



Une production du

BiESP

BUREAU D'INFORMATION
ET D'ÉTUDES EN SANTÉ
DES POPULATIONS

Material and Social Deprivation Index (MSDI) of Canada, 1991 – Description of the variables in the correspondence table

April 2020

AUTHORS

Christine Blaser, Ph. D., senior scientific advisor

Nathalie Gravel, D.E.S.S., analyst in geomatics

Bureau d'information et d'études en santé des populations, Institut national de santé publique du Québec

REVISORS

Sylvie Martel, scientific advisor

Marie-Hélène Lussier, scientific advisor

Matthieu Tandonnet, D.E.S.S., analyst in geomatics

Bureau d'information et d'études en santé des populations, Institut national de santé publique du Québec

COORDINATOR

Jérôme Martinez, chief of the scientific unit

Bureau d'information et d'études en santé des populations, Institut national de santé publique du Québec

COLLABORATORS

Denis Hamel, statistician

Philippe Gamache, statistician

Bureau d'information et d'études en santé des populations, Institut national de santé publique du Québec

PAGE SETTING

Lyne Théorêt, administrative agent

Bureau d'information et d'études en santé des populations, Institut national de santé publique du Québec

Content

1	Introduction	1
2	Index versions	1
2.1	National version	1
2.2	Regional version	1
2.3	Metropolitan version	1
2.4	Version for geographical zones	2
3	Dimensions	2
4	Variable description (in alphabetical order)	5
5	Colour code for maps and infographics	7

1 Introduction

This document contains a description of the variables in the correspondence table containing the values of the Material and Social Deprivation Index.

The correspondence table helps to establish a link between the Enumeration area (EA), specific geographical territories and different index versions. It includes the national version (all of Canada), the regional version (5 major Canadian regions) and two local versions: 4 Canadian geographical zones and the 3 major CMAs (Montréal, Toronto and Vancouver).

For more information about the Material and Social Deprivation Index, please refer to « [Material and social deprivation index : A summary](#) » and this [web page](#).

2 Index versions

The Material and Social Deprivation Index (MSDI) 1991 for Canada was created from 1991 Census data, for all EAs.

Four index versions exist for Canada.

2.1 National version

The national version for Canada covers all ten provinces and the three territories. It is used to estimate the extent and geographical distribution of material and social inequality in Canada. The deprivation in all EAs is considered. This means that it is possible to compare the deprivation level of individuals living in an EA in Nova Scotia to that of residents of an EA in British Columbia. The national version is created with a principal components analysis (PCA) of which the results are grouped into quintiles (groups formed by 20% of the population) from the least deprived (quintile 1) to the most deprived (quintile 5) (see section *Dimensions*). To create other groupings, use the (national) centiles of the deprivation measure in the correspondence table.

2.2 Regional version

The regional version presents the variations in deprivation within the five Canadian regions, namely the Atlantic Provinces, Québec, Ontario, the Prairies and British Columbia. The three territories are excluded from this version. The regional version is created with a separate PCA using all EAs in the each of the five regions, grouped into quintiles (groups formed by 20% of the population), from the least deprived (quintile 1) to the most deprived (quintile 5) (see section *Dimensions*).











2.3 Metropolitan version

The metropolitan version compares inequalities within each of the three largest census metropolitan areas (CMAs) which are Montreal, Toronto and Vancouver. This version is created with a separate PCA using all EAs in the each of the 3 CMAs, grouped into quintiles (groups formed by 20% of the population), from the least deprived (quintile 1) to the most deprived (quintile 5) (see section *Dimensions*).

2.4 Version for geographical zones

The version for geographical zones distinguishes four large geographical entities, i.e. the three largest CMAs (Toronto, Montreal and Vancouver) together; all the other CMAs combined (between 100 000 and one million individuals); all the census agglomerations (CA) combined (between 10 000 and 100 000 individuals) and the small towns and rural regions combined (less < 10 000 individuals). This version is created with a separate PCA using all EAs in the each of the 4 zones, grouped into quintiles (groups formed by 20% of the population), from the least deprived (quintile 1) to the most deprived (quintile 5) (see section *Dimensions*).

3 Dimensions

Material deprivation by quintile (Q)			Social deprivation by quintile (Q)		
Q1		least deprived EA	Q1		least deprived EA
Q2		less deprived EA	Q2		less deprived EA
Q3		average EA	Q3		average EA
Q4		more deprived EA	Q4		more deprived EA
Q5		most deprived EA	Q5		most deprived EA

Each dimension, material and social, reveals specific aspects of deprivation. Thus, it is important to study them separately before combining them.

The groupings below are combinations of material and social deprivation levels, referred to by some papers as the “combined index”.

The material and the social dimension can be combined depending on the research objectives. However, INSPQ privileges two specific quintile groupings for the reasons described below.

The adequate grouping depends on the aspect which suits the research best:

- Deprivation profiles : difference between the two extreme quintiles (grouping 1)
- Deprivation gradient : difference between all quintiles (grouping 2)

Grouping 1 – Deprivation profiles

Matrix of material and social deprivation by quintile (Q)					
Material deprivation	Social deprivation				
	Q1	Q2	Q3	Q4	Q5
	C1	C1	C2	C3	C3
	C1	C1	C2	C3	C3
	C2	C2	C2	C3	C3
	C4	C4	C4	C5	C5
	C4	C4	C4	C5	C5

C1	Materially and socially privileged EA
C2	EA with average material and social deprivation
C3	Materially privileged but socially deprived EA
C4	Socially privileged but materially deprived EA
C5	Materially and socially deprived EA

Advantages of grouping 1 :

- Distinguishes deprivation profiles based on both, the material and social dimension;
- Facilitates the measure of the difference between the extreme groups (C1 and C5);
- Detects inequality between extreme groups (C1 and C5) more clearly than grouping 2.

Disadvantages of grouping 1 :

- Creates groups of unequal size, varying between 16 % and 24 % of the population.

Grouping 2 – Deprivation gradient

Matrix of material and social deprivation by quintile (Q)					
Material deprivation	Social deprivation				
	Q1	Q2	Q3	Q4	Q5
	T1	T1	T1	T2	T3
	T1	T2	T2	T3	T4
	T1	T2	T3	T4	T5
	T2	T3	T4	T4	T5
	T3	T4	T5	T5	T5

T1	Materially and socially privileged EA
T2	EA with average material and social deprivation
T3	Materially privileged but socially deprived EA
T4	Socially privileged but materially deprived EA
T5	Materially and socially deprived EA

Advantages of grouping 2 :

- Creates 5 groups of equal size (true quintiles) each containing 20 % of the population;
- Measures the difference between each one of the quintiles (gradient) in all population groups.

Disadvantages of grouping 2 :

Detects less differences between the two extreme groups (T1 and T5) than grouping 1.

4 Variable description (in alphabetical order)

Variable	Description
EA	Enumeration area code from Statistics Canada in numerical format.
EAPOP1991	Enumeration area population. This data can be missing when the EA did not participate in the Census or show the value '0' from random rounding of the population figure.
CentMat	Grouping of EAs in the national version (Canada) of the deprivation index. The material percentiles range from 1 (least deprived EA) to 100 (most deprived EA). Empty cell – Data not available.
CentSoc	Grouping of EAs in the national version (Canada) of the deprivation index. The social percentiles range from 1 (least deprived EA percentile) to 100 (most deprived EA percentile). Empty cell – Data not available.
CMA	Census Metropolitan Area code <div> <div>001 - St. John's</div> <div>543 - Brantford</div> </div> <div> <div>205 - Halifax</div> <div>550 - Guelph</div> </div> <div> <div>305 - Moncton</div> <div>555 - London</div> </div> <div> <div>310 - Saint John</div> <div>559 - Windsor</div> </div> <div> <div>408 - Saguenay</div> <div>568 - Barrie</div> </div> <div> <div>421 - Québec</div> <div>580 - Greater Sudbury</div> </div> <div> <div>433 - Sherbrooke</div> <div>595 - Thunder Bay</div> </div> <div> <div>442 - Trois-Rivières</div> <div>602 - Winnipeg</div> </div> <div> <div>462 - Montréal</div> <div>705 - Regina</div> </div> <div> <div>505 - Ottawa--Gatineau</div> <div>725 - Saskatoon</div> </div> <div> <div>521 - Kingston</div> <div>810 - Lethbridge</div> </div> <div> <div>522 - Belleville</div> <div>825 - Calgary</div> </div> <div> <div>529 - Peterborough</div> <div>835 - Edmonton</div> </div> <div> <div>532 - Oshawa</div> <div>915 - Kelowna</div> </div> <div> <div>535 - Toronto</div> <div>932 - Abbotsford--Mission</div> </div> <div> <div>537 - Hamilton</div> <div>933 - Vancouver</div> </div> <div> <div>539 - St. Catharines—Niagara</div> <div>935 - Victoria</div> </div> <div> <div>541 - Kitchener--Cambridge--Waterloo</div> </div>
CR	Canadian region: Atlantic Canada, Quebec, Ontario, Prairies, British Columbia, Territories
MUNIC	Code of the municipality to which the EA belongs.
PR	Province code <div> <div>10 – Newfoundland and Labrador</div> <div>47 – Saskatchewan</div> </div> <div> <div>11 - Prince Edward Island</div> <div>48 – Alberta</div> </div> <div> <div>12 – Nova Scotia</div> <div>59 – British-Columbia</div> </div> <div> <div>13 – New Brunswick</div> <div>60 –Yukon</div> </div> <div> <div>24 – Quebec</div> <div>61 – North-West Territories</div> </div> <div> <div>35 – Ontario</div> <div>62 - Nunavut</div> </div> <div> <div>46 – Manitoba</div> </div>

QuintMat	Grouping of EAs in the national version (Canada) of the deprivation index. The material quintiles range from 1 (least deprived EAs) to 5 (most deprived EAs). 1 – EA in least deprived quintile 2 – EA in less deprived quintile 3 – EA in average quintile 4 – EA in more deprived quintile 5 – EA in most deprived quintile empty – Data not available
QUINTMATCMA	Deprivation index - material quintiles (1 to 5) (within CMA)
QUINTSOCCMA	Deprivation index - social quintiles (1 to 5) (within CMA)
QUINTMATCR	Grouping of EAs in the Canadian region version of the deprivation index. The material quintiles range from 1 (least deprived EAs) to 5 (most deprived EAs). 1 – EA in least deprived quintile 2 – EA in less deprived quintile 3 – EA in average quintile 4 – EA in more deprived quintile 5 – EA in most deprived quintile empty – Data not available
QuintSoc	Grouping of EAs in the national version (Canada) of the deprivation index. The social quintiles range from 1 (least deprived EAs) to 5 (most deprived EAs). 1 – EA in least deprived quintile 2 – EA in less deprived quintile 3 – EA in average quintile 4 – EA in more deprived quintile 5 – EA in most deprived quintile empty – Data not available
QUINTSOCCR	Grouping of EAs in the Canadian region version of the deprivation index. The social quintiles range from 1 (least deprived EAs) to 5 (most deprived EAs). 1 – EA in least deprived quintile 2 – EA in less deprived quintile 3 – EA in average quintile 4 – EA in more deprived quintile 5 – EA in most deprived quintile empty – Data not available
QUINTMATZONE	Grouping of EAs in the Canadian zones version of the deprivation index. The material quintiles range from 1 (least deprived EAs) to 5 (most deprived EAs). 1 – EA in least deprived quintile 2 – EA in less deprived quintile 3 – EA in average quintile 4 – EA in more deprived quintile 5 – EA in most deprived quintile empty – Data not available
QUINTSOCZONE	Grouping of EAs in the Canadian zones version of the deprivation index. The social quintiles range from 1 (least deprived EAs) to 5 (most deprived EAs). 1 – EA in least deprived quintile 2 – EA in less deprived quintile 3 – EA in average quintile 4 – EA in more deprived quintile 5 – EA in most deprived quintile empty – Data not available
SCOREMAT	Deprivation index - Material factor score
SCORESOC	Deprivation index - Social factor score
Zone	Geographical zone 1. Three largest CMAs (Toronto, Montréal and Vancouver) 2. All other CMAs (between 100 000 and one million individuals) 3. All census agglomerations (between 10 000 and 100 000 individuals) 4. Small towns and rural regions (< de 10 000 individuals)

5 Colour code for maps and infographics

	R	G	B	Colour
	255	255	255	White (missing value ¹)
	204	204	204	Gray (Value 0 ²)
	110	161	101	Dark green
	176	231	176	Light green
	255	236	176	Yellow
	135	174	192	Light blue
	68	126	163	Dark blue
	236	189	158	Light orange
	235	133	93	Dark orange
	162	110	166	Light purple
	122	70	130	Dark purple

¹ EA without index value (collective households, Indian reserves).

² Maps: no assignation could be done; wrong or missing postal code or too recent to be included in the file.