

**FROM AFTER-TAX INCOME TO MARKET BASKET MEASURE (MBM)
DISPOSABLE INCOME**

Working paper

Centre d'étude sur la pauvreté et l'exclusion

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Writing and analysis

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Table of contents

Table of contents	iii
List of tables	iii
Summary	iv
1. Introduction	1
2. Upward adjustment: methodology and results	4
3. Conclusion	7
Bibliography	8

List of tables

Table 1 –	Low income thresholds, based on various low income measures for certain types of family units and communities, in current dollars and 2009 dollars, Québec, 2007	2
Table 2 –	Average income of Québec households situated close to the market basket measure (MBM) (\pm 5%), Québec, 2004	5

Summary

Comparisons of various low income thresholds are carried out using bases that are not entirely comparable: low income cut-offs (LICO) and the low income measure (LIM) are based on before- or after-tax income (but **before** social contributions), whereas the market basket measure (MBM) is based on the cost of a market basket in a community of residence and disposable income for purposes of consumption (**after** taxes **and** social contributions). This begs the following question: How high must the average after-tax income of a given household be in order for it to have the means to acquire the basket in question, given that the cost of the basket must correspond to an equivalent income?

The purpose of this working paper is to provide a detailed justification for a proposed 7% upward adjustment in the market basket measure (MBM) as a means of rendering the thresholds comparable to an after-tax income.

1. Introduction

The Act to combat poverty and social exclusion (R.S.Q. c. L-7, section 2) defines poverty as the “condition of a human being who is deprived of the resources, means, choices and power necessary to acquire and maintain economic self-sufficiency or to facilitate integration and participation in society.” It also proposes (section 12) that Québec devise certain means of measuring the progress achieved in the fight against poverty and social exclusion.

In its brief to the minister entitled *Taking the Measure of Poverty: Proposed Indicators of Poverty, Inequality and Social Exclusion to Measure Progress in Québec*, the Centre d'étude sur la pauvreté et l'exclusion (CEPE) proposed various indicators to measure progress, of which the main one is the market basket measure (MBM). It is presented in the brief as the baseline measure for monitoring situations of poverty from the perspective of basic needs.

It should be recalled that according to this measure, established by Human Resources and Skills Development Canada (HRSDC, 2009) and currently published by Statistics Canada (2010), a family unit is considered to be in a situation of low income when its **disposable income available for consumption** falls below the cost of a **basket of goods and services** determined on the basis of its community or a community of the same size. The make-up of this basket is as follows:

- food;
- clothing and footwear;
- housing;
- transportation (public transit in an urban area, automobile in a rural area); and
- other goods and services (e.g. furnishings, telephone, household items, school fees, recreational items, etc.).

The brief to the minister presented a comparison of three low income thresholds (CEPE, 2009, p. 27), reproduced here but indexed for the year 2009 in Table 1. Table 1 has three columns: the first presenting the thresholds in current dollars; the second, the same thresholds in 2009 dollars; and the third, the estimated average income corresponding to what should be considered when looking at the MBM threshold for the purpose of threshold comparisons.

Table 1 – **Low income thresholds, based on various low income measures for certain types of family units and communities, in current dollars and 2009 dollars, Québec, 2007**

	Current \$	\$ (2009)	Corresponding average income after income taxes (estimated) (\$ 2009)
Market basket measure (MBM) (Montréal CMA, 2007)			
Unattached persons	13 280	13 641	14 596
Single-parent families (1 child)	18 592	19 097	20 434
Childless couples	18 592	19 097	20 434
Two-parent families (2 children)	26 560	27 282	29 191
Low income cut-offs (LICOs) after income taxes (500,000 inhabitants and more, 2007)			
Unattached persons	17 954	18 442	
Single-parent families (1 child)	21 851	22 445	
Childless couples	21 851	22 445	
Two-parent families (2 children)	33 946	34 868	
Low income measure (LIM) after income taxes (2007)			
Unattached persons	14 359	14 749	
Single-parent families (1 child)	20 102	20 648	
Childless couples	20 102	20 648	
Two-parent families (2 children)	28 717	29 497	

Sources: Statistics Canada, *Survey of Household Spending (SHS)* and *Survey of Labour and Income Dynamics (SLID)*; Human Resources and Skills Development Canada, 2009; compilations of the Centre d'étude sur la pauvreté et l'exclusion, July 2010.

The text pointed out the following:

It should be recalled that the various measures are all constructed according to different methods and that the LICOs' and LIM's thresholds, which are based on incomes, should not be confused with those of the MBM, based on the cost of a basket that a person can purchase with his or her disposable income available for consumption. These are two very different realities.

It is therefore understood that comparisons of various low income thresholds are carried out using bases that are not entirely comparable: low income cut-offs (LICO) and the low income measure (LIM) are based on before- or after-tax income (but **before** social contributions), whereas the market basket measure (MBM) is based on the cost of a market basket in a community of residence and disposable income for purposes of consumption (**after** taxes **and** social contributions). This begs the following question: **How high must the average after-tax income of a given household be in order for it to have the means to acquire the basket in question**, given that the cost of the basket must correspond to an equivalent income? The text also provided the following clarification:

In the particular case of the market basket measure, the after-tax income needed to purchase a basket of goods varies considerably depending on the non-discretionary expenses of the family unit. On average, we have estimated that the

income should be revised upwards by 7% vs. the cost of the basket in order to be able to purchase it. (CEPE, 2009, p. 45)

The purpose of this working paper is to provide a detailed justification for a proposed 7% upward adjustment in the market basket measure (MBM) as a means of rendering the thresholds comparable to an after-tax income. This upward revision has been estimated on the basis of certain hypotheses.

The income measures currently in use especially consider “total income” (income from the market and other sources, including government transfers, before taxes) and “disposable income” (after payment of taxes). The designers of the market basket measure (MBM) have proposed another, more innovative notion of income that considers only income actually available to purchase goods and services, i.e. income minus the following non-discretionary expenditures:

- income taxes, contributions to the public pension plans and the employment insurance plan;
- uninsured health care, dental care, eye care;
- child care;
- support allowances, child support payments; and
- pension-plan contributions and union dues.

In this way, we obtain the “market basket measure disposable income”, a notion that is different from income after income taxes and transfers usually defined as total income, including government transfers, minus income taxes (Statistics Canada, 2009, p. 121). The notion also differs from personal disposable income, which is the portion of income remaining after payment of direct personal taxes, including income taxes, contributions to social insurance plans and other fees and charges (Wilkinson, 2003). The fact remains that this definition is no longer found in recent publications by Statistics Canada, which seems to have replaced it by the market basket measure (MBM) disposable income (Statistics Canada, 2009).

2. Upward adjustment: methodology and results

With the help of a data file concerning household taxation in 2004, constructed by way of a sample of Québec households¹ that included only types of households whose disposable income (in terms of the MBM) is located within a margin of $\pm 5\%$ of the MBM threshold, we were able to estimate the following values (Table 2):

- total income and average income after income taxes;
 - total income is the sum total of employment income, transfers, investment income, and other sources of income;
 - average income after income taxes was established by subtracting from the total income all Québec income taxes and an estimate of federal income tax obtained by way of a regression measuring the correlation between federal and provincial income taxes (data from the *Survey of Labour and Income Dynamics (SLID)*);
- the range of these various incomes (minimum and maximum);
- the average disposable income of the MBM (in accordance with the definition of the MBM);
 - after taxes income minus:
 - contributions to public pension plans (employees and self-employed);
 - employment insurance contributions;
 - contributions to a registered pension plan;
 - union or professional dues;
 - deductible support payments;
 - medical costs (estimated for eligible taxpayers);
 - child care costs (amount of tax credit, not total amount);
- the MBM threshold;
- the difference between average income after income taxes and the average disposable income of the MBM; and
- the required upward adjustment, i.e. the relationship between this difference and the MBM threshold.

With the help of Table 2, it is possible to interpret the cases of unattached persons, single-parent families, childless couples and couples with one or two children. The upward adjustment does not exceed 5% in the case of unattached persons and exceeds 5% only slightly in the case of couples with one child, while it is between 6.5% and 7.5% in all other cases. In order to render the MBM thresholds and all other low-income measures based only on income comparable, we agreed to set the upward adjustment at 7%.

¹ This file was constructed at the request of the MESS by the ministère du Revenu du Québec, and we wish to thank the MRQ for it. The file includes anonymous data for a sample of 500,000 households.

Table 2 – Average income of Québec households situated close to the market basket measure (MBM) ($\pm 5\%$), Québec, 2004

Type of family unit	N Obs	Variable	Average	Standard error	Minimum	Maximum
Unattached persons	2 819	Total income	12 778	6 120	10 822	45 899
		Income taxes (Québec)	215	2 171	0	3 629
		Income taxes (Canada)	46	1 686	0	2 710
		After-tax income	12 517	4 481	11 027	45 876
		Average disposable income	11 965	1 966	10 698	12 788
		MBM threshold	11 907	1 517	11 257	12 180
		After-tax income - MBM income	552		329	33 088
		Upward adjustment (%)	4,6			
Single-parent family (1 child)	1 000	Total income	17 776	5 044	15 019	46 755
		Income taxes (Québec)	121	825	0	3 546
		Income taxes (Canada)	31	563	0	2 388
		After-tax income	17 624	4 549	15 208	44 454
		Average disposable income	16 503	1 631	14 974	17 897
		MBM threshold	16 530	1 187	15 760	17 052
		After-tax income - MBM income	1 121		233	26 557
		Upward adjustment (%)	6,8			
Single-parent family (2 children)	792	Total income	21 458	4 679	18 284	52 024
		Income taxes (Québec)	113	627	0	2 542
		Income taxes (Canada)	-5	472	0	2 847
		After-tax income	21 350	4 188	18 424	46 638
		Average disposable income	20 051	1 572	18 198	21 740
		MBM threshold	20 043	1 104	19 137	20 706
		After-tax income - MBM income	1 299		226	24 898
		Upward adjustment (%)	6,5			
Childless couples	1 124	Total income	18 312	10 337	15 116	49 491
		Income taxes (Québec)	313	1 986	0	5 117
		Income taxes (Canada)	225	1 560	0	3 480
		After-tax income	17 774	8 761	15 407	45 574
		Average disposable income	16 543	2 204	14 976	17 898
		MBM threshold	16 516	1 586	15 760	17 052
		After-tax income - MBM income	1 231		431	27 676
		Upward adjustment (%)	7,5			
Couples (1 child)	505	Total income	21 749	5 084	18 376	34 853
		Income taxes (Québec)	236	1 317	0	3 965
		Income taxes (Canada)	175	832	0	2 631
		After-tax income	21 337	4 065	18 599	31 160
		Average disposable income	20 251	2 106	18 193	21 715
		MBM threshold	20 197	1 438	19 137	20 706
		After-tax income - MBM income	1 087		406	9 445
		Upward adjustment (%)	5,4			
Couples (2 children)	484	Total income	26 068	8 340	21 741	61 170
		Income taxes (Québec)	375	1 735	0	4 349
		Income taxes (Canada)	308	1 249	0	4 406
		After-tax income	25 385	6 836	22 019	52 416
		Average disposable income	23 769	2 442	21 528	25 578
		MBM threshold	23 733	1 744	22 514	24 360
		After-tax income - MBM income	1 616		492	26 838
		Upward adjustment (%)	6,8			

Source: Ministère du Revenu (2004), Tax data for a sample of 500,000 Québec households, compilations of the Centre d'étude sur la pauvreté et l'exclusion, July 2010.

It will be noted that for unattached persons, for example, extremely varied situations may be observed. The market basket measure (MBM), seen as a satisfaction threshold for basic needs, makes it possible to consider a person whose total income could reach \$45,900, which would not have been possible with single-income based measures (LICO or LIM). Taking into account what is deducted from income in order to establish market basket measure (MBM) disposable income, one could imagine the case of people who must, for example, deduct support payments, uninsured medical costs (e.g. dental care), and child care costs, etc. from their income. Even with an after-tax income of \$45,900, the market basket measure (MBM) disposable income may decrease by nearly \$12,800 after non-discretionary expenditures.

The maximum data are of the same magnitude for most of the case-types examined and may even rise to over \$52,000 for single-parent families with two children and to over \$61,000 for couples with two children. Non-discretionary expenditures may reduce after-tax income to a level below the market basket measure (MBM) thresholds.

3. Conclusion

The thresholds provided by the market basket measure (MBM) are based on the cost of a market basket in a given community of residence and they have an equivalence in after-tax income. Market basket measure (MBM) thresholds must be adjusted upward by 7% in order to render them comparable with low income cut-offs (LICO) or low income measure (LIM).

Nevertheless, in order to lighten the publication of market basket measure (MBM) thresholds, we will refer only to those published by Statistics Canada (which recently took over from Human Resources and Skills Development Canada (see Statistics Canada, 2010)); this should also facilitate interprovincial comparisons. These thresholds refer to a household type with two adults and two children according to the size of the community (where a distinction is made between the cities of Québec and Montréal for communities with over 500,000 people); but using an equivalence scale makes it possible to reconstruct an entire matrix of thresholds, which creates a link between household and community size. Under these circumstances, the upward adjustment of 7% should only be used when one explicitly wishes to compare various thresholds.

Moreover, the implicit thresholds presented in the CEPE brief (2009, p. 44 and beyond) are based on the market basket measure thresholds for Montréal, calculated on the basis of 2006 thresholds and indexed for inflation. In the same brief, the upward adjustment of 7% was not applied since CEPE preferred to confine itself to published thresholds, indexed for 2008. In fact, the goal was not to compare the various thresholds among themselves but rather to compare the reference thresholds determined by a social or taxation measure (implicit thresholds) with certain low income thresholds.

Hence, in our opinion, the upward adjustment of 7% fully meets the need to compare thresholds among themselves, but it will be necessary to review this estimate on a periodic basis in order to ascertain whether or not variations occur over time.

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