Introducing the Housing Hardship Concept

INTRODUCTION

One of the key metrics CMHC has used to measure housing affordability is the 30% shelter cost-to-income ratio (STIR). The 30% STIR threshold implies that households may have difficulty affording necessities such as food, clothing and transportation if they are spending 30% or more of their income on shelter costs. However, whether or not the housing expenses have, in fact, left a household with insufficient income to purchase those necessities is a gap not filled with the STIR approach.

This report addresses this gap by introducing a new indicator, a measure of housing hardship, which directly assesses whether a household can afford necessary basic goods and services, like food and transportation, in addition to housing expenses.. Households who do not have sufficient income left over to pay for these necessities after their housing costs are considered to be in a situation of housing-induced hardship. A key feature of this measure is that it considers both housing and non-housing expenses when assessing affordability and is more sensitive to family size and location than the commonly used 30% benchmark.

Housing affordability issues in Canada have traditionally been measured in a way that is not necessarily directly relatable to the lived experience of households trying to make ends meet. The housing hardship indicator is explored to provide further insight into housing affordability issues and is intended to complement, not replace, other existing approaches (including the 30% STIR and the core housing need indicator) that assess housing affordability and housing quality. This report introduces the concept, presents initial figures and discusses these preliminary results at the national and provincial levels as well as for selected Canadian cities. Further research probing into factors influencing levels and changes in the Housing Hardship indicator will be conducted in 2020.

HOUSING HARDSHIP CONCEPT

Housing hardship refers to the financial difficulty a household may face due to a combination of high shelter expenses and insufficient income. More specifically, a household is considered to be in housing hardship if the disposable income after housing expenditures[1] (or residual income) is such that the household is unable to afford other basic living expenses.

To illustrate how a residual income approach differs from the 30% STIR, let us take two households with the same disposable income: 1) a family with parents and children and 2) a single person living alone. It is conceivable that the family in the first example would have to spend more than the second on non-housing expenditures to meet the members' basic needs (such as food, clothing and transportation). The residual income approach would suggest that the family with children would not be able to afford the same housing expenses as the single-person household when other essentials are accounted for; however, the 30% STIR approach would suggest that both households could afford the exact same housing expenses since other non-housing expenses are not taken into account.

The residual income approach has been part of the debate about the definition of housing affordability in the United Kingdom, the United States and Australia (see, for instance, Stone (2006)), and the housing policy literature has identified three major practical issues in translating the residual income logic into an operational approach. First, how should one quantify the monetary representation of a minimum living standard for non-shelter items; second, how should one scale the standard for different types of households; and, third, how should one deal with taxes and benefits to obtain a disposable income that represents the actual amount left at the disposal of the family.

To address the first practical issue in operationalizing the housing hardship measure, we adopt the Market Basket Measure (MBM). The MBM develops thresholds of poverty based on the costs of a basket of food, clothing, shelter, transportation and other items for individuals and families representing a modest, basic standard of living.[2] It consists of housing and non-housing components, where the non-housing components include a nutritious diet, clothing and footwear, transportation, and other necessary goods and services. It varies regionally and is estimated for a family of four and then equivalized to come up with thresholds for families of different sizes. In 2018, the Government of Canada adopted the MBM as Canada's official poverty line.[3,4]

To address the second practical issue, we use the square root of family size as an equivalence scale to adjust the MBM thresholds for families of different sizes. Statistics Canada uses this same adjustment

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1 Housing expenditures for homeowners include, where applicable, mortgage payments, property taxes and condominium fees, along with the costs of electricity, heat, water and other municipal services. For renters, housing expenditures include, where applicable, the rent and the costs of electricity, heat, water and other municipal services.

2 The MBM is available for 50 different geographic areas: 19 specific communities and 31 population centre size and province combinations.

3 The MBM is currently undergoing a comprehensive review by ESDC and Statistics Canada. See https://www150.statcan.gc.ca/n1/pub/75f0002m/75f0002m2019009-eng.htm for the consultation process and the review updates.

4 See table 11-10-0066-01 on the Statistics Canada website for MBM thresholds (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110006601).

factor when equivalizing the MBM threshold. Lastly, to address the third practical issue, we use the disposable income for the MBM, which is an income concept developed by ESDC to be used when comparing against the MBM thresholds.[5]

Inherent to all indicators are various strengths and weaknesses. Table 1 explores some of the advantages and disadvantages of the traditional affordability standard (30% STIR) and the housing hardship measure in order to illustrate some of the benefits and limitations of each indicator.

Table 1: Pros and cons of the 30% STIR and housing hardship indicators

Indicator	PROS	CONS
30% STIR	• Relatively simple to calculate (depends on few variables) • Limited assumptions about household consumption and thus easy to implement • Many data sources available to produce estimates • Easy to explain to non-technical audiences	• No clear empirical rationale supporting the 30% benchmark • Does not recognize variation in living costs across different household types and geographic locations • Does not take into account the availability of housing supply
Housing hardship	• Makes explicit the relationship between housing and non-housing expenditures • Accounts for differences in non-housing expenditures across different family sizes • Accounts for differences in non-housing expenditures across geographic locations	• Requires a non-housing expenditure benchmark that represents a subjective basket of goods • More complex in terms of calculation • Not easily interpreted • Does not take into account the availability of housing supply

DATA SOURCES

There are multiple data sources from which the housing hardship rate can currently be derived, specifically Statistics Canada's Canadian Income Survey (CIS) 2012-2017, Census 2016 and National Household Survey (NHS) 2011.

Households included in the housing hardship estimates are private, non-farm, non-band, non-reserve households with positive family disposable income. Households with negative residual income (cases where shelter expenses have exceeded disposable income) are excluded from the housing hardship universe, since the reasons behind such occurrences cannot be established. Restrictions have also been placed for households reporting investment income/losses, capital gains/losses or farm income or having equivalized income (income adjusted for family size and economies of scale) above the median income of their respective provinces of residence, such that these households cannot be in housing hardship.

As the MBM is currently undergoing a comprehensive review by ESDC and Statistics Canada, the figures and analysis in the following section will be updated following the results of the MBM review in 2020.

EMPIRICAL HIGHLIGHTS

Since the scope of this report focuses on introducing the new housing hardship concept, this section will discuss key highlights in the rates across Canada without further unpacking the results. A comprehensive analysis probing into the reasons behind variations in housing hardship rates and changes in these rates over time will be included in the updated publication planned for 2020.

To restate the utility of the housing hardship measure, we can observe the extent to which households cannot afford housing and other key goods that would have a significant impact on their well-being and their capacity to participate in society. The 30% STIR approach, while useful in identifying households who may be struggling with affordability issues (and for the reasons outlined above), does not reveal how housing costs may be restricting the ability of households to consume essential goods and services, particularly as household size and geographic location are not taken into account. Figure 1 shows the estimates for housing hardship and the 30% STIR in Canada and across the ten provinces from 2012 to 2017 using the CIS, and figure 2 shows estimates for selected census metropolitan areas (CMAs).[6]

For Canada, the housing hardship rates appear to be consistently below the 30% STIR over recent years, with the housing hardship indicator hovering around 10% and the 30% STIR, around 13%. Stark differences between the two indicators are revealed when considering the rates for each province. The eastern provinces (Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick) experience higher incidences of housing hardship (about 15%) than Canada overall and the other provinces, implying that households in these provinces are more likely to face affordability problems in that they are unable to pay for essential goods after paying for shelter expenses. This finding, however,

[5] Disposable income is income after deducting not only income taxes but also several non-discretionary expenditures. These expenditures are Employment Insurance, Canada Pension Plan, Quebec Pension Plan and registered pension plan contributions, union dues (including professional membership dues and malpractice liability insurance premiums), child care expenses incurred in order to hold a paid job, support payments paid, public health insurance premiums and direct medical expenses including private insurance premiums. The disposable income is also adjusted for the mortgage-free homeowner's advantage.

[6] The figures presented in this paper are for CMAs for which there were sufficient observations available to comply with Statistics Canada's data usage requirements.

is not observed from only considering the 30% STIR affordability indicator—the proportion of households below the 30% STIR in the eastern provinces is consistent with the Canadian average and the proportions of the other provinces. Examining these two measures of affordability, we can see that households in the eastern provinces, though not typically spending more than 30% of their income on their housing, experience more difficulty on average in making ends meet. This finding may point to relatively low income levels in those provinces; however, further analysis should be performed to identify why we observe this occurrence.

Housing hardship rates for all other provinces, except Saskatchewan and Alberta, coincide with the national average, with Saskatchewan appearing slightly below and Alberta appearing significantly below the national average. In 2012, the housing hardship rate for Alberta was about one third that for Canada, and though the figures appear to be increasing somewhat in recent years, the rate is still the lowest in the country. It is worth noting that the proportion of households in Alberta falling below the 30% STIR threshold was well below the national average between 2012 and 2014 but has caught up with the national average in recent years. Considering both indicators, the affordability situation is appearing to worsen for Albertans, but they are still much less likely to have trouble paying for other necessities compared to Canadians on average. This could result from the combination of relatively high incomes, relatively low income tax and the absence of sales tax in the province of Alberta.

Considering the situation in the major CMAs in figure 2, there are fewer households overall in housing hardship than there are households falling below the 30% STIR threshold. For Halifax, though the proportion of households falling below the 30% threshold is consistent with that of the province, the housing hardship rate is below the provincial average, implying that hardship issues could be more concentrated outside of the CMA. Calgary and Edmonton, consistent with the provincial view, fare better than other CMAs on both the housing hardship and the 30% STIR indicators.

A more surprising story emerges for CMAs such as Toronto and Vancouver, which have been a focal part of the housing affordability discussion in recent years. Figure 2 suggests that affordability issues are equally or more pronounced in other CMAs across these provinces. For instance, Toronto fares better than London in both measures of affordability, while Vancouver is comparable to Victoria in terms of the two indicators. Further analysis on income distributions and related price levels would speak to the results observed.

SUMMARY

This Research Insight introduced the housing hardship concept, which is a means of assessing housing affordability beyond the traditional STIR approach. Households who do not have sufficient income after paying for housing expenses are considered to be in a position of housing-induced hardship. The housing hardship concept was also adapted in recent CMHC research to express socio-economic inequalities in housing issues. Using multiple measures to observe trends in housing affordability is useful in capturing the varied and multi-dimensional nature of affordability challenges across the country.

The most recent data available show that the Canadian average in 2017 for the housing hardship rate was approximately 9%, while approximately 11% of households were paying more than 30% of their before-tax incomes on shelter costs. Households in some areas, including the Atlantic provinces, were more likely than Canadians on average to find themselves in housing hardship, whereas in the Prairie provinces, households were less likely to be in a situation of hardship. Interestingly, hardship rates in Toronto and Vancouver, which have received attention for housing affordability pressures in these areas, were not markedly higher than the provincial average in either case. Hardship rates were higher than average in London, which perhaps has not been reflected as strongly in the discussion on affordability pressures in cities across Canada. Further analysis is recommended to understand the factors influencing these outcomes across particular CMAs, which is planned for the follow-up research paper to be published in 2020.

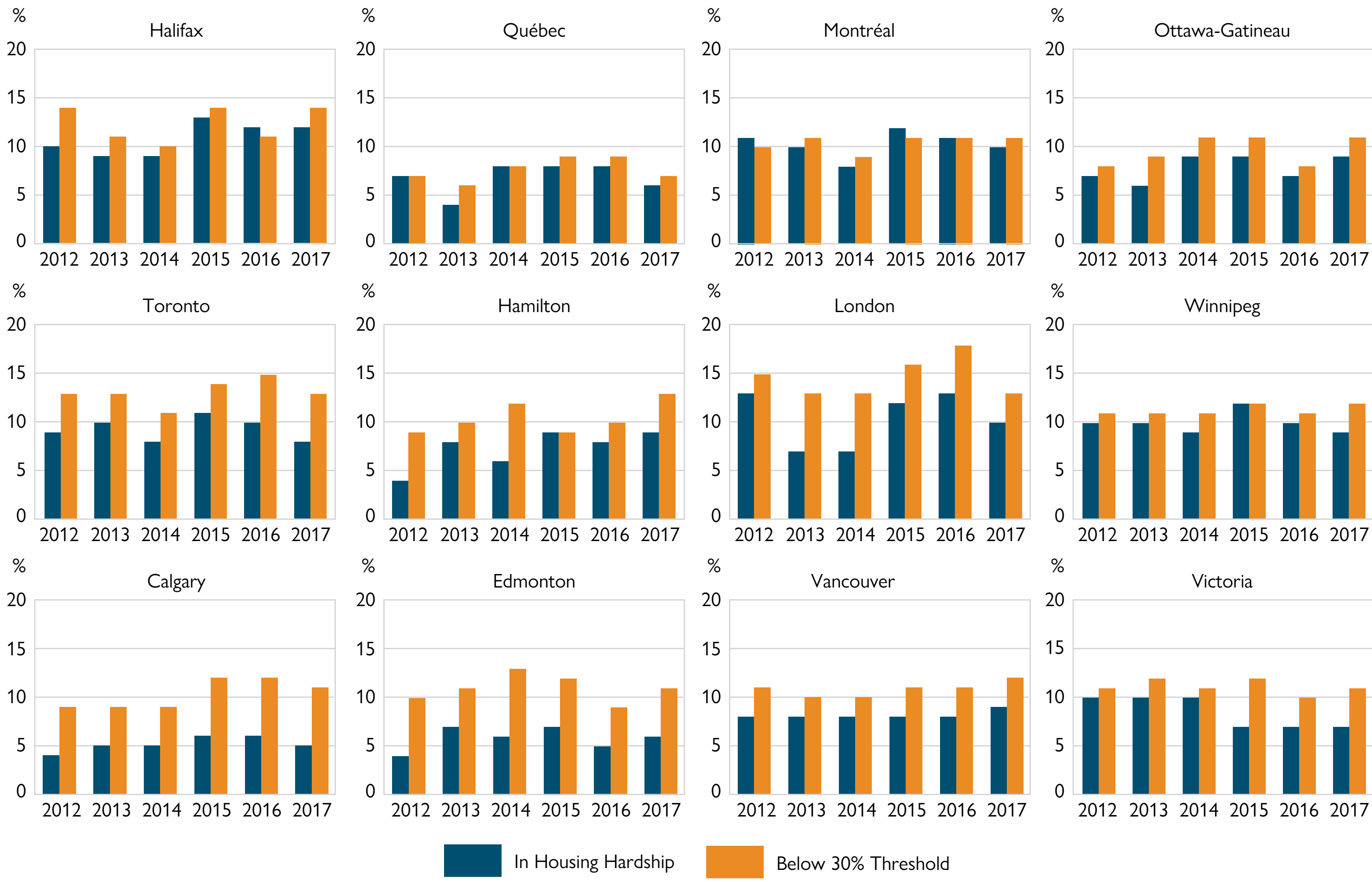
REFERENCES

Stone, M. E. (2006). What is housing affordability? The case for the residual income approach. *Housing Policy Debate*, 17:1, 151-184.

Figure 1: Housing hardship and the 30% affordability threshold for Canada and across provinces

Data source: CIS 2012-2017. "Below 30% threshold" refers to households who fall below the 30% STIR standard, that is, they spend more than 30% of their total income on shelter expenses. N.L. = Newfoundland and Labrador, P.E.I. = Prince Edward Island, N.S. = Nova Scotia, N.B. = New Brunswick, Que. = Quebec, Ont. = Ontario, Man. = Manitoba, Sask. = Saskatchewan, Alta. = Alberta and B.C. = British Columbia. Households included in the estimates are private, non-farm, non-band, non-reserve households with positive family disposable income. Households with negative residual income (cases where shelter expenses have exceeded disposable income) are excluded from the universe, since the reasons behind such occurrences cannot be established. Restrictions have also been placed for households reporting investment income/losses, capital gains/losses or farm income or having equivalized income (income adjusted for family size and economies of scale) above the median income of their respective provinces of residence, such that these households cannot be in housing hardship or below the 30% STIR standard.

Figure 2: Housing hardship and the 30% affordability threshold across selected CMAs



Data source: CIS 2012-2017. "Below 30% threshold" refers to households who fall below the 30% STIR standard, that is, they spend more than 30% of their total income on shelter expenses. Households with negative residual income (cases where shelter expenses have exceeded disposable income) are excluded from the universe, since the reasons behind such occurrences cannot be established. Restrictions have also been placed for households reporting investment income/losses, capital gains/losses or farm income or having equivalized income (income adjusted for family size and economies of scale) above the median income of their respective provinces of residence, such that these households cannot be in housing hardship or below the 30% STIR standard.

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ALTERNATIVE TEXT AND DATA FOR FIGURES

Figure 1: Housing hardship and the 30% affordability threshold for Canada and across provinces

Province		2012	2013	2014	2015	2016	2017
NL	In Housing Hardship	15%	14%	15%	17%	15%	14%
	Below 30% Threshold	11%	10%	10%	11%	10%	11%
PE	In Housing Hardship	16%	15%	10%	14%	13%	12%
	Below 30% Threshold	11%	11%	8%	8%	8%	10%
NS	In Housing Hardship	15%	14%	13%	16%	14%	13%
	Below 30% Threshold	14%	12%	11%	13%	11%	12%
NB	In Housing Hardship	16%	14%	15%	18%	17%	13%
	Below 30% Threshold	11%	10%	10%	12%	11%	11%
QC	In Housing Hardship	10%	10%	10%	11%	10%	9%
	Below 30% Threshold	8%	9%	9%	10%	10%	9%
ON	In Housing Hardship	8%	8%	8%	9%	9%	8%
	Below 30% Threshold	11%	12%	12%	12%	12%	12%
MB	In Housing Hardship	9%	9%	8%	10%	8%	8%
	Below 30% Threshold	8%	9%	9%	10%	10%	10%
SK	In Housing Hardship	7%	7%	7%	8%	7%	7%
	Below 30% Threshold	9%	9%	9%	10%	10%	9%
AB	In Housing Hardship	5%	5%	6%	6%	6%	6%
	Below 30% Threshold	8%	8%	11%	9%	10%	10%
BC	In Housing Hardship	10%	10%	9%	9%	9%	8%
	Below 30% Threshold	11%	12%	11%	11%	11%	11%
Canada	In Housing Hardship	10%	9%	9%	10%	10%	9%
	Below 30% Threshold	10%	10%	10%	11%	11%	11%

Data source: CIS 2012-2017. "Below 30% threshold" refers to households who fall below the 30% STIR standard, that is, they spend more than 30% of their total income on shelter expenses. N.L. = Newfoundland and Labrador, P.E.I. = Prince Edward Island, N.S. = Nova Scotia, N.B. = New Brunswick, Que. = Quebec, Ont. = Ontario, Man. = Manitoba, Sask. = Saskatchewan, Alta. = Alberta and B.C. = British Columbia. Households included in the estimates are private, non-farm, non-band, non-reserve households with positive family disposable income. Households with negative residual income (cases where shelter expenses have exceeded disposable income) are excluded from the universe, since the reasons behind such occurrences cannot be established. Restrictions have also been placed for households reporting investment income/losses, capital gains/losses or farm income or having equivalized income (income adjusted for family size and economies of scale) above the median income of their respective provinces of residence, such that these households cannot be in housing hardship or below the 30% STIR standard.

Figure 2: Housing hardship and the 30% affordability threshold across selected CMAs

CMA		2012	2013	2014	2015	2016	2017
Halifax	In Housing Hardship	10%	9%	9%	13%	12%	12%
	Below 30% Threshold	14%	11%	10%	14%	11%	14%
Quebec	In Housing Hardship	7%	4%	8%	8%	8%	6%
	Below 30% Threshold	7%	6%	8%	9%	9%	7%
Montreal	In Housing Hardship	11%	10%	8%	12%	11%	10%
	Below 30% Threshold	10%	11%	9%	11%	11%	11%
Ottawa-Gatineau	In Housing Hardship	7%	6%	9%	9%	7%	9%
	Below 30% Threshold	8%	9%	11%	11%	8%	11%
Toronto	In Housing Hardship	9%	10%	8%	11%	10%	8%
	Below 30% Threshold	13%	13%	11%	14%	15%	13%
Hamilton	In Housing Hardship	4%	8%	6%	9%	8%	9%
	Below 30% Threshold	9%	10%	12%	9%	10%	13%
London	In Housing Hardship	13%	7%	7%	12%	13%	10%
	Below 30% Threshold	15%	13%	13%	16%	18%	13%
Winnipeg	In Housing Hardship	10%	10%	9%	12%	10%	9%
	Below 30% Threshold	11%	11%	11%	12%	12%	12%
Calgary	In Housing Hardship	4%	5%	5%	6%	6%	5%
	Below 30% Threshold	9%	9%	9%	12%	12%	11%
Edmonton	In Housing Hardship	4%	7%	6%	7%	5%	6%
	Below 30% Threshold	10%	11%	13%	12%	9%	11%
Vancouver	In Housing Hardship	8%	8%	8%	8%	8%	9%
	Below 30% Threshold	11%	10%	10%	11%	11%	12%
Victoria	In Housing Hardship	10%	10%	10%	7%	7%	7%
	Below 30% Threshold	11%	12%	11%	12%	10%	11%

Data source: CIS 2012-2017. "Below 30% threshold" refers to households who fall below the 30% STIR standard, that is, they spend more than 30% of their total income on shelter expenses. Households with negative residual income (cases where shelter expenses have exceeded disposable income) are excluded from the universe, since the reasons behind such occurrences cannot be established. Restrictions have also been placed for households reporting investment income/losses, capital gains/losses or farm income or having equivalized income (income adjusted for family size and economies of scale) above the median income of their respective provinces of residence, such that these households cannot be in housing hardship or below the 30% STIR standard.