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FACTORS AND PROBLEMS INVOLVED  
IN DETERMINING THE APPROPRIATE  
PROPORTIONS OF INCOME TO BE SPENT  
ON SHELTER: A BACKGROUND REPORT

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23 SEPTEMBER, 1977

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## Synopsis

This report attempts to come to grips with the factors and problems involved in using shelter-to-income ratios<sup>1</sup> and threshold income levels to define housing affordability or housing need. The report identifies and discusses the various factors and problems associated with creating an appropriate definition of income and shelter cost. A discussion of how shelter-to-income ratios have been used in practice follows together with a discussion of the problems involved in using shelter-to-income ratios to define need.

A brief discussion of two alternative approaches to the definition of affordability is included.

Finally, there is a brief discussion of how shelter-to-income ratios are related to the question of societal values and expectations in general.

A summary of the report is presented in a table, attached as an Appendix.

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<sup>1</sup>Note that shelter-to-income ratios are also referred to as contribution rates and gross debt service (GDS) ratios.

Factors & Problems Involved in Determining the Appropriate Proportions of Income to be Spent on Shelter: a Background Report

The major problems associated with housing in Canada are not general housing problems per se, but are income distribution or welfare problems, and increasing inflation induced capital market imperfections.

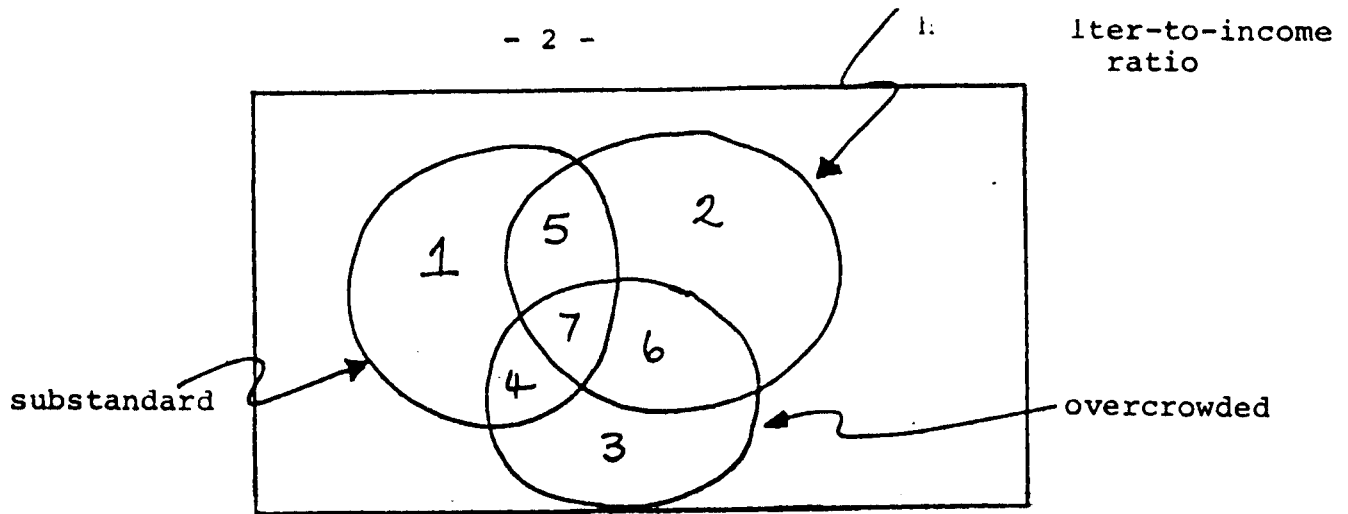
L.B. Smith, 1976, 247

1. Introduction and Conceptual Overview

It would be inappropriate to discuss the factors involved in determining the appropriate amount of income to be spent on housing without at least some discussion of the whole question of housing needs so that the main discussion may be set in context.

There are several variables which should be considered in defining housing needs. These include shelter cost, shelter quality, overcrowding and income. Ability to pay for housing is usually defined in terms of the proportion of income spent on shelter. While all three original variables (shelter cost, shelter quality, income) and the two derived variables (shelter to income ratio, overcrowding) are well known to most people, their definition in both conceptual and operational terms poses many problems.

A first problem in the area of housing need is one of distinguishing between households in need and dwelling in need. This distinction, although often confused, is important from a policy perspective since any policy on housing need should state explicitly whether the aim of the policy is to assist dwelling in need, people in need, or both. One usually refers to the question of dwelling need as an adequacy problem and to the question of household need as an affordability problem. The quote from Smith suggests that the housing problem in Canada is more one of affordability than one of adequacy. The following Venn diagram is instructive.



The rectangle represents all dwelling units or all households if we assume, as does the Census, that the number of dwellings equals the number of households. Those dwellings and households outside the three circles are of no immediate concern for CMHC programs since 1) none of the dwellings is substandard, 2) no households are overcrowded and, 3) no household is paying a high shelter-to-income ratio.

If all dwellings/households are subdivided into two groups-- low income households and high income households - then we have two Venn diagrams, one for each group. If one presumes that high income households are able to exercise a choice in the housing market then only area 1 on the high income Venn diagram is of concern to CMHC. Here dwellings are in need but not the occupants. Programs and policies directed towards the substandard dwellings alone are required in this case (eg. code enforcement, home improvement loans). If high income households have high shelter-to-income ratios and/or are overcrowded then it may be assumed that this is their choice. Programs designed to alleviate such conditions are not required.

The low income Venn diagram is more complex since some dwellings and all households enclosed by the three circles are in need. In area 1, for example, low income households are not overcrowded, are not paying a high shelter-to-income ratio but are living in substandard accommodation. On the assumption that low income households do not exercise as great a choice in the housing market as high income households then it is clear that the low income household is in need and so is the dwelling unit since it is substandard. Two policies are

open to CMHC in this case. One is to improve the property directly. The other is to supplement the income of the household so that it may either move to another superior dwelling or improve the dwelling it occupies. RRAP loans, for example, fall between both options by giving the low income occupant a grant and low interest loan.<sup>1</sup>

Areas two and three contain households who, although they are not living in substandard accommodation, are experiencing difficulty in paying for the dwelling. They have an affordability problem. This is expressed through overcrowding and high rent-to-income ratios. Programs designed to supplement the household's income or to reduce the cost of shelter are clearly required in these cases. The former should be tackled through income distribution and/or social welfare policies and the latter through housing policies.

Areas 4 and 5 contain both dwellings in need and households in need. Area 6 contains households experiencing great difficulty in paying for non-substandard housing. Area 7 is clearly the major target group for immediate CMHC attention since in this case households are experiencing great difficulty in paying for substandard dwellings. The typical "slum" for example would usually fall in category seven.

The above discussion, by way of introduction, serves to emphasise the distinction between household need and dwelling need. Once operational definitions have been developed, quantitative estimates on the number of dwellings/households in each of the 8 categories will be obtained from the SHU survey for the 23 census metropolitan areas in Canada.

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The RRAP program therefore seems to be based on the assumption that low income households do not move after improvement takes place.

Another major point to be developed is that not all households experiencing over-crowding or high rent-to-income ratios can be defined as in need. High income households with a wider choice in the housing market have clearly decided to spend more of their income on non-housing related goods and services. In contrast all substandard dwellings are in need, whether occupied by low or high income households.<sup>1</sup> Important from a program perspective is the need to identify a threshold income level above which households are not eligible for need programs. A discussion of threshold income and poverty levels follows.<sup>2</sup>

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<sup>1</sup> See "Estimates of the Need for Residential Rehabilitation" (Housing Requirements Unit, Program and Market Requirements Division, July 1977) which specifically attempts to quantify the extent of dwelling need in Canada.

<sup>2</sup> The rest of the report pertains largely to the question of defining housing need for households. The other side of the coin-dwelling need - cannot be dismissed entirely however.

2. Factors Involved in the Definition of Threshold Income Poverty Lines

There are two basic approaches to the definition of poverty lines - the absolute approach and the relative approach. The absolute approach is a budget or subsistence - needs approach which works on the view that every family should have the basic necessities in life (food, shelter, clothing) necessary for physical survival and that if families are paying too high a proportion of their income on these necessities then they are in the poverty bracket. The relative approach, in contrast, defines poverty in terms of income inequality or deprivation.

Statistics Canada uses the absolute approach in defining its poverty or low-income line. With the knowledge that on average Canadians spend approximately 42 per cent of their income on the basic necessities, any family or individual who has to spend more than 62 per cent of its income on basic essentials is defined as living in poverty. Although the threshold value of 62 per cent is somewhat arbitrary it is based on the knowledge that the proportion of income spent on food, clothing and shelter increases as income decreases. Poverty lines by family size and area of residence are produced.

This reflects the fact that generally it costs more for larger families to live at a subsistence level and that, *ceteris paribus*, it costs more to live in large metropolitan areas than it does to live in smaller centres. The Statistics Canada poverty lines for 1974 are reproduced below:

Statistics Canada Revised Poverty Lines  
Actual Jan. 1, 1974,

Family size	January 1, 1974				
	Size of area of residence				
	500,000 or more	100,000 -499,999	30,000 -99,999	Small urban	Rural (farm & non-farm)
1	3,116	2,917	2,833	2,606	2,265
2	4,516	4,229	4,106	3,777	3,286
3	5,763	5,397	5,239	4,821	4,191
4	6,854	6,417	6,230	5,732	4,984
5	7,661	7,173	6,965	6,409	5,573
6	8,411	7,875	7,646	7,034	6,116
7 or more	9,222	8,633	8,383	7,711	6,706

From Ross (1975)

Relevant to this discussion is the fact that the proportion of income spent on necessities (which include shelter) is used to derive the threshold point and that the spatial variation in average shelter costs is implicitly incorporated in the variable, size of settlement. Shelter costs are known to be positively related to size of settlement.

The Canadian Council on Social Development (CCSD) poverty lines are based on the relative approach to defining poverty. They are constructed according to the prevailing value of average Canadian family income as estimated by Statistics Canada.<sup>1</sup>

In calculating the CCSD lines, the average Canadian income figure is considered representative of a family of four (the average Canadian family size) and the poverty line for a family of four is calculated as 50 percent of the average income figure. Adjustment is then made for different size families, on the basis of family size income units.<sup>2</sup> On their belief that no Canadian family should have an income of less than one-half the Canadian family average, the following table is presented:

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<sup>1</sup> Note that virtually all sources of pre-tax income are included (eg. interest, business profit, wages, unemployment insurance benefits etc.) while capital gains, inheritances and income in kind are excluded. The question of income in kind will be discussed later.

<sup>2</sup> A family income unit is considered to be the annual amount necessary to sustain a dependent child.

Canadian Council on Social Development  
Poverty Lines, Jan. 1, 1975

Family size	Poverty line
1	3,012
2	5,020
3	6,024
4	7,028
5	8,032
6	9,036
.	.
.	.
.	.
10	13,052

Source: Family income is reported for 1973 in Statistics Canada, *Income Distributions by Size in Canada, 1973* (preliminary estimates).

From Ross  
(1975)

The relative poverty line as delimited by the Special Senate Committee on Poverty essentially follows a similar line of reasoning to that of the CCSD approach except that 56 per cent of average Canadian family income is used to determine the poverty line. The Senate Committee Poverty lines for 1975 are reproduced below:

Senate Committee Poverty Lines  
January 1, 1975

Family size	Poverty line
1	\$3,372
2	5,620
3	6,744
4	7,871
5	8,992
6	10,116
.	.
.	.
.	.
10	14,612

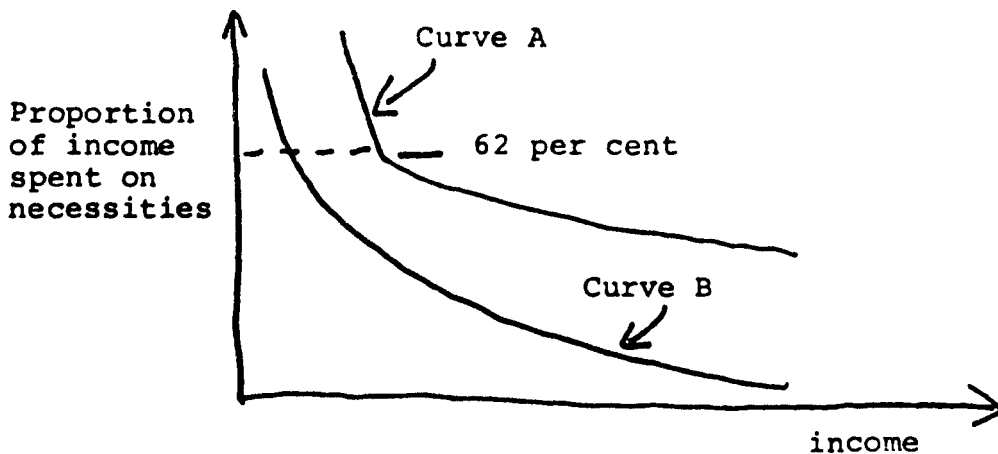
From Ross  
(1975)

Note that neither of the relative approaches have stratified poverty lines by size of settlement and hence have not taken spatial variations in the cost of living into account. Data limitations would seem to be the reason for this lack of stratification especially since the poverty lines are updated annually. It would be interesting to calculate relative poverty lines by census metropolitan area, using the SHU data, in order to examine the variance in relative poverty lines across the census metropolitan areas.

The relative approach does, however, list poverty lines up to a family size of 10 whereas the Statistics Canada lines only go up to a family size of 7.

With respect to the relative measures, it is surprising that mean family income is used instead of median family income as a basis for calculating poverty lines since it is well known that the distribution of family incomes is usually positively skewed.

A problem with all three scales is the apparently arbitrary percentage used to define the poverty line. Since none seems to have been derived empirically one is led to question whether the cutoffs have any meaning in real terms, especially when increasing attention is being focussed on the housing needs of families in the middle third of the income range. For example, it is well known that the proportion of income spent on necessities increases as income decreases. One would have more confidence in the 62 per cent cutoff used by Statistics Canada if curve A, rather than curve B, represented the actual relationship between income and proportion of income spent on necessities:



Clearly more empirical support is required for the percentage cutoffs used.

How are the poverty lines to be related to households in need of housing? The Task Force on Shelter and Incomes (March, 1976) defined a household as having a relative affordability problem if its gross income fell below the Statistics Canada low-income line for its household size and was paying in excess of 30 per cent of its income on housing including utilities (1976, 12). Two points are worth noting in this regard. First, households below the low-income line who were paying less than 30 per cent of their income on housing but who were living in substandard units and/or were overcrowded were not defined as in need. As stated at the outset these other variables are just as important as the proportion of income spent on housing in defining need.

Second, there is the question of households whose gross income is above the low-income line yet are in need as defined by the shelter-to-income, quality and overcrowding criteria. Given the increasing concern over the plight of households in the middle third of the income range, the use of poverty lines to define housing need, although identifying those in most need, may well omit many households whose housing needs should be of concern to CMHC. A more plausible threshold, from which to define housing need using the relative approach, is the median family income, adjusted for family size and housing market area.

### 3. Factors Involved in the Definition of the Unit in Need

Before discussing the definition of income and shelter cost it is necessary to identify the appropriate unit for analysis since the basic unit of observation influences any subsequent analysis.

#### The Census Family

The census family consists of a husband and wife (with or without children who have never been married, regardless of age) or a parent with one or more children never married, living in the same dwelling. Non-family persons refers to (a) those living alone (Non-family head), (b) those living with unrelated individuals, as lodgers (Lodger non-family), employees, partners or individual inmates in an institution (Other non-related, non-family), and (c) those living with relatives but not in a husband-wife or parent-unmarried child relationship (Related Non-family), eg. married daughter living with parents with no husband or children present.

#### The Economic Family

A group of two or more persons living together and related to each other by blood, marriage or adoption. This is a broader concept and includes within its definition a larger group of persons than does the "census family". For example: a widowed mother living with her married son and daughter-in-law would be treated as a non-family person under the definition of a census family, but would be counted as a member of the economic family which would include her son and daughter-in-law; two or more related census families living together also constitute one economic family.

#### The Census Household

A person or group of person occupying one dwelling. It usually consists of a family group, with or without lodgers, employees, etc. However, it may consist of two or more

families sharing a dwelling, of a group of unrelated persons or of one person living alone.

### The Spending Unit

A spending unit is one or more persons living in the same dwelling and dependent on a common or pooled income for the major items of expense. Like the household, this definition can encompass unrelated individuals.

Clearly the most preferable definition is the spending unit since it is based on actual arrangements made to pool income for basic consumption needs. It thus recognises considerably more pooling than do the other definitions. It is also the group to which most individuals can relate. The least preferable is the census household definition since it is defined in terms of a dwelling unit (structurally separate) and hence may encompass several different spending units. Unfortunately, most housing market analyses are carried out using the household as the basic unit of observation (eg SHU) especially since one household is equated with one dwelling unit, given the strict census definition. This apparent simplicity obfuscates many important issues in housing market analysis - one of the more important being that many low income spending units do not live in structurally separate dwellings. A dwelling unit should be defined in terms of the spending unit and not the other way round.

The economic family, being broader in scope, is clearly preferable to the definition of the census family which, in turn, is preferable to the household definition.

#### 4. Factors Involved in the Definition of Income

How income is defined clearly affects any shelter-to-income ratios calculated in order to define housing need. The discussion will proceed on the assumption that income is

being defined for a spending unit.

The 1974 Survey of Housing Units listed the following sources of income in assessing total gross disposable income:

- a) Wages and salaries before deductions, commissions, bonuses, tips, etc.
- b) Net income from self-employment or from operating his/her own non-farm business or professional practice.
- c) Net income from operating a farm on his/her own account or in partnership.
- d) Family and youth allowances.
- e) Old age security and guaranteed income supplement.
- f) Canada or Quebec pension plan benefits.
- g) Unemployment insurance benefits.
- h) Canada Manpower training allowance.
- i) Social assistance (welfare).
- j) Other income from government sources.
- k) Gross income from roomers and boarders.
- l) Interest on bonds, deposits and saving certificates.
- m) Dividends and other investment income.
- n) Retirement pensions, superannuation and annuities.
- o) Other money income.

#### 4(a) Assets and Wealth

While few would disagree with the income sources included in the above list, the question of whether to include some indication of a spending unit's wealth or assets in total gross income remains a problem. This is an especially important issue in defining housing needs with respect to

certain groups in society who are disposable income poor, yet asset rich (e.g. elderly homeowners). Given that, for most people, the equity in their home is the most important source of wealth the discussion will be restricted to this aspect.

One way to convert the equity of a homeowner into a current income measure is to regard the equity as an investment which, had it been invested elsewhere, would produce interest which would form part of the available income out of which housing expenditure could be undertaken. This is referred to as the opportunity cost of housing equity or wealth. The Task Force on Shelter & Incomes, for example, defined total income as disposable income plus 7 1/2 per cent of the equity in an owned home. The rationale for this is that, were it necessary, homeowners could liquidate their equity and convert it into an interest bearing security. Some consideration of housing equity in determining total disposable income is clearly required since owners with equity are clearly better off than renters without equity, *ceteris paribus*.

A similar approach was used by Ball & Kirwan (1975, 163) in a study of the Bristol housing market, England. They imputed income from the wealth accruing from the sale of the previous home. The imputed income from housing wealth was assumed to equal 8.5 per cent gross and 5 per cent net-of-tax of the principal (roughly equivalent to the Building Society deposit rates at the date of the survey period). This is more realistic in many ways than the Task Force approach since the equity in the home was actually liquidated at the time of sale and could therefore be used for housing expenditure purposes. However, first-time homeowners with equity would be viewed under this scheme

as having no disposable income from housing wealth. More research into this question is required.

#### 4(b) Permanent or Lifetime Income

It is important in a discussion of housing needs to distinguish between short-term housing needs and long-term housing needs. Many spending units may have a high shelter-to-income ratio, may be overcrowded or may be living in substandard accommodation knowing full well that the situation is temporary or short-term and that, as their income increases, they will be able to improve their housing situation. Attempts must therefore be made to distinguish spending units in the above situation from those whose housing needs are more long-term due to their inability to command increasing resources in the future. A cross-sectional analysis of housing need, under contemporary definitions, is unable to make this distinction. What is required, therefore, is a measure of lifetime income potential or permanent income so that short-term need may be distinguished from long-term need.

Lifetime income potential is often evaluated by banks, often implicitly, during the scrutiny of applicants for mortgage financing. Harvey (1973), for example, notes that families identical in every respect except occupation have different chances of obtaining mortgage financing - blue collar workers having a lower probability of obtaining financing than white collar workers. Ball & Kirwan (1975, 153) make a similar comment. There are

other factors which could be important in determining the ability to obtain a mortgage, for example the socio-economic group or the expected future income of the household. These can be very important since manual workers tend to derive more of their incomes from overtime and bonus repayments which are not treated so favourably when determining mortgage-to-income ratios.

The "permanent income hypothesis", which was originally developed by Milton Friedman to explain household spending and saving behavior, has been widely applied in studies of the demand for particular household goods and services. Basic to the hypothesis are two separate notions: (1) both expenditures and income are composed of two parts: the "permanent" or long-run components and the "transitory" or short-run component; (2) households behave so as to preserve a fixed relationship between "permanent expenditures" and "permanent income". A further tenet of Friedman's theory is that permanent income depends on

...factors that the (household) unit regards as determining its capital value or wealth: the non-human wealth it owns; the personal attributes of the earners in the unit, such as their training, ability, personality; the attributes of the economic activity of the earners, such as occupation followed, the location of economic activity, and so on. (Friedman, 1957, p. 21)

Thus permanent income may be viewed as long-run or "expected", or "normal" income, whereas transitory income may be seen as short-run, or "unanticipated", or windfall income. It is thus important from the purview of long-term housing needs to be able to estimate permanent income.

A relatively simple method of obtaining a measure of permanent income is to calculate a weighted or unweighted average of a spending unit's annual disposable income over several years. The assumption here is that a spending unit's income expectations are conditioned by its recent income history. The average annual disposable income represents the permanent income with deviations from it representing the transitory component. At least two problems arise with this approach. First, data are not often available on a spending unit's disposable income over several years. Second, if a weighted average is calculated there is usually little empirical justification for using one set of weights over another. Does one weight the recent incomes more heavily than those in the more distant past or vice versa?

Four key variables are usually acknowledged as influencing permanent income -- education, occupation, age and sex<sup>1</sup>. A common approach in the estimation of permanent income is one used by econometricians in the study of income elasticities of demand. Current income is regressed on those spending unit characteristics which are hypothesised to influence permanent income, i.e. education, occupation, age and sex.

$$\begin{aligned} \text{i.e.} \quad & Y = f(\text{educ, occ, age, sex}) + Y_t \\ & \text{where } Y = \text{current income} \\ & Y_t = \text{transitory income.} \end{aligned}$$

The parameter estimates derived from such a model are then used in the estimation of permanent income ( $\hat{Y}$ ). The error term,  $Y_t$ , is viewed as the transitory income component. Transitory income is then estimated by subtracting the estimated permanent income from the actual income  $(Y - \hat{Y})$ <sup>2</sup>.

<sup>1</sup>Note also that spending unit type is becoming increasingly important as a determinant of permanent income (eg. single parent families).

<sup>2</sup>For further details see Mayo (1976).

Alternatively, in the estimation of income elasticities of demand, econometricians have incorporated current disposable incomes and have tested directly the separate influence of demographic and other factors (which are likely to affect the stability of income) on housing expenditures.<sup>1</sup>

A major shortcoming of the SHU survey is that no data on occupation and education were collected. These two variables, above all others, are regarded as having the greatest influence on permanent income. Occupation and education data are available in the Urban Family Expenditure (UFE) Surveys and in the Household Income, Facilities and Equipment (HIFE) Micro Data Files<sup>2</sup>. These however, suffer from small sample sizes, a critical problem when three or more-way contingency tables are required. Data on urban family expenditures by occupation are available, for example, in the 1972 and 1974 Urban Family Expenditure Surveys. The published results by occupation (See Statistics Canada, 62-541 and 62-544 Occasional) cannot be compared directly without a great deal of difficulty given the large composition effects present in summary data of this form. One must partial out the compounding influences of age, sex, and stage in the life cycle before any comparison across occupations becomes meaningful. The small sample size of these surveys precludes this. Had education and occupation data been collected in the SHU Survey, a much larger sample, such an analysis would have been possible.

#### 4(b)(1) Spouse's Income

Related to the question of permanent income is whether spouse's income should be included in the total gross disposable income of the spending unit. The number of spouses (usually females) in the labour force has increased dramatically over the last decade. As a result, spouse's income has been included in the

<sup>1</sup>See Kirwan & Ball (1975, 159)

<sup>2</sup>The HIFE file is a joint file based on the Survey of Consumer Finances and the Survey of Household Facilities and Equipment conducted by Statistics Canada.

total gross income of a spending unit in many of CMHC's programs such as AHOP and Section 6 Loans. Including the spouse's income in the total gross income, it can be argued, implicitly subsidises those spouses who do not work. Consider two families of four identical in every respect except that one spouse works and one does not. If the spouse's income is included in the total gross income than the family with the working spouse may not be defined as in need and hence may not qualify for any subsidy whereas the family with the non-working spouse may be defined as in need and hence may qualify for a subsidy simple because the spouse is not working. This penalises working spouse and implicitly subsidises non-working spouses.

For example, a family of four with one wage earner on the minimum wage would have an annual income of \$3,952 (1973 minimum wage rates). If both spouses worked on the minimum wage then the family income would be \$7,904. The former family would be below the Statistics Canada Low-Income Line, the latter family would not. Thus there may be an incentive for a spouse not to seek work since by so doing the family may not qualify, from a total income viewpoint, for various subsidies.

Consequently, problems have been encountered in the reporting of spouse's income in the day to day operation of some of CMHC's programs. With respect to the AHOP program, the Task Force on Shelter & Incomes commented:

Why include a spouse's income when it is so obvious it is being misreported? For example, only 9 percent of AHOP recipients in 1974-75 reported a spouse's earnings (via co-application). In the corresponding income grouping in the population at large, the rate of participation in the labour force is about 35-40 per cent. Clearly, misreporting is an issue;

(pp. 69-70)

Another aspect of this question concerns the stability of the working spouse's income. It can be cogently argued that the working spouse's income is not as stable over time as the principal wage earner's, especially in lower income families, and hence including it in the total gross disposable income at a point in time overstates their future income potential or permanent income. A study carried out by Health & Welfare Canada on the characteristics of the working poor in Canada, for example, showed that the employment of the spouse of the primary earner in low-income families was mainly of a part-time, short-term nature (1976, 23).

It is therefore often suggested that in the calculation of gross income only a certain percentage of the spouse's income be included in the total gross income of the spending unit (say 30 to 50 per cent). This would:

- a) reduce the extent of the implicit subsidy of non-working spouses,
- b) reduce misreporting of the spouse's income since only a half or a third of the spouse's income would be taken into consideration in determining eligibility, and
- c) result in a truer picture of the spending unit's real financial position -- i.e., it would represent the permanent income position of the spending unit more closely

#### 4(c) Transfer Payments in Kind

A transfer payment in kind occurs when a spending unit has access to a good or service for which it does not pay the full market price. Even though a spending unit does not

receive disposable income through a transfer payment in kind its real income is increased since its command over society's goods and services is improved. Transfer payments in kind are rarely included in the determination of housing need.

This question is particularly important in the evaluation of the real income (& hence need) of the working poor vis a vis those on welfare. Spending units on welfare, for example, receive subsidized Medicare and daycare whereas the working poor (i.e., those not on welfare) do not. At such low disposable income levels transfer payments in kind, when converted into dollar terms, may be quite a high proportion of total disposable income and hence may result in those on welfare being better off, in a real income sense, than those low income spending units which are working. It is well known that many spending units on welfare are aware of the benefits that come with social assistance and in some cases may be reluctant to re-enter the workforce as a result. At the present time, CMHC has little knowledge of a) the range of transfer payments in kind and b) the dollar value that should be attached to them. Much more research is required in this area. Ultimately, some dollar value equivalent of major transfer payments in kind should be included in a spending unit's gross disposable income.

#### 4(d) Work Related Expenses

Work related expenses should be subtracted from total gross disposable income to arrive at a net disposable income. The major factors to be considered are the costs of journey-to-work and daycare costs in the case of the working spouse. Little data are currently available on these topics. The Task Force on Income & Shelter suggested that those spending units below the Low-Income Line should have an automatic deduction from their gross income of \$1,000 (1976, 76). No empirical justification, however, was given for this figure.

5. Factors Involved in the Definition of Shelter Cost

The problems associated with deriving an appropriate definition of shelter cost are only slightly less difficult than those involved in deriving an appropriate definition of income. The first suggestion is that the shelter unit be defined in terms of the spending unit and not the other way round as is done in the definition of the census household. As argued on page 11, it is inappropriate, from a housing expenditure analysis viewpoint, to define a unit as a structurally separate dwelling when there may be three independent spending units occupying different portions of it. Such occupancy arrangements are not uncommon in inner city areas where many of the poorly housed reside. For example, a lodger is a spending unit, quite independent of the family with which he resides, and his shelter unit should be defined around him and not in any rigid structural terms.

The second suggestion is that shelter costs be limited to those costs involved in living in and operating the shelter unit per se. Shelter costs should therefore not include the costs of furnishings within the unit such as chairs, beds, fridges and the like. With respect to rental accommodation where some of these furnishings are included in the cash rent, the "cost" of these furnishings should be subtracted to arrive at a basic net rent for the shelter unit alone. Price indexes for each type of major furnishing could easily be calculated using the rental data from SHU. In the published SHU tables a gross rent figure was used which included cash rent plus utilities. No correction was made for the amount and type of furnishings included in the cash rent.

Shelter costs for renters should therefore include the following items:

- 1) Annual cash rent minus (cost of furnishings included in rent plus parking costs).

- 2) Annual cost of utilities and services paid for in addition to cash rent: water  
electricity  
gas  
oil, coal, wood or kerosene  
other utilities and services
- 3) Annual average tenant expenditure on repairs and maintenance.
- 4) Annual expenditure on rental dwelling insurance.

An average tenant expenditure on repairs and maintenance figure, corrected for shelter unit size and income, is preferable to what a tenant actually spent in one year since repairs and maintenance tend to be sporadic in nature, large amounts of investment occurring in short periods.

Shelter costs for homeowners should include the following items:

- 1) Annual payments of principal on the first, second and third mortgages
- 2) Annual payments of interest on the first, second and third mortgages
- 3) Annual payments of property taxes
- 4) Annual payments of sewer and water taxes
- 5) Annual expenditure on heating
- 6) Annual average homeowner expenditure on repairs and maintenance
- 7) Annual expenditure on homeowner dwelling insurance

Shelter costs for homeowners have been defined in other ways to the above listing. The Task Force on Shelter and Incomes, for example, defined the housing expenditures of owners as 12 per cent of house value (1976,11). In a similar vein the Consumer Price Index, under the rubric "New Houses" (which means the cost of owning a house!) includes the annual dollar cost of depreciation in the value of a house (usually defined as 1½ to 2 per cent of average house value) and omits the annual payments of principal. This approach is questioned on the grounds that the value of a house may fluctuate rapidly in response to

changing demand and supply conditions quite independently of the actual cost to the existing homeowner of running his home. There is also the added problem of specifying a representative house value especially when so many houses are not on the market from one year to the next.

6. Shelter-to-Income Ratios: Rules of Thumb

Shelter-to-income ratios are used extensively by both conventional and approved lenders in the scrutiny of applicants for mortgage financing. The term used by lenders is the Gross Debt Service ratio (GDS). It is defined as the proportion of annual income spent on principal, interest and property taxes. Other shelter costs such as heating, utilities and maintenance are not included in the calculation of the GDS for a spending unit. The GDS ratio is used as an indicator of the spending unit's ability to repay a mortgage and hence, from the lenders point of view, is an indicator of the probability of foreclosure. A spending unit with a low GDS ratio, ceteris paribus, is less likely to result in a foreclosure than a spending unit with a high GDS ratio.

There are no hard and fast rules as to what range of GDS ratios constitute a threat to foreclosure. Consequently rules of thumb abound and each mortgage application is considered on its own merits.

6a. Conventional Mortgages

In the conventional mortgage financing case another indicator is used to assess the probability of foreclosure. This is the Total Debt Service Ratio (TDS) which is defined as the proportion of monthly income spent on shelter (as defined above) and on the repayment of loans to creditors for consumer items such as automobiles, household goods etc.

The rules of thumb used by conventional lenders at the present time are:

- 1) the GDS ratio should not exceed 27 per cent.
- 2) the TDS ratio should not exceed 37 per cent.

The TDS ratio is usually set at 10 points above the GDS ratio. An applicant would usually have to satisfy both criteria. The range of allowable ratios would seem to be 25-30 per cent for the GDS ratio and 35-40 per cent for the TDS ratio.

The TDS ratio, in assessing the proportion of income spent on shelter and reducing debts, comes closer to assessing the real financial situation of a spending unit than does any other summary measure discussed so far. In addition it also comes to grips with the question of expenditures on shelter vis a vis expenditures on other major consumer items. For example, consider two identical spending units which both have a TDS ratio of 40 per cent. One, however, has a GDS ratio of 20 per cent while the other has a GDS ratio of 33 per cent. On the basis of this information one could argue that neither spending unit is in need of housing, since the former is below the "normal" GDS ratio and the latter seems to prefer to spend more of his income on shelter than on other goods.

Consider another example where two identical spending units both have a GDS ratio of 25 per cent but where one spending unit has a TDS ratio of 60 per cent and the other a ratio of 30 per cent. Does this suggest that the former spending unit has an affordability problem with respect to shelter while the latter does not? Clearly the current indebtedness situation of the spending unit is an important consideration.

These simple examples have profound implications for the definition of housing need since it leads one to question whether the proportion of income spent on shelter alone is a reliable indicator of housing affordability. Unfortunately no data were collected in the SHU Survey on the monthly amount repaid on personal loans. Thus it is not possible, at this stage, to calculate a TDS ratio for Canadian spending units. It does, however, warrant serious

consideration when the questionnaire for the next housing survey is designed. From an operational point of view, it can be argued that most people have a reasonable idea as to their monthly expenditure on the repayment of personal loans.

Conventional lenders define the income of the spending unit as the pre-tax total gross income. Again, the question of the spouse's income remains a problem. Rules of thumb again apply. From 30 to 100 per cent of the spouse's income may be included in the total gross income used to calculate the GDS ratio depending on:

- a) whether the spouse's job is temporary, short-term, or permanent (career oriented).
- b) the length of time the spouse has been in the workforce at the time of application.

In a spending unit with two career members who have been in the workforce for several years, 100 per cent of the spouse's income would probably be included in the calculation of the total gross income. In a similar spending unit where the two members are just embarking on their respective careers, less than 100 per cent of the spouse's income would probably be included. The fear of pregnancy in such cases still causes minor palpitations among mortgage lenders!

6(b). NHA Mortgages

A separate paper on income and GDS eligibility requirements for the range of CMHC programs is being prepared so only a short discussion is warranted here.

With respect to market loans (eg. Section 6, existing) the Application for Loan (Existing Housing) form (CMHC 1604, 2/77) calculates the GDS ratio only and whether the co-applicant's income was used in the calculation of the GDS ratio:

SHOW SOURCE AND TERMS OF ALL BORROWED FUNDS	
FOR LENDER'S USE	CO-APP'S INCOME USED FOR GDS
<u>RATIO GDS TO INCOME</u> %	(1) - No. (2) Yes - Reduces GDS Below Reg's.
	(3) - Yes, GDS Notable Above. (4) - N.S.
<u>BASED ON GROSS ?</u>	CARD NO. 2

It is suspected, however, that the approved lender carries out a TDS type of analysis on each applicant even though the actual details do not appear on any of the CMHC forms. The rule of thumb is that a "normal" GDS ratio for a spending unit should not exceed 30 per cent<sup>1</sup>. Shelter costs are defined as in the conventional mortgage case.

Whether the spouse's income is included in the total gross income of the spending unit seems to vary depending on the particulars of each application. A prima facie examination of several Section 6 (existing) loan files revealed little rationale as to when the spouse's income was included and when it was not. In some cases no GDS ratio was reported at all. Note, however, that the CMHC Information Brochure on Loans for Homeownership (NHA 5128-13) states that "In establishing your total annual income, the lender may consider a portion or all of the income of other members of your household".

#### 6(c). Rules of Thumb for First-Time House Purchasers

Spending units who wish to purchase a home for the first time may be defined as in need if they are unable to do so given current house prices and interest rates. The Task Force on Shelter and Incomes (1976,b) defined spending units as in secondary need if they faced obstacles in obtaining improved housing as their income rises.

A customary rule of thumb among US mortgage lenders has been that a spending unit can afford to pay 2½ times its annual income to buy a house. More recently, as a result of rapidly escalating operating costs, the figure has been revised downwards to approximately twice annual income (see Frieden et al, 1977). This rule of thumb is clearly related to the GDS rule of thumb discussed previously.

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<sup>1</sup> See CMHC Information Brochure "LOANS FOR HOMEOWNERSHIP"  
(NHA 5128-13)

Price-to-income ratios for house purchasers in each housing market area can easily be calculated using the SHU data. Using this price-to-income ratio and data on 1) the distribution of renter incomes within a housing market area, and 2) the median house price in each housing market area, one could arrive at an estimate of those spending units in secondary need - those who cannot afford at the present time to enter the homeowner market. Such an analysis would be based on the not unrealistic assumption that every renter aspires to becoming a homeowner.

7. The Measurement of Affordability: The Use of Shelter-to-Income Ratios

In order to use shelter-to-income ratios in the measurement of affordability it is necessary to specify a threshold ratio above which spending units may be viewed as having an affordability problem<sup>1</sup>. Specifying the appropriate ratio or ratios is not easy even though rules of thumb abound.

7(a) Basic Need

A customary rule of thumb has been that if spending units are paying more than 25 per cent of their income on shelter then they are defined as having an affordability problem. This criterion has been used by mortgage lenders and is also the maximum ratio allowed in the public housing graduated rental scale. Mortgage lenders, however, include only the cost of principal, interest and taxes in the definition of shelter and exclude other components such as heating, servicing, maintenance and insurance costs. If these components are to be included in a definition of shelter cost then the 25 per cent threshold may be too low a benchmark for the definition of affordability problems.

Recent guidelines issued by CMHC suggest, for approved lenders, a maximum GDS ratio of 30 per cent (see CMHC "Loans for Homeownership", NHA 5128-13); conventional lenders suggest a maximum GDS ratio of 27 per cent in conjunction with a maximum TDS ratio of 37 per cent. Shelter costs again include only the repayment of principal, interest & taxes. A shelter-to-income ratio of 30 per cent can therefore be regarded as a minimum threshold.

<sup>1</sup>Note, as discussed previously, that the shelter-to-income ratio is used in conjunction with an income threshold to measure affordability.

It is not the role of CMHC to specify an appropriate proportion of income to be spent on shelter since this would dictate against many spending units whose preference it is to spend a high proportion of their income on shelter. It is necessary, however, for CMHC to specify a maximum GDS ratio in order to minimise the risk of foreclosure on mortgage loans. From the purview of housing need definition, the key is to assess how the number of spending units defined as in need varies with a range of shelter-to-income ratio thresholds. If the number of spending units defined as in need varies little between thresholds of 25 to 30 per cent, for example, then the determination of an appropriate threshold becomes less of a critical issue. If the converse is true then clearly more investigation as to why large changes occur is necessary. The determination of an appropriate shelter-to-income ratio threshold must remain primarily an empirical question.

7(b) A Standard Shelter-to-Income Ratio?

It has been argued that a standard shelter-to-income ratio is inappropriate for the determination of need since conditions vary so much by housing market area, family size, family type and so on. There is, however, little rationale for a variable shelter-to-income ratio once meaningful definitions of income and shelter cost are employed.

Shelter-to-income ratio thresholds need not vary by housing market area since spatial variations in income levels and shelter costs are picked up in the definitions of shelter cost and income as discussed above.

Similarly with respect to family size, shelter-to-income ratios need not vary by family size since the threshold income level, used in conjunction with the shelter-to-income ratio threshold, takes into account family size. Large families require larger accommodation as well as more basic necessities

such as clothing and food. There is therefore little conceptual rationale for suggesting that shelter-to-income ratios should vary by family size since, for larger families, the tradeoff between additional shelter costs and additional necessities may go in either direction.

It has been argued that senior citizens spend less on non-housing goods than other spending units, *ceteris paribus*. This has led to the suggestion that senior citizens should be able to experience higher ratios without encountering an affordability problem. Streich (1970), in a study of the applicability of the existing rent-to-income scale for elderly tenants in public housing, reviewed the expenditure patterns of the low income elderly vis a vis the rest of the low-income population. Her analysis found that the low income elderly do not spend significantly less than other households on food, transportation, personal care, household operation and so on. Although this study is now dated and only referred to the low-income elderly, it does suggest that there is little rationale for specifying a higher shelter-to-income ratio for senior citizens. Further research is required in this area.

There is also little rationale for specifying different thresholds by occupation. It would be inappropriate to suggest that certain occupations should pay more for housing than others.

With respect to stage in the life cycle, one can argue that those spending units in the first five years of homeownership can be expected to pay a high proportion of their income on shelter given the incidence of second and third mortgages and "settling-in" costs. Higher shelter-to-income ratios can therefore be expected and should not be interpreted as indicative of a long-term affordability problem. A higher threshold (at least 35 per cent) is suggested for this

group of spending units.

Little empirical analysis of shelter-to-income ratios has been conducted using inclusive definitions of shelter cost and income and stratified by three or more variables. Such analyses should be given high priority especially since many of the statements in this section have been made without supporting empirical evidence.

#### 8. The Measurement of Affordability: The Minimum Budget Approach

The minimum budget approach to the measurement of affordability defines a spending unit as in need if its income is below the minimum level of expenditure needed to support a spending unit of a similar type and size. This minimum level of expenditure includes basic levels of housing and non-housing goods and services.

This approach has the advantage that affordability is determined empirically. There is no reliance on an arbitrary income threshold and an arbitrary shelter-to-income ratio to define affordability as is the case in most of the previous discussions.

The crux of this approach, however, rests on the ability to quantify the minimum expenditure on basic levels of housing and non-housing goods and services by family size, type and housing market area. Hobart (1977) reviewed two of the more well known attempts to quantify minimum expenditure levels. These are the minimum expenditure levels for four person families constructed for Toronto and Montreal by the Toronto Social Planning Council and the Montreal Diet Dispensary respectively. His conclusion was that "the existing estimates show too much variation for this approach to be used for serious factual analysis" (1977,7).

Before this approach can be considered a viable alternative further development and refinement of the minimum budget estimates is necessary.

9. The Measurement of Affordability: The Basic Shelter Cost Approach

Although it pertains to shelter costs alone, the basic shelter cost approach follows a similar logic to the approach discussed in Section 8. Spending units are defined as in need if they are not able to afford the cost of basic shelter in a particular housing market area. The following steps are used to determine those spending units with affordability problems:

- 1) The cost of basic shelter for a given spending unit size and type is estimated by housing market area.
- 2) The amount a spending unit can afford to spend on shelter is estimated by multiplying its total income by an appropriate shelter-to-income ratio (say 25 or 30 per cent).
- 3) A spending unit is defined as having an affordability problem if its income for shelter as specified in 2) is less than the cost of basic shelter which it should have as estimated in 1).

As in the minimum budget approach, the crux of such an analysis rests on the ability to specify the annual cost of "basic accommodation". The ways in which basic accommodation can be defined and costed are legion. Another paper is being devoted to this question as part of the housing needs review so the problems involved in such a definition will not be discussed here. Suffice it to say that the definition of basic accommodation is in many ways a normative one.

One advantage of this approach is that a dollar estimate of the subsidy required to bring all spending units up to a basic standard of shelter can be calculated. In a similar manner dollar estimates of the cost of relieving poverty in general can be made from the minimum budget approach.

#### 10. Concluding Comments

It can be cogently argued that housing has been consistently undervalued by North American society. Even though the home is often viewed as a symbol of one's status and wealth the mass consumer society of the post-war period has focussed more attention on the symbolic and prestige aspects of what goes into and around the home than on the home itself. The housing industry has not performed as well as other consumer durable manufacturers in selling its goods.

Two quotes from an excellent monograph, written in 1960 at the peak of the mass consumption era, pinpoint the problem:

It is hardly surprising therefore that the consumer has come to place less and less attention on his dwelling and more and more on nationally advertised commodities to go into his dwelling or to use outside it

(pp xii-xiii)

In our time, the middle class appears more willing to substitute the auto for the house as an index of status, a mobile escutcheon which can impress the visited as well as the visitor

(p 17) Foote et al (1960)

These observations are all clearly reflected in the fact that the elasticity of demand for housing is usually less than one. In many ways this situation has arisen because housing is not

viewed as a luxury good compared with other goods such as yachts, vacation homes, automobiles and the like. Since shelter is a necessity every spending unit requires a certain amount of it. Thus it is not a good which some spending units possess and some do not.

In conclusion it is felt that CMHC should not define appropriate proportions of income to be spent on shelter except in order to protect its own mortgage lending operations. If an affordability problem is perceived, however, one alternative to increasing incomes or reducing shelter costs is to change people's expectations as to the appropriate amount of income they should spend on housing. There will always be an affordability problem if spending units feel they are spending too much of their income on housing. The affordability problem is just as much a question of attitudes as it is of dollars and cents.

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COMPONENTS OF HOUSING NEED: POSSIBLE DEFINITIONS

1. INCOME
2. SHELTER COSTS FOR RENTERS AND HOMEOWNERS  
AFFORDABILITY CRITERIA
3. BASIC NEED
4. SECONDARY NEED

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COMPONENTS OF HOUSING NEED: DEFINITIONS

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
1. INCOME	a) The Unit in Need			
	● Household	Poor definition as defined in terms of a structurally separate dwelling unit. Distorts reality.	SHU; HIFE	Use household as is matched to dwelling - includes single persons
	● Head only	Most stable income source but many units with more than one wage earner.	SHU; HIFE	Reject - includes single persons but too restrictive
	● Head & Spouse	Includes the two major wage earners. Does not include other wage earners.	SHU; HIFE	Reject - excludes single persons
	● Census Family	Includes head, spouse, & children (never married) - some of children may be in labour force.	SHU; HIFE	Reject - excludes single persons
	● Economic Family	Best of census definitions - broader concept than census family - includes <u>all</u> relatives, some of whom may be working.	SHU; HIFE	Reject - excludes single persons
	● Spending Unit	Best definition: all persons living in same dwelling and dependent on a common or pooled income for major items of expense. Includes both related & <u>unrelated</u> individuals.	Family Expenditure Surveys	Should be seriously considered for future surveys.
	b) Sources of Money Income ● Fifteen sources of money income listed in SHU Questionnaire (p.34)	Good list - includes all major sources of money income	SHU	Accept

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
1. INCOME (cont'd)	<ul style="list-style-type: none"> <li>● Before tax money income.</li> </ul>	Used by lenders in assessing GDS. Used by most housing analysts.	SHU	Accept
	<ul style="list-style-type: none"> <li>● After tax money income</li> </ul>	Reflects real disposable income (money in pocket)	Income tax returns	Needs further in depth analysis.
	c) Income imputed from equity in home. <ul style="list-style-type: none"> <li>● add 7 1/2 per cent of equity in home to gross money income (1b)</li> <li>● add 7 1/2 per cent of wealth accruing from sale of previous residence to gross money income (1b)</li> </ul>	For most people the major asset. Opportunity cost of owning a home. Especially important in the evaluation of money income poor, asset rich spending units (eg. elderly homeowners).	SHU	Accept Value of 7 1/2 can be debated and changed to reflect current rates on long-term interest bearing securities.
		Equity actually liquidated. For first-time homeowners value would be zero.	SHU	Reject
	d) Permanent or Lifetime Income <ul style="list-style-type: none"> <li>● Weighted or unweighted average of a spending unit's annual disposable income over several years</li> </ul>	Assumption that income expectations are conditioned by recent income histories.	Sparse & inconsistent.	Reject - possible if data in next housing survey is combined with 1974 survey.
	<ul style="list-style-type: none"> <li>● Econometric estimation of permanent income</li> </ul>	Regress current income on those characteristics influencing permanent income - education, occupation, age, sex.	No education, occupation data in SHU.	Reject - possible if data on education and occupation is collected in next housing survey.

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
1. INCOME (cont'd)	<ul style="list-style-type: none"> <li>● Spouse's Income - include only 50 per cent of spouse's income in gross money income (1b)</li>   <li>e) Transfer Payments in Kind               <ul style="list-style-type: none"> <li>● estimate total dollar value of transfer payments in kind.</li> </ul> </li>   <li>f) Work-Related Expenses               <ul style="list-style-type: none"> <li>● deduct a flat rate of \$300 from gross money income (1b)</li> </ul> </li> </ul>	<p>Spouse's income less stable than principal wage earner's. Counting all of it overstates permanent income position of spending unit. Conventional lenders already include only a proportion of spouse's income. CMHC inconsistent on this issue. Also reduces the extent of the implicit subsidy of non-working spouses.</p> <p>May reduce mis-reporting of spouse's income if only a proportion of it is counted towards total gross money income.</p> <p>Transfer payments in kind improve <u>real income</u> of spending unit, ie. their command over society's goods and services.</p> <p>Should be subtracted from total gross income to arrive at gross disposable income. Includes journey-to-work &amp; day care costs.</p>	<p>SHU</p> <p>Little, as yet. Senior citizens in Toronto receive at a minimum a subsidy of \$57 through reduced transit fares. Note blind and amputees travel free.</p> <p>Variable</p>	<p>Accept - calculate total gross income using,</p> <ul style="list-style-type: none"> <li>a) none of spouse's income</li> <li>b) 30 per cent</li> <li>c) 50 per cent</li> <li>d) 75 per cent</li> <li>e) 100 per cent of spouse's income</li> </ul> <p>Assess sensitivity of shelter to income ratio to changes in proportion of spouse's income included.</p> <p>Everyone receives transfer payments in kind. Restrict focus to welfare recipients vis a vis the working poor; and to senior citizens vs. non-senior citizens.</p> <p>Data coming on Medicare subsidies. Note people in Sask., N.B., Alt. &amp; Que. do not pay directly for Medicare.</p> <p>Accept: Actual amount to be debated - Task Force suggests a deduction of \$1,000 for those below Low-Income Line - too much.</p>

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
2. SHELTER COSTS	a) The Unit in Need <ul style="list-style-type: none"> <li>● Structurally separate dwelling unit</li> <li>● Unit occupied by the spending unit</li> <li>● Unit plus local environment</li> <li>● Unit plus furnishings</li> </ul>	<p>Poor definition - many units not structurally separate especially those occupied by low-income spending units</p> <p>Best definition: unit defined in terms of the spending unit and not the other way round.</p> <p>Shelter units not located in vacuo.</p> <p>Cannot operate a shelter unit without a fridge, stove etc.</p>	<p>SHU</p> <p>In SHU, if a spending unit occupies a structurally separate dwelling unit.</p> <p>Data on adjacent land use in SHU.</p> <p>SHU; HIFE</p>	<p>Accept - no choice</p> <p>Should be considered as a basis for future housing surveys.</p> <p>Reject - best considered under shelter quality.</p> <p>Reject - major concern is the actual unit.</p>
2A. SHELTER COSTS: <u>RENTERS</u>	a) Annual Cash Rent <ul style="list-style-type: none"> <li>● Actual cash rent</li> <li>● Actual cash rent minus (cost of furnishings included in rent plus parking costs)</li> </ul> b) Annual Cost of Utilities and Services Paid for in Addition to Cash Rent <ul style="list-style-type: none"> <li>● water, electricity, gas, oil, coal etc.</li> </ul> c) Annual Tenant Expenditure on Repairs & Maintenance <ul style="list-style-type: none"> <li>● Actual cost</li> </ul>	<p>Amount actually paid.</p> <p>Interest is in the rent paid for shelter not shelter and furnishings. Many spending units rent furnished accommodation - must be taken into consideration.</p> <p>Real cost of operating the shelter unit alone.</p> <p>Real cost of maintaining the shelter unit alone.</p>	<p>SHU</p> <p>Cost of furnishings, fridges, parking etc. can be econometrically estimated using SHU data.</p> <p>SHU</p> <p>SHU</p>	<p>Reject</p> <p>Accept.</p> <p>Accept</p> <p>Reject - fluctuates too much - large investments in one year then none for several years after.</p>

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
<b>2A. SHELTER COSTS: RENTERS (cont'd)</b>	● <u>Average</u> tenant expenditure on repairs and maintenance	Irons out fluctuations in repair and maintenance expenditures	SHU	Accept - calculate average expenditures by unit size & spending unit income.
	d) Expenditure on Shelter Unit Insurance	Real cost of operating the shelter unit alone	SHU?	Accept
<b>2B. SHELTER COSTS: HOME-OWNERS</b>	a) Annual payments of Principal on the First, Second & Third Mortgages.	Real cost	SHU	Accept
	b) Annual payments of Interest on the First, Second & Third Mortgages	Real cost	SHU	Accept
	c) Annual Payments of Property Taxes	Real cost	SHU	Accept
	d) Annual Payments of Sewer and Water Taxes	Real cost	SHU	Accept
	e) Annual Expenditure on Heating	Real cost	SHU	Accept
	f) Annual <u>Average</u> Expenditure on Repairs and Maintenance	Irons out fluctuations in repair and maintenance expenditures.	SHU	Accept - calculate average expenditures by unit size and spending unit income.
	g) Annual Expenditure on Homeowner Dwelling Insurance	Real cost	Variable (not in SHU)	Include in future housing surveys.
	h) Define Total Housing Expenditures as 12 per cent of House Value.	Definition used by Task Force (1976, 11)	SHU	Reject - house values can change in response to changing demand & supply conditions quite independently of the actual cost of the unit.

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
2B. SHELTER COSTS: <u>HOME-OWNERS</u> (cont'd)				homeowner of running his home.
		AFFORDABILITY		
3. BASIC NEED	<p>a) Define Income Threshold Above Which Spending Units are Not Considered to Be in Need</p> <ul style="list-style-type: none"> <li>● Statistics Canada Low-Income Line</li> <li>● Canadian Council on Social Development Poverty Lines</li> <li>● Senate Committee Poverty Lines</li> <li>● Health &amp; Welfare Poverty Lines</li> </ul>	<p>Any spending unit spending more than 62 per cent of its income on basic necessities is in poverty. Thresholds by family size &amp; size of settlement.</p> <p>Any spending unit with an income of less than one half the Canadian average is in poverty. Thresholds by Family Size.</p> <p>Any spending unit with an income less than 56 per cent of the Canadian average is in poverty. Thresholds by family size.</p> <p>No information at this</p>	<p>Annual Estimates Statistics Canada</p> <p>Annually?</p> <p>Annually</p> <p>time.</p>	<p>Reject - thresholds too low. Many in middle third income range are in need. Percentage somewhat arbitrary.</p> <p>Reject for reasons mentioned above. Why use an average when income distributions are positively skewed? Percentage somewhat arbitrary.</p> <p>Reject See above.</p> <p>Probably reject for above reasons.</p>

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
<p>3. BASIC NEED (cont'd)</p>	<ul style="list-style-type: none"> <li>● Housing Market Median Income by Family Size</li> </ul>	<p>Any spending unit with an income greater than the median for its family size and housing market is not in need.</p>	<p>SHU</p>	<p>Accept - includes a wider range of incomes than any of the above low-income lines. Based on the median income. Empirically determined.</p>
	<p>b) In conjunction with 3a Define Spending Units as in Housing Need if Their Shelter-to-income Ratio Exceeds a Certain Level</p>			<p>Reject - too low</p>
	<ul style="list-style-type: none"> <li>● Shelter-to-Income Ratio of 25 per cent</li> </ul>	<p>Customary rule of thumb when shelter operation costs not included in total shelter costs. Maximum ratio allowed in public housing graduated rental scale.</p>	<p>N/A</p>	
	<ul style="list-style-type: none"> <li>● Shelter-to-Income Ratio of 30 per cent</li> </ul>	<p>Maximum GDS specified in CMHC "Loans for Homeownership" (NHA 5128-13) (note shelter costs include PIT Only) Conventional lenders use 27 per cent as maximum GDS</p>	<p>N/A</p>	<p>Accept - could be increased Test sensitivity of target groups to various shelter-to-income ratio levels.</p>
	<ul style="list-style-type: none"> <li>● Vary STIR Threshold by Housing Market</li> </ul>	<p>No rationale - variations in shelter costs already incorporated in the STIR.</p>	<p>N/A</p>	<p>Reject</p>
	<ul style="list-style-type: none"> <li>● Vary STIR Threshold by Spending Unit Size</li> </ul>	<p>No rationale - spending unit size incorporated in the threshold income level (see 3a)</p>	<p>N/A</p>	<p>Reject</p>
<ul style="list-style-type: none"> <li>● Higher STIR Threshold for Senior Citizens</li> </ul>	<p>Senior citizens spend less on non-housing goods than other spending units</p>	<p>N/A</p>	<p>Suggest 35 per cent. Streich (1970) however, concludes that evidence does not support the argument that non-housing expenses are lower for senior citizens than for other spending units.</p>	

NEED COMPONENT	POSITION	DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
<p>3. BASIC NEED (cont'd)</p>	●	STIR Threshold by Occupation, Stage in Life etc.	Little rationale at this stage.	N/A	Needs further investigation.
	●	STIR Threshold according to Length of Occupancy in Homeowner	During the first five years of homeownership high STIR's are expected due to second and third mortgages etc. Short-term.	SHU	Accept: Not in need if STIR during first five years of homeownership does not exceed 35 per cent.
	●	Median Shelter-to-Income Ratio by Housing Market	In need if a spending unit's STIR exceeds the median for the housing market in which it resides. Empirically determined.	SHU	Worth investigating. General inductive research on STIR's using three or more-way contingency tables is required. Two-way contingency tables have too many compounding influences.
3(c) In conjunction With 3(b)	Define Need if Service Ratio Level	Spending Unit as in its Total Debt Service Exceeds a Certain	<p>TDS ratio is the proportion of monthly income spent on shelter and on the repayment of loans to creditors</p> <ul style="list-style-type: none"> <li>● used by conventional lenders in conjunction with GDS ratio. TDS ratio should not exceed 37 per cent</li> <li>● assess real financial situation of a spending unit by considering degree of indebtedness</li> <li>● takes into account preferences for housing vs. non-housing goods</li> </ul>	Variable data on a spending unit's indebtedness situation.	Definitely requires further investigation. A question on amount of monthly personal loan repayments should be included in the next housing survey.

NEED COMPONENT	POSSIBLE DEFINITION	RATIONALE	DATA LIMITATIONS	PREFERRED OPTIONS
3. BASIC NEED (cont'd)	3(d) Define a Spending Unit as in Need if its Income is Below the Minimum Level of Expenditure Needed to Support a Spending Unit of Similar Size	Need empirically determined so does not rely on a somewhat arbitrary STIR together with a somewhat arbitrary income threshold to determine need.	Standard budgets available for Montreal & Toronto.	Key is the reliance one can put on estimated standard budgets. Preliminary analyses suggest bugs. A useful approach needing further investigation & refinement.
4. SECONDARY NEED	Define a Spending Unit as in Secondary Need if it is Unable to Purchase a Home for the First Time.	Assumption that every renter aspires to becoming a homeowner. Rule of thumb currently used in the U.S. is that a spending unit can afford to spend twice its annual income on a home.	SHU	Accept

The following steps are indicated:

- |   |   |   |   |
|---|---|---|---|
| (1) Calculate Price-to-Income Ratio from Data on Recent House Purchases by Housing Market Area. | (2) Calculate Median House Price in Each Market Area. | (3) Calculate Distribution of Renter Incomes Within Each Housing Market Area. | (4) Estimate the number of Renters Spending Units Who Cannot Afford to Enter the Homeowner Market at this Time. |
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September 16, 1977