

# ECONOMIC VIEWPOINT

## The Impact of Inflation on Different Income Levels in Canada

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High price inflation is widespread, both geographically and in terms of consumer price index (CPI) components. Now the question is whether high price increases are affecting all Canadian households in the same way. Does using different spending profiles for different incomes radically change the inflation picture for every household? And, by the same token, can inflation's effects on households vary based on their income?

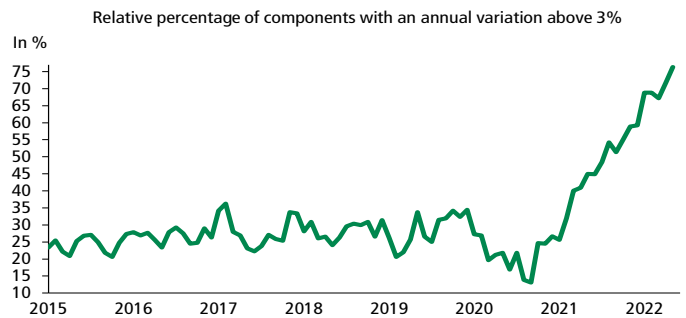
### Upside Pressures on Inflation Are Widespread

High inflation has been drawing a lot of attention since last year. In Canada, total annual inflation was 7.7% in May, far above the Bank of Canada's upper target (graph 1). The reasons for this surge have been well documented over the past few months and include supply chain disruptions, mismatched supply and demand, transportation issues, labour shortages and the war in Ukraine, which has exacerbated soaring energy, commodity and food prices.

Rising prices are geographically widespread, with most industrialized countries facing sharply accelerating inflation. Admittedly, most of the problems underlying these accelerating prices originate in global factors affecting most countries. In Canada, these price surges are impacting all regions. In May, for example, inflation was 7.5% in Quebec and 7.8% in Ontario—virtually in line with the national average.

Strong price growth is also widespread among all goods and services in the consumer price index (CPI) basket. As we can see in graph 2, the prices of just over 75% of CPI components rose more than 3% on an annual basis in April (the top of the Bank of Canada's target range). This distribution is based on an average representative consumer basket for all Canadians (graph 3 on page 2).

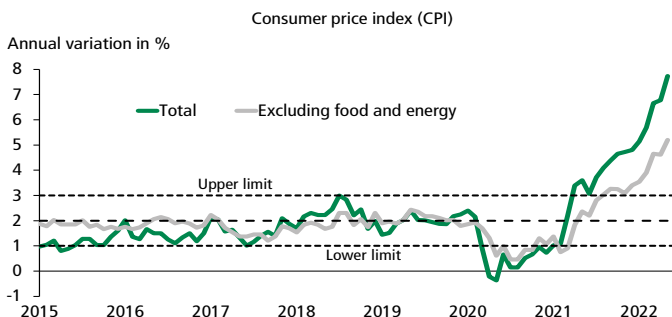
### GRAPH 2 A very high percentage of CPI basket components have inflation over 3%



Sources: Statistics Canada and Desjardins, Economic Studies

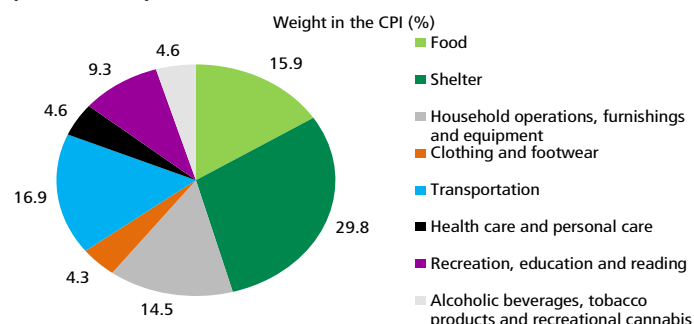
However, it's unclear whether this consumer basket adequately represents the spending profile of all households. It's highly likely that consumer habits vary from one household to the next. Moreover, does the relative weight of goods and services in the consumer basket differ greatly based on income?

### GRAPH 1 Upside pressures have accelerated sharply since 2021



Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 3**  
**Relative weight of goods and services in the consumer basket (2021 basket)**



NOTE: The total may not add up to 100 due to rounding  
 Sources: Statistics Canada and Desjardins, Economic Studies

### Income-Based Consumer Profiles

For a closer look at this aspect, Statistics Canada's data on household spending by income quintile are quite useful. In this survey, households are separated into five different income categories of similar size. Expenses in this survey include the goods and services included in the CPI and additional expenses such as income tax, personal insurance payments and pension contributions, gifts of money, support payments and charitable contributions.

Table 1 illustrates the relative weight of household spending by income quintile. There are fairly substantial differences in the

consumer profiles. For example, the relative weights of food, shelter and household operations in total household spending are higher in the lowest income quintile. Conversely, recreation expenses account for a slightly higher proportion in the top income quintile. However, the biggest difference is in the proportion of income tax-related expenses, where there is a very wide gap between the higher and lower incomes. As mentioned, however, income tax is not included in the CPI basket so the data on household spending by income must be adjusted to make it comparable with the CPI basket.

These changes provide new weightings for the goods and services included in the CPI showing the five spending profiles by income quintile.

Graphs 4–11 on pages 5 and 6 detail the weights of CPI components based on the five income quintiles. We can see some major differences. The lowest income quintile has a substantial overweight to shelter as well as alcoholic beverages, tobacco and cannabis. In contrast, this quintile is significantly underweight on spending on household operations, furnishings, transportation, clothing and footwear, recreation and education. At the other end of the spectrum, the top income quintile is significantly overweight on recreation and education expenses but underweight on food, health care, personal care, alcoholic beverages, tobacco and cannabis.

**TABLE 1**  
**Relative weight of household expenses by income quintile (2019)**

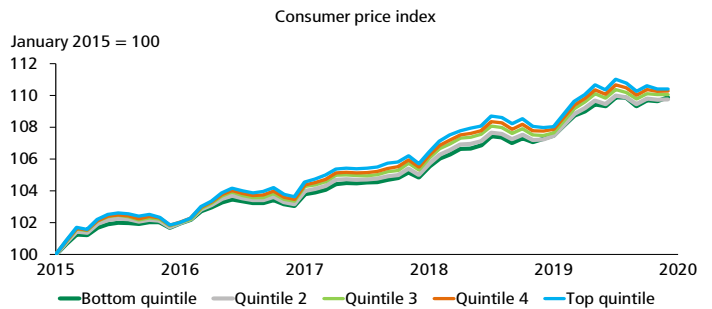
IN %	TOTAL	BOTTOM QUINTILE	SECOND QUINTILE	THIRD QUINTILE	FOURTH QUINTILE	TOP QUINTILE
<b>Total expenditure</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
Food	11.00	14.81	13.98	12.45	11.48	8.40
Shelter	21.55	32.22	26.10	23.28	20.73	17.80
Household operations	5.81	7.24	6.90	6.28	5.88	4.96
Household furnishings and equipment	2.65	2.84	2.87	2.96	2.85	2.30
Clothing and accessories	3.57	4.05	4.23	3.75	3.82	3.04
Transportation	13.59	14.09	14.33	15.55	14.18	12.07
Health care	2.97	4.17	4.28	3.42	2.79	2.25
Personal care	1.48	1.90	1.61	1.60	1.57	1.24
Recreation	4.93	4.08	4.81	4.82	4.87	5.24
Education	1.80	3.30	1.98	1.42	1.47	1.82
Reading materials and other printed matter	0.18	0.36	0.21	0.17	0.18	0.13
Tobacco products, alcoholic beverages and cannabis	1.90	3.03	2.72	2.20	1.91	1.30
Games of chance	0.20	0.30	0.28	0.25	0.19	0.14
Miscellaneous expenditures	1.96	2.22	2.14	2.15	2.02	1.74
Income taxes	18.32	1.87	7.24	11.96	16.69	28.66
Personal insurance payments and pension contributions	5.65	1.51	3.70	5.42	6.80	6.49
Gifts of money, support payments and donations	2.43	2.00	2.62	2.34	2.57	2.42

Sources: Statistics Canada and Desjardins, Economic Studies

Even though the acceleration in price increases is widespread within the CPI basket, big differences are still visible for each of the main components (graph 12). This means that changing the basket's composition may have repercussions on the total inflation estimate. Therefore, using distinct relative weights for the components of the CPI basket based on income quintile gives us different measurements of inflation by household. For instance, households with a higher transportation expenses weighting are likely to be more affected by the sharp rise in this component. Ultimately, a new consumer price index can be calculated for each of the five income-based spending profiles.

the index for the top income quintile posted a cumulatively higher level than the other quintiles (graph 14), while the bottom quintile was a little lower. Still, for the period as a whole, the gap between these two quintiles is just 0.5%, which is very low.

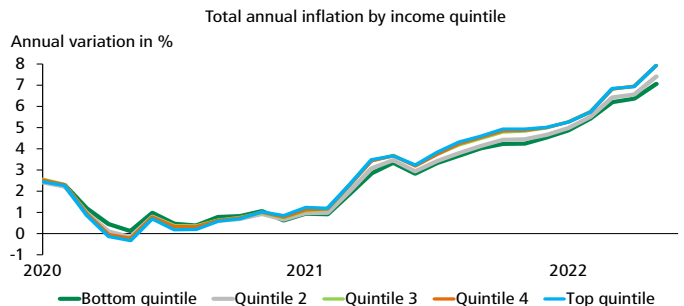
**GRAPH 14**  
Change in inflation by income quintile before the pandemic (2)



Sources: Statistics Canada and Desjardins, Economic Studies

Since the pandemic, the annual inflation rate has accelerated sharply for all income quintiles (graph 15), albeit a little less for the first and second quintiles. Once again, these are minor differences. For example, table 2 on page 4 shows that annual inflation in the first income quintile was 7.1% in May, compared to 8.0% for the third, fourth and fifth quintiles. Furthermore, transportation and recreation contributed a little less to inflation for the lower income quintiles.

**GRAPH 15**  
Change in inflation by income quintile since the pandemic

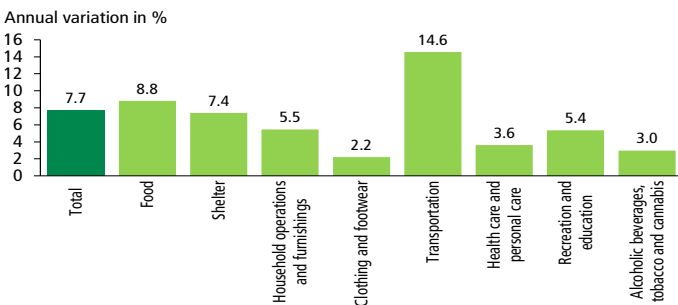


Sources: Statistics Canada and Desjardins, Economic Studies

In short, these results show that there are no major differences in calculating inflation, even in light of the different income-based consumer profiles. Clearly, price increases are also widespread, regardless of household income.

As recent price increases have been extensive within the components, differences in the composition of income-based consumer profiles are not shifting each component's contribution enough for it to show up significantly in total inflation. These

**GRAPH 12**  
Price increases on CPI components, May 2022

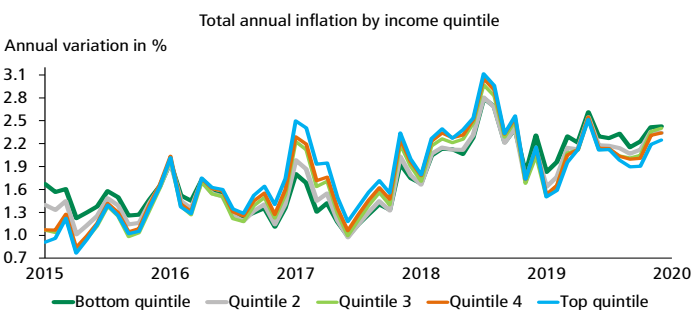


Sources: Statistics Canada and Desjardins, Economic Studies

**Change in Inflation by Income**

As we see in graph 13, annual inflation rates calculated using the five income quintiles were similar before the pandemic. At certain points, the inflation rate of the upper income quintile was higher than the others. However, we also saw the opposite at certain points, with higher inflation in the lowest income quintile and lower inflation for the other quintiles. Of course, these divergences are due to the fact that the contribution of the various CPI components changes over time, which affects inflation differently based on the relative weight of each of the categories within the quintiles. From 2015 to 2019, however,

**GRAPH 13**  
Change in inflation by income quintile before the pandemic



Sources: Statistics Canada and Desjardins, Economic Studies

**TABLE 2**  
**Contributions to annual inflation, May 2022**

IN %	TOTAL	BOTTOM QUINTILE	SECOND QUINTILE	THIRD QUINTILE	FOURTH QUINTILE	TOP QUINTILE
<b>Total</b>	<b>7.7</b>	<b>7.1</b>	<b>7.5</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>
Food	1.4	1.5	1.5	1.5	1.5	1.3
Shelter	2.2	2.3	2.2	2.2	2.2	2.3
Household operations, furnishings and equipment	0.8	0.7	0.8	0.8	0.9	0.8
Clothing and footwear	0.1	0.1	0.1	0.1	0.1	0.1
Transportation	2.5	1.9	2.2	2.6	2.6	2.6
Health care and personal care	0.2	0.2	0.2	0.2	0.2	0.2
Recreation, education and reading	0.5	0.4	0.4	0.4	0.5	0.6
Alcoholic beverages, tobacco products and recreational cannabis	0.1	0.1	0.1	0.1	0.1	0.1

Sources: Statistics Canada and Desjardins, Economic Studies

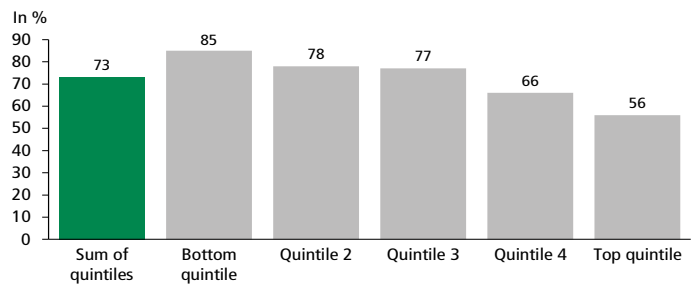
differences were also very limited before the pandemic, since moderate price variations are unlikely to generate big swings in the various components.

### Same Inflation, Different Outcomes

Even if the annual inflation rate is more or less the same regardless of income, the repercussions of faster price increases may actually be very different from one household to another. Lower-income households spend a larger share of their income and save less and therefore have more limited financial leeway. In contrast, higher-income households spend a smaller share of their income, save more and have greater leeway. In addition, the expenditure breakdown itself has an impact. Discretionary spending is higher for higher-income households, which gives them more leeway. For example, the data in table 1 show that the relative weight of spending on food, shelter and transportation accounts for nearly 61% of all expenses for the lowest income quintile, compared to 38% for the highest. With this in mind, there's no doubt that the recent acceleration in inflation is creating more difficulties for lower-income households even though, all told, the inflation rate is similar across the board.

According to a recent Statistics Canada survey, rising prices are affecting all households. Still, the share of households affected by increased prices is much higher in the bottom income quintile, which is consistent with the fact that they have fewer options to protect themselves from high inflation (graph 16). The survey also shows that many Canadians are changing their behaviour to contend with higher prices by adjusting their spending habits and delaying buying a home or moving into new rental housing. With such a strong job market, the number of households facing serious financial difficulty is still limited for the time being, but this could change if high inflation lasts longer than projected.

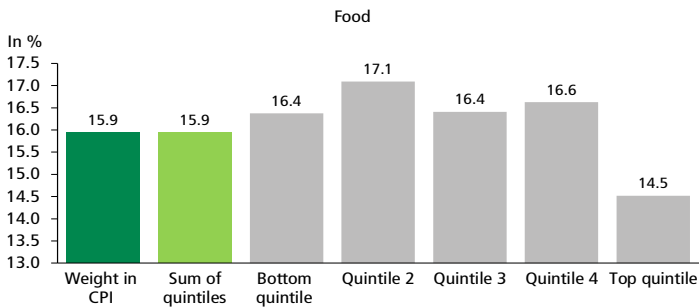
**GRAPH 16**  
**Share of Canadians for whom higher prices have influenced their ability to meet their expenses "a little" or "a lot," by income quintile**



Sources: Statistics Canada and Desjardins, Economic Studies

# Appendix

**GRAPH 4**  
Relative weights\* in the consumer price index using different profiles



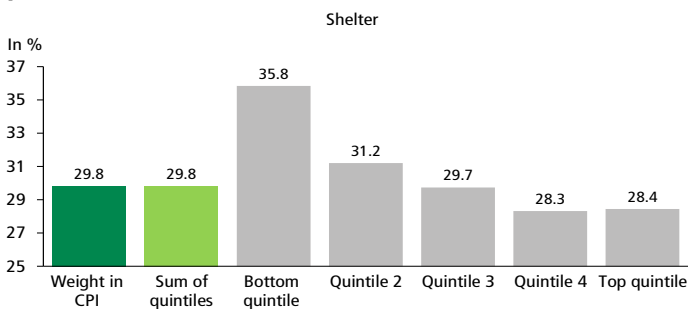
\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 7**  
Relative weights\* in the consumer price index using different profiles



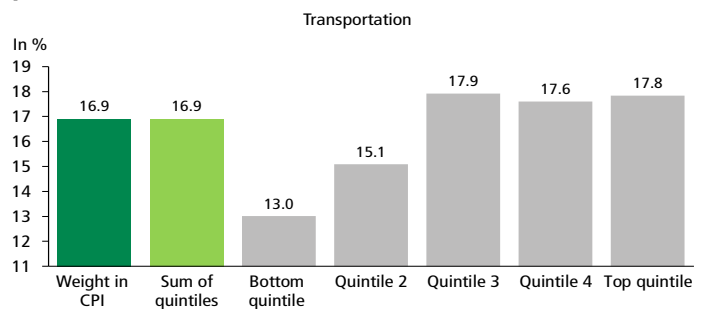
\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 5**  
Relative weights\* in the consumer price index using different profiles



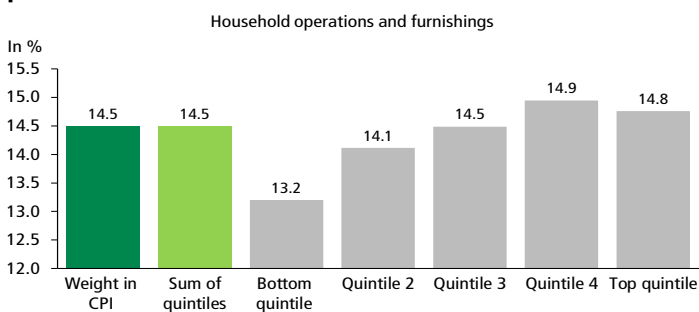
\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 8**  
Relative weights\* in the consumer price index using different profiles



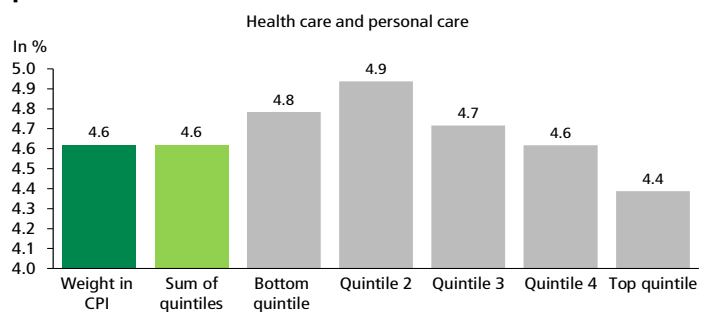
\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 6**  
Relative weights\* in the consumer price index using different profiles



\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

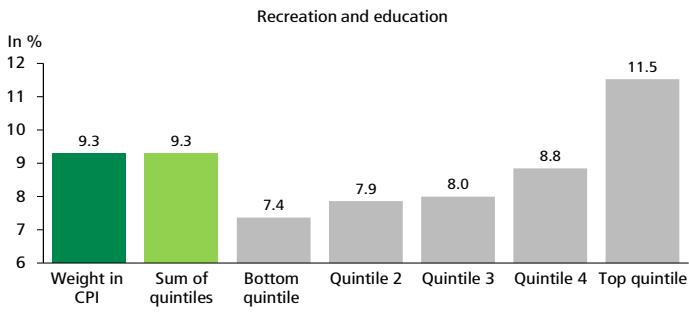
**GRAPH 9**  
Relative weights\* in the consumer price index using different profiles



\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

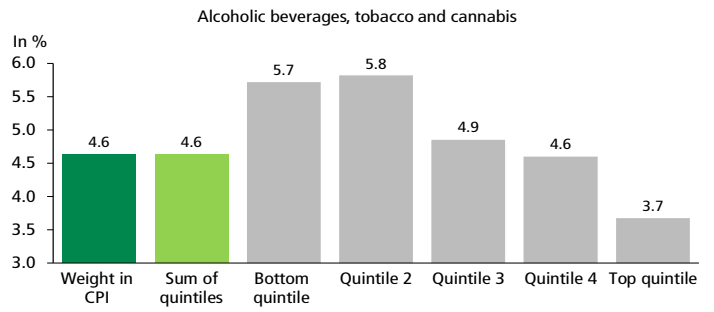
# Appendix

**GRAPH 10**  
Relative weights\* in the consumer price index using different profiles



\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 11**  
Relative weights\* in the consumer price index using different profiles



\* 2021 weighting.  
Sources: Statistics Canada and Desjardins, Economic Studies