration boost to buttress economy. *The Globe and Mail (Index-only)*, p. A.1.
- 22 Campion-Smith, B. (2017, February 09). Immigration fuels Canada's population growth. *Toronto Star*, p. A.8.
- 23 Moffat, T., Mohammed, C., & Newbold, K. (2017). Cultural Dimensions of Food Insecurity among Immigrants and Refugees. *Human Organization*, 76(1), 15–27.
- 24 Luhavalja, A. (2017, October 13). NOAA sees 55% to 65% chance of La Niña development in next few months. *SNL Energy Daily Coal Report*.
- 25 [www.eurekalert.org/pub\\_releases/2017-09/pifc-wce092217.php](http://www.eurekalert.org/pub_releases/2017-09/pifc-wce092217.php)





**Oceans** are also a growing concern for many scientists around the world. Results of a study on food security published in 2017 showed many countries that appeared to be among the most vulnerable. It is estimated that more than two-thirds of these depend on domestic marine fisheries as their main source of fish supply. Development of appropriate adaptation policies, fishery practices and management plans is needed to reduce the effects of a changing climate.<sup>26</sup>

As the **North American Free Trade Agreement (NAFTA)** enters new rounds of negotiations in late 2017 and early 2018, provisional applications for the **Canada-European Union Comprehensive Economic and Trade Agreement (CETA)** took effect in September 2017. CETA will allow food importers in Canada to offer more affordable food products due to a tariff-free trading environment with Europe, but it will take time before savings are reflected in food inflation numbers throughout the country. But with NAFTA talks, many Canadian agricultural sectors remain vulnerable to Washington's willingness to adopt swift trade measures to support its *America First* policy, as we saw with **Bombardier** and **Boeing**. This could potentially affect Canadian **beef, pork, canola**, and other major exports to the U.S.<sup>27</sup> As we witnessed with mad cow disease in 2003, disruptive anti-trade measures could negatively impact an entire sector instantaneously.<sup>28</sup>

The **global economy** has surprised many this year. Many U.S. stock markets have not declined in 2017, bucking the 6–8-year downward cycle.<sup>29</sup> Much of the responsibility for the growth in the financial markets since 2008 is due to the work of Central Banks and to the leadership of the U.S. Federal Reserve and its

“  
Most have  
accepted  
now that  
Canadian  
agriculture  
may be one  
tweet away  
from a trade-  
driven crisis.  
”

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- 26 Ding, Q., Chen, X., Hilborn, R., & Chen, Y. (2017). Vulnerability to impacts of climate change on marine fisheries and food security. *Marine Policy*, 83, 55–61.
- 27 Bonnett, R. (2017, April 24). Taking Canada's agricultural trade to the next level. *Policy Options (Online)*.
- 28 Charlebois, S., Saskatchewan Institute of Public Policy & Canadian Electronic Library. (2005). *A conceptual comparative analysis between the British and the Canadian mad cow crisis: the cost of learning* (DesLibris. Documents collection). Regina, Sask.: Saskatchewan Institute of Public Policy.
- 29 The World Economy: Forecast Summary. (2017). *National Institute Economic Review*, 241(1), F3.





quantitative easing programs.<sup>30</sup> Even if it is puzzled by the **low inflation rate**, the Bank of Canada followed the lead of the U.S. Federal Reserve this year, and could continue to raise rates in 2018. The next major economic consideration is the **state of oil prices** which is best described as a balancing act. OPEC producers skillfully attempt to control the supply of oil to keep prices low enough to deter U.S. shale producers from increasing their production, while China seeks to create new routes and strengthen alliances to secure its access to global oil.<sup>31</sup> Meanwhile, Canada seems stuck in the middle and its currency continues to be heavily influenced by the price of oil.

**Sectoral-level drivers** are the main ongoing tension between major grocers and food processors. The **Competition Bureau** is now carrying out an investigation of major grocery chains in search of evidence of **retail price fixing**.<sup>32</sup>

**Bread prices** dropped in Canada in 2017. To suggest that food prices are inflated in Canada is somewhat far-fetched, especially the idea, as some believe, that Canadian consumers are paying too much for bread due to price-fixing schemes. The evidence for this claim is simply not apparent.<sup>33</sup> At the centre of this investigation is a much deeper problem that lies in the food supply chain. For years now, grocers have engaged in an open war of words with processors. Several open letters have been provided to the media, informing consumers that grocers are the true protectors of the public interest in their efforts to maintain lower prices by forcing vendors to do, so as to remain competitive. Over the past few years, tensions between grocers and vendors have been at an all-time high, but consumers have barely noticed the conflict — that is, until now.

“  
Beyond the  
nonsense, the  
assertion of a  
so-called “bread  
cartel” points  
to how difficult  
relationships are  
between major  
grocers and food  
processors.  
”

30 Hannon, P. (2017, August 04). U.S. News: Central Banks Puzzle Over Inflation. *Wall Street Journal*, p. A.2.

31 WSJ Staff. (2017, October 08). Global Economy Week Ahead: Fed Minutes, U.S. Inflation, IMF Meetings; Leaders of the world's biggest central banks are set to convene in Washington. *Wall Street Journal (Online)*, p. N/A.

32 Kopun, F. (2017, November 01). Our daily bread: Grocers face price-fixing investigation. *Toronto Star*, p. A.1.

33 Armina Ligaya. (2017, November 01). Watchdog's bread price fixing probe 'shocking' and 'bizarre,' analysts say. *The Canadian Press*.



With this investigation, the Competition Bureau made an otherwise dreary, obscure, supply side-issue much more important to the daily lives of consumers. The mere spectre of a **grocery cartel** would be nonsensical in every sense, as it would penalize consumers, many of whom are already categorized as food-insecure. Grocers and processors adhere to a strict code of ethics, and understand that deceiving consumers is not only bad business, it threatens to tear up their social contract with the Canadian public that they adhere to every single day. Rest assured that out of this investigation, productive deals will be made in the days to come. But we do expect tensions to continue in 2018.

Finally, **consumer debt** will likely influence how Canadians consume in 2018. Low interest rates have made consumers lose sight of how much money is worth.<sup>34,35</sup> As interest rates increase, we are expecting an increasing number of consumers to become more vulnerable and will see payments for mortgages and other durable goods increase over time. This could have a significant impact on food budgets over the next year, in several markets.<sup>36</sup>

“  
Years of low  
interest rates  
have made  
consumers  
lose sight of  
the real value  
of money.  
”

## FORECAST

Most expect to see food inflation sit anywhere between 1% to 2% in any given year. This is very much what Canadians got in 2017, and the same scenario is likely in 2018. This modest threshold is manageable by all stakeholders and would allow the food industry to provide higher quality products at a relatively affordable price. In 2018, food prices in Canada are expected to **rise 1% – 3%**, which is a slightly lower estimate than last year's forecast but still higher than what we have experienced in 2017 so far. While we do not expect prices to increase as we saw in 2016, there is consensus that the aggressive **discounting strategies** being employed by the major supermarket retailers cannot continue indefinitely.

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34 Wong, C. (2017, September 15). Household debt-to-disposable income ratio climbs to record in second quarter. *The Canadian Press*, p. 15.

35 [beta.theglobeandmail.com/globe-investor/personal-finance/household-finances/low-interest-rates-have-turned-us-into-a-country-of-money-klutzes/article36845404/](http://beta.theglobeandmail.com/globe-investor/personal-finance/household-finances/low-interest-rates-have-turned-us-into-a-country-of-money-klutzes/article36845404/)

36 Consumer Alert: Managing debt when interest rates rise. (2017, July 13). *Canada NewsWire*.



**TABLE 4: 2018 FOOD PRICE FORECASTS**

| Food Categories | Expected Increase |
|-----------------|-------------------|
| Restaurants     | 4% – 6%           |
| Dairy           | 0% – 2%           |
| Fruits          | 1% – 3%           |
| Bakery          | 0% – 2%           |
| Meats           | 0% – 2%           |
| Vegetables      | 4% – 6%           |
| Other           | 0% – 2%           |
| Seafood         | 0% – 2%           |
| Food            | 1% – 3%           |

In 2018, **restaurant** and **vegetable** prices are expected to experience the highest increases. The annual food expenditure for a family of 4<sup>37</sup> is expected to rise by \$348 to a total of \$11,948 in 2018 and 59% of this increase is expected to be spent on dining out.

Expenditures on **vegetables** and **food purchased at restaurants** are expected to rise the most in 2018. Vegetable prices are expected to be affected by unaccommodating climate patterns, mainly caused by La Nina. The food service industry is expected to be responsible for **59%** of the anticipated food expenditure increases in 2018. The average family is expected to spend **\$208** more when eating out. In other words, we expect that the average Canadian family will increase its food-away-from-home expenses by **almost 8%** in 2018. The average home is expected to spend **almost 30%** of its food budget in food service, the highest level in history.



*We are expecting Canadian consumers to spend more time eating out in 2018, and that will come at a cost.*



37 Family of four: Man (31–50), Woman (31–50), Boy (14–18), Girl (4–8).



While the province of **Saskatchewan** surprisingly experienced the highest increase in food prices, **Nova Scotians** saw their food prices drop by more than 1% overall in 2017 to date. But for 2018, food price increases are expected to affect most provinces, including the **Atlantic Region** and **British Columbia**. The Atlantic Provinces will likely see food prices go up, after a year of food price stagnation. British Columbians will see prices continue to increase, due to a higher general inflation rate. Both **Ontario** and **Alberta** will cope with a more competitive marketplace which will entice grocers to keep prices low. Higher minimum wages will not have an impact on food prices, since most companies are finding innovative ways to cut operating and labour costs and the focus on protecting margins will be enhanced as a result.

“

*We do not expect food retailers and restaurants exposed to higher minimum wages in 2018 to increase price points for consumers. The focus will continue to be on cost cutting to remain competitive.*

”

**TABLE 5: 2018 FOOD PRICE FORECAST BY PROVINCE<sup>38</sup>**

| Provinces                 | Forecasted Change for 2017 | 2017 Results | Forecasted Change for 2018 |
|---------------------------|----------------------------|--------------|----------------------------|
| Newfoundland and Labrador | ↓                          | ↓            | ↑                          |
| Prince Edward Island      | –                          | ↓            | ↑                          |
| Nova Scotia               | –                          | ↓            | ↑                          |
| New Brunswick             | ↓                          | ↓            | ↑                          |
| Quebec                    | ↓                          | ↓            | –                          |
| Ontario                   | ↑                          | ↑            | ↓                          |
| Manitoba                  | ↓                          | ↑            | –                          |
| Saskatchewan              | –                          | ↑            | –                          |
| Alberta                   | ↓                          | ↓            | ↓                          |
| British Columbia          | ↑                          | ↑            | ↑                          |

Food price increases in **Quebec** should follow the Canadian average. But generally, we expect food inflation to be somewhat consistent with the **general inflation rate** for 2018 across the country. However, there is consensus that the aggressive discounting strategies being employed by major grocers cannot continue indefinitely.

38 Confidence intervals were too small to estimate food inflation for Territories.



# MAJOR FOOD TOPICS FOR 2018

## PLANT-BASED DIETS AND THE NEXT FOOD GUIDE

In 2017, Health Canada released the set of principles it intends to adhere to for our next food guide.<sup>39</sup> Seven decades in, Health Canada is signalling a significant departure from what we have seen in our food guide since its establishment in 1942. Bottom line: this will be a complete revamp of our familiar but heavily scrutinized rainbow of food groups.<sup>40</sup>

“  
Compelling  
nutrition  
science that  
supports plant-  
based diets is  
getting more  
influential each  
year — a trend  
that continues  
in 2018.”  
”

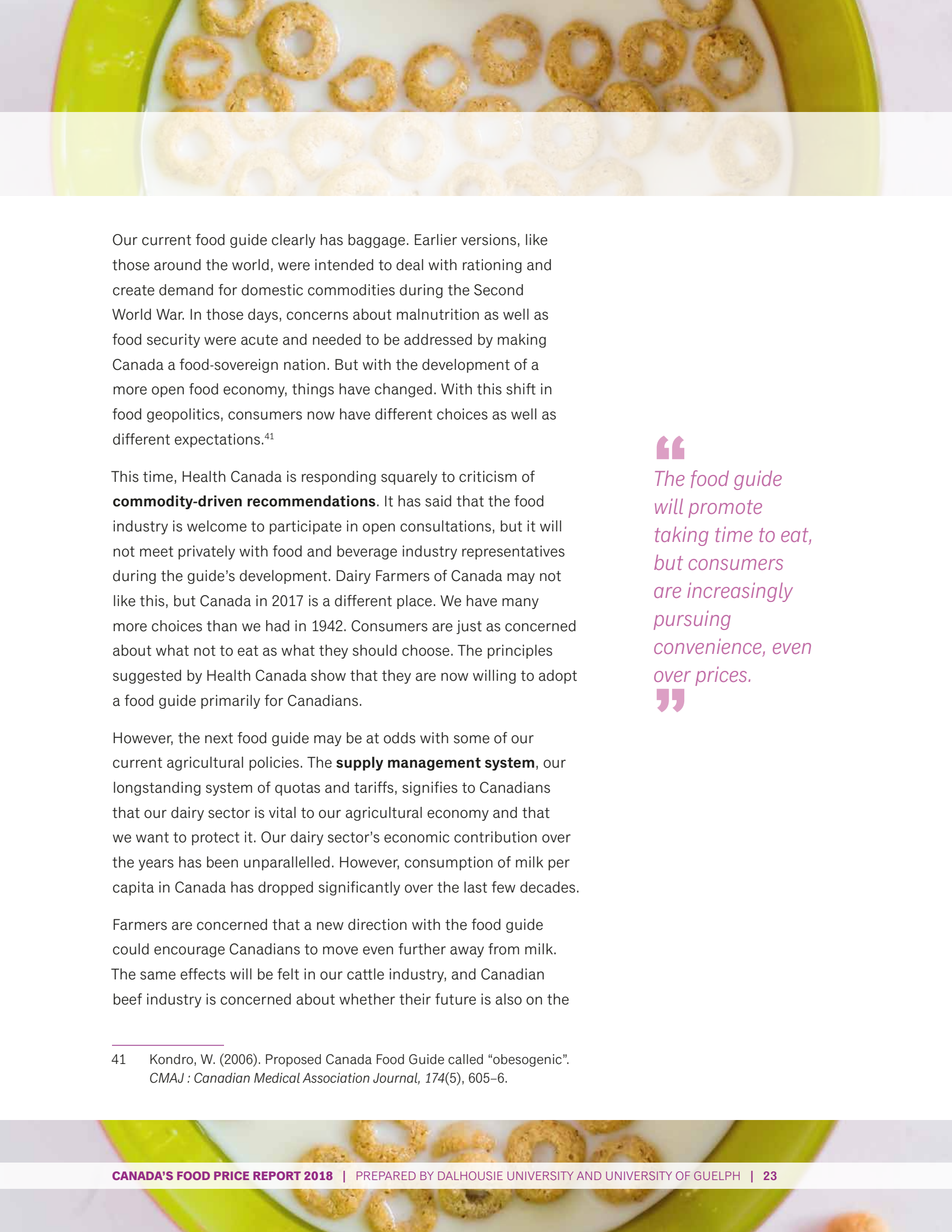
For example, it appears that a plant-based diet will be strongly encouraged. We might even see a focus on more **plant-based proteins** like beans, lentils, nuts, and tofu. For the first time, Health Canada is calling out **processed or prepared foods**, specifically items high in **sugar**, as examples of what not to eat. These principles are making many traditional sectors in food and agriculture quite anxious. The year 2018 will be a key moment in time for **Canada's Food Guide**.

While the current format of groups and colours has proven convenient and simple, the proposed changes take stock of the latest in nutrition science. It probably won't abandon outright the main staples Canadian consumers have embraced for decades, but the food guide will look different, and feel different. It will highlight dietary diversity, including food availability across Canada, and cultural foods, including food of Indigenous peoples. It will consider how **climate change** affects diets and nutrition. The next version will essentially acknowledge, at last, that Canada has a challenging, dynamic, heterogeneous food market. It will also encourage Canadians to drink more water, and entice them to cook more frequently and eat together — all good news.

39 Sagan, A. (2017, August 10). Canada food guide starts fight over beef, butter. *Chronicle – Herald*, p. B3.

40 Hui, A. (2017, July 18). Inside the big revamp of Canada's Food Guide. *The Globe and Mail*.



A close-up photograph of a white bowl filled with milk and cereal. The bowl is surrounded by a thick, vibrant green border. Inside the bowl, there are several golden-brown, ring-shaped cereal pieces floating in the white milk. Some of the cereal pieces are partially submerged, while others are on top. The lighting is bright, creating a clean and fresh appearance.

Our current food guide clearly has baggage. Earlier versions, like those around the world, were intended to deal with rationing and create demand for domestic commodities during the Second World War. In those days, concerns about malnutrition as well as food security were acute and needed to be addressed by making Canada a food-sovereign nation. But with the development of a more open food economy, things have changed. With this shift in food geopolitics, consumers now have different choices as well as different expectations.<sup>41</sup>

This time, Health Canada is responding squarely to criticism of **commodity-driven recommendations**. It has said that the food industry is welcome to participate in open consultations, but it will not meet privately with food and beverage industry representatives during the guide's development. Dairy Farmers of Canada may not like this, but Canada in 2017 is a different place. We have many more choices than we had in 1942. Consumers are just as concerned about what not to eat as what they should choose. The principles suggested by Health Canada show that they are now willing to adopt a food guide primarily for Canadians.

However, the next food guide may be at odds with some of our current agricultural policies. The **supply management system**, our longstanding system of quotas and tariffs, signifies to Canadians that our dairy sector is vital to our agricultural economy and that we want to protect it. Our dairy sector's economic contribution over the years has been unparalleled. However, consumption of milk per capita in Canada has dropped significantly over the last few decades.

Farmers are concerned that a new direction with the food guide could encourage Canadians to move even further away from milk. The same effects will be felt in our cattle industry, and Canadian beef industry is concerned about whether their future is also on the

“  
The food guide  
will promote  
taking time to eat,  
but consumers  
are increasingly  
pursuing  
convenience, even  
over prices.  
”

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41 Kondro, W. (2006). Proposed Canada Food Guide called “obesogenic”. *CMAJ : Canadian Medical Association Journal*, 174(5), 605–6.



line. Manufacturers and processors, under a growing range of sector and trade pressures, will also need to respond. As we put consumers first, which we should, we also need to reflect on the impact for Canadian food and farming businesses. The next food guide will make the disconnect between Canadian agri-food policies and food consumption much more obvious. Our new Canadian food policy framework, currently being developed by Agriculture and Agri-Food Canada, will need to address this gap. We are likely to learn more about this in 2018.

In the end, what matters most is how the guide will resonate with Canadians and how it can be used. This will not be easy. For example, the food guide will promote taking time to eat, but consumers are increasingly pursuing **convenience**, even over prices. In the new version, the complex economics of food should also be recognized. Canada's Food Guide is the top destination for visitors on Health Canada's website, and it is widely used by health professionals. Its messages, though, have not easily resonated with shoppers and eaters looking for clear practical answers for themselves and their families. Developing a food guide for Canada — like our food choices — is a balancing act. It will need to translate nutrition science and health in a way that lines up with politics, economics, and effective communication. It will need to size up the future of food.



*The next food guide could make the disconnect between Canadian agricultural policies and food consumption much more obvious.*





## THE GROCERANT AND THE CONTINUING PURSUIT OF CONVENIENCE

Food trends are difficult to follow these days. As with hip sectors such as the high-tech industry, the food industry is coming up with its own peculiar lingo when describing market shifts. One of the latest examples is “grocerant,” a word combining “grocery” and “restaurant.” The term has been around for a few years, but it seems to have gone mainstream in recent months. Or at least, it is a term most of us will be hearing more often. But the term “grocerant” is in fact quite relevant and accurately captures what is currently happening in the food industry.

The numbers are staggering. According to the NDP Group, a market research company in the U.S., grocerants generated 2.4 billion new visits and over \$10 billion U.S. in sales in 2016 — a massive shift.<sup>42</sup> In attempts to offer more convenience, we have not seen these numbers since the drive-through phenomenon several decades ago. In Canada, while the numbers are a little more obscure, we are seeing similar trends and many retailers are on the move. Given that convenience seems to have more currency than ever before, two worlds are colliding in the ready-to-eat space at grocery stores, which caters to people seeking portable solutions to accommodate their hectic daily lives.

Grocerants offer a **one-stop-shopping solution** for consumers driven by either curiosity or a lack of time. An increasing number of grocery stores now allow customers to buy and eat on the spot. Some facilities brilliantly merge both food retailing and food service under one roof. Research suggests many consumers generally perceive grab-and-go food products to be healthier than meals you can get at a restaurant. This works well for grocers.

Price wars constitute the other driving issue for grocers. Over the last 15 months in Canada, food retail prices have barely moved.

But the price of food purchased at restaurants has increased significantly, more than double the general inflation rate. This would suggest that menu prices are much more immune to market cycles than retail food prices. Demand in food service is inherently more elastic, so margins can be kept up and defended, no matter what the economy is doing.



*The traditional grocery store is continuing to disappear, leaving space for more grocerants.*



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42 Kao, K., Rao Hill, S., & Troshani, I. (2017). Online Consumers' Responses to Deal Popularity as an Extrinsic Cue. *Journal of Computer Information Systems*, 57(4), 374–384.



Restaurants aren't staying quiet in the face of this new trend. Restaurant operators are fighting back by using technology to their advantage. Many are responding by using UberEats, even expanding their market by offering meal kits and developing **omnichannels**. In other words, they are trying to go where the money is instead of just waiting for the consumers to come to them.

Some say it is all about the **Millennials**. It is about offering fresh, healthy, reasonably priced products for the largest demographic, which is slowly taking over the economy. But the changes are more deep-rooted, beyond just Millennials. Millennials certainly have the economic influence to trigger the changes we are seeing, but several demographics are mutating and behaving differently around food. Families with older children don't mind the enhanced experience while aging **Boomers** need the convenience. It is across the board. **Millennials were the first generation not willing to put up with what was being offered to them.** The rise of the grocerant represents the awakening of an industry which has been dormant for quite some time.



*Convenience will continue to trump price as the most important decision-making driver for several demographics in 2018.*



In the realm of convenience, mixed into the grocerant movement, the **ready-to-cook** market is also emerging as an interesting opportunity, but not without some headaches. In the U.S., **Blue Apron**, the largest and

most well-known meal kit provider in the world, is waging an uphill battle. The company has just laid off 6% of its staff and its stock has gone nowhere since going public in June. On the other hand, we are seeing evidence that grocers are liking what they see from meal kit outlets. **Plated**, the 5-year-old meal kit company, was acquired last month by the grocery giant Albertsons, for approximately \$200 million.

Grocers do have the capacity to cover a broader market with product offerings, but have not yet made much of a play on meal delivery and quality. Grocers are often not hardwired to successfully meet this challenge. But this is slowly changing. **Metro** made a significant move this year by acquiring **MissFresh**, and many expect other grocers to follow suit.

In processing as well, Campbell Soup, Unilever, and many others are investing in meal kits to explore what could become a \$10 billion industry by the end of next year. This is clearly a growth opportunity which cannot be overlooked by grocers. Recent layoffs will provide an opportunity for grocers to hire the right people, with the right mindset, to capitalize on these opportunities. Because of metamorphosing consumer expectations and behaviours, survival seems unlikely for stand-alone meal kit outlets.

So, the **convenience food battle** is alive and well. Grocers were losing for a while, but the emergence of grocerants across the country is a sign that the industry is listening to what the modern consumer is telling them. But this battle will continue for quite a while to come.



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