

THE COST OF LIVING IN NUNAVIK, PHASE II
ANALYSIS REPORT NUMBER 1
REVISED VERSION

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Type - Title	Date	Content
Research Report		
The Cost of Living in Nunavik Robitaille, Guénard & Duhaime 24 p. + appendices	2016 November	Methodological approach of the survey Nunavik cost-of-living measures
The Cost of Living in Nunavik in 2016 Revised and Expanded Version Robitaille, Guénard, Lévesque & Duhaime 21 p. + appendices	2018 February	Methodological approach of the survey Revised Nunavik cost-of-living measures
Analysis Report		
The Cost of Living in Nunavik, Phase II Analysis Report Number 1 Robitaille, Guénard, Lévesque, Paquet, Roy, Germain & Duhaime 20 p. + appendices	2017 November	Report on the work carried out on the database Revised Nunavik cost-of-living measures Analyses excluding employer-provided housing Analyses by subregions Analyses of the transportation component
The Cost of Living in Nunavik, Phase II Analysis Report Number 1, Revised Version Robitaille, Guénard, Lévesque, Paquet, Roy, Germain & Duhaime 15 p. + appendices	2017 May	Report on the work carried out on the database Impact of the refinement of the method on the indexes Analyses excluding employer-provided housing Analyses by subregions Analyses of the transportation component
The Cost of Living in Nunavik, Phase II Analysis Report Number 2 Robitaille, Lévesque, Guénard, Germain & Duhaime 9 p.	2018 March	Analysis on the food consumption patterns
The Cost of Living in Nunavik, Phase II Analysis Report Number 3 Robitaille, Guénard, Lévesque, Roy & Duhaime 21 p. + appendices	2018 April	Analysis of the impact of the subsidy programs
Ad Hoc Analysis		
The Cost of Living in Nunavik, Phase II Ad Hoc Analysis Number 1 1 p.	2017 December	Preliminary measure of the FOE basket
The Cost of Living in Nunavik, Phase II Ad Hoc Analysis Number 2 1 p.	2018 April	Measures excluding alcohol, tobacco and confectionery
The Cost of Living in Nunavik, Phase II Ad Hoc Analysis Number 3 2 p.	2018 May	Methodological note on the calculation of confidence intervals

All reports and analyses are available in English.

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Analysis Report Number 1
Revised Version

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1. INTRODUCTION

In December 2013, the Government of Quebec, the Kativik Regional Government (KRG) and Makivik Corporation reached an agreement on the financing of measures to reduce the cost of living in Nunavik. The agreement called for a survey to assess the cost of living in Nunavik in order to provide stakeholders with the necessary tools to devise effective, long-term solutions to the high cost of living in the region. The research report submitted by the Université Laval's team in September 2016 measured the cost of living in Nunavik and documented the spending structure of the Nunavimmiut.¹

In April 2017, it was agreed that a second analysis phase would be undertaken to support the work of the negotiating committee tasked with defining a permanent program to reduce the cost of living in Nunavik. A first analysis report was submitted in November 2017. This report presented the refinement of the method developed during the second phase, reported the revised Nunavik cost of living measures, and responded to specific questions of the negotiating committee (Phase II, number 1).² This report was revised following a review by the committee. First, the current version (Phase II, number 1, revised version) mainly contains the analyses that answer the specific requests made by the monitoring committee. Then, the detailed information on the revised cost of living measures was removed, and the section on that topic focuses on the impact of the refinement of the method on the measures. It was included in a revised and expanded version of the first research report, originally published in September 2016, which focused on the cost of living measures; this revised version was published in March 2018.³ Finally, two additional analysis reports that respond to specific questions of the negotiating committee were submitted in March 2018⁴ (Phase II, number 2) and April 2018⁵ (Phase II, number 3).

2. OBJECTIVES

The objectives of this report are as follows. First, we present the methodological refinements made possible by the migration of the data to an SQL database and the modifications carried out on the dataset as a whole. Secondly, we explain the impact of these changes on the estimation of the cost-of-living indexes presented in the 2016 report. Thirdly, we present the results of four new analyses requested by the negotiating committee, which consist of measuring and analyzing:

- the indexes and spending structure when dwellings provided by employers are excluded;
- the indexes and spending structure when employers' dwellings and households in Kuujuaq are excluded;

¹ Robitaille, Jean, Enrico Guénard and Gérard Duhaime. 2016. *The Cost of Living in Nunavik - Research Report*. Quebec: Canada Research Chair on Comparative Aboriginal Conditions, Université Laval, 23 p. + appendices

² Robitaille, J., E. Guénard, S. Lévesque, C. Paquet, S. Roy, A. Germain and G. Duhaime. 2017. *The Cost of Living in Nunavik, Phase II. Analysis Report number 1*. Québec: Canada Research Chair in Comparative Aboriginal Conditions and Department of Agri-food Economics and Consumer Sciences, Université Laval, 20 p. + appendices.

³ Robitaille, J., E. Guénard, S. Lévesque and G. Duhaime. 2018. *The Cost of Living in Nunavik in 2016 - Research Report, revised and expanded version*. Québec, Canada Research Chair in Comparative Aboriginal Conditions, Université Laval, 22 p. + appendices.

⁴ Robitaille, J. S. Lévesque, E. Guénard, A. Germain and G. Duhaime. 2018. *The Cost of Living in Nunavik, Phase II. Analysis Report number 2*. Québec: Canada Research Chair in Comparative Aboriginal Conditions and Department of Agri-food Economics and Consumer Sciences, Université Laval, 8 p.

⁵ Robitaille, J. E. Guénard, S. Lévesque, S. Roy and G. Duhaime. 2018. *The Cost of Living in Nunavik, Phase II. Analysis Report number 3*. Québec: Canada Research Chair in Comparative Aboriginal Conditions and Department of Agri-food Economics and Consumer Sciences, Université Laval, 13 p + appendices.

- the indexes and spending structure for households in the Hudson and Ungava subregions; and
- the indexes and spending structure for transportation, broken down by subgroups for the whole region of Nunavik according to income levels and then for households in the Hudson and Ungava subregions.

3. METHOD

3.1 Introduction

Three main optimization operations were carried out. First, the development of a database in SQL format made it possible to simplify the processing of the data, speed up our analyses and operational efficiency. Secondly, the refinement of the methodology made it possible to exploit data that could not be used at the time the indexes were weighted for the 2016 report and to arrive thereby at much more precise indexes. Finally, this additional precision allowed us to exclude certain detailed categories of expenditures, or "subgroups", according to explicit criteria, thus making it possible to avoid measurement biases and increase the validity of the indexes. Each of these operations is briefly discussed below.

3.2 Refinement of the method of constructing price indexes

In 2016, the indexes were calculated using Microsoft Excel. However, the scope and complexity of the data and the data processing requirements had increased exponentially, in ways that had not been anticipated. Furthermore, it became necessary to add to the database information contained in the detailed lists of products sold by the chain stores in Nunavik, the Northwest Company and the FCNQ. The effective utilization of the lists provided by both chains revealed Excel's limitations, as well as those of our run-of-the-mill computers. Moreover, the complexity of the structure of the indexes and subindexes and the large number of goods involved made all the calculations and validations painstaking and delicate. Seeing that we wanted to carry out a deeper analysis of the collected data, it became imperative to transfer the data into a more flexible database, one that more closely matched the needs of our analysis.

This was done during the first months of phase II, using a database programmed in PostgreSQL. We can now process the data faster, obtain more accurate results and more nuanced analyses. For example, in the 2016 report, we took into account the relative weights of eight budgetary components that contribute to the cost of living in Nunavik. The added gain in our database capacity now makes it possible to take into account the weights of the 175 product subgroups that underlie these eight components. The new database organization allows for the construction of a comparative cost-of-living index based on the relative weights of the eight major components used to measure the cost of living, and each of these components is now calculated to reflect the relative weights of the subgroups that compose it.

Allow us to briefly illustrate the impact of this gain in precision. For the food component, 51 distinct subgroups of products are now considered in the calculation of this index. For example, we know that 2.2% of all expenditures on food are related to the purchase of *pork*, and that the price index for this subgroup is 158.1. In comparison, *potatoes* account for 0.3% of expenditures, and the index for this subgroup is 77.8. Seeing that pork occupies a relatively larger share of household expenditures, and given that the price difference between Nunavik and Québec is high for these products, the subgroup of pork items has an upward influence on the food component, and thereby on the overall measure of the cost of living in Nunavik. Conversely, although potatoes are less expensive in Nunavik than in Quebec City, their small weight in household consumption means that this product has little impact on the measure of the food component. Thus, the more a good or service occupies a large share of household spending, the more it will influence the aggregate price

index, in accordance with its cost. This newly obtained precision far exceeds that which was achievable with the means at our disposal for the calculations published in 2016.

3.3 Update of the spending structure

In the first phase of the survey, purchases made at Kuujjuaq's Newviq'vi/Tullik store had to be excluded from the dataset. The cash receipts issued by the store for purchases there, which were provided to us by the respondents, did not display enough information to enable us to reliably identify the products. The refinement to the index construction method, made possible thanks to the development of the new database, allowed us to include the amounts spent in this store in our calculations. These in turn made it possible to adjust the relative weight of each component of the expenditures reported in Kuujjuaq, and to produce a cost of living index more representative of the consumption patterns of local households.

This new gain in accuracy is important. The purchases made in the Newviq'vi store account for 34.3% of all purchases reported in Kuujjuaq. Thus, when all the data was taken into account, the relative weight of food in this community increased from 15.8% to 36.9%, while that of housing dropped from 32.3% to 21.7%, and transportation went from 29.4% to 19.7%. But the impact of this gain in precision is not only felt locally. It influences the fully updated calculations of all the indexes and subindexes, as we will see in the next section.

3.4 Subgroups omitted from the calculation of indexes

The increased capacity resulting from the changes in the computing environment also made it possible to reduce measurement biases to a degree that was unattainable when our calculations were previously published in 2016. Indeed, we can now exclude precise subgroups of products from the calculation of the indexes. This was done for certain subgroups when one or more of the following conditions applied:

- no expenditure was recorded in Nunavik for a given subgroup;
- no or too few products purchased in Nunavik could be identified in Quebec City to establish a valid comparative price; and
- products purchased in Nunavik for which a comparative price could be established in Quebec City were not sufficiently representative of the subgroup.

The list of the subgroups omitted is presented in Table 1 below, and the detailed list of each component is reproduced in Appendix 1.

This gain in precision allows us to achieve better control of the indexes. It also makes it possible to take specific exclusions into account when analyzing and interpreting the resulting indexes.

Table 1

List of subgroups omitted from the calculation of component indexes

Component	Subgroup	Name of the subgroup
Household operations and furnishings	65	Telephone services
	67	Internet access services
	76	Seeds, plants and cut flowers
	77	Other horticultural goods
	83	Other furniture
	93	Other household equipment
Clothing and footwear	99	Women's footwear
	100	Men's footwear
	101	Children's footwear
	106	Jewellery
Transportation	116	Passenger vehicle maintenance and repair services
Recreation, education and reading	142	Multipurpose digital devices
	143	Photographic equipment and supplies
	144	Other recreational equipment
	157	Video and audio subscription services
	161	School textbooks and supplies

3.5 Conclusion

The three optimization operations which we have briefly presented above – the development of an SQL database, the inclusion of data that could not previously be taken into account, and the explicit exclusion of certain product subgroups – enhance our ability to use the survey database to answer questions raised by the negotiating committee, as well as allowing for very significant gains of precision in the analysis of the data.

They have reduced the impact of certain important limitations that were hampering our operations, and have allowed us to recalculate all the results presented in the 2016 report, with significantly increased efficiency. But that is not all. These operations have also enhanced and extended the validity of the results published in 2016. The extent of these gains in accuracy and validity left us no choice but to redo our former calculations, with the newly obtained results henceforth replacing those that were previously published. These updated results are presented in the next section.

4. IMPACT OF THE REFINEMENT OF THE METHOD ON THE INDEXES

4.1 Differences between the revised indexes and the results published in 2016

Taking into account the weights of the subgroups in constructing the indexes and the inclusion of data that could not previously be used (see section 3) produced results that were different from those published in the 2016 report; as a result, the cost of living index for Nunavik is 15.6 points higher than the one previously calculated and released in 2016 (Table 2). The following component indexes are significantly higher than those previously calculated: food, with a difference of 6.3 points; household operations with a difference of 6.1 points; and transportation, with a difference of 4.1 points. For the other components, the difference was less marked. The complete results are

reported in detail in *The Cost of Living in Nunavik in 2016 - Research Report, revised and expanded version*, published in 2018⁶.

Table 2

Cost of living index by component and differences between the indexes published in 2016 and the updated indexes

Component	Indexes	Updated	Difference
	published in 2016	indexes	
	<i>Qc = 100</i>		
Food	148.3	154.6	6.3
Shelter	72.3	73.3	1,0
Transportation	117.3	121.4	4.1
Alcoholic beverages and tobacco products	137.3	139.4	2.1
Household operations and furnishings	142.6	148.7	6.1
Clothing and footwear	114.7	114.6	-0.1
Health and personal care	123.9	124.1	0.2
Recreation, education and reading	132.1	131.1	-1,0
Cost of living	113.1	128.7	15.6

⁶ Robitaille, J., E. Guénard, S. Lévesque and G. Duhaime. 2018. *The Cost of Living in Nunavik in 2016 - Research Report, revised and expanded version*. Québec, Canada Research Chair in Comparative Aboriginal Conditions, Université Laval, 22 p. + appendices.

5. ANALYSES REQUIRED BY THE NEGOTIATING COMMITTEE

5.1 Cost of living index in Nunavik excluding housing provided by employers

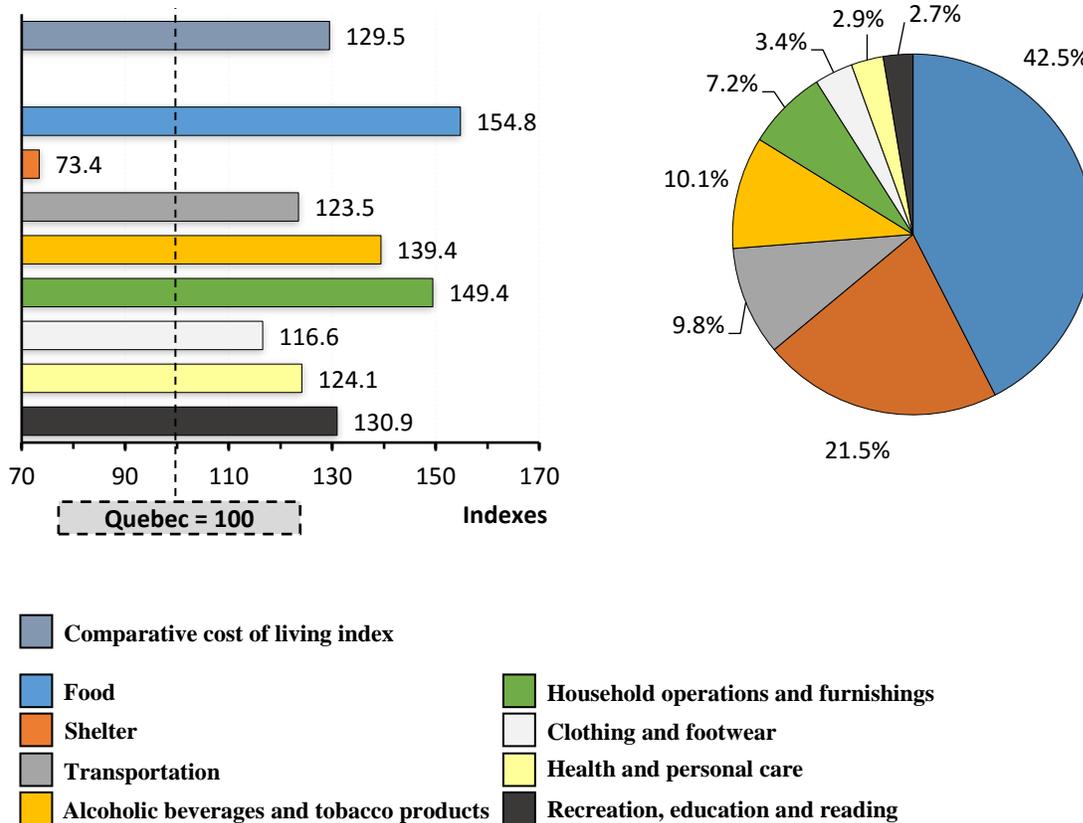
This analysis gives a general picture of what it costs to live in Nunavik compared to Quebec City, but excludes from the calculations households that reported living in housing provided by an employer.

Because of their small number, households living in housing provided by an employer have little influence on the aggregate cost of living index for Nunavik. However, when we do exclude these households, the cost of the transportation component increases by 2.1 points, and that of clothing and footwear by 2 points (Figure 5). This difference in transportation could be due to the airline tickets purchased by households residing in an employer's house. The price of airline tickets being the same everywhere in the province, these expenditures would help lower the value of the transportation index.

The exclusion of these households has a minor impact on spending structure: once excluded from the sample, the share of expenditures allocated to food increases by 0.6 percentage points, and the share of transportation expenditures decreases by 1 percentage point. These variations can be explained in part by the significant transportation expenditures incurred by households living in employer-provided housing, particularly for airline tickets.

Figure 1

Cost of living index by component and reported spending structure excluding households residing in employer-provided housing, Nunavik, 2015-2016 ($n = 423$)



5.2 Cost of living index excluding households in Kuujjuaq

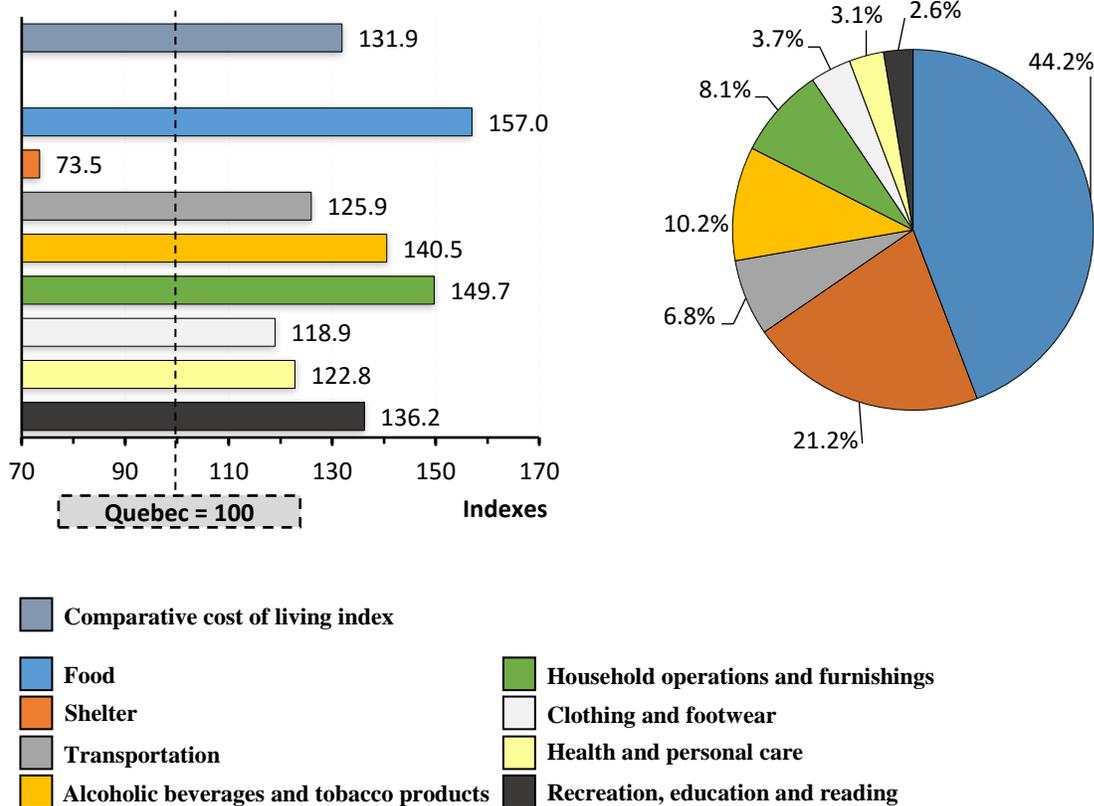
This index was calculated by excluding households in Kuujjuaq as well as all households of the sample living in housing provided by an employer.

When these households are excluded, the aggregate index increases by 3.2 points, that of food by 2.3 points and that of transportation by 4.5 points (Figure 6). These differences are mainly attributable to the fact that it costs an average of 15.1% less to feed people in Kuujjuaq than in the other communities that participated in the survey; and the same goes for transportation, with costs 4.3% lower in Kuujjuaq than in the rest of Nunavik. There is also a significant impact on the recreation and education component, whose index increases by 5.2 points.

The exclusion of these households also has an effect on the spending structure: the proportion of spending on food increases from 41.9% to 44.2%, while that of transportation decreases by 4 percentage points, going from 10.8% to 6.8%.

Figure 2

Cost of living index by component and reported spending structure excluding households in Kuujjuaq and all households of the sample living in employer-provided housing, Nunavik, 2015-2016 ($n = 291$)



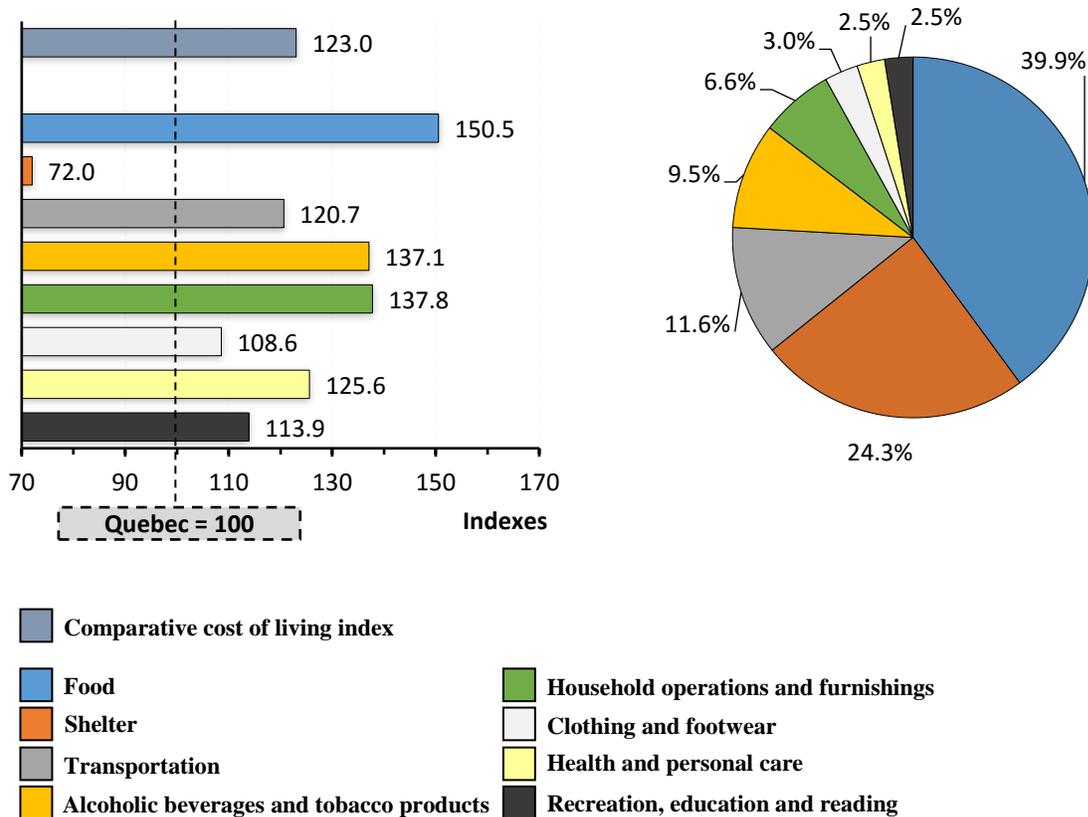
5.3 Cost of living index in Ungava

The comparative cost of living index in Ungava provides an indication of price levels for the communities of Kuujjuaq, Kangiqsualujjuaq and Tasiujaq. Households living in employer-provided housing are excluded from this analysis. More than half of the households in the sample on which this analysis is based lives in Kuujjuaq, i.e. 63.8% of all households.

With a value of 123, which is 5.7 points lower than the general cost of living index for Nunavik, the index calculated for households in Ungava is the lowest aggregate index of all the analyses requested by the negotiating committee (Figure 7). Compared with all communities taken together, the indexes of those in Ungava are lower by 4.1 points for food, 17.2 points for recreation and education, and 10.9 points for household operations.

The spending structure of households in Ungava is different from that of all the households in the survey as a whole: the proportion of food expenditures is 1.9 percentage points lower, while the proportion of expenditures for housing and transportation are respectively 2.8 and 0.8 percentage points higher.

Figure 3
Cost of living index by component and reported spending structure excluding households residing in employer-provided housing, Ungava, 2015-2016 ($n = 213$)



5.4 Cost of living index in Hudson

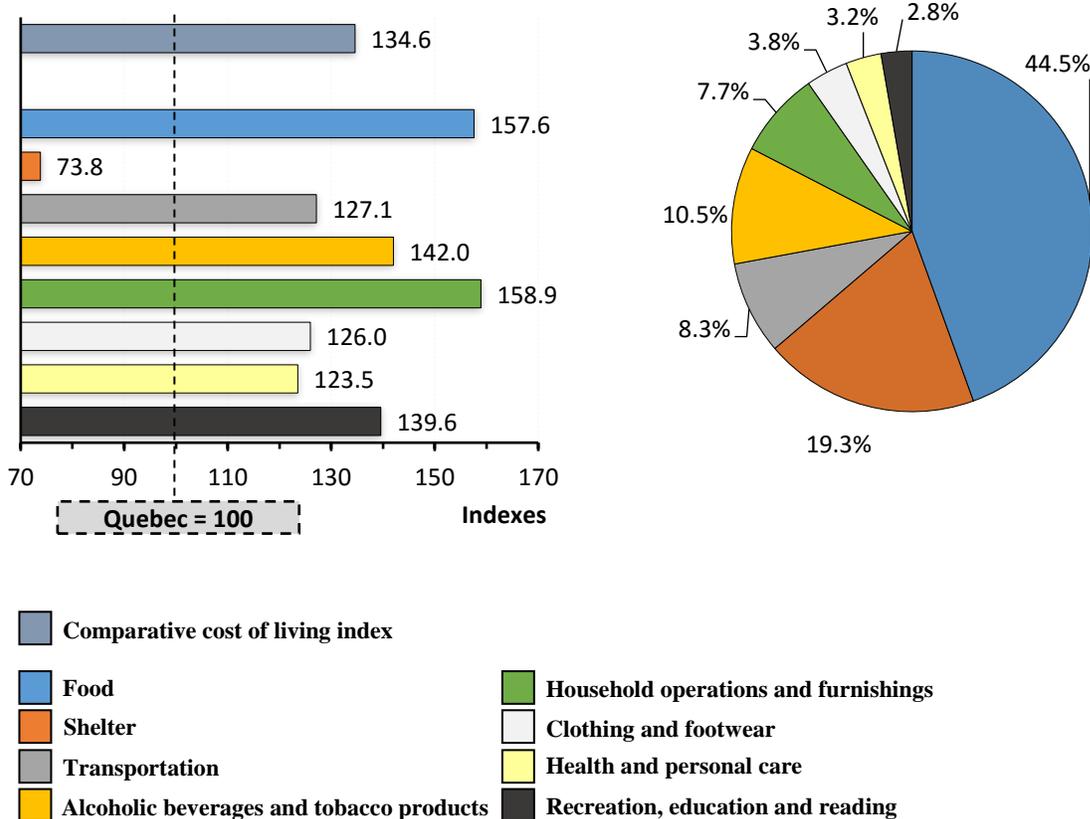
The comparative cost of living index for Hudson provides an indication of the price levels for the communities of Puvirnituk, Salluit and Umiujaq. Households living in employer-provided housing are excluded from this analysis.

The aggregate index for these communities is the highest of all those requested by the negotiating committee: 5.9 points higher than the aggregate index for all households combined (Figure 8). Several of the components' values are also higher, including clothing and footwear (11.3 points higher), household operations (10.2 points higher), and recreation, education and reading (8.5 points higher). The cost of food in relation to Quebec City is 2.9% higher in Hudson than in the whole of Nunavik.

Comparing the spending structure of households in Hudson to that of all households also reveals differences: the proportion of spending on food is 2.6 percentage points higher, while shelter and transportation expenditures are respectively 2.3 and 2.5 percentage points lower.

Figure 4

Cost of living index by component and reported spending structure excluding households residing in employer-provided housing, Hudson, 2015-2016 (*n* = 210)



5.5 Comparative transportation index broken down by subgroup

This analysis presents the values of the indexes as well as the relative weights of the expenditures for each of the subcomponents (or subgroups) of transportation. Households living in employer-provided housing are included in this analysis.

The indexes measuring the difference between the prices of transportation products purchased in Nunavik and their values in Quebec City fall into two categories. On the one hand, products purchased in Nunavik whose price is on par with those in the South; these include airline tickets and driver's licenses, which are the same everywhere in the province of Quebec. However, it should be noted that the indexes were calculated with purchase prices, so reimbursement on airline tickets is not taken into account. The actual cost assumed by households could therefore be lower. On the other hand, products whose price is significantly higher in Nunavik than in Quebec City: the largest observed difference being for gasoline, where the price is nearly 34.5% higher (Table 3).

With regard to the relative weight of each of the transportation subgroups, it turns out that more than half of the spending on transportation goes toward the purchase of vehicles. The second-largest item is gasoline, which accounts for just under a quarter of expenditures. Other expenditures mainly concern air transportation, with 14.4% of recorded spending, and vehicle parts and accessories, with 9.8%. As for air transportation specifically, the bulk of the spending recorded in this category was incurred by households living in employer-provided housing, viz. 79.5% of total expenditures on air transportation.

Table 3

Price index by subgroup and spending structure on transportation, Nunavik, 2015-2016 ($n = 448$)

Subgroup	All households	
	$n = 448$	
	Index	Spending
	$Qc = 100$	%
Purchase of passenger vehicles	122.2	51.5
Rental of passenger vehicles	100.0	0.3
Gasoline	134.5	23.6
Vehicle parts and accessories	119.3	9.8
Drivers licences	100.0	0.5
Air transportation	100.0	14.4
Total	121.4	100.0

5.6 Comparative transportation index broken down by subgroup according to household income

This analysis presents, for each of the income levels, the values of the indexes as well as the relative weights of expenditures for each of the transportation subcomponents (or subgroups). Households living in employer-provided housing are included in this analysis.

Few transportation expenditures were reported by low-income households, with the exception of gasoline. Purchases by low-income households represent only 3.2% of all expenditures in the transportation component (Table 4).

Certain differences appear between the household spending of middle-income and high-income households. In particular, spending on air travel occupies a much larger share of expenditures for higher-income households than for middle-income households, with a difference of 18.3 percentage points. Moreover, most of the expenditures for air transportation were incurred by households living in employer-provided housing. The index values of the transportation subcomponents are largely similar over the income categories. The most significant cost difference relates to the purchase of vehicles, but this could be due to the small number of purchases recorded for this subcomponent. The purchase of a vehicle is the transportation item whose weight is most significant for middle- and high-income households; but since these are very costly goods, there were very few such purchases recorded during the survey.

Table 4

Price index by subgroup and spending structure on transportation according to household income level, Nunavik, 2015-2016 ($n = 448$)

Subgroup	Low Income		Middle Income		High Income	
	$n = 162$		$n = 200$		$n = 86$	
	Index	Spending	Index	Spending	Index	Spending
	$Qc = 100$	%	$Qc = 100$	%	$Qc = 100$	%
Purchase of passenger vehicles	-	-	128.1	55.3	116.1	51.7
Rental of passenger vehicles	-	-	-	-	100.0	0.6
Gasoline	134.6	100.0	133.6	24.2	135.4	22.9
Vehicle parts and accessories	-	-	118.2	14.0	-	-
Drivers licences	-	-	100.0	0.5	100.0	0.6
Air transportation	-	-	100.0	6.0	100.0	24.3
Total	134.6	100.0	126.2	100.0	116.4	100.0

- : Not applicable or no data

5.7 Comparative transportation index broken down by subgroup according to subregions

This analysis compares price differences and spending structures in Ungava and Hudson for the transportation component. Households living in employer-provided housing are included in this analysis.

Hudson shows larger price differences with Quebec City than Ungava: the aggregate transportation index for Hudson is 9.4 points higher than that for Ungava (Table 5). The purchase of vehicles is the subgroup that has the largest upward influence on the transportation price index for Hudson. Indeed, with an index of 128.1, it alone represents 64.6% of all transportation expenditures made by households of Hudson. Purchase of vehicles is the largest item of expenditure in transportation for both these sub-regions. However, since there were very few purchases recorded in this category during the survey, the cost difference between the two sub-regions should be interpreted with caution. Vehicle parts and accessories also have considerable weight: their price index is 126.8 and they represent 16.6% of transportation expenses in Hudson. Only the price index of gasoline is higher in Ungava than in Hudson; their price indexes are 136.4 and 129.6, respectively.

Table 5

Price index by subgroup and spending structure on transportation, Ungava and Hudson, 2015-2016 (*n* = 448)

Subgroup	Ungava		Hudson	
	<i>n</i> = 232		<i>n</i> = 216	
	Index	Spending	Index	Spending
	<i>Qc</i> = 100	%	<i>Qc</i> = 100	%
Purchase of passenger vehicles	116.1	41.9	128.1	64.6
Rental of passenger vehicles	100.0	0.5	-	-
Gasoline	136.4	29.5	129.6	15.5
Vehicle parts and accessories	105.2	4.9	126.8	16.6
Drivers licences	100.0	0.4	100.0	0.6
Air transportation	100.0	22.8	100.0	2.8
Total	117.7	100.0	127.1	100.0

- : Not applicable or no data

6. CONCLUSION

The objective of this report was threefold: to present the optimizations carried out on the database of the Nunavik Cost of Living Survey; to present the impact of these modifications on the cost of living indexes presented in the 2016 report; and to use the optimized database to carry out the first analyses required by the negotiating committee. This section discusses the results we have obtained.

The optimization operations have made it possible to update the results of the Nunavik Cost of Living Survey published in 2016, i.e. to recalculate the comparative cost of living index for Nunavik, as well as the component indexes. By taking into account the subgroups weight in the indexes construction and by integrating data that could not be previously included, the revised results are different from those published in the 2016 report; the updated Nunavik cost of living index is 15.6 points higher than the original calculation. The complete results are reported in detail in *The Cost of Living in Nunavik in 2016 - Research Report, revised and expanded version*, published in 2018. These results have greater validity than the 2016 results, and they should henceforth be used as the best existing data on the cost of living in Nunavik based on the study of prices and consumer patterns.

The analyses carried out at the request of the negotiating committee have produced results that require some comment.

The differences in the indexes for the Ungava and Hudson subregions suggest that, overall, the cost of living appears to be lower in Ungava. There is reason to believe that Kuujjuaq has a significant impact on these indexes. First, the majority of the sample for Ungava is made up of households in Kuujjuaq. Furthermore, when households in Kuujjuaq are excluded and the profile of the remaining households is drawn, the aggregate cost of living index increases, as do the indexes for food and transportation. As well, the indexes calculated by subregions seem to indicate that prices are lower in Ungava. Considering the significant impact of Kuujjuaq on the indexes, the cost of living might not necessarily be lower in other Ungava communities. It may be the singular effect of Kuujjuaq that is dragging Ungava's cost of living downwards. There are also differences in spending structure between the sub-regions: for example, the share of food and transportation in the spending structure in Ungava is lower than in Hudson.

These observations suggest that there may be factors which could contribute to reducing the cost of living in Ungava, at least in Kuujjuaq. While the cost of living may be higher in the other communities that participated in the survey, the weight of Kuujjuaq in the survey sample could contribute to significantly lower the aggregate cost of living index for Nunavik. This is why our results should be considered a conservative measure of the cost of living in Nunavik.

As for the analyses excluding households living in employer-provided housing, they suggest that these households have a distinct socio-economic profile. In particular, it would appear that they spend a smaller proportion of their expenditures on food, whereas their transportation expenditures are higher. Although the data on this sub-population are limited, they suggest that these households are more likely to bring in food supplies directly from outside Nunavik by air and sea, and also to make major purchases when they travel outside Nunavik.

Our analyses of the transportation component show that expenditures by low-income households represent only a small proportion of total transportation expenditures, namely 3.2%, and that all of these expenditures are concentrated on gasoline, which is considerably more expensive in Nunavik than in Quebec City. These analyses also indicate that the great majority of spending on air travel is attributable to high-income households, and more specifically to those living in employer-provided housing. The breakdown of the transportation subgroups by subregions shows the same trend as for the other components, i.e. that prices in Hudson tend to be higher than in Ungava. The

only item that costs more in Ungava is gasoline, which may be due to the higher proportion of people in this sub-region (mainly in Kuujjuaq) who are not entitled to the current gasoline discount program since they are not beneficiaries under the James Bay and Northern Quebec Agreement.

Finally, notwithstanding the updating of the indexes, the results still show that in terms of relative weight, the most important components in the cost of living index for Nunavik are food and shelter. Food is by far the component that accounts for the largest proportion of household spending in Nunavik, and the big price difference for food between Nunavik and Quebec means that it contributes significantly to increase the cost of living in Nunavik. Shelter is the second-largest spending item, and since the cost of this component is lower than in Quebec City, shelter helps to reduce the cost of living in Nunavik.

7. LIST OF APPENDICES

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Appendix 1 – List of subgroups by component

Food	
Food purchased from stores	
Meats	
Fresh or frozen meats (excluding poultry)	
1	Fresh or frozen beef
2	Fresh or frozen pork
3	Other fresh or frozen meats (excluding poultry)
Fresh or frozen poultry	
4	Fresh or frozen chicken
5	Other fresh or frozen poultry
Processed meats	
6	Ham and bacon
7	Other processed meats
Fish, seafood and other marine products	
Fish	
8	Fresh or frozen fish (including portions and fish sticks)
9	Canned and otherwise preserved fish
10	Seafood and other marine products
Dairy products and eggs	
Dairy products	
11	Fresh milk
12	Butter
13	Cheese
14	Ice cream and related products
15	Other dairy products
Eggs	
16	Eggs
Bakery and cereal products	
Bakery products	
17	Bread, rolls and buns
18	Cookies and crackers
19	Other bakery products
Cereals products	
20	Rice and rice-based mixes
21	Breakfast cereals and other cereal products (excluding baby foods)
22	Pasta products
23	Flour and flour-based mixes

* : Subgroup for which no expenditure was recorded in Nunavik

Food (continued)	
Fruits, fruit preparations and nuts	
Fresh fruits	
24	Apples
25	Oranges
26	Bananas
27	Other fresh fruits
Canned fruits and fruit preparations	
28	Fruit juices
29	Canned fruits and other fruit preparations
Nuts	
30	Nuts
Vegetables and vegetable preparations	
Fresh vegetables	
31	Potatoes
32	Tomatoes
33	Lettuce
34	Other fresh vegetables
Canned vegetables and vegetable preparations	
35	Frozen and dried vegetables
36	Canned vegetables and other vegetable preparations
Other food products and non-alcoholic beverages	
37	Sugar and syrup
38	Confectionery
39	Margarine
40	Other edible fats and oils
41	Coffee
42	Tea
43	Condiments, spices and vinegars
44	Soups
45	Baby foods
46	Pre-cooked and frozen food preparations
47	All other food preparations
48	Non-alcoholic beverages
Food purchased from restaurants	
49	Food purchased from table-service restaurants
50	Food purchased from fast food and take-out restaurants
*	51 Food purchased from cafeterias and other restaurants

* : Subgroup for which no expenditure was recorded in Nunavik

Shelter		
Shelter		
Rented accommodation		
	52	Rent
*	53	Tenants' insurance premiums
	54	Tenants' maintenance, repairs and other expenses
Owned accommodation		
*	55	Mortgage interest cost
*	56	Homeowners' replacement cost
*	57	Property taxes and other special charges
*	58	Home owners' and mortgage insurance
*	59	Home owners' maintenance and repairs
*	60	Other owned accommodation expenses
Water, fuel and electricity		
*	61	Electricity
*	62	Water
*	63	Natural gas
*	64	Fuel oil and other fuels

* : Subgroup for which no expenditure was recorded in Nunavik

Transportation	
Private transportation	
Purchase, leasing and operating expenses of passenger vehicles	
Purchase and leasing of passenger vehicles	
111	Purchase of passenger vehicles
* 112	Lease of passenger vehicles
113	Rental of passenger vehicles
Operating expenses of passenger vehicles	
114	Gasoline
115	Passenger vehicle parts, accessories and supplies
116	Passenger vehicle maintenance and repair services
* 117	Passenger vehicle insurance premiums
* 118	Passenger vehicle registration fees
119	Drivers' licenses
* 120	Parking fees
* 121	All other passenger vehicle operating expenses
Public transportation	
* 122	City bus and subway transportation
* 123	Taxi and other local commuter transportation services
124	Air transportation
* 125	Rail, highway bus and other inter-city transportation
* 126	Other public transportation

* : Subgroup for which no expenditure was recorded in Nunavik

Alcoholic beverages and tobacco products	
Alcoholic beverages	
Alcoholic beverages in licensed establishments	
* 167	Beer served in licensed establishments
* 168	Wine served in licensed establishments
169	Liquor served in licensed establishments
Alcoholic beverages from stores	
170	Beer purchased from stores
171	Wine purchased from stores
172	Liquor purchased from stores
* 173	Other alcoholic beverages purchased from stores
Tobacco products and smoker's supplies	
174	Cigarettes
175	Other tobacco products and smoker's supplies

* : Subgroup for which no expenditure was recorded in Nunavik

Household operations, furnishings and equipment

Household operations	
Communications	
65	Telephone services
66	Postal and other communications services
67	Internet access services
68	Telephone devices
Child care and housekeeping services	
69	Child care services
* 70	Housekeeping services
Household cleaning products	
71	Detergents and soaps (other than personal care)
72	Other household cleaning products
Paper, plastic and aluminium foil supplies	
73	Paper supplies
74	Plastic and aluminium foil supplies
Other household goods and services	
75	Pet food and supplies
76	Seeds, plants and cut flowers
77	Other horticultural goods
78	Other household supplies
* 79	Other household services
* 80	Financial services
Household furnishings and equipment	
Furniture and household textiles	
81	Upholstered furniture
82	Wooden furniture
83	Other furniture
84	Window coverings
85	Bedding and other household textiles
86	Carpets and rugs
Household equipment	
87	Cooking appliances
* 88	Refrigerators and freezers
89	Washers, dryers and dishwashers
90	Other household appliances
91	Non-electric kitchen utensils, tableware and cookware
92	Household tools (including lawn, garden and snow removal equipment)
93	Other household equipment
Services related to household furnishings and equipment	
* 94	Services related to household furnishings and equipment
95	Other household furnishings and equipment

* : Subgroup for which no expenditure was recorded in Nunavik

Clothing and footwear	
Clothing	
96	Women's clothing
97	Men's clothing
98	Children's clothing (including baby's clothing)
Footwear	
99	Women's footwear (excluding athletic footwear)
100	Men's footwear (excluding athletic footwear)
101	Children's footwear (excluding athletic footwear)
102	Athletic footwear
Clothing accessories, watches and jewellery	
* 103	Leather clothing accessories
104	Other clothing accessories
105	Watches
106	Jewellery
Clothing fabrics, haberdashery articles and clothing services	
107	Clothing fabrics and haberdashery articles
* 108	Laundry services
* 109	Dry cleaning services
* 110	Other clothing services

* : Subgroup for which no expenditure was recorded in Nunavik

Health and personal care	
Health care products and services	
Health care products	
127	Prescribed medicines
128	Non-prescribed medicines
129	Eye care products
130	Other health care products
Health care services	
* 131	Eye care services
* 132	Dental care services
133	Other health care services
Personal care products and services	
Personal care products	
134	Soaps for personal use
135	Toiletry products and cosmetics
136	Oral hygiene products
137	Other personal care products
Personal care services	
138	Personal care services

* : Subgroup for which no expenditure was recorded in Nunavik

Recreation, education and reading

Recreation

Recreational equipment and services (excluding recreational vehicles)

Sporting equipment

139 Sporting and exercise equipment

Toys and games

140 Toys, games (excluding video games) and hobby supplies

Computer and digital equipment

141 Computer equipment, softwares and supplies

142 Multipurpose digital devices

143 Photographic equipment and supplies

Other recreational equipment and services

144 Other recreational equipment

145 Recreational services

Recreational vehicles

Purchase, maintenance and operating expenses of recreational vehicles

* **146** Purchase of recreational vehicles and outboard motors

* **147** Fuel, parts and accessories for recreational vehicles

* **148** Insurance, licenses and other services for recreational vehicles

Home entertainment equipment, parts and services

149 Audio equipment

150 Video equipment

* **151** Rental of digital media and video games

152 Purchase of digital media

153 Other home entertainment equipment, parts and services

Travel, cultural and recreational services

* **154** Traveller accommodation

* **155** Travel tours

* **156** Shows (excluding cable television and satellite services)

157 Cable television and satellite services (including pay-per-view television service)

* **158** Use of recreational facilities and services

* **159** All other cultural and recreational services

Education and reading

Education

* **160** Tuition fees

161 School textbooks and supplies

* **162** Other lessons, courses and education services

Reading material (excluding textbooks)

* **163** Newspapers

* **164** Magazines and periodicals

165 Books and reading material (excluding textbooks)

* **166** Other reading material (excluding textbooks)

* : Subgroup for which no expenditure was recorded in Nunavik

Appendix 2

Spending structure of households in Kuujjuaq, before and after the inclusion of Newviq'vi data

Component	Before the	After the
	inclusion	inclusion
	%	
Food	15.8	36.9
Shelter	32.3	21.7
Transportation	29.4	19.7
Alcoholic beverages and tobacco products	8.3	8.5
Household operations and furnishings	5.9	5.2
Clothing and footwear	3.6	3.0
Health and personal care	1.6	2.2
Recreation, education and reading	3.1	2.8

Appendix 1

Nunavik cost-of-living reduction measures and their impact on the results of the survey

This appendix provides a brief description of the public programs and other measures affecting the cost of living in Nunavik at the time of the survey. It also indicates whether these programs and measures are taken into account in the survey data and whether they affect the indexes published here. This information needs to be considered for a precise interpretation of the indexes.

Programs administered by the Kativik Regional Government

Elders' Assistance

This measure is an income supplement for seniors. It is intended for people aged 60 and over who are beneficiaries of the James Bay and Northern Quebec Agreement (JBNQA) and who have lived in Nunavik for at least one year. Eligible people receive two payments of \$875 per year: one on January 15 and one on July 15. Since this program takes the form of an allocation, it has no impact on the interpretation of the survey results.

Airfare Reduction Program

This program aims to reduce the cost of air travel. It is intended for the beneficiaries of the JBNQA, whether they live in Nunavik or elsewhere in Quebec. This measure takes the form of a refund of up to 30% of the price of airfare up to a maximum of \$1,050 per year. Eligible trips include travel for personal purposes:

- eligible persons residing in Nunavik can fly to any destination in Quebec;
- beneficiaries outside of Nunavik can fly to any Nunavik community.

Eligible trips also include family emergencies:

- compassionate travel to accompany a patient;
- compassionate travel for a death in immediate family.

This reduction measure takes the form of a refund upon presentation of a receipt and a boarding pass. It is not factored into our data because the survey only includes the price of airfare at the time the tickets were purchased. The actual cost for the beneficiaries may therefore be overestimated in our results.

Country Food Community Support Program

This program aims to increase the availability of country food in communities. This measure takes the form of a subsidy of \$10,000 to each community plus an additional allocation according to the size of the local Inuit population. This subsidy is used to cover the full transportation costs between communities and half of country food purchase costs. Due to problems of comparability, country food products purchased by the households in this survey were not taken into account. Hence, this program does not affect the survey data.

Household Appliance and Harvesting Equipment Program

This program aims to reduce the cost of household appliances and vehicles and equipment needed for subsistence production. This measure takes the form of a refund (on proof of purchase) determined by the type of product purchased. For furniture and appliances, people aged 18 and over who have been living in Nunavik for a year are eligible for a refund of \$350 for each purchase over \$500 (including transportation), up to a maximum annual amount of \$1,750. These items include refrigerators, bed frames, mattresses, washing machines, dryers, freezers, sewing machines, dishwashers, kitchen table and chairs, stoves, couches and dressers.

For vehicles and equipment, people aged 18 and over who have been living in Nunavik for a year and who are beneficiaries of the JBNQA are eligible for a \$1,000 refund for each purchase over \$1,500 for the following products: freighter canoe, boat, boat trailer, all-terrain vehicle, outboard motor, snowmobile and snowmobile trailer. For the following items, 30% of the costs are covered up to \$500: Qamutiik, Boggan load sled and ice auger. The costs of shipping a vehicle for repairs are covered up to \$1,000 as well, as are the costs associated with their return, for up to one return shipment per year.

Since the survey data measure the price of products at their purchase, they may overestimate the actual cost for people who are eligible for this program because the measure takes the form of a refund upon presentation of a receipt.

Food and Other Essentials Program

This program aims to reduce the price of a set of common consumer products. It is available to all Nunavimmiut and reduces the price of more than 1,500 eligible items in FCNQ stores, Northern stores and the Newviq'vi store in Kuujjuaq by 20 to 40%. Eligible products include food, housekeeping products, clothing, personal care products and certain articles for use with vehicles. Our survey data include prices actually paid by consumers; they therefore include the discounts provided by this program.

Gasoline Program

This program aims to reduce the price of gasoline in order to encourage the practice of traditional subsistence activities. This measure is available to all JBNQA beneficiaries aged 16 and over and takes the form of a gasoline discount applied on the purchase upon presentation of the discount card. Again, our survey focuses on the prices actually paid by consumers; the data therefore include the discounts provided by this program.

Other program

Nutrition North Canada

Administered by the Minister of Indigenous and Northern Affairs, the program aims to help make nutritious perishable food more accessible in communities that lack year-round surface transportation. This measure takes the form of a subsidy for retailers in isolated communities and Southern suppliers. The subsidy must be used to reduce the transportation costs of eligible food products, thus making these more accessible to consumers. Consumers can also order products directly from Southern suppliers participating in this program. Eligible products are divided into two levels of subsidy. The higher subsidy rate only applies to nutritious perishable foods. In addition to the nature of the food products, the subsidy rate also depends on the location of the community, with higher subsidies going to more isolated communities. The program also contributes to the shipment to eligible communities of traditional foods processed for commercial purposes. As the survey data focus on prices actually paid by consumers, they include the discounts provided by this program.