Would appreciate a comment on relative differences in role of dominant market players in food prices (esp extent to which US manufacturing players - with ~ 30% higher CPI there) impacting various sectors of cpi? As subset, could the shift in dominant players use of OEM in-store brands to replace major brands (anecdotally Fritolay sought 15% across board increase in its brands in 2021 - Loblaws resisted for some 6 months, and saw a huge product replacement to their OEM brands through last 8 month 2021 into 2022; US seemed to be more accepting of higher price moves in food sector, in comparison to Canada - despite our having fewer, larger players & thus higher productivity in retail food sector in Canada. Bottom line, can you provide a estimate of extent to which inflation was higher in sectors, where dominant players play a larger role – supply management comes to mind, major, dominant suppliers in some sectors?

The relative competitiveness of a food sector and the subsequent impact on inflation is not a relationship Statistics Canada has explored in depth, but a few examples do stand out. Meat prices, for example, were significantly affected by COVID-19 outbreaks following supply shortages in the earliest days of the pandemic, and this was reflected in consumer price spikes in the spring of 2020. Prices for dairy products rose notably in early 2022 after farm gate milk prices posted the largest increase to date.

Statistics Canada collects a mix of representative brands of food products, including name brands and house brands where possible. [Representative products](#) (RP) varieties are also important to note; we don't just collect one variety for something such as bread. Although it is 179 RPs listed, there are multiple varieties for each RP, leading to an exhaustive collection of prices.

What do you think of the Billion Prices project? Or any of the newer data sources scraping data off web sites and that that don't involve official agencies?

More available data is always a good thing, and Statistics Canada is continually exploring the use of alternative data. Some examples of alternative data sources include: administrative data files, retail scanner data, web scraped data and application programing interface data for various CPI goods and services. When it comes to food products, we primarily use retail scanner data from point of sale, which is the highest quality data available because it shows what consumers are actually paying at the till (including whether a product is on sale) and also provides information about quantities sold.

Statistics Canada is regularly evaluating alternative data sources including big data. In order to integrate these sources is important to ensure they contain the appropriate detail and characteristics to ensure constant quality and quantity and adequate coverage. Sometimes these criteria can disqualify a big data set or sometimes this can be avoided by only using a subset of it for official statistics.

In relation to measuring individual items in the CPI, how are differences in total quantity purchased (i.e. generally, buying in bulk formats have a lower overall cost to consumer than smaller formats) accounted for in the overall price change?

The quantity of a good, such as the size of a package, along with other characteristics, is predefined to ensure the same item is collected each month for comparability.

Different quantities of the same product are priced in the CPI. These different formats are not considered equivalent. For example, we price 5 pounds and 10 pounds bags of potatoes. If the prices for

these formats increase, we will show an increase in our index, even though the average price might decrease if people buy more of the 10 pounds bags over time in order to save money.

With scanner data, Statistics Canada collects prices of all formats, including bulk formats. For instance, prices for peanut butter are captured at different quantities, including: 500g, 750g, 1kg and 2kg.

The CPI standardizes prices to account for quality and quantity changes, which implicitly accounts for any changes in quantity/package size that may occur over time. The transaction data used for CPI calculation also contains quantity information, which allows us to monitor consumer spending patterns and add new representative products (such as bulk product formats) to the CPI as they become more popular with consumers.

How should we think about the role that basket and share changes have played in food inflation in Canada over the last few years? Specifically I'm thinking about shifts from say national brands to store brands as well as changes in food basket shares movements away from grocery retail toward general merchandise stores (e.g., Costco, Walmart, etc.). That seems to be more pertinent for the Lespeyres nature of CPI.

By design, we collect prices for both brand-name items and store/house brands, so both types of goods are collected each month. However, national brands and store brands are not considered equivalent. The CPI follows the price by brand for the CPI. The scanner data we use for food price collection also contains quantity information, so we do have insight into which types of goods Canadians are buying and how these consumption patterns are changing over time. This information is used in CPI basket updates to ensure the ongoing representativity of the basket and is also an area of research interest for the agency.

In 2021, Statistics Canada moved to annual basket updates to pick up changing spending patterns more quickly, and to maintain the relevance of the CPI. It is important to capture shifting consumer prices and expenditures, as Canada recovered from the COVID-19 pandemic. An annual basket update is an important step for the CPI, and is an example of how the Consumer Prices program at StatCan continues to be enhanced.

Could you tell us more about how Statscan deals with Shrinkflation and different product format sizes. For example, if a 1L product is now sold as 900ml, I assume you are calculating price per ml...but what if the same prodcut is offered in multiple formats (e.g., 250ml, 500ml, 1L). If a producer drops the 1L entirely, then price per ml will increase based on formats available, and no actual price changes. How does Statscan deal with all this? Thanks!

The general concept is that smaller packaging of a food product (all else constant) is reflected as a price increase in the Canadian CPI. This is because when a product size or volume shrinks, but the price stays the same or even rises, consumers are paying the same amount for less. This is sometimes referred to as "shrinkflation." The CPI adjusts for this to ensure pure price change is being measured.

Here is a link to an infographic, which explains quantity adjustment: [Measuring Pure Price Change in a Constantly Changing World](#)

Using the example that you provided, we would compare the price per ml between the 1L and 900 ml and show a price change based on that. It would be treated as shrinkflation. The 900 ml price would not be compared with the 500 ml or 250 ml price, but only the 1L price (after standardization), as we do not consider these formats equivalent for the CPI.

If an item of a certain quantity becomes unavailable, it is treated as though it's out of stock. If it remains unavailable for three consecutive months, a very similar product is substituted after undergoing a quality and quantity adjustment to ensure price continuity. This approach allows for the continued monitoring of pure temporal price change, even if a substitution is required.

Does the scanner data have aggregate quantities for all the 179 items as well? As-in could the agency be building real-time expenditure weights with it?

Scanner data does provide quantity information, in addition to price data, on a weekly basis. These quantity data are used, alongside less-frequently released data from the System of National Accounts and the Survey of Household Spending, to construct the CPI basket weights. While scanner data opens the door to the possibility of real-time grocery weights, significant resources would be required to support the research, development and ongoing production of real-time statistics.

During the pandemic, Statistics Canada published the adjusted price index, which used real-time consumer expenditures to calculate new weights on a monthly basis, as a complementary measure of inflation at a time when consumer spending patterns were shifting rapidly. No significant differences between the CPI and the adjusted price index were observed with the introduction of annual CPI basket updates as this ensures the ongoing accuracy and timeliness of the basket.

Here is a link to explain some of the changes that occurred during the pandemic: Consumer Price Index Fact Check: Measuring inflation during the COVID-19 pandemic and beyond (statcan.gc.ca)