

# RESEARCH REPORT

External Research Program



## Housing Affordability Trends 1981-2001: An Analysis of Selected Metropolitan Areas in Canada



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Housing Affordability  
Trends 1981-2001  
An Analysis of Selected Metropolitan  
Areas in Canada

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November 2008

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### Acknowledgment

I would like to express my appreciation to CMHC's for the funding of this project and to Jeremiah Prentice for his helpful advice and direction.

## Affordability Trends 1981-2001: An Analysis of Selected Metropolitan Regions in Canada

### INTRODUCTION

This *Highlight* presents the findings of an External Research Project that examined the changing levels of housing affordability in Canada between 1981 and 2001. While incomes rose and income inequality on many measures was relatively stable, housing affordability continued to be a problem for many households. This could be due to factors on the supply side, in terms of homeownership or rental costs. Or, the overall rise in incomes may not have been experienced, to the same extent, by housing sub-groups such as renters or young households looking to buy a home.

### Key Questions and Methods

The project set out to examine and explain the issue of worsening housing affordability in the 20 period from 1981 to 2001 when incomes rose in Canada and income inequality did not. In doing so, the following hypotheses were examined:

- The cost of housing could have risen faster than other prices, and as a result housing came to command a larger share of household income over time; or
- The quality and/or quantity of housing consumed per household changed so that households were paying “more for more,” as it were. The quality of accommodation could have increased as a result of changes in standards, size or “fit and finish” items such as fixtures; or
- The overall income trends did not capture differences between housing sub-groups such as owners versus renters, lone parent households, seniors or other groups.

In order to examine these questions, a series of indicators were developed and calculated using the Census household microdata files that contain census data for a representative sub-sample of

households.<sup>1</sup> Unfortunately, the study could not include the 1971 and 1976 censuses due to data limitations in those years. The Census Metropolitan Areas (CMAs) examined with the microdata files were: Halifax, Québec, Montréal, Toronto, Ottawa, Hamilton, St. Catharines, Kitchener, London, Winnipeg, Calgary, Edmonton and Vancouver.

The project had three major parts:

- A literature review that began with an examination of income inequality trends in Canada. Internationally, the review examined housing affordability measurement techniques in use elsewhere.
- In the second and main part of the study, indicators were calculated using Census public-use microdata files to examine affordability trends. Indicators included:
  - affordability standard (where a household spending 30% or more of total income on shelter is said to be living below this standard),
  - housing consumption (persons per room),
  - housing quality (need for repair),
  - housing expenditures in total, as well as per room and per person,
  - changing demographics of the tenure groups as expressed by the age of the household maintainer and the type of household,
  - income levels and income share by tenure.
- In the final part, macroeconomic indicators such as Gross Domestic Product, the unemployment rate and the Consumer Price Index were considered to complete the context.

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1 The Census collects the income for the previous year and the shelter cost for the month preceding the census

## FINDINGS

### Literature Review

In Canada, the gap of income inequality is less than the United Kingdom (U.K.) or United States (U.S.) but more than many European countries. While income inequality in Canada has risen and fallen in response to economic cycles, it has been relatively stable when compared to other countries. Over the 1980s, inequality did not increase in Canada or the Netherlands but did increase in Sweden, the U.K. and the U.S. Comparisons between Canada and the U.S. have shown that income inequality and income polarization are less in Canada than the U.S. and that incomes at the bottom are higher than in the U.S. While the number of families with half the median income declined in both countries, the incidence of low income was 50% higher in the U.S. than in Canada.

Like income, housing costs were shown through the literature review, to be impacted by economic cycles.<sup>2</sup> In Canada, between 1970 and 2000, when there was positive movement in the economy, house prices increased over the cycle by an average of 32%. When the Canadian economy was in decline, house prices followed suit, declining during the cycle, on average, 14%.

Wealth inequality in Canada increased over the period 1984 to 1999.<sup>3</sup> Of all wealth components, Registered Retirement Savings Plans (RRSPs), contributed the most to the increase in wealth inequality. Median wealth fell in the bottom three income deciles but rose 27% in the top decile. Only the top decile increased its share of total net worth between 1984 and 1999. In addition, the changing demographics of households (e.g. more female single parents) has had an “ambiguous effect” on wealth inequality. When the top 1% of family units are excluded, changes in family structure account for a greater proportion of the growth in wealth inequality.

The wealth discrepancy between owners and renters also increased. Since owners had higher incomes, they were able to accumulate more wealth. Also, homeownership, as a passive form of wealth accumulation, increased the wealth gap between renters and owners.

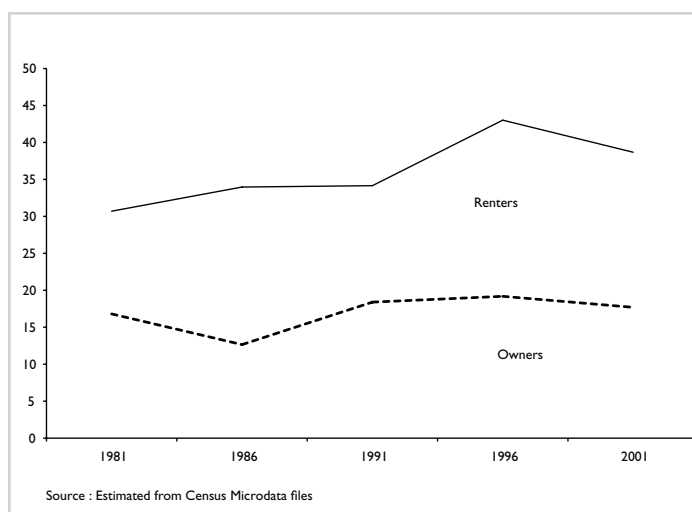
The international literature review suggests that housing affordability, on some measures, was worse in other countries than in Canada. For example, the ratio of median house price to median household income<sup>4</sup> in Canada was 3.6,<sup>5</sup> making it the most affordable country assessed using this measure. Other countries surveyed included the U.S. 4.6, U.K. 5.5, New Zealand 5.9, Ireland 6.0 and Australia 6.2.

However, aggregate measures such as median house prices compared to median household income do not capture the incidence or severity of housing affordability at the household level, only whether the median household was able to afford the median home.

## AFFORDABILITY INDICATORS

### Housing Affordability and Tenure

Over the period 1981 to 2001, the housing situation of renters worsened, relative both to earlier years and to owners. The percentage of renters paying 30% or more of their income on shelter increased from 31% in 1981 to 43% in 1996 and then decreased to 39% in 2001 (*see* Figure 1). The percentage of owners with affordability problems peaked at 19% in 1996.



**Figure 1** Percentage of households below affordability standard average of selected CMAs, 1981-2001

2 Girouard, Nathalie, Mike Kennedy, Paul van den Noord, Christophe André, 2006, “Recent House Price Developments: The Role of Fundamentals”, OECD, Economics Department Working Paper No. 474

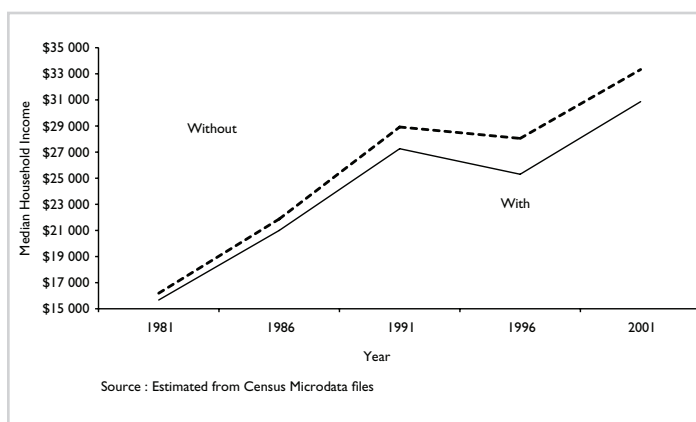
3 Morissette, René, Xuelin Zhang and Marie Drolet, 2002, “The Evolution of Wealth Inequality in Canada, 1984-1999”, Statistics Canada, *Business and Labour Market Analysis*, No. 187

4 See 2006 report by Demographia, at Demographia.com

5 This ratio reflects only the centres covered in the study (Vancouver, Toronto, Hamilton, Montréal, Ottawa, Edmonton, Québec and Winnipeg), and not all of Canada.

## Income and Wealth Distribution

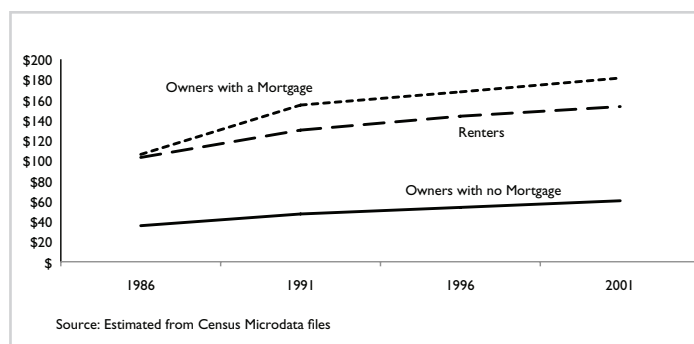
Income inequality was not rising in Canada between 1981 and 2001, based on the findings of the literature review and confirmed by Statistics Canada studies. In fact, Canada compared favourably with other OECD countries in this regard. However, there was a growing income gap between owners and renters. The ratio of renter-to-owner household income declined between 1981 and 2001 from 64% to 46%, as renters were increasingly drawn from the bottom two income quintiles. This change is partially explained by the changing household composition among renters towards a higher concentration of one-person and single parent households (see Figure 2).



**Figure 2** Median income for renters, with and without household composition change, 1981-2001

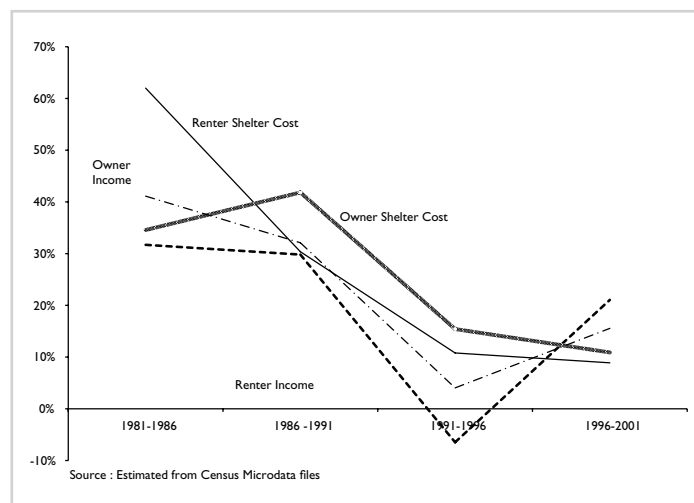
## The Cost of Housing

In gross terms, owners spend more than renters for shelter. The ratio of renter-to-owner shelter costs rose to 86% in 1986 and then decreased in the period to 2001 (see Figure 3), indicating that owner shelter costs increased at a faster rate than those of renters. Although, for Census Metropolitan Areas (CMAs) as a whole, median shelter cost per room rose for all tenures, it rose more sharply for owners than for renters except in the period 1981-1986; however, experience varied depending on the CMA. Based on median shelter costs, renters paid more per room than owners without mortgages but also spent more per room than those with mortgages in some cities at times.



**Figure 3** Median shelter cost per room for owners with and without mortgage and renters, 1986-2001

The increase in shelter costs outpaced that of incomes for both owners and renters over most of the period 1981 to 2001 (see Figure 4). For most of the period, renters' income grew more slowly than rents; renters' income actually fell in the period 1991-1996. Indeed, the year 1996 was a particularly low point for renters in terms of affordability, possibly as a result of the fairly deep recession in 1991. Their situation improved somewhat in the last intercensal period covered in this review, namely from 1996-2001. Owners fared a little better but their incomes lagged behind their shelter cost for two of the four intercensal periods.



**Figure 4** Percentage change in renter and owner income and shelter cost, 1981-2001



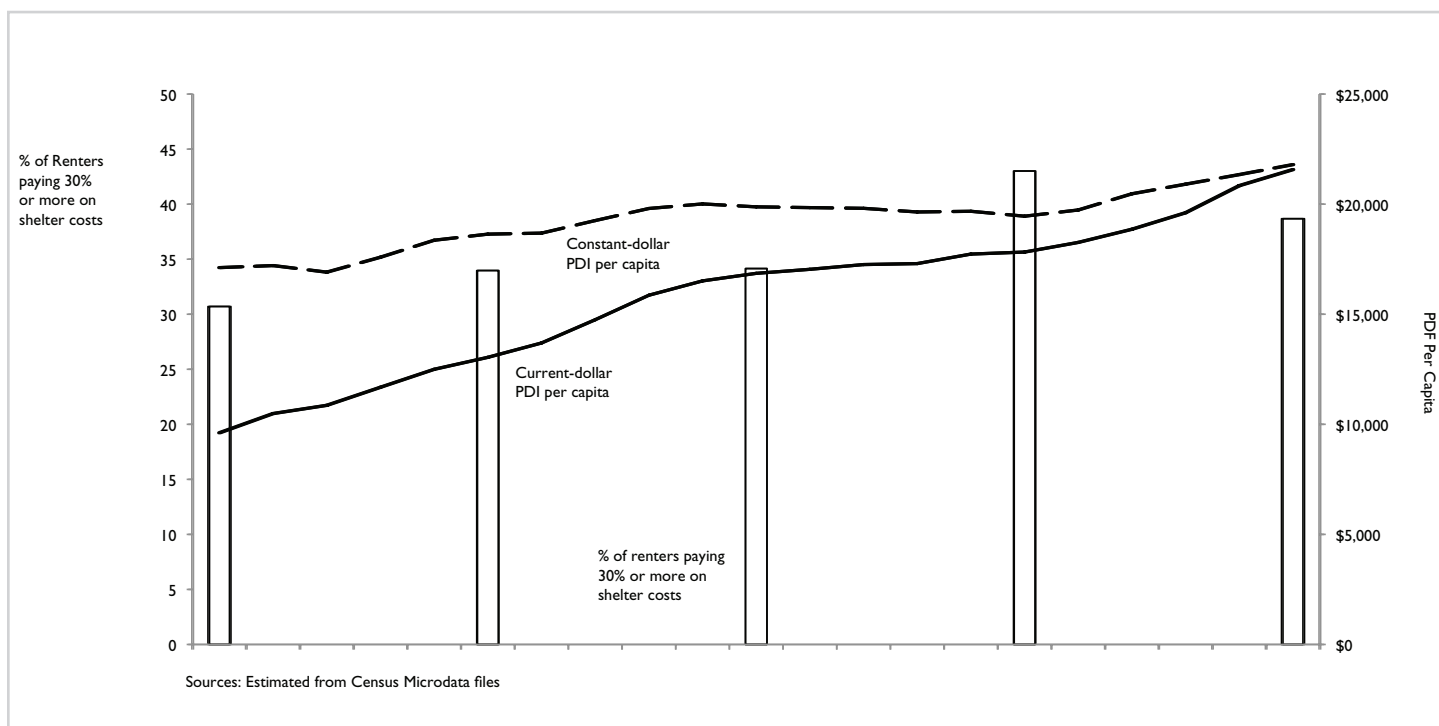
### Housing Consumption

Measured in rooms per dwelling or persons per room, there was no major increase in housing consumption over the period. At the same time, an increasing percentage of both owners and renters felt that their dwellings were in need of repair, indicative (at the least) that the quality of the stock was not improving significantly. So neither an increase in the quantity, nor improvement in the state of repair of housing, explains a rising incidence of affordability problems.

### Economic Cycles and Housing Affordability

An examination of affordability trends with reference to macroeconomic indicators identified that, following the recessions of 1980-1981 and 1991-1992, there was a discernible increase in the percentage of renters devoting 30% or more of their income to their shelter costs at the time of the following Census. The increase was larger in 1996 than in 1986, reflecting the deeper recession in 1991-1992. This would tend to confirm the relationship between the level of overall economic activity and the incidence of affordability problems. The increase in unemployment may have been the link between the economic downturn and the increase in the incidence of affordability problems, although the relationship was not very strong.

Still, over the period 1981 to 2001 there was an increase in homeownership because of declining interest rates, reduced down payment requirements for obtaining a mortgage, economic growth and the increasing age of household maintainers.



**Figure 5** Personal disposable income (PDI) per capita in current and constant 2002 dollars and per cent of renters paying 30% or more of income for housing, for average of selected CMAs, 1981-2001

**Table 1** Ratio of the median value of dwellings to the median household income of renters with primary maintainers aged 25–45

	1981	1986	1991	1996	2001
Halifax	3.38	3.14	3.04	3.56	3.73
Québec	3.22	2.68	2.98	3.52	2.82
Montréal	3.20	3.19	4.23	4.20	3.68
Ottawa-Hull	3.03	3.31	4.17	4.32	4.04
Toronto	4.50	4.32	6.66	5.98	5.96
Hamilton	2.96	3.41	5.41	5.13	5.22
St. Catharines	4.17	3.38	4.67	4.75	4.29
Kitchener	3.31	3.42	4.89	4.45	3.89
London	3.35	3.39	4.83	4.94	4.47
Winnipeg	3.72	3.23	3.41	3.59	3.21
Calgary	6.02	3.34	4.08	4.34	4.46
Edmonton	4.29	3.20	3.50	4.18	3.71
Vancouver	8.98	4.63	6.11	8.31	6.78
Total	3.85	3.59	4.84	4.97	4.71

Source: Estimated from Census Microdata files

With increasing house prices, renters were faced with a larger financial hurdle, relative to their incomes, to access homeownership. One measure of renter accessibility to homeownership is a comparison of the median cost of a home to the median income of a household with a maintainer in the 25-44-year age group (the “homebuying demographic cohort,” as it were). On this measure<sup>6</sup>, renter accessibility deteriorated over the period 1981 to 2001 in most of the CMAs examined (*see* Table 1), with some moderation in the latest intercensal period of 1996-2001.

## CONCLUSION

The international literature review suggested that housing affordability, on some measures, was worse in other countries than in Canada. However, aggregate measures such as median house prices compared to median household income do not capture the incidence or severity of housing affordability at the household level; they are more useful as measures of change in housing affordability over time or for comparing one country to another. An analogous measure of renter accessibility to homeownership, used in the final section of the paper, compared the median cost of a home to the median income of a household with a maintainer in the 25-44 age group and found that, accessibility of renters to homeownership deteriorated between 1981 and 2001.

Although the cost of housing increased more than incomes for both renters and owners from 1981 to 2001, the increase was higher for renters. Consequently, growing gaps in income and housing affordability emerged between owners and renters,

Owners spent more than renters for shelter. The ratio of renter-to-owner shelter costs rose to 86% in 1986 and then decreased to 2001. For CMAs as a whole, shelter cost per room rose for both owners and renters, but it rose more sharply for owners than for renters (except between 1981 and 1986). Renters always paid more per room than owners without mortgages and also more than owners with a mortgage in some cities at times.

The rate of homeownership increased between 1981 and 2001 due to decreasing interest rates, more flexible borrowing terms designed to improved access for first time home owners, and the increasing age of household maintainers.

By examining housing affordability indicators and the economic situation in Canada, this project has established that, while Canada compares favourably to other countries, a significant percentage of households fall below the affordability standard (i.e. they pay 30% or more of income for shelter). Economic cycles in the country at large affect affordability levels on the income side. At the same time, shelter costs have increased.

6 Demographia (a website that provides international comparisons on home ownership affordability) suggests the following taxonomy of markets, based on the ratios of median house value to median household income: 3.0 or less as affordable; 3.1 to 4.0 as moderately unaffordable; 4.1 to 5.0 as seriously unaffordable and 5.1 and over as severely unaffordable.

## Research Highlight

Affordability Trends 1981-2001: An Analysis of Selected Metropolitan Regions in Canada

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**Researcher:** Paddy Fuller

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## Évolution de l'abordabilité entre 1981 et 2001 : Analyse de la situation dans quelques régions métropolitaines du Canada

### INTRODUCTION

Ce numéro du *Point en recherche* présente les résultats d'un projet du Programme de subventions de recherche ayant porté sur l'évolution du niveau d'abordabilité des logements au Canada entre 1981 et 2001. Bien que les revenus aient augmenté et que, selon plusieurs instruments de mesure, les inégalités de revenu soient restées relativement stables, l'inabordabilité des logements est demeurée un problème pour un grand nombre de ménages. Cela pourrait être attribuable à des facteurs liés à l'offre, comme l'écart entre les frais de possession d'un logement et les loyers. Sinon, il se pourrait que certains sous-groupes de la population, notamment les locataires et les jeunes ménages intéressés à acquérir une habitation, n'aient pas profité autant que d'autres de la hausse globale des revenus.

### Principales questions et méthodes

Le projet visait à examiner l'abordabilité des logements et à expliquer pourquoi celle-ci s'est détériorée dans l'intervalle de vingt ans allant de 1981 à 2001, période au cours de laquelle les revenus ont progressé au Canada tandis que les inégalités de revenu sont restées stables.

Les hypothèses suivantes ont été retenues dans le cadre du projet de recherche :

- Il est possible que les frais de logement aient augmenté plus rapidement que d'autres coûts, si bien que les frais de logement en sont venus à accaparer une part plus importante du revenu des ménages avec le temps.
- La qualité ou la « quantité » des logements occupés par les ménages a changé, de sorte que les ménages payaient pour ainsi dire plus cher pour obtenir « plus ». La qualité des habitations pourrait s'être améliorée en raison de l'adoption de nouvelles normes, d'une augmentation de la taille des unités ou des accessoires d'aménagement intérieur, tels que les installations fixes.

- La progression globale des revenus n'a pas reflété les différences entre les sous-groupes de la population en matière de logement, par exemple entre les propriétaires et les locataires, les familles monoparentales, les personnes âgées et d'autres groupes.

Afin d'examiner ces questions, des indicateurs ont été mis au point à l'aide des fichiers contenant les microdonnées sur les ménages recueillies dans le cadre des recensements. Ces fichiers renferment des données pour un sous-échantillon représentatif des ménages<sup>1</sup>. Malheureusement, les recensements de 1971 et de 1976 n'ont pas pu être retenus aux fins de l'étude, car leurs données sont insuffisantes. Les régions métropolitaines de recensement (RMR) examinées à l'aide des fichiers de microdonnées sont les suivantes : Halifax, Québec, Montréal, Toronto, Ottawa, Hamilton, St. Catharines, Kitchener, London, Winnipeg, Calgary, Edmonton et Vancouver.

Le projet comprenait trois grands volets :

- Une étude documentaire qui a comporté d'abord un examen de l'évolution des inégalités de revenu au Canada. Cet examen d'envergure internationale a porté sur les techniques de mesure de l'abordabilité des logements utilisés ailleurs dans le monde.
- Dans le deuxième et principal volet de l'étude, des indicateurs ont été calculés à l'aide de fichiers de microdonnées à grande diffusion, afin d'examiner l'évolution de l'abordabilité. Ces indicateurs sont les suivants :
  - norme d'abordabilité (on considère qu'un ménage qui consacre au logement 30 % ou plus de son revenu se trouve dans une situation qui contrevient à la norme),
  - tendances des consommateurs sur le marché de l'habitation (nombre de personnes par pièce),
  - qualité (état) du logement (réparations nécessaires),
  - total des frais de logement et frais par pièce et par personne,

1 Les données sur le revenu recueillies lors du recensement sont celles de l'année civile précédente, tandis que celles sur les frais de logement sont celles du mois précédent.

- changements démographiques chez les locataires et les propriétaires, exprimés par l'âge du soutien du ménage et le type de ménage,
- niveau de revenu et part du revenu consacrée au logement, selon le mode d'occupation.
- Dans le dernier volet, on a retenu des indicateurs macroéconomiques, comme le produit intérieur brut, le taux de chômage et l'indice des prix à la consommation, pour mieux définir le contexte.

## CONSTATATIONS

### Analyse documentaire

Au Canada, l'inégalité des revenus est moins prononcée qu'au Royaume-Uni ou aux États-Unis, mais elle l'est davantage que dans bien des pays d'Europe. Même si cette inégalité a, tour à tour, augmenté puis diminué au Canada, suivant les cycles économiques, elle est restée relativement stable par rapport à la situation dans d'autres pays. Pendant les années 1980, l'inégalité des revenus n'a pas augmenté au Canada ni aux Pays-Bas, tandis que l'écart s'est creusé en Suède, au Royaume-Uni et aux États-Unis. Une comparaison entre le Canada et les États-Unis a révélé, d'une part, que l'inégalité et la polarisation des revenus est moindre au Canada qu'aux États-Unis et, d'autre part, que les revenus les plus bas recensés au Canada sont supérieurs à ceux relevés aux États-Unis. Bien que le nombre de familles ayant un revenu égal à la moitié du revenu médian ait reculé dans les deux pays, celles-ci étaient 50 % plus fréquentes aux États-Unis qu'au Canada.

Selon l'analyse documentaire, à l'instar du revenu, les frais de logement au Canada ont été touchés par les cycles économiques<sup>2</sup>. Entre 1970 et 2000, la conjoncture économique était favorable et le prix des habitations a augmenté en moyenne de 32 %. Lorsque l'économie canadienne a ralenti, le prix des habitations a fléchi lui aussi, diminuant en moyenne de 14 % pendant le cycle.

L'inégalité de la richesse a augmenté au Canada entre 1984 et 1999<sup>3</sup>. De toutes les composantes de la richesse, ce sont les régimes

enregistrés d'épargne-retraite (REER) qui ont le plus contribué à creuser l'inégalité. Le revenu médian a chuté dans les trois déciles de revenu les plus bas, tandis qu'il a augmenté de 27 % dans le décile le plus élevé. Ce dernier est d'ailleurs le seul à avoir accru sa part de la valeur nette globale entre 1984 et 1999. De plus, il n'a pas été possible d'établir clairement l'incidence des changements démographiques chez les ménages (par exemple, l'accroissement de la part des familles monoparentales dirigées par une femme) sur l'inégalité de la richesse. Lorsqu'on exclut de l'univers les unités familiales du centile supérieur, on constate que l'évolution de la composition des familles a eu un plus grand effet que les changements démographiques sur la hausse de l'inégalité de la richesse.

L'écart s'est également élargi entre la situation financière des propriétaires et celle des locataires. Comme les propriétaires disposaient de revenus plus élevés, ils avaient été en mesure d'accumuler plus de richesse. En outre, le fait d'être propriétaire d'une habitation constitue une forme passive d'accumulation de richesse, ce qui a contribué à accroître l'écart de richesse entre les locataires et les propriétaires.

Selon l'analyse documentaire menée à l'échelle internationale, le niveau d'abordabilité des logements, tel que mesuré par certains indicateurs, était pire dans d'autres pays qu'au Canada. Par exemple, le rapport entre le prix médian des logements et le revenu médian des ménages<sup>4</sup> s'élevait à 3,6 au Canada<sup>5</sup>, faisant de celui-ci le pays le plus abordable parmi tous ceux évalués à l'aide de cet instrument de mesure. Les autres pays visés par l'étude étaient les États-Unis (4,6), le Royaume-Uni (5,5), la Nouvelle-Zélande (5,9), l'Irlande (6,0) et l'Australie (6,2).

Toutefois, les mesures regroupées, par exemple la comparaison entre le prix médian des habitations et le revenu médian des ménages, ne permettent pas d'établir la fréquence ou la gravité du manque de logements abordables pour les ménages; elles permettent simplement de déterminer si le ménage médian a les moyens financiers de se procurer le logement médian.

2 Girouard, Nathalie, Mike Kennedy, Paul van den Noord, Christophe André, 2006. Le rôle des fondamentaux dans l'évolution récente des prix des logements, document de travail n° 474 du Département des Affaires économiques, OCDE.

3 Morissette, René, Xuelin Zhang et Marie Drolet, 2002. L'évolution de l'inégalité de la richesse au Canada, 1984-1999, Division de l'analyse des entreprises et du marché du travail, Direction des études analytiques, document de recherche n° 187, Statistique Canada.

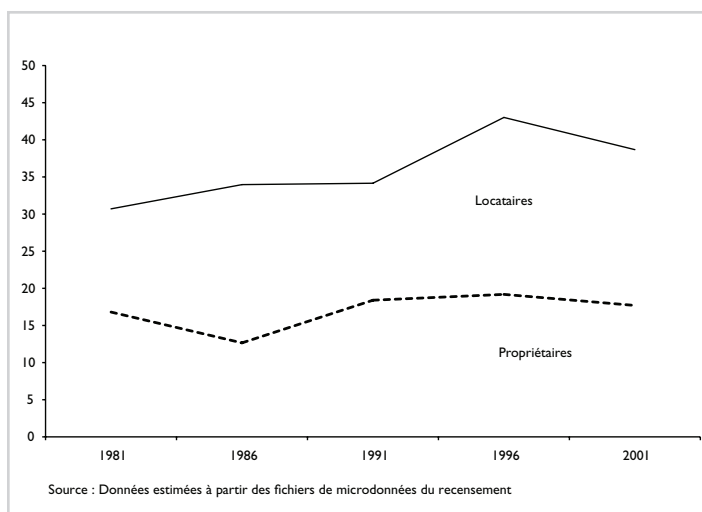
4 Voir le rapport de 2006 de la société Demographia, à l'adresse Demographia.com.

5 Ce rapport ne vise que les centres visés par l'étude (Vancouver, Toronto, Hamilton, Montréal, Ottawa, Edmonton, Québec et Winnipeg), et non l'ensemble du Canada.

## INDICATEURS D'ABORDABILITÉ

### Abordabilité des logements et mode d'occupation

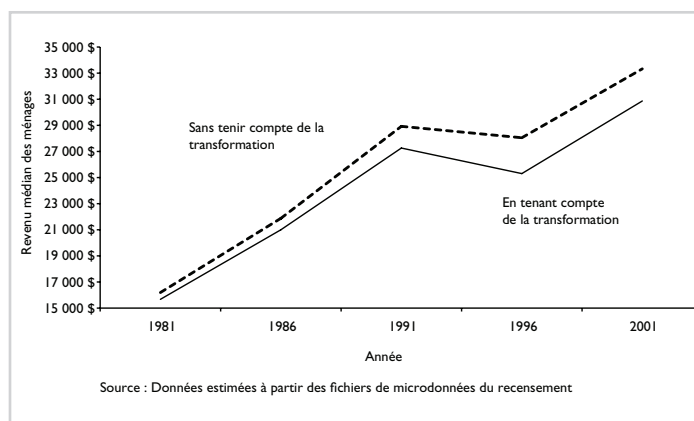
Entre 1981 et 2001, la situation de logement des locataires s'est dégradée par rapport à ce qu'elle était par le passé, et davantage que celle des propriétaires. Le pourcentage de locataires consacrant 30 % ou plus de leur revenu au logement a augmenté, passant de 31 % en 1981 à 43 % en 1996, puis il a diminué pour s'établir à 39 % en 2001 (voir la figure 1). Le pourcentage de propriétaires éprouvant des problèmes liés au manque de logements abordables a atteint un sommet, de 19 %, en 1996.



**Figure 1** Pourcentage de ménages dont le logement est non conforme à la norme d'abordabilité, moyenne des RMR de l'échantillon, 1981-2001

### Répartition du revenu et de la richesse

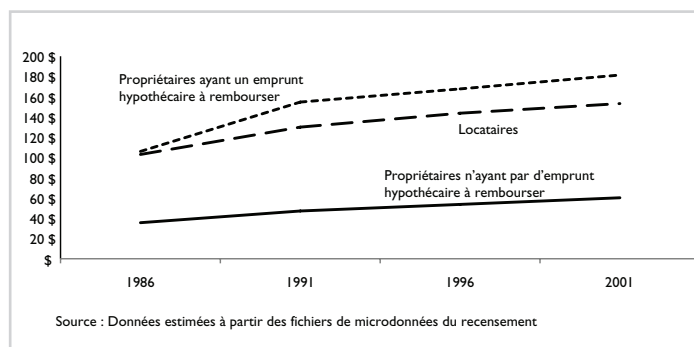
Selon les constatations de l'analyse documentaire, lesquelles ont été confirmées par des études de Statistique Canada, l'inégalité des revenus n'a pas augmenté au Canada entre 1981 et 2001. En fait, le Canada se compare favorablement à d'autres pays de l'OCDE à cet égard. Par contre, l'écart entre propriétaires et locataires s'est élargi. Le rapport entre le revenu des locataires et celui des propriétaires a diminué entre 1981 et 2001, passant de 64 à 46 %, car les locataires ont progressivement migré vers les deux quintiles de revenu inférieurs. Ce changement s'explique en partie par la transformation de la composition des ménages locataires en faveur d'une plus forte concentration de ménages d'une seule personne et de familles monoparentales (voir la figure 2).



**Figure 2** Revenu médian des locataires, avec et sans la transformation de la composition des ménages, 1981-2001

### Frais de logement

De façon générale, les propriétaires dépensent plus que les locataires pour se loger. Le rapport entre les frais de logement des locataires et ceux des propriétaires est monté à 86 % en 1986, puis il a ensuite diminué jusqu'en 2001 (voir la figure 3). Cela indique que les frais des propriétaires ont augmenté plus rapidement que ceux des locataires. Toutefois, pour les RMR dans leur ensemble, les frais de logement médians par pièce ont augmenté pour les deux modes d'occupation. La hausse a été plus prononcée du côté des propriétaires que de celui des locataires, sauf entre 1981 et 1986. Par contre, la situation a évolué différemment d'une RMR à l'autre. Compte tenu des frais de logement médians, les locataires payaient plus cher par pièce que les propriétaires n'ayant pas d'emprunt hypothécaire à rembourser. Dans certaines villes, à certains moments pendant la période à l'étude, ils dépensaient aussi plus cher par pièce que les propriétaires qui avaient un emprunt hypothécaire à rembourser.



**Figure 3** Frais de logement médians, par pièce, des propriétaires (avec et sans emprunt hypothécaire) et des locataires, 1986-2001

Pendant la majeure partie de la période allant de 1981 à 2001, la hausse des frais de logement a été plus forte que celle des revenus, tant pour les propriétaires que pour les locataires (voir la figure 4). Ainsi, pendant presque toute cette période, le revenu des locataires a progressé plus lentement que les loyers; en fait, il a fléchi entre 1991 et 1996. L'année 1996 a été particulièrement mauvaise, pour les locataires, au chapitre de l'abordabilité, peut-être en raison de la récession, assez grave, observée en 1991. Leur situation s'est quelque peu améliorée au cours de la dernière période intercensitaire couverte par l'étude, à savoir entre 1996 et 2001. La situation des propriétaires s'est avérée légèrement meilleure, mais les revenus de ceux-ci ont néanmoins progressé plus lentement que les frais de logement pendant deux des quatre années de l'intervalle intercensitaire.

### Tendances des consommateurs sur le marché de l'habitation

Le nombre de personnes par pièce dans chaque logement et le nombre de personnes par pièce sont des indicateurs qui montrent qu'il n'y a pas eu de hausse importante de la consommation sur le marché de l'habitation pendant la période à l'étude. Par contre, le pourcentage de propriétaires et de locataires ayant l'impression que leur logement nécessitait des réparations a augmenté, ce qui indique (tout au moins) que la qualité du parc immobilier ne s'est pas améliorée de façon notable. Par conséquent, le problème lié à l'inabordabilité des logements ne peut être imputé ni à une augmentation de la consommation sur le marché de l'habitation, ni à une amélioration de l'état des logements.

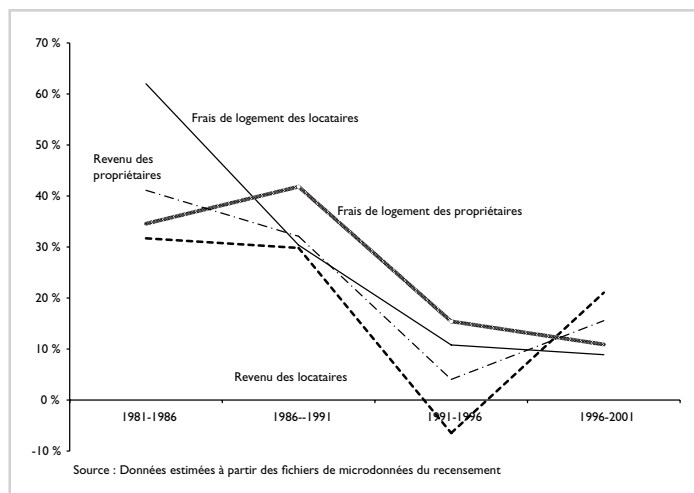


Figure 4 Variation (en %) du revenu et des frais de logements des locataires et des propriétaires, 1981-2001

### Cycles économiques et abordabilité des logements

Un examen de l'évolution de l'abordabilité au moyen des indicateurs macroéconomiques a révélé qu'à la suite des récessions de 1980-1981 et de 1991-1992, le pourcentage de locataires consacrant au logement au moins 30 % de leur revenu a augmenté de façon perceptible dans le recensement qui a suivi. La hausse a été plus importante en 1996 qu'en 1986, ce qui reflète le fait que la récession de 1991-1992 a été plus profonde. Cette donnée tend à confirmer le lien qui existe

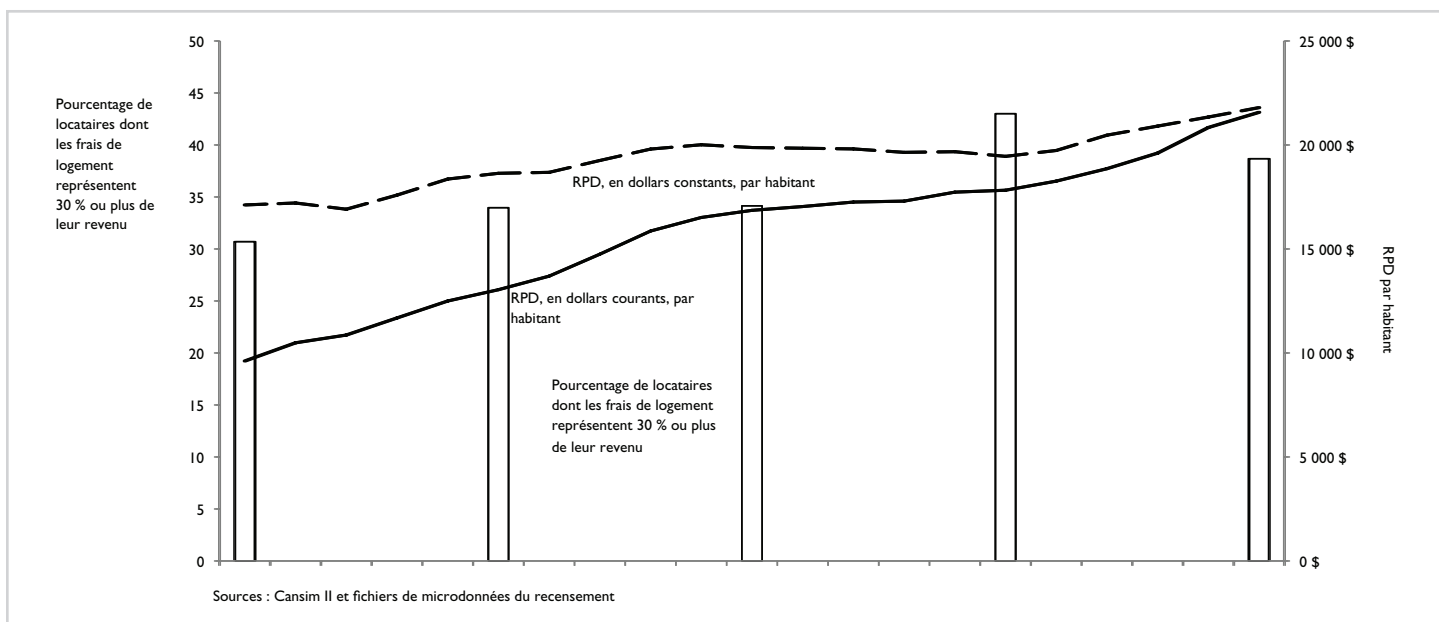


Figure 5 Revenu personnel disponible (RPD) par habitant, en dollars courants et en dollars constants de 2002, et pourcentage de locataires dont les frais de logement représentent 30 % ou plus de leur revenu, pour la moyenne des RMR de l'échantillon, 1981-2001



**Tableau 1** Rapport entre la valeur médiane des logements et le revenu médian des ménages locataires ayant pour soutien une personne âgées de 25 à 45 ans

	1981	1986	1991	1996	2001
Halifax	3,38	3,14	3,04	3,56	3,73
Québec	3,22	2,68	2,98	3,52	2,82
Montréal	3,20	3,19	4,23	4,20	3,68
Ottawa-Hull	3,03	3,31	4,17	4,32	4,04
Toronto	4,50	4,32	6,66	5,98	5,96
Hamilton	2,96	3,41	5,41	5,13	5,22
St. Catharines	4,17	3,38	4,67	4,75	4,29
Kitchener	3,31	3,42	4,89	4,45	3,89
London	3,35	3,39	4,83	4,94	4,47
Winnipeg	3,72	3,23	3,41	3,59	3,21
Calgary	6,02	3,34	4,08	4,34	4,46
Edmonton	4,29	3,20	3,50	4,18	3,71
Vancouver	8,98	4,63	6,11	8,31	6,78
Total	3,85	3,59	4,84	4,97	4,71
Source : Données estimées à partir des fichiers de microdonnées du recensement					

entre le niveau d'activité économique et la fréquence du manque de logements abordables. La hausse du taux de chômage représente peut-être le maillon entre le ralentissement économique et la fréquence accrue des problèmes liés à l'abordabilité, quoique la relation entre les deux variables n'était pas très étroite.

Entre 1981 et 2001, le taux de propriétaires a tout de même augmenté, en raison de la baisse des taux d'intérêt, des mises de fonds réduites exigées pour obtenir du crédit hypothécaire, de la croissance économique et de l'âge plus avancé des soutiens de ménage.

Comme le prix des habitations s'est accru, les locataires souhaitant accéder à la propriété ont dû assumer un fardeau financier plus important. L'une des façons de mesurer l'accès des locataires à la propriété consiste à comparer le coût médian d'un logement au revenu médian d'un ménage ayant pour soutien une personne âgée de 25 à 44 ans (la cohorte qui achète des habitations). Selon cet indicateur<sup>6</sup>,

l'accès des locataires à la propriété s'est détérioré entre 1981 et 2001 dans la plupart des RMR examinées (voir le tableau 1), puis un peu moins entre 1996 et 2001.

## CONCLUSION

Selon une analyse documentaire menée à l'échelle internationale, et certains de ses indicateurs, le manque de logements abordables était pire dans d'autres pays qu'au Canada. Par contre, les indicateurs regroupés, comme la comparaison entre le prix médian des habitations et le revenu médian des ménages, ne permettent pas de mesurer la fréquence ou la gravité des problèmes liés au manque de logements abordables pour les ménages. Ces indicateurs sont plutôt utiles pour mesurer la variation du niveau d'abordabilité des logements au fil du temps ou pour comparer les pays entre eux. Un indicateur analogue mesurant l'accès des locataires à la propriété et utilisé dans la dernière section du présent document a comparé le coût médian d'un logement au revenu médian d'un ménage ayant pour soutien une personne âgée de 25 à 44 ans. Celui-ci a montré que l'accès des locataires à la propriété s'est détérioré entre 1981 et 2001.

Bien que les frais de logement aient augmenté plus fortement que les revenus, tant chez les locataires que chez les propriétaires, entre 1981 et 2001, la hausse a été plus marquée pour les locataires. Par conséquent, l'écart s'est creusé entre les propriétaires et les locataires au chapitre du revenu et de l'abordabilité des logements.

Les propriétaires ont dépensé davantage que les locataires pour se loger. Le rapport entre les frais de logement des locataires et ceux des propriétaires a atteint 86 % en 1986, puis il a diminué par la suite jusqu'en 2001. Pour les RMR dans leur ensemble, les frais de logement par pièce ont augmenté, tant pour les propriétaires que pour les locataires, mais de façon plus marquée pour les propriétaires (sauf entre 1981 et 1986). Les locataires ont toujours payé cher plus par pièce que les propriétaires n'ayant pas d'emprunt hypothécaire à rembourser. Dans certaines villes et à certains moments pendant la période à l'étude, ils payaient également plus cher que les propriétaires ayant un emprunt hypothécaire à rembourser.

<sup>6</sup> Demographia (site Web fournissant des comparaisons à l'échelle internationale du niveau d'abordabilité des logements pour propriétaire-occupant) a adopté la typologie de marché suivante, fondée sur le rapport entre la valeur médiane des logements et le revenu médian des ménages : un rapport égal à 3,0 ou moins indique un logement **abordable**; un rapport allant de 3,1 à 4,0 désigne un logement **légèrement inabordable**; un rapport allant de 4,1 à 5,0 dénote un logement **assez inabordable** et un rapport de 5,1 et plus indique un logement **très inabordable**.



La proportion de propriétaires a augmenté entre 1981 et 2001, en raison de la baisse des taux d'intérêt, de l'assouplissement des conditions d'emprunt visant à améliorer l'accès à la propriété et de l'âge plus avancé des soutiens de ménage.

En examinant l'abordabilité des logements et la situation économique au Canada, le projet de recherche a permis d'établir que, bien que le Canada se compare favorablement à d'autres pays, on constate un fort pourcentage de ménages canadiens dont le logement n'est pas conforme à la norme d'abordabilité (qui consacrent au logement 30 % ou plus de leur revenu). Les cycles économiques observés dans l'ensemble du pays ont une incidence sur le niveau d'abordabilité, car ils font varier les revenus. Au cours des mêmes cycles, les frais de logement se sont accrus.

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## ***Glossary***

Term	Definition
CMA	Census Metropolitan Area, a main labour market with an urbanized core of at least 100,000 population
GINI	a measure of income inequality based on the ratio of the Lorenz Curve and a uniform income distribution
Lorenz Curve	A graphical representation of the cumulative share of income by percentage of households or individuals
PDI	Personal Disposable Income – personal income after taxes
PUMF	Public Use Microdata File – a scientifically chosen sub-sample of responses to the Census of Canada

## ***Introduction***

This report presents the findings of an External Research Project examining the changing levels of housing affordability in Canada between 1981 and 2001. While incomes have been rising and income inequality on many measures has been relatively stable, housing affordability continues to be a problem for many households. This could be due to factors on the supply side, in terms of homeownership or rental costs. Or, the overall rise in incomes may not have been experienced, to the same extent, by housing sub-groups such as renters or young households looking to buy a home.

The project set out to examine and explain deteriorating housing affordability in the twenty-year period from 1981 to 2001 where incomes rose in Canada and income inequality did not. In doing so, the following hypotheses were examined:

- the cost of housing could have risen faster than other prices, and as a result housing came to command a larger share of household income over time, or
- the quality and/or quantity of housing consumed per household changed so that households were paying “more for more”, as it were. The quality of accommodation could have increased as a result of changes in standards such as insulation, size or “fit and finish” items such as fixtures, or
- the overall income trends did not capture differences between housing sub-groups such as owners versus renters, lone parent households, seniors or other groups.

In order to examine these questions a series of indicators were developed and calculated using the census household microdata files that contain the census questionnaires for a representative sub-sample of households. Unfortunately, the study could not include the 1971 and 1976 censuses due to data limitations in those years\*.

## **Structure of the Report**

The first section of the report consists of a literature review with both an international and domestic focus. The international review included journals, the internet and comparisons by international bodies such as the OECD. Measures of affordability in use elsewhere were generally of the form of median house price compared to median income, which may be useful for inter temporal or international comparisons of affordability but do not reveal the incidence of, or even impact of affordability on, the individual household. On these measures the concern for housing affordability, particularly access to home ownership, was higher in other countries than in Canada.

In Canada trends in income inequality confirmed the starting point of the study that income inequality in general was not changing, certainly as measured after taxes and transfer payments. The relatively stability of the Gini Coefficient in Canada (the statistical measure of income inequality) contrasts with trends in other countries (notably the US) over the same period, reinforcing the underlying question of this project as to why housing affordability should have risen as it did, certainly to 1996.

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\* In 1971 only Toronto and Montréal were identified as CMAs and all of the housing cost data was not included. In 1976 household incomes were not collected on the Census.

The second and major part of the report involved the development and application of indicators that would quantify affordability trends and distinguish the underlying factors in terms of supply (housing cost) and demand (income). The effect of changing demographics among owners and renters was examined for their effect on affordability. Changes in the level of affordability among owners and renters were compared to the trends in the costs for each tenure and the household income of owners versus renters, allowing an examination of the relative importance of the factors at work.

The third and final section looked at the macroeconomic backdrop over the period and how it may have influenced housing affordability. Notably, there were two recessions in the period under review in 1980-1981 and 1991-1992, which affected incomes in their aftermath. This section also looked at trends in housing costs – ownership and rental – and compared those changes to the actual amounts paid, as gathered by the census. Some of the measures used internationally to measure changes in ownership accessibility for renters were adapted and applied to the census data. As mentioned earlier, the ratio of median house price to median income is a commonly used measure for international affordability. The ratio of median house price to median income of renters aged 25-44 (the house-buying cohort) would be a better measure of changes in access to home ownership by renters over time. Quigley has also suggested the percentage of the rental stock renting at less than 30% of median renter income as a measure of the supply of moderately priced rental units.

The findings of the study are combined in a brief discussion at the end of the report.

## ***Literature Review***

This project set out to examine trends in housing affordability over the period 1971 to 2001 but was curtailed to the period 1981-2001 because of data limitations in the earlier period. While incomes were rising and income inequality was not, there was a growing incidence of affordability, at least to the mid nineties. Trends in incomes and housing costs were compared for divergences in income levels by different segments of the population that would not be visible when a national inequality measure is taken.

In Canada almost two thirds of households own the home in which they live and half of those households are mortgage-free. Government housing policy has always encouraged home ownership through mortgage insurance and other assistance. A young person leaving the parental home might start as a renter but, over time, with rising income or in combination with a partner, accumulate the down payment and be able to carry a mortgage. Over a full working career, incomes tend to rise before falling after retirement. With homeownership, housing expenditure comes more under the owner's control with some, albeit limited, ability to change mortgage terms and conditions. If mortgage rates and property taxes rise, the owner can recast their mortgage to better suit their means at the time. And, at some point, the mortgage will be paid off and their housing expenditure decreases to include only property taxes, maintenance, etc. At the same time, the owner will have accumulated equity - available for retirement or to finance other expenditures.

To renters, on the other hand, housing is more of a consumable. The amount spent each month provides shelter only, with no equity accumulation. Their level of housing expenditures depends on the conditions in the rental market in which they live.

Making the transition from renter to owner can have a major impact on the financial health and prospects of the household (as shown in the section on wealth below). If incomes keep pace with housing costs, access to homeownership, and housing affordability in general should not change over time. Homeownership cost is a composite of purchase price, down payment requirements, mortgage rates, property taxes and other expenses such as utility costs, maintenance, insurance and legal fees. Although the general economic trends will affect all of these factors, they will not always be perfectly correlated. Income may not move at the same pace for all households. Trends, such as globalization, may affect certain segments of the population differently than others.

### **Low Income**

Lefebvre (2002) analyzed the relative situation of owners versus renters using the 2000 Survey of Household Spending. She used a low income definition of "after tax income less than 50% of the median adjusted after tax income in the area". Twenty areas were defined – rural and urban for each of the ten provinces. Even when adjusted for household size and composition, income played an important role in determining home ownership.

She also found that:

- Marriage was also an important factor in homeownership as at every income level; single adults had lower rates of home ownership.
- Female lone parents and “other households”<sup>\*</sup> had the highest rates of living in dwellings that are inadequate (i.e. needing major repairs).
- Renters were more likely than owners to live in dwelling that did not meet the standards of suitability, adequacy or affordability<sup>†</sup>.
- Tenants were more likely to spend 40% or more of their income on housing (at a rate of one in five) compared to owners with mortgages (at one in eight).

In 2000 11% of households were low-income according to Lefevbre. One person households represented 49% of low income households but only 22% of non-low income households. Lone parents comprised 15% of low-income households; more than one third of female lone parents were in low income situations. Tenants made up three out of four low income households and low income households were more likely to live in sub standard housing.

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<sup>\*</sup> “Other Households” are those that do not fit one of the major categories and would include a brother and sister living together, a parent with a once married child or two or more unrelated individuals.

<sup>†</sup> CMHC, 1991, Core Housing Need In Canada, Ottawa, NHA 6567



## **Housing Costs**

Girourd (2006) looked at trends in housing cost over the period 1970 to 2000 in Canada and identified major up and down trends as follows:

- There were four positive cycles, lasting 15.5 quarters on average, with an average price increase of 31.6% and three turns (noted in the table below) of more than 15%.
- On the downside, Canada has had 4, with an average duration of 13 quarters and a 13.6% average decrease in house prices, with one cycle (noted in the table below) surpassing 15%.

Major Cycles in Canadian House Prices	
Up	Down
1970Q1-1976Q4 + 46.4%	1981Q1-1985Q1 - 20.9%
1985Q1-1989Q1 + 66.6	
1998Q3-2005Q2 + 39.2%	

The literature review for this study had two main areas of interest:

- Within Canada, focus was on income and wealth trends
- Internationally, the review included housing affordability, to better understand the level of concern in other countries and the measurement tools.

## **Income Inequality**

Income inequality is measured using a Gini coefficient, which calculates the degree of deviation of the cumulative share of income in the population (the Lorenz curve) from a flat income distribution. The calculations for the Gini coefficient generally use incomes after taxes, transfers and social programs, as that is the best reflection of the income available to the household. The Gini could theoretically range from 0 to 1 (i.e. from one extreme where every family has the same income to the other extreme where one family has all of the income). Picot and Myles (2004) have shown the Gini has remained roughly the same in Canada since the 1970s on an after tax basis. Rashid (1998) has estimated that over the years 1970-1995, inequality in family income rose two percentage points (.352 to .373). Inequality changed little during periods of economic stability (1970-1980 and 1985-1990).

To some extent, according to Frenette (2004), the calculation of inequality varies depending on the data source. Examples of data sources include the Census or sample surveys such as the Survey of Labour and Income Dynamics (or the Survey of Consumer Finances which previously provided intercensal income estimates). The Census may be a better reflection of the bottom end of the income scale as response is compulsory and more effort is put into getting households to participate. The survey data, by comparison present a more compressed income distribution.

Frenette (2004) has shown that before-tax earnings inequality rose during the 1980s and early 1990s but after tax inequality appears to have declined moderately on all measures, although the changes are not statistically significant. As a general trend, inequality increases during recessions and periods of low growth and decreases when conditions improve. Buse (1982) examined the effect of economic cyclicalities on the income distribution of individual tax filers over the period 1947 to 1978. Using a regression model, he tried to measure the effect of unemployment, inflation and the participation rate on the Gini coefficient as well as income share by quintile and decile. Only the participation rate was significant. He attributed the lack of a more positive result to data difficulties. However, it could be that it is the participation rate that changes over the economic cycle and is the main driver of changes in income inequality. From a housing point of view, the participation rate is very significant as the addition of a second earner can be crucial to home buying and improved affordability.

In Canada the Gini coefficient is less than the UK or US but more than many European countries. Jantti (1997) studied income trends in five OECD countries over the 1980s: Canada, Netherlands, Sweden, United Kingdom and United States. Inequality did not increase in Canada or the Netherlands but did increase in Sweden, the UK and the US. The change in Sweden was not significant. The US has the highest level of inequality.

Because Canada and the US are geographically adjacent, there have been many comparisons of income inequality between them. Both income inequality and income polarization are less in Canada and incomes at the bottom are higher than in the US. Wolfson and Murphy (1998) found that inequality and polarization fell in Canada while the opposite trend was seen in the US. In Canada there was a decrease in inequality over the period 1975-1995. The number of families with half the median income declined in both countries. However, the incidence of low income was 50% higher in the US than in Canada.

The relative stability of the summary inequality measure could be contrasted with the major socio-demographic changes that have occurred in Canada over the period. Jantti (1997) identified factors that could have been expected to affect the distribution of income:

- labour supply side baby boom (influx of workers);
- increased female job participation rate (mainly helped the top end);
- changes in family structure (fewer children);
- retirement and pensions (helped the bottom end of the income distribution).

Rashid (1998) reported that between 1971 and 1996 total population rose 34% while the number of census families rose 55% due to the fast growth in lone parent female led as well as single senior females. Income inequality among families with two income earners increased at an even faster rate (132% vs. 55% for all families).

McWaters and Beech (1990) looked at changes in the income of the middle class, defined as the three middle quintiles. The mean and median real income of Canadian families rose from 1965 to 1981, then declined to 1984. Only in 1987 did the median income once again reach the 1980 level. The proportion of income going to households in the middle class rose from 55% in 1954 to 56% in 1977 before dropping to 54% in 1987. The share of income of the top quintile was 6.3 times that of the lowest quintile in 1965. This ratio dropped to 6.1 in 1987.

This brief review would suggest that, using standard statistical measures, income inequality did not widen since the 1970s. From a housing point of view, the more relevant issue would be changes in income in certain sub groups such as renters and the young, as that would affect their housing affordability as well as their ability to become owners. Also of interest would be

whether or not the changes in income kept pace with the rise in housing cost, particularly the costs of home ownership which included purchase price, interest rate.

## **Housing Tenure and Wealth**

Statistics Canada's Survey of Financial Security and its predecessor, the Survey of Asset and Debts, are the only sources in Canada for wealth information at the household level.

Morissette (2002), found that wealth inequality has increased over the period from 1984 to 1999. Of all wealth components, registered retirement savings plans (RRSPs), have contributed the most to the increase in wealth inequality. Median wealth fell in the bottom three income deciles but rose 27% for the top decile. Only the top decile increased its share of total net worth between 1984 and 1999. Shift share analysis reveals that between 30% and 39% of the growth in average wealth appears to be related to the aging of the family units. The growth in wealth inequality has been associated with substantial declines in real average and median wealth for some groups such as couples with young children and recent immigrants. Real median and average wealth rose much more among families with a university graduate. The changing demographics of households (e.g. more female led single parents) have had an "ambiguous effect" (according to Morissette) on wealth inequality (as measured by the Gini coefficient). When the top 1% of family units are excluded, changes in family structure account for 14 – 22 % of growth in wealth inequality.

CMHC (2006) undertook an housing oriented analysis of the 1999 Survey of Financial Security and found that 11.6 million households had a combined net worth of \$3B, about one third in the form of RRSPs. Housing wealth was the second largest component and the most widely held, accounting for 26% of all wealth at \$800M. Renter households comprised 36% of households but held only 9% of total net worth. The other 91% was held by the 64% of the households that owned the dwelling they occupied. Only 20% of renter households had assets in excess of \$50,000. Over all age groups, the percentage of renters with substantial assets never rises above 20%. For owner-occupied households the percentage with non-housing substantial assets peaks at 55% for the 55-64 age cohort, and declines for the 65 and over age group. Owners have higher incomes compared to renters in all age ranges, double those of renters in the 45-64 age level. In 1999 homeowners had an average net worth of \$377,000, of which \$109,000 was in their home.

Averages can be skewed by a few extreme cases; the median is a more stable measure. The median net worth for homeowners was \$226,000, with \$80,000 of that amount in their homes. Renters, on the other hand, had a median net worth of \$14,000. The median net worth of owners without a mortgage is more than double that of those with a mortgage - \$352,000, compared to \$149,000.

Elderly couples without children (at home, presumably) and non-elderly couples without children had the highest average net worth at \$452,000 and \$380,000, respectively and were least likely to be renters. Unattached individuals, elderly and non-elderly, were most likely to rent and had the lowest average net worth at \$96,000 and \$113,000 respectively.

Home equity and net worth are highly correlated but varied in relative importance over the income spectrum. Home equity is most important to low to middle income groups. As income rises, retirement assets surpass the value of the home. Among the very affluent investments, including equity in business, come more into prominence.

Hulchanski (2001) also examined owner versus renter wealth trends and found that, while in the late 1960s the income gap between renters and owners was only 20%, it has been growing by 1% a year since then. Homeowner wealth increased from 29 times that of renters to 70 times. Over the 15 year period from 1984 to 1999 the median income of homeowners increased by \$2,100 (5%) while that of renters decreased by \$600 (-3%). The median wealth of homeowners in 1999 was \$145,000, (excluding home equity) an increase of 24% over 1984. For renters, median net worth declined by \$1,900 (-48%), from \$4,000 in 1984 to \$2,000 in 1999. In 1984 homeowners had almost double the income of renters (192%). By 1999 the gap had increased to more than double (208%). The gap in net worth between homeowners and renters went from \$112,900 to \$143,100.

In Toronto the median income of owners and renters rose at about the same rate between 1984 and 1999, 10% for owners and 12% for renters. In 1999 the median income was \$54,000 for owners and \$27,000 for renters.

In Montreal the median income of owners remained about the same over the 15 year period (1% decrease) while the median income of renters declined by 16%. In 1999 owners had a median income of \$44,000 compared to \$20,000 for renters.

In Vancouver the median income of owners and renters decreased between 1984 and 1999, 5% for owners and 10% for renters. In 1999 it was \$47,000 for owners and \$22,000 for renters.

The wealth studies highlight the importance of the home as a store of wealth. Home owners also accumulate other forms (e.g. RRSPs) more so than renters since they have higher incomes in general. The wealth gap between renters and owners has been increasing over the last two decades.

## **International Literature**

The international review looked for measures of affordability in use elsewhere as well as the level of attention paid to housing costs relative to household incomes in other countries.

Quigley and Raphael (2004) reviewed the issue of housing affordability in the US. For two out of three of households in the top three income quintiles, affordability is about the cost of homeownership, for the lowest two quintiles, it is about the cost of renting. Quigley and Raphael found that housing choices can incorporate an estimation of permanent income, the concept first introduced by Friedman (1957). Housing affordability can affect the young and old. The issue for the former may resolve itself with real increases in income, should they occur. For the elderly, the issue may not be pressing as their need for disposable income may be limited.

Real cost of ownership ( $R^*$ ) can be defined as

$$R^* = (i + t + d - g)V$$

Where  $i$  = return on other investment,

$t$  = property tax,

$d$  = depreciation,

$g$  = capital gain, and

$V$  = value of dwelling

Rental affordability measure = % of the rental stock accessible to the median renter income.  
Accessible stock costs less than 30% of the household's income to rent.

Half of the decline in affordability of rental dwellings during the 1970s was attributable to a decline in the median income of renters as a result of the move of the higher income renters to ownership. Quigley concludes that quality improvements are important in explaining higher prices of rental stock.

Alternatively, Gaines (2005) defined housing affordability as the ability of the median income family to purchase the median priced house. To assess households according to this definition, an index was created where the median family income was divided by the income required to purchase a median-priced home, using conventional financing terms. If the index is one or more, the median family income is equal to, or greater than the income required, meaning the median-income family would be able to afford the median-priced home with a conventional mortgage under the prevailing terms (interest rate, etc). Using that index the annual results for the US are from 1999 to 2005 1.38, 1.38, 1.45, 1.43, 1.61, 1.53 and 1.34. In other words, while not paying too much for a house, affordability on this measure improved to 2003 and has worsened since.

Demographia (2006) also compared the median house price to median household income. According to this international survey, Vancouver was Canada's least affordable city ("severely unaffordable"), followed closely by Toronto ("seriously unaffordable"). Hamilton, Montreal and Ottawa were judged "moderately unaffordable" while Edmonton, Quebec and Winnipeg were "affordable". The ratio of median house price to median household income ranged from 6.0 in Vancouver to 2.4 in Winnipeg with an average of 3.6, making it the most affordable country assessed using this measure (in terms of the centres covered in the survey). Other countries surveyed included the US 4.6, UK 5.5, NZ 5.9, Ireland 6.0 and Australia 6.2.

In 2003 The Economist magazine\* noted that housing prices had been rising for the previous decade in most western countries at rates of between 30% and 50% in real terms, raising a concern in many countries that home ownership would become out of reach for a growing segment of the population. As a related issue, if the price escalation were not sustainable then what went up precipitously would also come down as suddenly – threatening housing markets, financial institutions, etc. The Organization for Economic Cooperation and Development (OECD) has published two studies on the issue in recent years.

The first paper (Girouard et al 2006) looked at what has been driving house price movements in 18 OECD countries since the mid-1970s. Rising house prices are generally attributed to increasing per capita income, growing populations, supply factors such as land scarcity and zoning restrictions, quality improvements and low productivity in construction.

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\* May 29<sup>th</sup>, 2003

It found that house price movements “are broadly in line” with the underlying fundamentals in Denmark, Finland, France, US and Norway. The findings are mixed for the Netherlands. However, there is an over valuation in the UK, Ireland and Spain.

If the price to income ratio (per capita disposable income), moves above its long-term trend, houses may be overvalued. Ireland is 40% above its long-term trend (more about Ireland below). Canada is in the moderate increase group. Other countries – Japan, Germany, Korea and Switzerland – are below their long-term trend. However, the price to income ratio is not a perfect measure of affordability because changes in interest rates can affect accessibility to homeownership.

Van den Noord (2006) found that the 1990s boom in house prices differed from earlier periods of house price appreciation in several important respects. It was more generalized throughout OECD countries, and out of step with the business cycle; until this period, the OECD average output gap and real house price index were highly correlated.

Ireland is often cited as a country that has had a particularly sharp run-up in house prices. Fahey & Nolan (2005) have shown that the home-ownership rate rose from the 1940s to the 1980s where it flattened out at just under 80%, making it the highest rate of homeownership among OECD countries. The number of occupied units rose from 662,600 in 1946 to 1.3 million in 2002. Mortgage financing rose; in 1971 only 22% of owners had mortgages and this rose to 41% in 2002. Eighty percent of households living in homes built between 1988 and 1998 had mortgages. Duffy (2004) states that in the late 1990s Irish house prices rose by over 20% on an annual basis while interest rates were falling sharply. House price to personal disposable income (PDI) ratios went from 2.8 in 1980/85 to 3.2 in 1995/2000. Despite the rise in house prices, owners spend less of their income on housing than households in the private rental market (Fahey & Nolan). The increase in house prices has been accommodated by easy access to mortgage credit. Nolan and Smeeding (2005) reported that Ireland (at 0.324) has the second highest Gini index, in terms of income distribution (next to the US) of the 28 countries, compared to the US (at .368) and Canada (at .302). A low income person in Ireland has an income that is only 41% of the ratio between the income of individuals in the 10<sup>th</sup> and 1<sup>st</sup> deciles compared to Canada, where it is 48%. Only in the UK were incomes of low income households lower than in Ireland. Canadian low income households had incomes nine percent above their Irish counterparts. At the high end (above the 90<sup>th</sup> percentile), real incomes in Ireland exceed that of all other countries except Canada and the US, not taking into account items such as education and health care expenses. In Ireland the effect of transfer programs in reducing the poverty rate is less than in all other countries except the US.

Powell and Withers (2004) found that in Australia there are 7.2 million homes for 20 million people. The housing sector represents AU\$2,200B, 64% of household wealth and 84% of household debt. Seventy percent of households are owners – 32% with a mortgage, 38% not; 25% are private renters and the remaining 5% live in social housing. In a comparison of twelve countries, housing prices grew faster than the general cost of living in the period 1995-2002. The mean growth of house prices in these countries was 42% as compared to 53% for Australia. Median house prices in Australia were nine times average income in 2004, compared to six times at the beginning of the upswing in 2000. Thirty-five percent of renters spend more than 30% of income on rent; 9% spend more than 50%

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\* Including Canada, the US, UK, Japan, Netherlands, France, Germany and Australia.

## **Discussion**

The international literature review suggests that housing affordability issues on some measures was more pronounced in other countries than in Canada. However, aggregate measures such as median house prices compared to median household income do not capture the incidence or severity of housing affordability at the household level; they are more useful as measures of change in housing affordability over time.

Income inequality is not rising in Canada based on the studies cited earlier and in fact Canada compares favourably with other OECD countries in this regard. The wealth discrepancy between owners and renters is increasing, however. Since owners have higher incomes, they can be expected to accumulate more wealth. Also, home ownership, as a passive form of wealth accumulation, increases the gulf between renters and owners.

This study recognises that, on an aggregate basis, housing affordability in Canada appears to be less of a problem compared to other industrialized countries. However, a significant segment of Canadian households is affected. The project aims to determine the characteristics of those households, the salient factors and any trends.

## ***Affordability Indicators***

This section presents the major tracking indicators on affordability over the period 1981-2001 using the microdata files from the census.

### **Data**

The census public use microdata files (PUMF) contain a statistically selected sub-sample of the responses to the Census of Canada. Separate files are produced at the individual, family and household levels, the household versions being best suited for this study as they contain the full demographic and housing cost data for the household. The privacy of the respondents is protected by identifying only broadly where they live, with the lowest level of geography being the census metropolitan area (CMA). The number of CMAs identified on the files increased with successive censuses as population grew and Statistics Canada, presumably, became more assured of the effectiveness of the confidentiality protection. In 1971 for instance, only Montreal and Toronto were identified, limiting greatly the usefulness of this particular file for studying individual CMAs. Income was not included on the 1976 Census so that file could not be used at all. The 1981 file identified 13 CMAs\* and although more were included in later years, these 13 are the focus of the study.

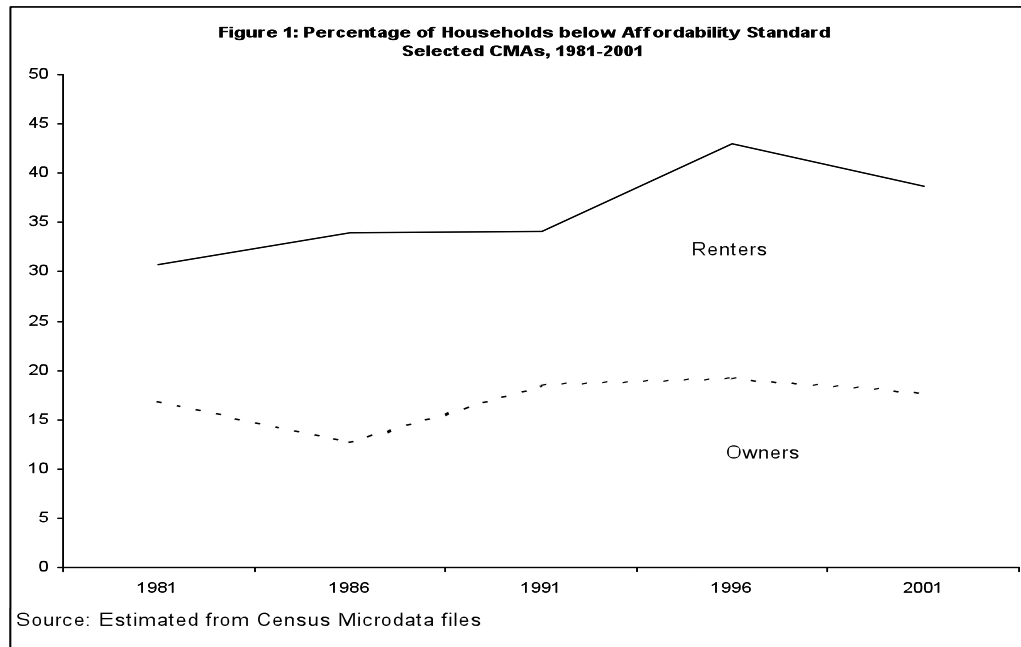
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\* Halifax, Quebec, Montréal, Toronto, Ottawa, Hamilton, St. Catharines, Kitchener, London, Winnipeg, Calgary, Edmonton, Vancouver.



## **Indicators**

### ***Affordability***

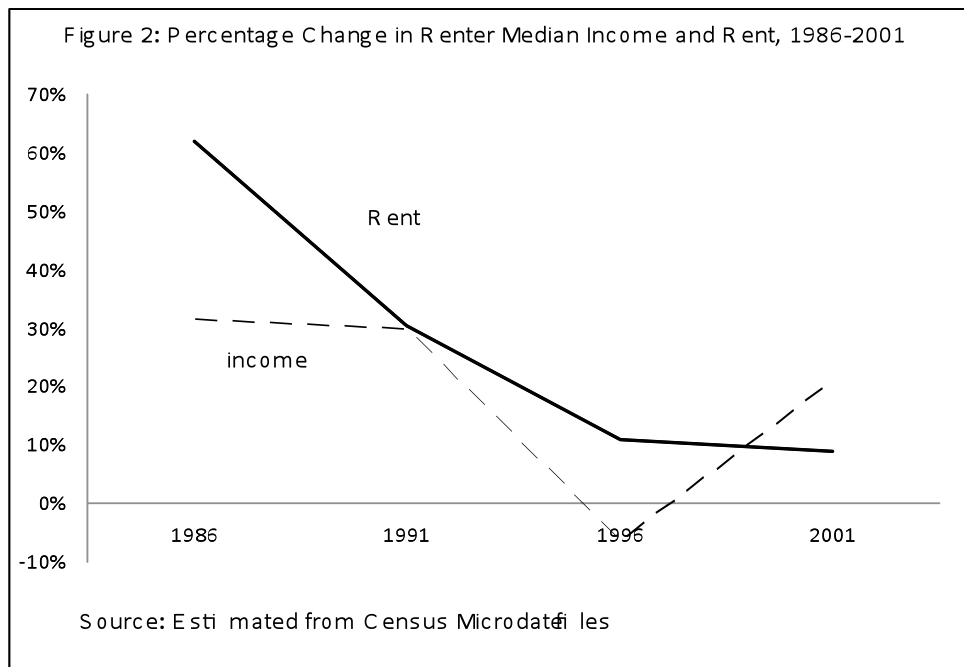


According to CMHC, a dwelling is considered affordable when less than 30% of gross household income is devoted to shelter\*. Households spending 30% or more of their income on housing do not meet the affordability standard. Indicator 1 (in the Annex) shows the movement in the indicator for owners and renters over the period 1981-2001 for the 13 CMAs individually and as a group.

A striking trend in the data is the rise in the percentage of renters paying 30% or more of their income on rent from 31% in 1981 to 43% in 1996, after which it decreased to just under 39% (Figure 1), in 2001. The percentage of owners paying 30% or more also peaked in 1996, but at the much lower rate of 19%. In 1981 there was a 14 percentage point difference between the proportion of owners and renters that did not meet the affordability standard; this rose to 24 percentage points in 1996. Incomes rising more slowly than shelter costs could explain the trend in affordability as could households increasing their housing consumption in terms of quantity, quality or both. Figure 2 shows the trend in median income and rent for renters over the period 1986-2001. It shows renters' income increase more slowly than rents until 1996. This trend reversed in 2001 when renter incomes increased more quickly than rents.

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\* The term "shelter cost", for owners, includes mortgage payments, property taxes, condominium fees and utilities. For renters, the term covers the cash rent as well as any additional outlays for utilities and municipal services. Source: Census Dictionary.



- In 1981 Edmonton had the largest percentage of owners that did not meet the affordability standard (19.9%) with Ottawa having the lowest (13.3%). For renters the highest was Calgary (41.5%) and Hamilton the lowest (26.7%).
- In 1986 the city with the highest percentage was Vancouver for owners (15.8%) and renters (43.7%). Kitchener had the lowest percentages of owners that did not meet the affordability standard (9.0%) and of renters (29.0%).
- In 1991 Toronto had the highest percentage of owners not meeting the affordability standard (22.9%) and Winnipeg the lowest (13.6%). For renters, Vancouver had the highest (40.4%) and Montreal the lowest (31.5%).
- In 1996 Toronto had the highest percentage of owners not meeting the affordability standard (24.3%) and Winnipeg the lowest (11.3%). Among renters, St. Catharines had the highest percentage (48.4%) and Calgary the lowest (38.6%).
- In 2001 Vancouver had the highest percentage of owners not meeting the affordability standard (24.6%) and Winnipeg the lowest (11.1%). St. Catharines had the highest percentage among renters (44.5%) and Halifax the lowest (34.5%).

Vancouver and Toronto often appear as the cities with the highest percentage of households not meeting the affordability standard. Winnipeg, on the other hand, is one of the more affordable cities. Calgary went from one of the cities with the largest percentage of households not meeting the standard in 1981 (during a major energy boom) to one of the lowest in 1996. St. Catharines emerged, in 1996 and 2001, as being one of the less affordable cities for renters.

## ***Housing Consumption: Dwelling Size and Persons Per Room***

Table 1 shows that there was little or no change in the median number of rooms per dwelling over the period 1981-2001 with the exception of owners devoting 30% or more of their income to shelter. For this group there was an increase in the number of rooms for 1991 and 1996. This would suggest that an increase in the amount of housing consumed (as measured by the number of rooms) did not explain an increase in housing costs relative to incomes.

Table 1: Number of Rooms by Tenure and Affordability						
		1981	1986	1991	1996	2001
		Median # of Rooms				
Owned	Total	7	7	7	7	7
	Less than 30%	7	7	7	7	7
	30% or more	6	6	7	7	6
Rented	Total	4	4	4	4	4
	Less than 30%	4	4	4	4	4
	30% or more	4	4	4	4	4
Source: Estimated from Census Microdata Files						

While the number of bedrooms in a dwelling has been the preferred indicator for measuring household crowding in Canada, the number of bedrooms was not collected by the census in 1976, 1981 or 1986. Instead, persons per room is used here as a measure of housing consumption (intensity of use). The census definition of a room is a space that is “finished and suitable for year round occupancy”<sup>\*</sup>, so it would include a wide variety of uses. The trend over the period 1981-2001 is for “persons per room” to decrease slightly, indicating more consumption per person (see Indicator 2 in the Annex).

In 1981 the median number of persons per room was the same for both tenures at 0.5. The median for renters stayed the same until 2001 while that for owners dropped to 0.4. London tended to have a rate of persons per room that continued to be lower than the median of all the centres studied. Other cities show more variability and are sometimes above but more often at or below the median. Because of the nature of the measure<sup>†</sup>, few cities fell significantly below the median.

<sup>\*</sup> Census Dictionary, Statistics Canada, Cat no 92-351-XPE

<sup>†</sup> The minima are one person and one room and both the number of persons and number of rooms are discrete and finite variables.

## ***Housing Quality: Need for Repairs***

Quality is measured on the census using a “need for repair” question. Respondents are asked to assign their dwelling into one of three categories – only regular maintenance required, minor repairs required, major repairs required. A decrease in the percentage of units requiring repairs could indicate an increase in the quality of the stock.

Table 2: Dwellings Needing Repair (%) by Tenure and Affordability Standard, Total for Selected Cities, 1981-2001					
Tenure	Affordability	1981	1991	1996	2001
Owned	Total	19.6	27.6	32.1	31.7
	Less than 30%	19.0	26.7	31.2	31.0
	30% +	22.5	31.5	36.1	34.9
Rented	Total	23.0	31.0	32.4	33.9
	Less than 30%	23.2	31.3	32.4	34.5
	30% +	22.5	30.6	32.4	32.9
Source: Estimated from Census Microdata Files					

Table 2 shows the percentage of units requiring either major or minor repairs in 1981, 1991, 1996 and 2001\*. Based on the need for repair question, the condition of the stock has not been improving. The quality of rental dwellings would appear to be somewhat lower than owner occupied units, again based on this measure. Over the period, owners became more likely to find their dwelling to be in need of repair. For renters, there was little difference in the percentage that felt that their dwelling required repairs between those above and below the affordability standard.

All of the cities tended to follow the same trend of an increasing percentage of the stock being judged as being in need of repairs in 2001 as compared to 1981. This could reflect a decline in the quality of an aging stock or a greater awareness and expectation on the part of occupants with regard to the quality of their dwelling. For most cities, renters are more likely than owners to indicate that their dwellings need repairs. Again, this could reflect the lower quality of the rental stock compared to the owned or that renters are not generally responsible for addressing any major or minor repairs.

## ***Shelter Costs: Gross, Per Room, Per Income Earner***

A rise in the cost of housing could explain a rise in the percentage of households falling below the affordability standard. This can be measured in overall terms, i.e. total shelter costs for the full dwelling. Or, given that owner-occupied dwellings tend to be larger, the costs could be converted to a “per room” basis to more clearly see what owners and renters are paying for a “unit of housing”, so to speak. Finally, the cost could be looked at per adult in the household (excluding children who would not normally be contributing to the household income).

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\* The “need for repair” question was not asked in 1986.

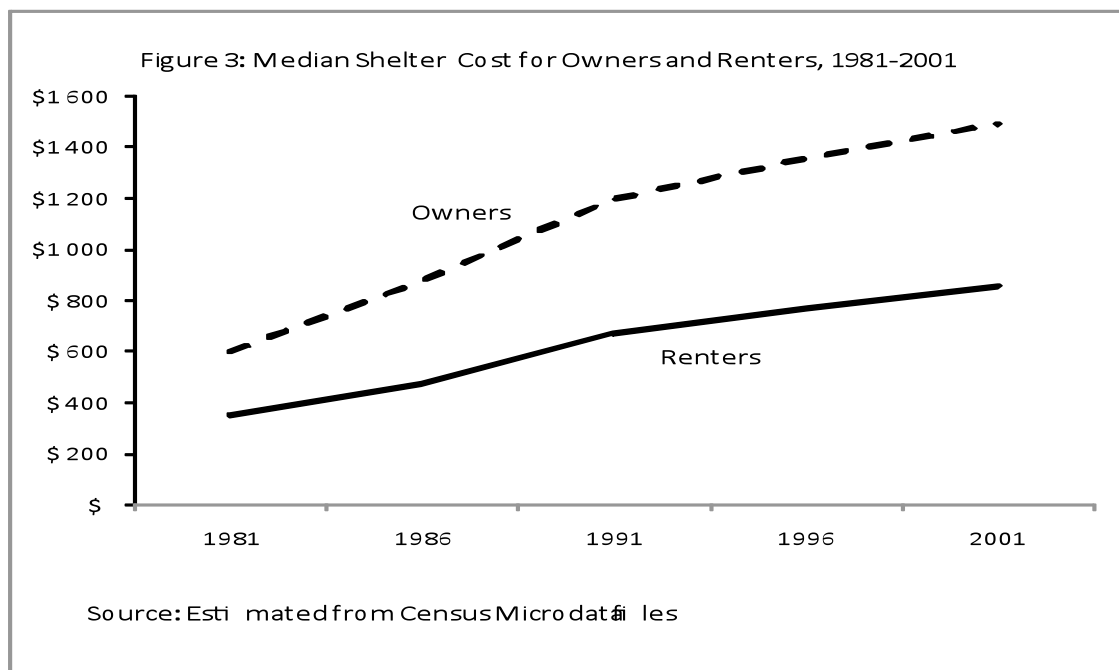
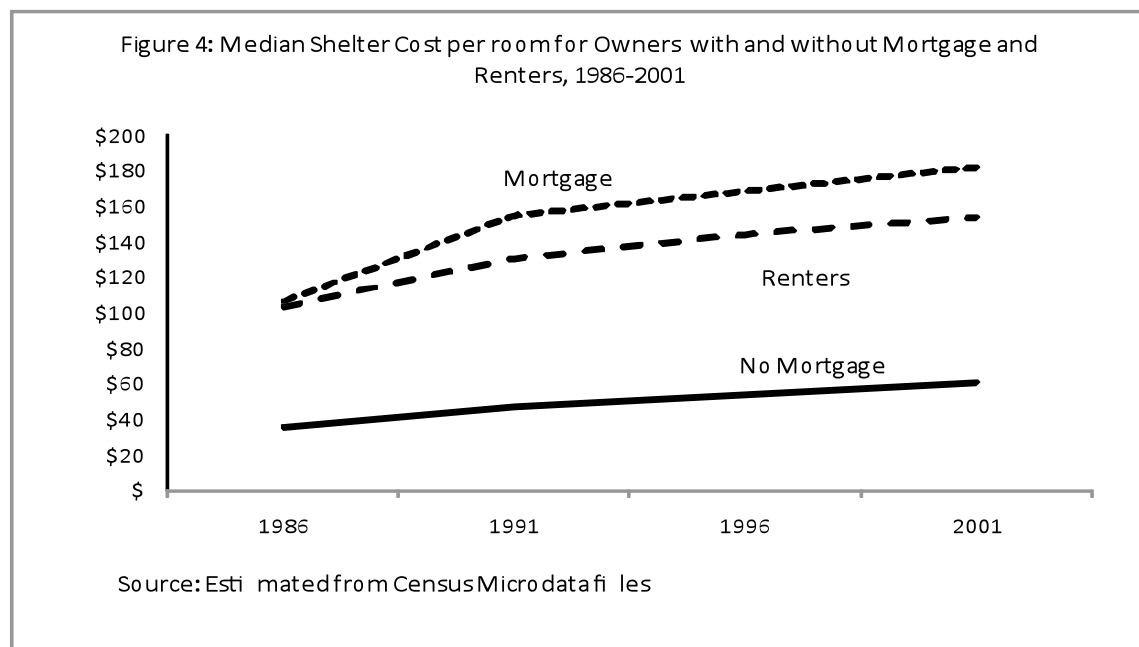


Figure 3 shows the median shelter cost for owners and renters from 1981 to 2001. Taking the 13 CMAs as a whole, owners spend more on shelter than do renters (see Indicator 3 in the Annex). The ratio of median shelter costs of renters to owners reached a high of 86% in 1986 and has been trending downward to 75% in 2001. That same trend was apparent in most of the CMAs. However, in St. Catharines and Vancouver in 1986, 1991 and 1996, renters recorded higher shelter costs than owners. The same relationship was seen in Kitchener and Winnipeg in 1986.



Shelter costs per room can be used to compare owners and renters for the same quantity of housing. Gross rent includes utility and other costs and for owners, major payments include mortgage payments, property taxes, condominium fees as well as utilities. Indicator 4 (in Annex) shows the monthly cost per room for both tenure types for the period 1981-2001. In the period between 1981 and 1986 the rise in the cost of renting was higher than the comparable increase for owners for all CMAs except Calgary. In the next intercensal period that trend was reversed except for Calgary and Vancouver. In the last two intercensal periods the record is mixed with renters facing steeper increases in some areas while the opposite is the case in others.

Renters paid more per room than owners since the latter included those without a mortgage (see discussion below). The gaps in the cost per room between the tenure groups was as high as 50% in 1986, and has since declined to less than 23% in 2001.

- In 1981 owners and renters in Calgary and Edmonton paid the most per room while St. Catharines had the lowest rate per room.
- In 1986 St. Catharines remained the lowest cost market while Calgary shared the highest ranking with Vancouver rather than Edmonton.
- In 1991 Ottawa became the most expensive market for owners while Vancouver remained the most expensive for renters. St. Catharines was the least expensive for both tenures.
- In 1996 St. Catharines remained the lowest cost for owners but lost that distinction for renters to Quebec City. Toronto had the highest cost per room for both tenures.
- In 2001 Toronto still had the most expensive housing per room, while St. Catharines (owners) and Quebec City (renters) had the lowest.

The census has, since 1981, asked owners if they had a mortgage. Owners without a mortgage tend to pay between a third and 40% of the “per room” cost of owners with a mortgage. The “presence of mortgage” question was added to the microdata file in 1986. Since that time we can compare the “per room” cost for renters and owners with and without a mortgage (Indicator 5 in the Annex). In 1986 renters in Halifax, Quebec City, Toronto, London, Winnipeg and Vancouver were paying more per room than owners with mortgages. In 1991 this was the case

only in Vancouver. Halifax had this unique distinction in both 1996 and 2001. Between 1986 and 1991 the cost per room rose more for owners with mortgages than for renters in all 13 CMAs. This was also true in the period 1991 to 1996 except for Halifax. Between 1996 and 2001, the cost per room rose more for renters in Quebec City, Montreal, Calgary and Edmonton.

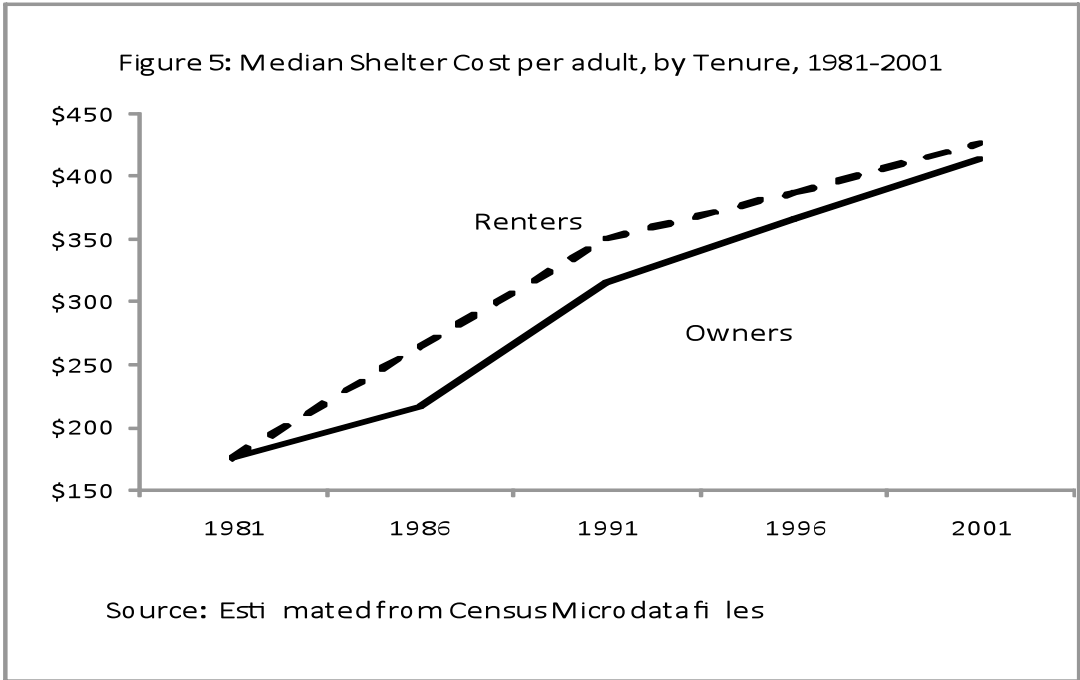


Figure 5, along with Indicator 6 in the Annex, shows the housing costs divided by the number of adults in the household. Adults are defined as the members of the household that are older than 18 years of age, when they are likely to be working full or part time. Generally, renters pay more than owners on this measure. There are some exceptions as it was not the case in Calgary except in 1981, for instance. Other cities where owners paid more than renters were Quebec City (1981, 1991), Montreal (1981, 1991, 1996, 2001), Ottawa (1991, 1996) and Kitchener (2001).

## Incomes by Tenure: Renter to Owner Income Ratio

Indicator 7 (see Annex) shows household income by tenure from 1981 to 2001 in current dollars. The ratio of median renter incomes to that of owners decreased from 64% in 1981 to 46% in 2001. In 1981 this ratio in the selected CMA's ranged from 56% to 72%. In 2001 the range was from 41% to 53%. In the intercensal period between 1981 and 1986, only one CMA saw renter incomes rise faster than incomes for owners. Owners fared better than renters in all CMA's in the period from 1991 to 1996. In the other two periods the results were mixed with renter incomes rising faster than those of owners in most areas in the most recent intercensal period studied (1996-2001).

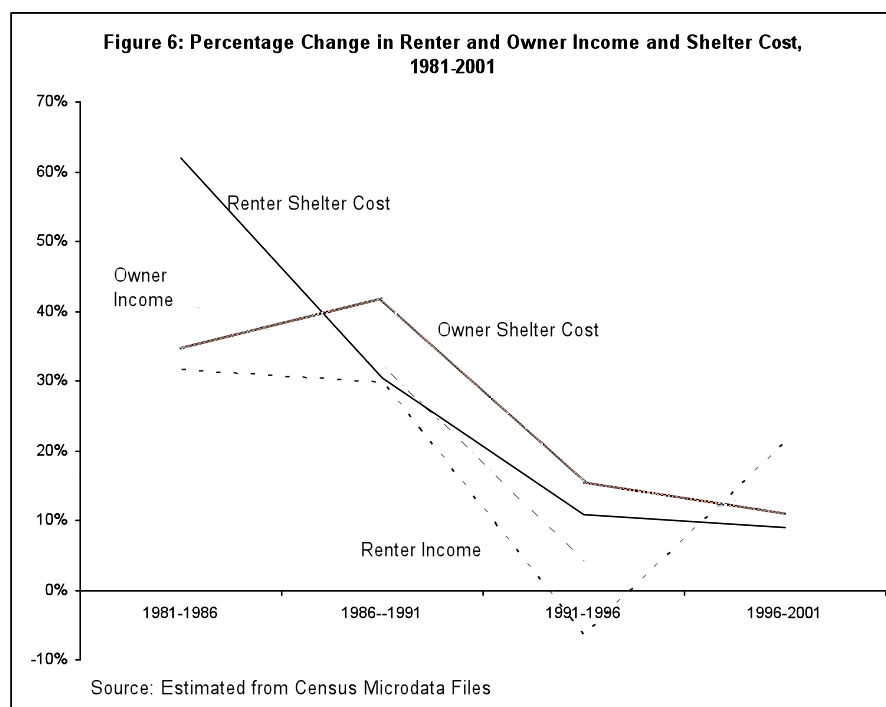


Figure 6 shows the percentage change in renter and owner income and their respective shelter cost over the period 1981-2001. For three of those periods, the renter income grew more slowly than rents; renter incomes actually fell in the period 1991-1996. Owners fared a little better but their incomes lagged behind their shelter cost for two of the four intercensal periods. Over the 20 years median owners' incomes rose by 59% compared to 47% for renters, in current dollars.

- In 1981 Calgary and Edmonton had the highest median incomes for owners and renters while St. Catharines had the lowest median income for both tenures.
- In 1986 Toronto owners and renters had the highest incomes and St. Catharines the lowest.
- In 1991 again Toronto owners and renters had the highest incomes. While St. Catharines' owners had the lowest income, Winnipeg renters had the lowest income among the 13 largest CMA's.
- In 1996 Ottawa owners and Toronto renters had the highest income while St. Catharines owners and Quebec City renters had the lowest.



- In 2001 the only change in the ranking was that Winnipeg renters had the lowest median income. Ottawa had the highest median income for owners while Toronto still had the highest median for renters.

Renters are increasingly drawn from the lower two quintiles\* of the income distribution in their respective city. Table 3 shows the percentage of renters below the 40<sup>th</sup> percentile line from 1981-2001, often used as a rough relative poverty line.

Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver
1981	58.7	58.6	55.1	61.2	60.4	63.6	69.4	62.8	59.0	63.9	60.4	59.6	60.7
1986	60.7	62.0	57.3	62.2	61.8	66.3	66.2	63.6	61.7	64.7	62.9	61.2	59.7
1991	61.0	62.6	59.2	64.9	61.6	65.6	65.4	65.1	61.5	67.3	63.9	64.5	59.8
1996	65.4	64.5	59.9	67.3	62.4	67.7	68.0	66.7	68.1	68.7	67.6	68.0	59.0
2001	65.5	62.8	59.6	66.5	63.6	70.4	67.8	65.9	68.5	70.2	67.9	66.3	59.1

Source: Estimated from Census Microdata files

St. Catharines and Vancouver are exceptions to the trend of an increasing share of renters being drawn from the lower two income quintiles. Some cities had a slight reversal in the upward trend between 1996 and 2001.

## Share of Income versus Share of Shelter Costs by Income Quintile

A possible inter-temporal measure of change in housing affordability between income groups would be shifts in the share of housing costs versus that group's share of total income. Under this measure, if, for a given income group, their share of the total cost "pie" was greater than their share of total income, that would indicate that that group was under affordability pressure vis-à-vis other income/tenure groupings in the population.

Income Quintile		1981			1986			1991			1996			2001		
		Income Share	Shelter Cost Share	Ratio of Shelter Cost Share to Income Share	Income Share	Shelter Cost Share	Ratio of Shelter Cost Share to Income Share	Income Share	Shelter Cost Share	Ratio of Shelter Cost Share to Income Share	Income Share	Shelter Cost Share	Ratio of Shelter Cost Share to Income Share	Income Share	Shelter Cost Share	Ratio of Shelter Cost Share to Income Share
Lowest	Total	4.6	13.8	3.0	4.4	14.6	3.3	4.5	13.6	3.0	4.0	13.9	3.4	4.3	14.1	3.3
	Owned	1.3	3.9	3.0	1.2	3.6	2.9	1.3	4.2	3.2	1.1	3.9	3.5	1.4	4.7	3.3
	Rented	3.3	10.0	3.0	3.2	11.0	3.4	3.2	9.4	3.0	2.9	10.0	3.4	2.8	9.4	3.3
2nd	Total	11.5	16.9	1.5	11.1	17.2	1.5	10.9	16.4	1.5	10.2	16.2	1.6	10.7	16.7	1.6
	Owned	4.3	6.5	1.5	4.4	6.4	1.5	4.5	7.2	1.6	4.5	7.0	1.6	5.1	8.1	1.6
	Rented	7.2	10.5	1.5	6.7	10.7	1.6	6.4	9.2	1.4	5.8	9.2	1.6	5.6	8.5	1.5
3rd	Total	17.7	20.0	1.1	17.6	20.3	1.2	17.3	19.8	1.1	16.9	19.3	1.1	17.2	19.6	1.1
	Owned	9.5	11.6	1.2	9.8	11.6	1.2	10.0	12.4	1.2	10.1	11.9	1.2	10.8	12.9	1.2
	Rented	8.2	8.4	1.0	7.8	8.7	1.1	7.3	7.4	1.0	6.8	7.3	1.1	6.4	6.7	1.1
4th	Total	24.7	23.4	0.9	24.8	23.0	0.9	24.7	23.3	0.9	24.9	23.1	0.9	25.3	22.9	0.9
	Owned	17.4	17.3	1.0	18.0	17.0	0.9	18.3	18.3	1.0	19.0	18.2	1.0	19.7	18.4	0.9
	Rented	7.4	6.1	0.8	6.8	6.0	0.9	6.3	5.0	0.8	5.9	4.9	0.8	5.6	4.5	0.8
Highest	Total	41.5	25.9	0.6	42.1	25.0	0.6	42.6	26.9	0.6	44.0	27.5	0.6	42.5	26.8	0.6
	Owned	34.6	21.8	0.6	36.3	21.3	0.6	37.4	23.8	0.6	39.1	24.6	0.6	38.2	24.1	0.6
	Rented	6.9	4.1	0.6	5.8	3.7	0.6	5.2	3.1	0.6	4.9	3.0	0.6	4.4	2.6	0.6

Source: Estimated from Census Microdata files

\* A quintile is one of five equal divisions of a rank ordered data set, whereby, in this example, 20% of the households will have household incomes below the upper boundary of the first quintile, 40% below the upper boundary of the second, and so on.

Table 4 shows in the first column the percentage that quintile-grouping has of total household income, the second column its share of the housing cost dollar total. The column marked “Ratio” shows the ratio of the share of shelter costs compared to the share of income. Although this measure cannot be related to a norm or standard, if a quintile is paying a larger percentage of the shelter cost total than their share of income, then on a relative basis they are doing less well than those groups devoting a smaller share of their income to housing. The table shows a slight trend of the bottom two quintiles having their ratios increasing, partly because their share of income has decreased, meaning these two groups are devoting an increasing share of relatively less income to housing compared to the upper quintiles. While the measure is quite volatile and does not move in a uniform way, it can be used to corroborate and elaborate other trends, such as the increasing extent of affordability problems among renters in general and low income renters in particular. The same indicator can be examined at the CMA level.

Table 5: Ranking of CMAs by Ratios of Housing Cost to Income Shares, 1981-2001											
Income Quintile	Tenure	1981		1986		1991		1996		2001	
		Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest	Highest	Lowest
Lowest	Owned	Montreal	Edmonton	Montreal	Halifax	Montreal	Hamilton	Montreal	London	Montreal	Halifax
	Rented	St. Catharines	Toronto	Montreal	Halifax	Montreal	Kitchener	Montreal	Calgary	Halifax	Calgary
2nd	Owned	Montreal	Halifax	Montreal	Kitchener	Quebec	Halifax	Montreal	Halifax	Montreal	Halifax
	Rented	Vancouver	Hamilton	Vancouver	Calgary	Vancouver	Edmonton	St. Catharines	Calgary	Halifax	Kitchener
3rd	Owned	Montreal	St. Catharines	Montreal	Winnipeg	Montreal	St. Catharines	Montreal	Winnipeg	Montreal	Halifax
	Rented	London	Montreal	Vancouver	Hamilton	Vancouver	St. Catharines	Vancouver	Montreal	London	Kitchener
4th	Owned	Montreal	St. Catharines	Edmonton	Vancouver	Toronto	London	Calgary	Quebec	Kitchener	Ottawa
	Rented	Vancouver	Quebec	Ottawa	Quebec	St. Catharines	Montreal	Vancouver	Montreal	Ottawa	Montreal
Highest	Owned	Halifax	Kitchener	Hamilton	St. Catharines	London	Vancouver	Kitchener	Vancouver	Winnipeg	Calgary
	Rented	Winnipeg	Hamilton	Toronto	Montreal	Halifax	St. Catharines	Vancouver	Quebec	Ottawa	Quebec

Source: Estimated from Census Microdata files

Shaded Cities have ratios of less than 1

Table 5 shows how CMAs rank with regard to the measure of share of total income to share of total housing cost. A “highest” ranking means that city has the largest ratio of share of housing cost to share of income in that income quintile/combination. The shaded cells indicate that the ratio of housing cost share to income share is lower than one, which occurs in the upper income quintiles.

## Household Types

Changes in the mix of renter households by household type over time could explain the deterioration in renter affordability.

Table 6: Household Composition and Median Income of Renter Households, Total of Selected CMAs, 1981-2001						
Year		1981	1986	1991	1996	2001
Type		Percentage				
Group Total		100.00	100.00	100.00	100.00	100.00
Two Parent Family		39.96	38.95	37.25	35.87	34.47
One Parent Family		10.83	14.28	14.28	16.61	15.03
One Person		39.49	38.88	39.37	40.98	42.50
Other Family		1.49	1.95	2.57	6.43	2.03
Other Non-Family		8.23	5.94	6.53	0.11	5.96
		Median Income				
Group Total		15 672	21 000	27 261	25 304	30 867
Two Parent Family		21 774	29 888	39 617	37 788	45 058
One Parent Family		11 198	15 799	20 950	19 919	27 319
One Person		10 860	14 000	18 000	16 777	20 494
Other Family		20 372	34 089	45 128	34 503	56 900
Other Non-Family		20 500	26 580	36 993	44 404	41 612
Source: Estimated from Census Microdata files						

Table 6 shows the household composition of renter households and their corresponding median income. The percentage of two parent families among renter households has been declining while lone parent and one person households have been increasing in importance. The median income of renters has been increasing, with the exception of 1996 as compared to 1991. Had the household composition of renters remained the same, the income of renters would have increased more quickly. However, the distribution moved more towards those types with lower incomes.

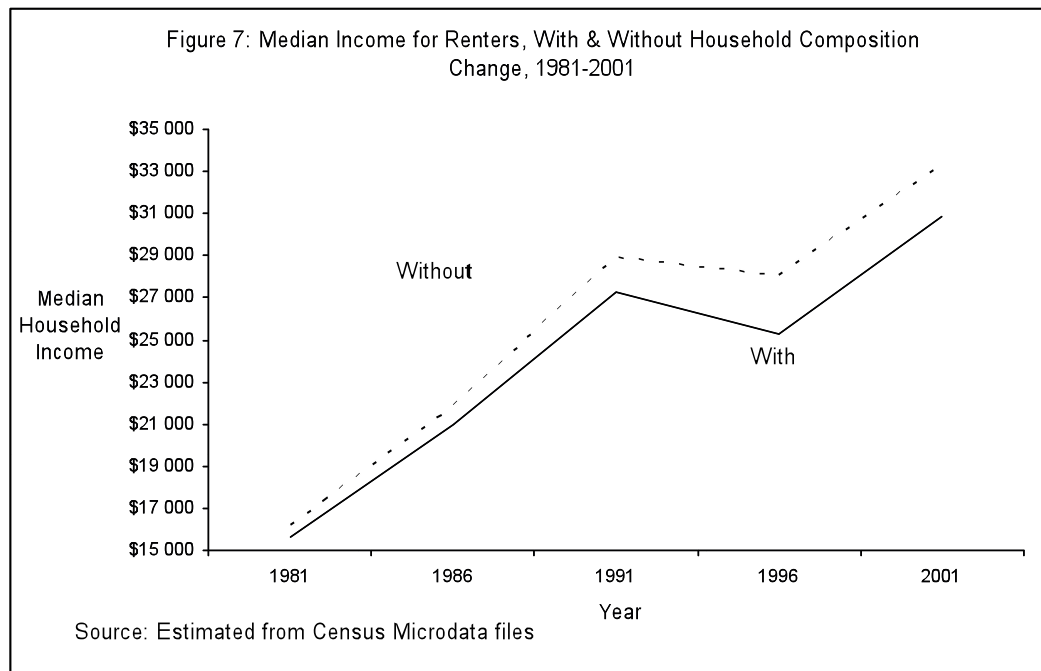
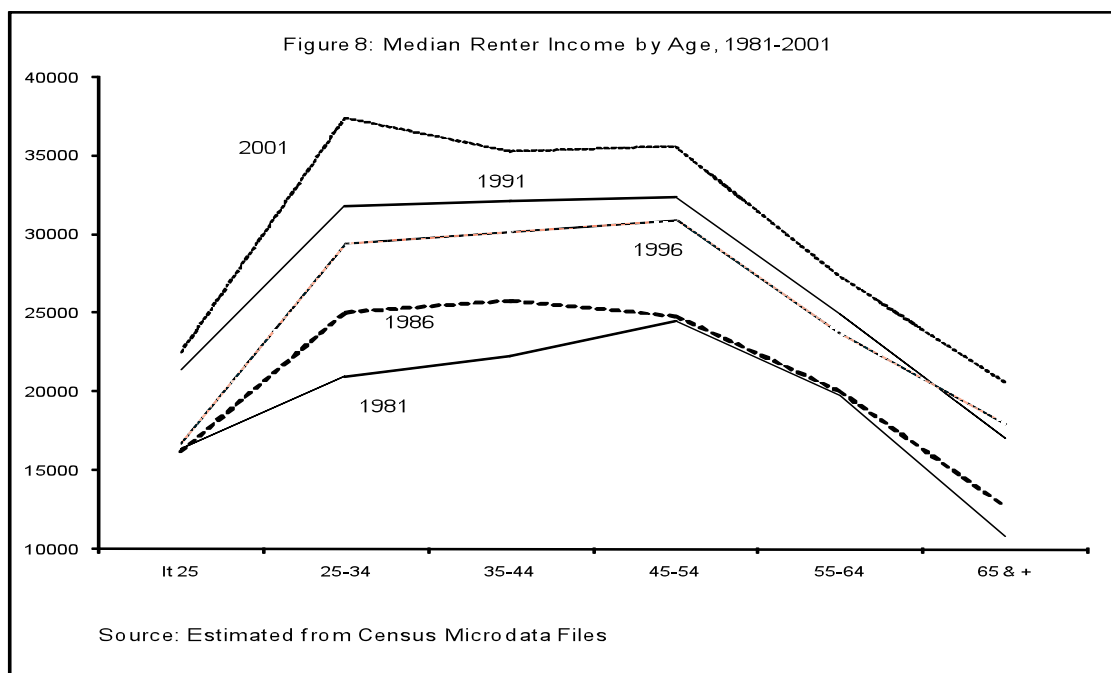


Figure 7 shows that the change in the composition of the renting households was partly responsible for the slower rise in median renter incomes. The dotted line shows what the

median income for renters would have been had the mix of household by type (two parent families, one person, etc) remained at 1981 levels.

### Age of household maintainer



Income tends to rise with age until retirement, so a changing age mix by tenure could explain divergent trends in affordability. Figure 8 shows the arc of household income for renters over the lifetime by census year. In 1996 most renters had lower median incomes, in current dollars, than their counterparts in 1991.

Table 7: Percentage of Renters by Age of Household Maintainer, Total of Selected CMAs, 1981-2001					
	1981	1986	1991	1996	2001
Total	46.55	43.47	41.94	40.56	39.02
Less than 25	88.97	89.10	89.65	87.31	82.16
25-34	57.86	61.45	62.82	64.03	64.52
35-44	35.00	37.26	39.56	40.80	41.67
45-54	31.21	28.07	28.35	28.53	29.73
55-64	34.93	27.66	25.07	24.71	25.08
65 +	48.78	37.92	33.29	29.16	26.90
Source: Estimated from Census Microdata files					

Table 7 shows the percentage of renter households by age of household maintainer from 1981 to 2001. The lowest age group showed a decrease in the propensity to rent whereas the renting percentage in the next two groups rose over the period. After 25, the probability of being a renter decreases. The overwhelming majority of household maintainers under 25 were renters but renting as a whole declined over the period in these 13 cities.

## Impact of Affordability on Household Growth and Tenure

Homeownership became more accessible over the period 1981-2001 due to falling interest rates and new lending regulations, leading to an increase in the rate of homeownership. In absolute terms, the number of owners grew much faster than the number of renters, as can be seen in Table 8.

Period	Tenure	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Group Total
Total	1981-1986	10.8%	11.6%	8.6%	18.0%	15.4%	5.7%	16.7%	11.4%	22.4%	8.8%	17.8%	22.3%	11.2%	13.0%
	1986-1991	14.0%	16.2%	10.7%	15.5%	13.9%	9.9%	9.8%	16.2%	13.5%	6.7%	10.8%	8.0%	14.5%	12.3%
	1991-1996	7.8%	8.9%	8.6%	10.3%	8.9%	6.5%	5.7%	9.7%	6.3%	3.9%	10.9%	4.7%	14.1%	8.9%
	1996-2001	13.3%	6.9%	5.7%	8.0%	9.8%	7.4%	4.4%	9.1%	11.0%	3.1%	16.7%	11.4%	9.5%	8.6%
Owned	1981-1986	15.6%	16.8%	16.6%	21.8%	19.0%	7.9%	18.4%	13.3%	26.0%	12.7%	19.1%	27.0%	7.4%	16.6%
	1986-1991	14.9%	19.3%	18.0%	19.9%	14.6%	9.9%	9.7%	16.4%	14.6%	9.7%	16.9%	11.8%	17.6%	15.5%
	1991-1996	10.6%	10.0%	11.1%	15.9%	8.5%	7.6%	3.4%	11.2%	10.1%	5.2%	19.8%	14.1%	16.8%	11.2%
	1996-2001	16.0%	7.9%	8.8%	12.8%	18.8%	12.3%	8.3%	15.8%	15.2%	6.5%	24.8%	14.5%	12.3%	13.9%
Rented	1981-1986	4.7%	6.2%	2.9%	13.9%	10.6%	1.9%	12.5%	8.5%	17.8%	3.1%	16.1%	16.6%	16.5%	8.8%
	1986-1991	12.6%	12.7%	4.8%	10.2%	12.9%	9.8%	9.8%	15.9%	11.9%	2.1%	2.4%	2.9%	10.5%	8.5%
	1991-1996	3.7%	7.6%	6.4%	3.2%	9.5%	4.6%	11.4%	7.2%	0.9%	1.7%	-3.2%	-9.0%	10.4%	5.8%
	1996-2001	9.2%	5.8%	2.7%	1.1%	-2.8%	-1.8%	-5.0%	-2.1%	4.5%	-2.9%	1.1%	5.8%	5.3%	1.3%

Source: Estimated from Census Microdata files

In only one city - St. Catharines – did the number of renters grow faster than the number of owners from 1986-1996, though it also saw a decrease in the number of renters from 1996 to 2001. A possible interpretation of the above data is that those that can access homeownership are doing so and renting may be the tenure for households that cannot become owners. As was seen in Table 6 above, renting households are more likely to be lone parent and one person households; two groups that have the lowest median household income.

The increased prevalence of home ownership could be explained by a changing age profile of household maintainers and/or a change in the propensity of home ownership by age group.

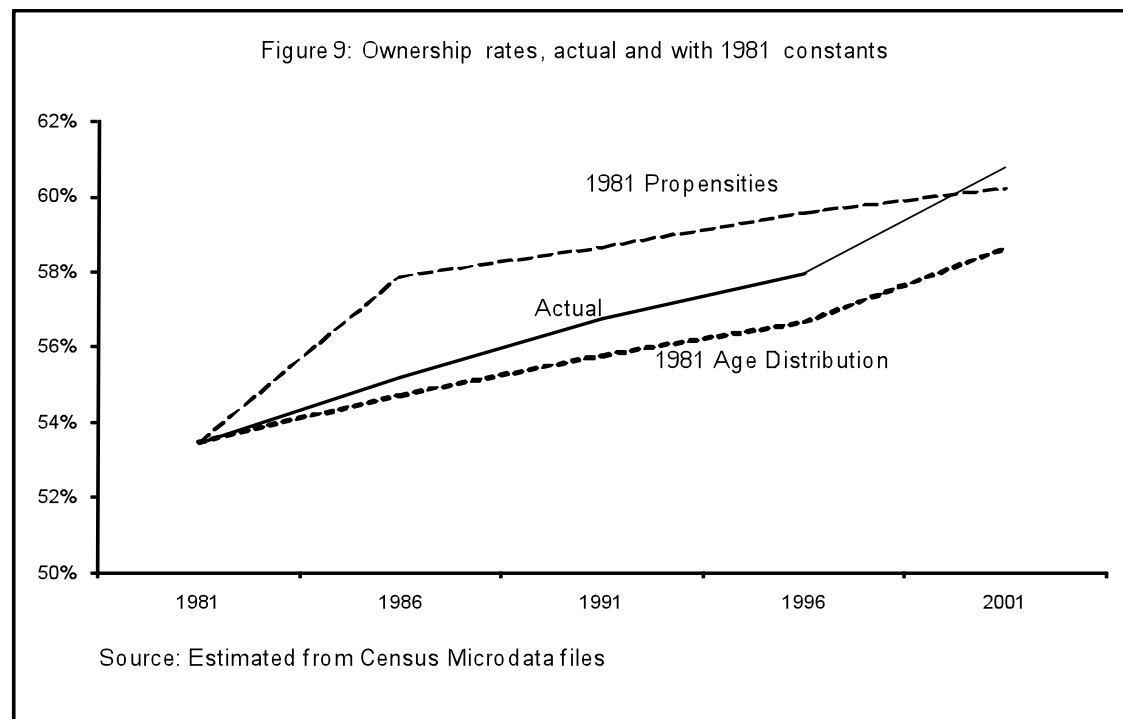


Figure 9 shows the actual rate of home ownership from 1981 to 2001 and what it might have been under two other scenarios. The “1981 propensities” applies the 1981 homeownership rate by age group to the age distribution of later census years. The “1981 Age Distribution” maintains the 1981 age distribution but with the home owner propensities of the later census years. So the change in the age distribution does explain the rise in the homeownership rate and it would have risen even more if the 1981 propensities to homeownership (among the younger age groups) had remained unchanged. Between 1996 and 2001, the homeownership rate increased for all age groups.

## **Discussion**

This section examined affordability trends over the period 1971-2001 using specially developed indicators applied to the census microdata files. Due to the limited data available on the 1971 and 1976 files, the project was effectively restricted to the period 1981 to 2001. Nonetheless, 1981-2001 represented a period of great change in housing markets as well as in the broader social and economic milieu. Over the period, the housing situation of renters worsened both on the major indicators and relative to owners. The percentage of renters paying 30% or more of their income on shelter increased from 31% in 1981 to 43% in 1996 and decreased to 39% in 2001. While the corresponding rate for owners followed the same trend, it peaked at 19% in 1996. The percentage point difference in the index between the tenures went from 14 percentage points in 1981 to 24 percentage points in 1996. Measured in rooms per dwelling or persons per room, there was no major increase in housing consumption over the period. At the same time, an increasing percentage of both owners and renters felt that their dwellings were in need of repair, indicative (at the least) that the quality of the stock was not improving significantly.

Owners spend more than renters for shelter. The ratio of renter to owner shelter costs rose to 86% in 1986 and has been coming down since. Although, for CMAs as a whole, shelter cost per room rose for all tenures, it rose more sharply for owners than for renters except in the period 1981-1986. That has not been the case as a general trend across individual CMAs as the experience varied between CMAs. Renters always pay more per room than owners without mortgages but have also spent more per room than those with mortgages in some cities at times.

As shown in Figure 6 the increase in shelter cost outpaced that of incomes for both tenure groups over most of the period covered by this review. Renters lost income in the period 1991-1996.

The ratio of renter to owner household income has been declining from 64% in 1981 to 46% in 2001. Renters are increasingly drawn from the bottom two income quintiles. This change in relative income for renters as compared to owners could be partially explained by the changing household composition among the renter population towards a higher concentration of lone-person and single parent households. Over the period 1981 to 2001 there has been a growing rate of homeownership overall because of lowering interest rates and down payment requirements for obtaining a mortgage and the changing age profile of household maintainers. A reasonable inference from this review would be that those households, who could afford to do so, have been drawn to homeownership and those that could not remain as renters.

## **Annex: The Indicators**





Indicator 1: Percentage of Households Above and Below the Affordability Standard, Selected CMAs, 1981-2001																
Tenure	Affordability	Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Total
Owned	Less than 30%	1981	84.1	84.0	83.1	86.7	83.9	85.9	84.8	85.0	83.7	87.1	75.9	80.1	80.4	83.2
		1986	85.7	87.4	86.1	89.3	88.1	90.0	90.3	91.0	90.0	89.3	85.1	86.0	84.2	87.3
		1991	85.5	86.2	81.1	85.0	77.1	80.6	83.8	81.3	84.4	86.5	83.6	85.2	82.4	81.6
	1996	85.7	85.3	80.8	85.4	75.7	82.6	83.5	85.3	84.8	88.7	83.2	85.5	76.7	80.8	
	2001	88.2	88.1	84.2	88.0	78.1	83.7	83.1	85.1	85.9	88.9	83.3	85.7	75.4	82.3	
	30% or more	1981	15.9	16.0	16.9	13.3	16.1	14.1	15.2	15.0	16.3	12.9	24.1	19.9	19.6	16.8
		1986	14.3	12.6	13.9	10.7	11.9	10.0	9.7	9.0	10.0	10.7	14.9	14.0	15.8	12.7
		1991	14.5	13.8	18.9	15.0	22.9	19.4	16.2	18.7	15.6	13.5	16.4	14.8	17.6	18.4
	1996	14.3	14.7	19.2	14.6	24.3	17.4	16.5	14.7	15.2	11.3	16.8	14.5	23.3	19.2	
	2001	11.8	11.9	15.8	12.0	21.9	16.3	16.9	14.9	14.1	11.1	16.7	14.3	24.6	17.7	
Rented	Less than 30%	1981	65.2	72.0	71.2	72.6	72.8	73.4	63.2	69.3	70.4	66.0	58.5	63.7	61.7	69.3
		1986	64.2	63.6	65.8	70.6	70.8	65.7	63.3	71.0	67.5	62.2	64.8	65.8	56.3	66.0
		1991	65.7	68.5	64.6	69.5	68.5	67.3	63.4	66.1	67.4	63.1	68.4	65.0	59.6	65.8
	1996	56.2	58.8	56.4	60.7	57.1	55.5	51.6	58.6	54.2	57.6	61.4	59.1	54.3	57.0	
	2001	57.4	65.5	64.3	64.0	58.6	56.4	55.5	64.3	56.3	63.5	64.7	63.6	57.1	61.3	
	30% or more	1981	34.8	28.0	28.8	27.4	27.2	26.6	36.8	30.7	29.6	34.0	41.5	36.3	38.3	30.7
		1986	35.8	36.4	34.2	29.4	29.2	34.3	36.7	29.0	32.5	37.8	35.2	34.2	43.7	34.0
		1991	34.3	31.5	35.4	30.5	31.5	32.7	36.6	33.9	32.6	36.9	31.6	35.0	40.4	34.2
	1996	43.8	41.2	43.6	39.3	42.9	44.5	48.4	41.4	45.8	42.4	38.6	40.9	45.7	43.0	
	2001	42.6	34.5	35.7	36.0	41.4	43.6	44.5	35.7	43.7	36.5	35.3	36.4	42.9	38.7	
Source: Estimated from Census Microdata Files																

Indicator 2: Median Persons Per Room by Tenure, Selected CMAs, 1981-2001															
Tenure	Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Group Total
Total	1981	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.4	0.5
	1986	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
	1991	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	1996	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	2001	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4
Owned	1981	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.5
	1986	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	1991	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	1996	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4
	2001	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4
Rented	1981	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5
	1986	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5
	1991	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
	1996	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5
	2001	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.4

Source: Estimated from Census Microdata Files

Source: Estimated from Census Microdata Files

Indicator 3: Total Shelter Expenditures by Tenure, Selected CMAs, 1981-2001																													
Year	Met Area Tenure	Halifax		Quebec		Montreal		Ottawa		Toronto		Hamilton		St. Catharines		Kitchener		London		Winnipeg		Calgary		Edmonton		Vancouver		Total	
		Median		Median		Median		Median		Median		Median		Median		Median		Median		Median		Median		Median		Median		Median	
Total	1981		350		250		250		350		350		250		250		250		250		250		450		350		350		250
	1986		466		392		390		470		458		379		331		372		382		375		525		458		458		422
	1991		572		478		510		632		651		530		471		567		526		469		626		607		607		564
	1996		635		515		553		716		764		624		567		642		643		517		665		705		705		639
	2001		660		531		583		760		917		698		620		751		675		573		858		791		791		717
Owned	1981		350		350		350		350		350		350		250		350		250		250		550		350		350		350
	1986		492		458		487		525		475		401		300		371		422		368		676		446		446		471
	1991		642		602		700		800		741		578		428		695		578		517		785		542		542		668
	1996		776		646		758		883		918		725		547		801		769		605		836		745		745		771
	2001		781		653		779		877		1116		858		631		941		833		662		1000		935		935		855
Rented	1981		250		250		250		250		350		250		250		250		250		250		450		350		350		250
	1986		450		370		362		445		451		372		362		372		371		379		468		460		460		405
	1991		547		441		468		574		627		514		500		524		511		451		561		624		624		528
	1996		575		480		504		643		720		596		576		600		590		483		575		700		700		585
	2001		618		496		526		684		850		627		610		672		615		509		735		742		742		637
		Source: Estimated from Census Microdata files																											

Source: Estimated from Census Microdata files

Indicator 4: Shelter Costs Per Room by Tenure, Selected CMAs, 1981-2001																
Met Area	Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	Catharin	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Total	
Tenure		Median	Median	Median	Median	Median	Median	Median	Median	Median	Median	Median	Median	Median	Median	
Total	1981	62.5	62.5	62.5	64.3	70.0	58.3	50.0	56.3	55.0	58.3	90.0	85.0	78.6	62.5	
	1986	94.0	88.8	88.3	93.5	100.0	78.3	60.4	76.1	76.2	86.0	101.9	96.5	105.8	90.0	
	1991	108.5	109.6	116.7	124.8	140.2	108.3	86.3	111.8	103.7	102.8	117.1	107.9	128.4	118.6	
	1996	120.8	108.8	118.4	138.8	168.0	128.0	104.8	130.0	125.3	110.6	125.0	112.3	161.6	130.0	
	2001	125.0	109.6	120.8	143.3	190.3	137.8	114.0	142.9	130.0	116.2	153.1	129.5	175.5	139.5	
Owned	1981	56.3	58.3	58.3	56.3	50.0	50.0	37.5	43.8	41.7	41.7	72.2	64.3	50.0	55.0	
	1986	73.2	74.4	75.7	78.1	66.9	56.3	44.6	52.7	57.4	58.0	94.6	81.0	65.8	68.6	
	1991	90.0	97.9	106.6	113.2	106.4	84.0	64.2	95.2	77.9	81.3	107.5	93.4	80.0	97.9	
	1996	103.0	99.5	114.1	123.4	132.8	101.9	80.6	108.4	102.0	91.9	115.0	96.8	111.1	112.0	
	2001	105.0	99.1	116.0	126.7	161.7	119.8	95.6	128.2	110.0	101.7	140.9	114.3	141.7	125.0	
Rented	1981	70.0	62.5	62.5	70.0	83.3	62.5	58.3	62.5	62.5	70.0	100.0	90.0	87.5	70.0	
	1986	110.4	99.8	93.8	106.2	119.0	91.6	80.4	90.0	88.9	105.1	106.7	106.6	128.5	103.0	
	1991	123.9	115.0	120.0	131.3	159.3	123.0	108.3	122.1	116.2	117.3	125.0	116.4	160.0	130.0	
	1996	139.4	113.3	120.0	153.3	190.3	145.8	125.0	141.7	140.2	128.3	135.0	123.7	192.5	143.8	
	2001	147.1	115.7	123.3	161.3	215.0	153.8	138.2	159.0	146.7	134.0	170.0	144.0	197.0	153.3	
Source: Estimated from Census Microdata files																

Indicator 5: Median Shelter Costs Per Room by Tenure, Selected CMAs, 1981-2001															
Tenure	Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Total
With Mortgage	1986	102.5	97.0	102.0	106.5	115.4	100.7	90.5	91.2	86.8	102.0	116.4	112.4	111.5	106.0
	1991	125.3	132.8	149.2	160.0	207.3	159.7	131.2	152.2	136.1	131.8	142.8	133.0	156.0	154.8
	1996	131.2	138.6	152.8	166.0	218.1	170.9	145.9	160.5	150.5	135.5	153.1	144.0	220.1	167.8
	2001	137.8	133.6	152.4	168.7	229.0	180.3	154.1	170.3	156.5	140.1	182.6	157.0	221.4	181.4
Without Mortgage	1986	37.0	35.7	42.9	38.4	38.3	36.0	32.6	32.7	30.6	35.2	31.9	30.0	30.4	35.6
	1991	43.1	45.8	53.6	52.6	53.3	48.3	42.6	45.0	38.3	44.7	36.8	36.3	38.1	47.2
	1996	44.4	50.0	57.0	57.7	62.6	54.4	49.4	51.0	48.0	50.0	44.0	42.6	46.6	53.7
	2001	50.0	51.2	60.0	62.3	68.4	60.5	56.9	55.4	53.3	59.8	55.0	52.7	56.3	60.2
Rented	1986	110.4	99.8	93.8	106.2	119.0	91.6	80.4	90.0	88.9	105.1	106.7	106.6	128.5	103.0
	1991	123.9	115.0	120.0	131.3	159.3	123.0	108.3	122.1	116.2	117.3	125.0	116.4	160.0	130.0
	1996	139.4	113.3	120.0	153.3	190.3	145.8	125.0	141.7	140.2	128.3	135.0	123.7	192.5	143.8
	2001	147.1	115.7	123.3	161.3	215.0	153.8	138.2	159.0	146.7	134.0	170.0	144.0	197.0	153.3

Source: Estimated from Census Microdata files

Indicator 6: Median Total Shelter Costs per Adult by Tenure, Selected CMAs, 1981-2001															
Tenure	Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Total
Total	1981	175	150	150	175	175	150	134	150	150	150	250	225	217	175
	1986	252	216	226	270	252	217	187	212	223	224	300	273	275	243
	1991	317	286	315	378	375	322	271	340	325	290	355	320	348	335
	1996	363	326	350	422	422	376	334	375	394	318	381	343	409	377
	2001	402	340	374	450	487	422	379	426	429	355	467	405	465	421
Owned	1981	163	175	175	175	150	150	125	150	150	125	225	217	163	175
	1986	227	203	222	247	213	190	156	182	199	186	305	250	207	216
	1991	297	292	330	384	340	291	235	325	280	261	358	304	265	315
	1996	348	323	358	428	406	346	309	367	369	303	387	333	349	366
	2001	381	327	379	438	483	413	357	435	410	342	477	397	437	413
Rented	1981	175	150	150	175	175	175	150	150	175	175	250	225	250	175
	1986	275	222	229	288	293	242	227	239	249	258	297	288	325	264
	1991	338	284	305	375	400	360	334	353	359	314	354	333	408	350
	1996	375	330	342	417	435	413	375	392	423	334	375	350	463	388
	2001	435	350	368	462	491	438	425	421	450	375	452	413	498	426
Source: Estimated from Census Microdata files															

Indicator 7: Median Household Income by Tenure, Selected CMAs, 1981/2001															
Tenure	Year	Halifax	Quebec	Montreal	Ottawa	Toronto	Hamilton	St. Catharines	Kitchener	London	Winnipeg	Calgary	Edmonton	Vancouver	Total
Total	1981	21 485	21 525	20 590	24 527	25 000	23 785	21 015	22 000	20 735	20 162	26 661	25 330	23 866	23 000
	1986	32 288	29 448	28 229	36 229	37 000	32 996	30 000	32 473	30 000	28 506	35 000	32 429	30 431	32 000
	1991	41 100	37 827	36 465	48 000	50 000	43 459	39 459	43 360	40 350	36 882	44 244	41 000	42 285	42 300
	1996	42 200	37 304	36 037	49 288	48 211	45 229	39 898	45 270	43 015	38 642	46 708	42 873	43 579	42 655
	2001	47 952	41 819	42 144	58 752	59 744	52 878	45 584	55 688	47 291	44 963	59 266	51 795	49 925	50 709
Owned	1981	26 886	28 000	29 540	32 004	31 917	28 162	24 473	26 122	27 348	26 043	32 765	32 356	30 175	29 888
	1986	39 946	39 558	40 175	48 804	47 356	40 846	35 184	38 994	39 825	36 438	45 563	41 658	39 958	42 177
	1991	52 000	50 505	52 407	63 328	63 506	55 277	46 601	54 372	52 070	46 540	56 488	53 067	54 545	55 717
	1996	54 917	53 195	54 033	65 883	64 468	59 564	48 266	60 482	57 592	50 112	58 690	54 870	56 597	57 970
	2001	61 220	57 248	61 621	76 936	75 669	67 330	54 681	69 465	63 026	58 674	70 905	65 652	63 616	66 986
Rented	1981	14 978	15 267	15 000	17 000	17 504	16 184	11 994	14 371	13 802	13 118	18 245	18 180	15 600	15 945
	1986	22 704	18 700	19 327	24 209	25 000	19 052	15 996	20 700	19 256	17 196	22 000	21 523	20 000	21 000
	1991	27 801	24 112	24 011	30 000	33 360	26 975	22 347	27 348	26 220	21 252	28 000	24 862	28 008	27 261
	1996	25 281	21 304	22 116	28 350	30 227	24 304	21 625	26 671	24 065	20 600	26 745	24 304	28 906	25 498
	2001	27 890	26 187	27 746	34 526	36 525	27 999	25 510	33 661	26 444	24 312	35 698	30 502	33 538	30 867

Source: Estimated from Census Microdata files

Source: Estimated from Census Microdata files

# The Socio-Economic Environment, 1981-2001

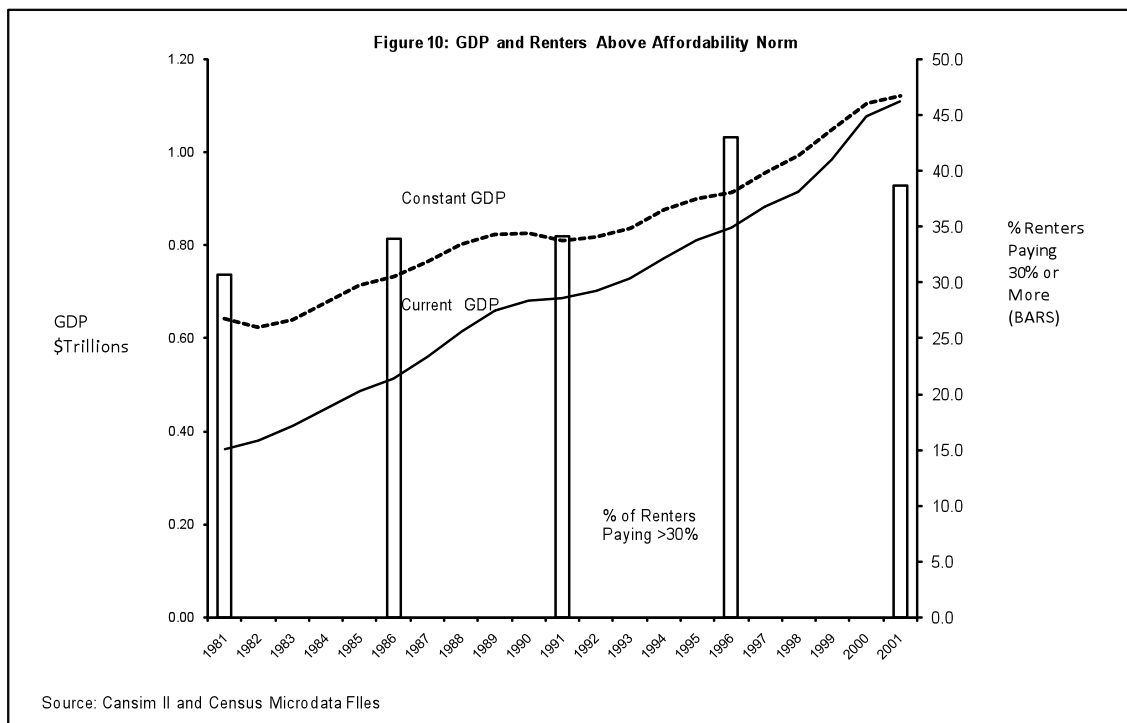
## Recession

The short hand definition of a recession is two successive quarters of negative growth in Gross Domestic Product. More fulsomely, it has been defined as:

*A significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales*

**National Bureau of Economic Research website**

Canada's last two recessions were from 1981 to 1982 and from 1990 to 1991 and they had lingering effects on other economic indicators as employers may take some time to reduce their workforce as the recession takes hold. During recovery, they may be equally reluctant to return to their former staffing levels until they feel confident that the recovery will be sustained, thus prolonging the period of high unemployment. Unemployment is, consequently, seen as a lagging indicator. Given this premise one would expect housing affordability, insofar as it is related to the overall economic situation, to also be a lagging indicator and that is shown in Figure 10.





A flattening in the level of GDP in and around the 1980 and 1990 decade marks is visible in Figure 10 and an increase in the percentage of renter households paying 30% or more of household income for their housing was apparent on the following census (the next occasion that affordability was measured at the CMA level). This would suggest, although not conclusively, that affordability was a lagging indicator to the major macroeconomic measure of GDP. The 1991 recession was somewhat deeper than that of 1981; the annual average GDP growth from 1980 to 1982 was a positive 0.5% compared to the same measure between 1990 and 1992 at a negative -0.2%. This greater economic decline in the 1990s could explain the higher spike in affordability problems in 1996 compared to 1986.

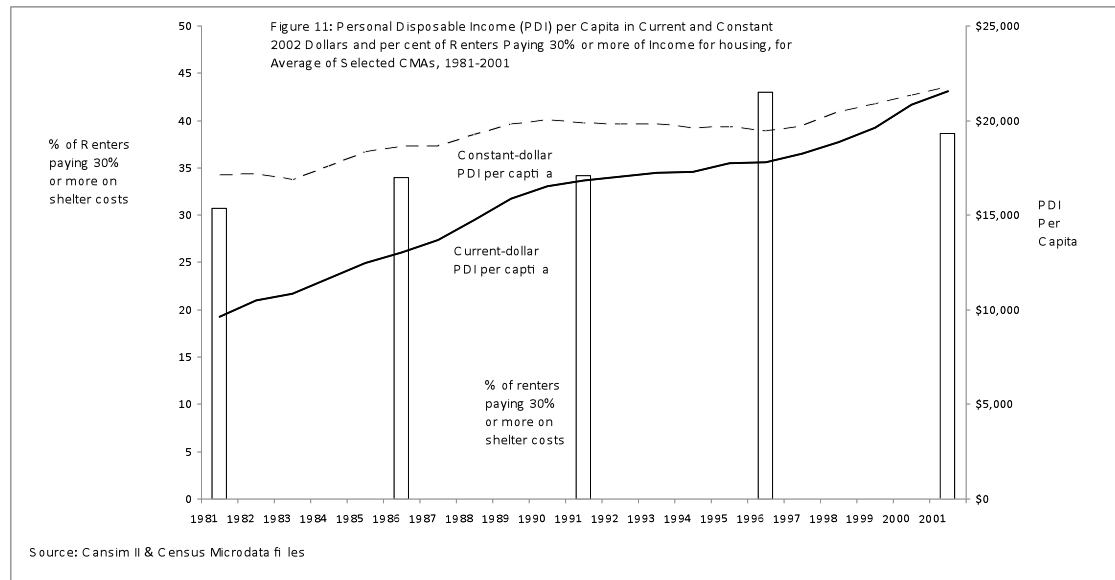
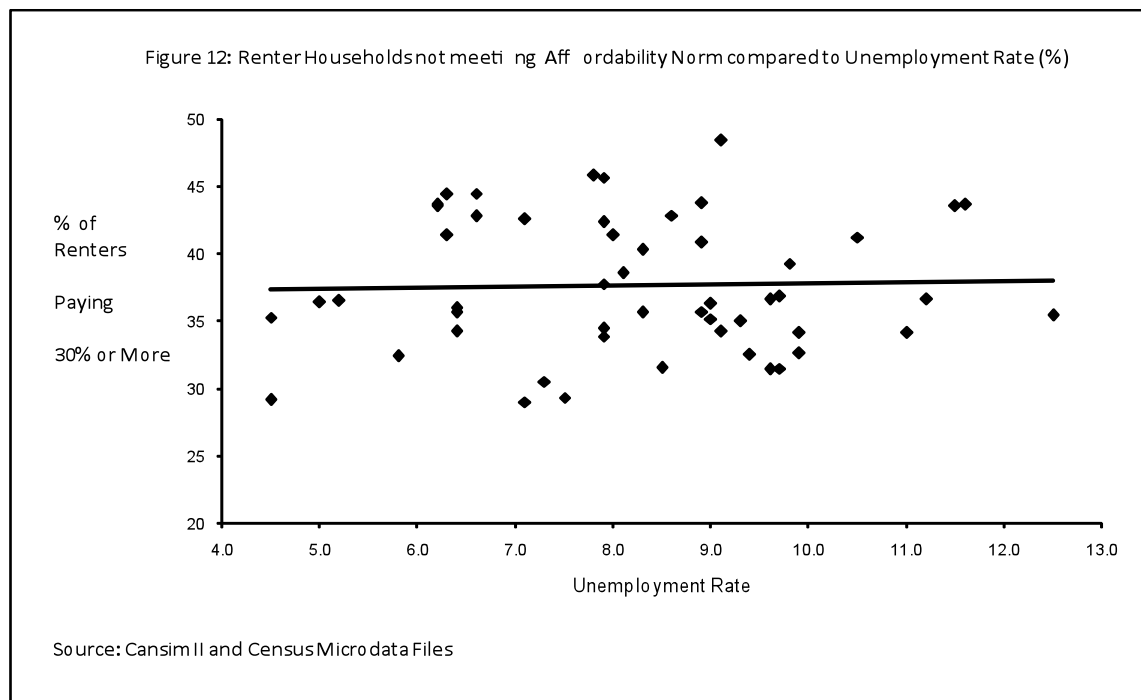


Figure 11 shows the trend in Personal Disposable Income (PDI) per capita, in both current and constant dollars, over the period starting in 1981 and going to 2001. The constant dollar series followed a downward trend to 1996, after which it started to recover, supporting the observation of a lingering effect of a recession on incomes and, through incomes, on affordability.

## **Unemployment**

Unemployment provides a link between the level of economic activity and housing affordability through its effect on income. People may lose their jobs, have to settle for a lower paying position, work fewer hours, or there may be only one worker in a formerly two earner household, all of which would result in a lowering of household income, which could lead in turn to an increase in the percentage of income spent on shelter, where the household stayed in the same dwelling. One could expect to find a correlation between the unemployment rate and the percentage of renting households spending 30% or more of their income on shelter. The relationship was tested using a “pooled” data set. Statistics Canada has published since 1986 the average annual unemployment rate by city and a data set was created including the city unemployment rate for the 1986, 1991, 1996 & 2001 census years and the corresponding percentage of renter households not meeting the affordability standard for the 13 centres.



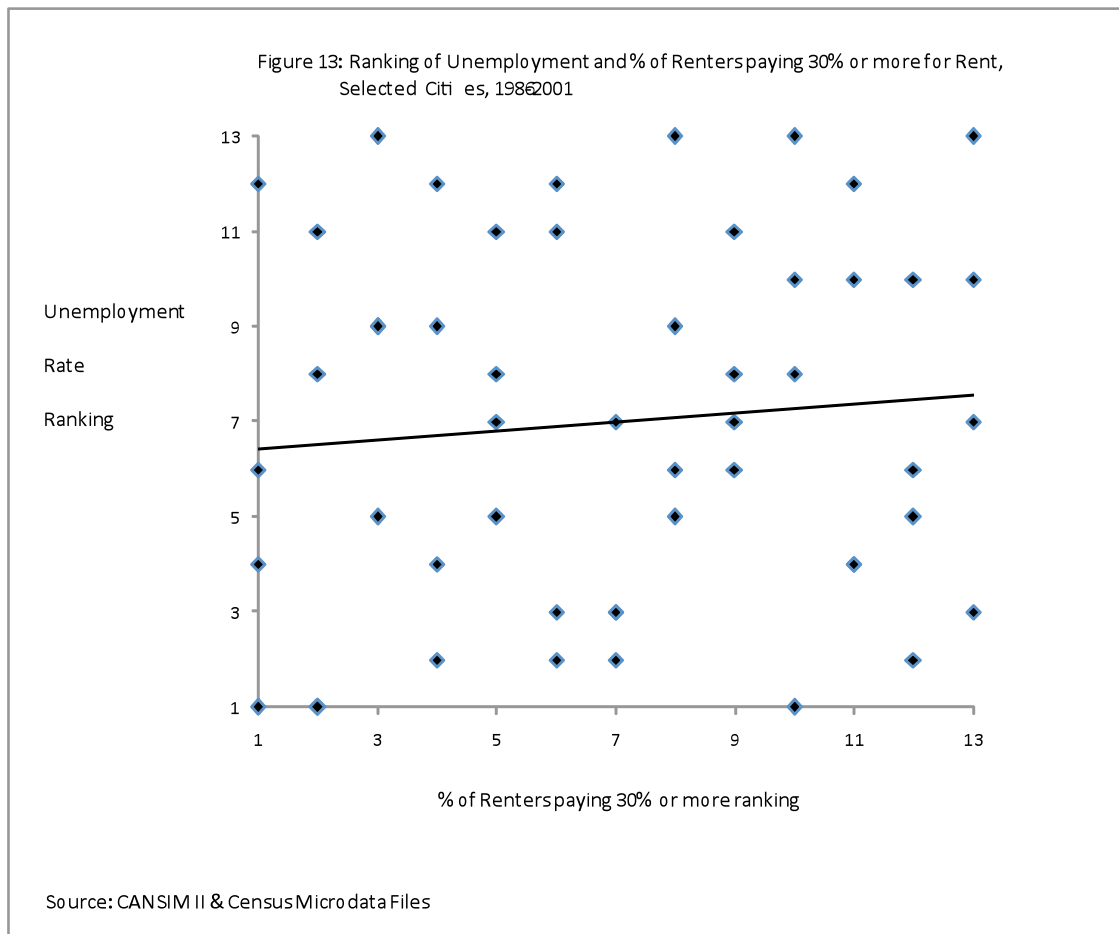
As seen in Figure 12, the trend line through the data is flat for all practical purposes, indicating no discernible relationship between the unemployment rate and the incidence of renters not meeting the affordability standard. Unemployment is measured as the number of people in the active labour force who are out of, and looking for, work as a percentage of the total labour force. In a bleak economy, people will stop looking for work, which can cause the unemployment rate as currently measured to fall, paradoxically. As such, it is not an unambiguous indicator of the state of the local economy.

In 1986 Vancouver had the highest unemployment rate (11.6%) as well as the highest percentage of renters that did not meet the affordability standard (43.7%). Vancouver was also among the cities with the highest rent. Next highest in unemployment was Edmonton at 11%. However, it had only 34.2% of renters that did not meet the affordability standard, as compared to Winnipeg 37.8% (with 7.9% unemployment), St. Catharines 36.6% (9.6% unemployment), Quebec City 36.4% (9.0% unemployment) and Halifax at 35.8% (8.9% unemployment).

In 1991 Montreal had the highest unemployment rate (12.5%) among the 13 CMAs. However, at the same time, the percentage of renters in Montreal that did not meet the affordability standard (34.4%), ranked fifth, after Vancouver 40.4% (with 8.3% unemployment), Winnipeg 36.9 (9.7% unemployment), St. Catharines 36.6% (11.2% unemployment) and Edmonton 35.0% (9.3% unemployment).

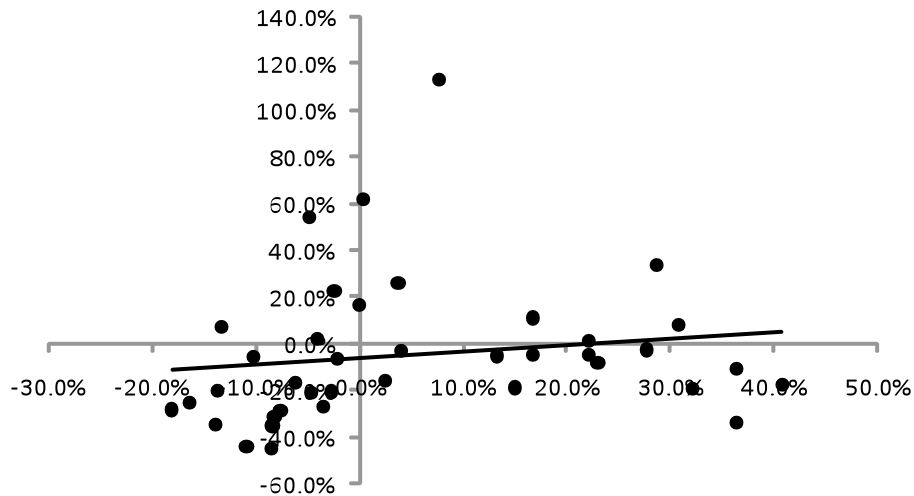
In 1996 the ranking of unemployment was not well correlated with the ranking on the percentage of renters not meeting the affordability standard. St. Catharines ranked first on the affordability measure (48.4%) but 4<sup>th</sup> on the unemployment rate with 9.1%. The cities that ranked 2<sup>nd</sup> (London at 45.9%), 3<sup>rd</sup> (Vancouver at 45.7%) and 4<sup>th</sup> (Hamilton at 44.5%) on renters not meeting the affordability ranked 11<sup>th</sup> (7.8%), 9<sup>th</sup> (7.9%) and 12<sup>th</sup> (6.6%) respectively in terms

of unemployment rate. Ottawa ranked 3<sup>rd</sup> on unemployment (9.8%) but 2<sup>nd</sup> in percentage of renters not meeting the affordability standard (39.3%).



A similar lack of correlation was evident in 2001 between the respective rankings on the unemployment rate and the percentage of renters that did not meet the affordability standard (Figure 13). The centres that ranked 1<sup>st</sup> (St. Catharines at 47.7%), 2<sup>nd</sup> (London at 43.7%) and 3<sup>rd</sup> (Hamilton at 43.6%) on the latter ranked 8<sup>th</sup> (6.3%) 10<sup>th</sup> (6.2%) and 9<sup>th</sup> (6.2) on unemployment rate. And, the centres that ranked 1<sup>st</sup> (Montreal at 8.3%) and 2<sup>nd</sup> (Quebec at 7.9%) on unemployment ranked 11<sup>th</sup> (36.7%) and 13<sup>th</sup> (34.5%) in terms of percentage of renters not meeting the affordability standard.

Figure 14: % Change in Unemployment Rate between census years versus % Change in Renter Households paying 30% or more for shelter, 1986-2001



Source: Cansim II & Census Microdata files

As seen in Figure 14 there is a positive correlation between the change in the level of unemployment and the change in the percentage of renter households paying 30% or more of their income on shelter, with a coefficient of 0.147; a weak correlation since the limit to be considered a strong correlation is usually set at  $\pm 0.30^*$ .

## **Consumer Price Index**

The Consumer Price Index (CPI) measures inflationary price movements, abstracting the effect of quality changes in the items in the shopping basket, which includes “bundles” for rented and owned accommodation. Over the period of 1981 to 2001, the CPI All Items Index increased more in each intercensal period than the movement in the CPI Rental Index. The CPI Homeownership Index increased more than the All Items index in all cities and periods with two exceptions (Toronto between 1991 and 1996 and Vancouver between 1996 and 2001), indicating that the cost of owning in these cities increased faster than goods in general. On this measure, renters have not suffered adversely from inflationary price movements compared to owners or compared to items in the general consumption basket.

For the CPI rental index, Statistics Canada gathers rent for the same dwellings each month, using a constantly refreshing sample<sup>†</sup>, since rents represent a continuous monthly outlay. Ownership costs are more complex. Once in a home, the owner's costs may change through

\* Cohen, J., Cohen P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. (3rd ed.) Hillsdale, NJ: Lawrence Erlbaum Associates

<sup>†</sup> One sixth of the sample changes each month, the other 5/6 will have month over month rent changes.

refinancing or a change in the interest rate or the owner may increase the level of indebtedness to cover renovations or other expenditures. Statistics Canada explained:

“the index for the owned accommodation component measures price induced changes in the cost of **using** a fixed stock of dwellings while, for other CPI components, they measure price induced changes in the cost of **buying** a fixed basket of commodities”<sup>\*</sup>  
Statistics Canada (1995)

The median housing costs for owners and renters from the census were converted into an index with the base of 1981 = 100 and the percentage change in that index was compared to the CPI on the same basis over the same period. Table 9 below, shows the percentage point difference between the housing cost from the census and its CPI counterpart; a positive number indicates that census-based housing costs increased more than the CPI.

Table 9: Percentage Difference Between Percent Change in Census-based Median Shelter Cost to Percent Change in CPI, by Tenure and City, 1981-2001						
CMA	Tenure	1981/1986	1986/1991	1991/1996	1996/2001	Average
Halifax	Rented	19.1	39.4	39.3	44.8	35.7
	Owned	34.6	73.9	108.0	107.7	81.0
Québec	Rented	-6.2	6.8	11.8	10.0	5.6
	Owned	22.2	59.6	68.0	65.3	53.8
Montréal	Rented	-6.7	16.5	20.9	21.3	13.0
	Owned	31.1	87.2	99.3	100.6	79.5
Ottawa	Rented	18.8	49.3	62.1	69.2	49.9
	Owned	40.4	110.8	129.7	124.8	101.4
Toronto	Rented	21.4	65.4	86.3	117.4	72.6
	Owned	30.6	103.7	150.9	200.4	121.4
Winnipeg	Rented	43.2	65.6	72.1	77.5	64.6
	Owned	38.3	92.9	122.9	141.3	98.8
Edmonton	Rented	-7.7	9.2	9.9	30.6	10.5
	Owned	15.8	45.3	56.9	81.3	49.8
Calgary	Rented	-13.6	8.5	12.2	38.7	11.5
	Owned	20.8	42.9	52.1	80.9	49.2
Vancouver	Rented	25.4	67.0	85.8	95.2	68.3
	Owned	23.3	50.6	109.1	163.1	86.5
Source: Cansim II and Census microdata files						

Table 9 compares shelter cost movements, as seen through the census, to CPI-based inflationary housing price movements and shows that in most cases the median housing costs, as measured by the census, increased at a faster than the CPI between 1981 and 2001 except in a few limited instances, namely for rented dwellings in Québec, Montréal, Edmonton and Calgary between 1981 and 1986. The highest average change for five-year periods was Toronto owners at 121.4 (i.e. housing costs increased 121.4% faster than the CPI). The highest average rental difference was Vancouver at 68.3. The lowest differences between the indices were Calgary, for owners, at 49.2 and Quebec, for renters, at 5.6. Generally, inflationary pressures on the cost of housing trailed the actual costs faced by owners more than it did for renters.

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<sup>\*</sup> emphasis added

## **Availability of Affordable Rental Units**

The CPI measures average price movements, not the distribution of rents. Affordability issues could arise if the availability of accommodation should decrease at the lower rent levels\*. A measure of moderately priced housing availability is the percentage of the rental housing supply that could be rented for less than 30% of the median renter household income, as suggested by Quigley (2004).

Table 10 shows the percentage of the rental stock that would cost 30% or more of the median income of renter households in selected CMAs. For the 13 centres as a group that percentage increased steadily to 1996 and moved back thereafter. In 1981 the percentage ranged from a low of 8.5% in Kitchener to a high of 30.2% in London. In 1986 the lowest percentage was 17.7% in Montreal compared to 40.6% in Vancouver. In 1991 the lowest percentage was 14.4% in Quebec City and the highest was 38.0% in St. Catharines. In 1996 the lowest was 31.6% in Edmonton and the highest was 58.6% in St. Catharines. In 2001 the lowest was 18.4% in Quebec City and the highest was 45.6% in St. Catharines.

Table 10: Percentage of Rental Stock at 30% or above of median renter household income					
Year	1981	1986	1991	1996	2001
Halifax	16.7	27.0	20.4	38.0	34.3
Quebec	9.8	19.5	14.4	33.3	17.3
Montreal	9.4	17.7	19.9	37.1	18.4
Ottawa	17.3	17.8	23.8	39.1	26.1
Toronto	21.9	22.1	27.7	44.1	39.6
Hamilton	11.7	20.2	25.6	46.2	38.3
St. Catharines	23.9	37.4	37.9	58.6	45.6
Kitchener	8.5	18.0	25.6	35.7	21.1
London	30.2	21.8	25.6	46.6	40.3
Winnipeg	29.7	33.8	30.9	41.6	29.5
Calgary	29.4	31.2	26.5	32.5	27.4
Edmonton	17.6	26.0	26.9	31.5	24.4
Vancouver	29.2	40.6	38.9	45.8	37.1
Source: Estimated from Census Microdata files					

## **Access to Homeownership**

In the literature search we found that a commonly used measure of home ownership affordability was the ratio of median house price to median household income. The widespread use of this measure is likely based on the ready availability of the component data series, rather than on any theoretical foundation that we could find. CMHC used to have a first time owner accessibility index using the average income of renters 20 – 44 years of age and the average price of a modest home. The PUMF files can be used to provide an indicator that combines

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\* Through redevelopment, gentrification, conversion to condominiums, etc

elements of these two approaches, estimating the ratio of the median housing price to the median household income of renters 25 – 44 years of age.\*

Table 11: Ratio of the Median Value of Dwellings to the Median Household Income of Renters with Primary Maintainers Aged 25-45					
	1981	1986	1991	1996	2001
Halifax	3.4	3.1	3.0	3.6	3.7
Quebec	3.2	2.7	3.0	3.5	2.8
Montreal	3.2	3.2	4.2	4.2	3.7
Ottawa-Hull	3.0	3.3	4.2	4.3	4.0
Toronto	4.5	4.3	6.7	6.0	6.0
Hamilton	3.0	3.4	5.4	5.1	5.2
St. Catharines	4.2	3.4	4.7	4.7	4.3
Kitchener	3.3	3.4	4.9	4.5	3.9
London	3.4	3.4	4.8	4.9	4.5
Winnipeg	3.7	3.2	3.4	3.6	3.2
Calgary	6.0	3.3	4.1	4.3	4.5
Edmonton	4.3	3.2	3.5	4.2	3.7
Vancouver	9.0	4.6	6.1	8.3	6.8
Total	3.9	3.6	4.8	5.0	4.7
Source: Estimated from Census Microdata files					

Table 11 shows the ratio of median value of dwellings to the median income of renter households with maintainers aged between 25 and 44. In 1981 that ratio ranged from 3.0 in Hamilton to 9.0 in Vancouver. In 1986 the range was from 2.7 in Hamilton to 4.6 in Vancouver. In 1991, the ratio was from 3.0 in Quebec City to 6.7 in Toronto. In 1996 the ratio was from 3.5 in Quebec City to 8.3 in Vancouver. Finally, in 2001 the ratio was from 2.8 in Quebec City to 6.8 in Vancouver. The above table is based on the combined effect of two moving parts – house values and the household income of renters aged 25-44, both of which would have been affected by different factors. In the period 1981-1986 four of the cities included in this review saw the position of renters worsen when measured against their ability to access the median valued home. In the period 1986-1991 twelve cities saw a similar deterioration; nine worsened in 1991-1996 and only one between 1996-2001.

Demographia (2006) (a website that provides international comparisons on home ownership affordability) suggests the following characterization of markets based on the ratios of median house value to median household income:

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\* While CMHC used to use 20-44 in their old index, 25-44 was the generally available range from all the census PUMF files.

Indicator	Ratio	Abbreviations Used in Table 4
Affordable	3.0 or less	AFF
Moderately unaffordable	3.1 to 4.0	MOD
Seriously unaffordable	4.1 to 5.0	SER
Severely unaffordable	5.1 and over	SEV

Table 12: Characterization of Canadian Housing Markets, 1981-2001					
CMA	1981	1986	1991	1996	2001
Halifax	MOD	MOD	AFF	MOD	MOD
Quebec	MOD	AFF	AFF	MOD	AFF
Montreal	MOD	MOD	SER	SER	MOD
Ottawa-Hull	AFF	MOD	SER	SER	MOD
Toronto	SER	SER	SEV	SEV	SEV
Hamilton	AFF	MOD	SEV	SEV	SEV
St. Catharines	SER	MOD	SER	SER	SER
Kitchener	MOD	MOD	SER	SER	MOD
London	MOD	MOD	SER	SER	SER
Winnipeg	MOD	MOD	MOD	MOD	MOD
Calgary	SEV	MOD	MOD	SER	SER
Edmonton	SER	MOD	MOD	SER	MOD
Vancouver	SEV	SER	SEV	SEV	SEV
Source: Demographia and Census Microdata files					

Table 12 applies the Demographia criteria to the CMAs covered in this review using the data presented in Table 11. In 1981 in Ottawa-Hull and Hamilton owning a home was “affordable” for renters aged 25-44, while Calgary and Vancouver were “severely unaffordable”. In 1986 only Quebec would be considered “affordable” but no city reached the “severely unaffordable” level. In 1991 Halifax and Quebec were “affordable” while Toronto, Hamilton and Vancouver were “severely unaffordable”. In 1996 no centre was classified as “affordable” but Toronto, Hamilton and Vancouver were “severely unaffordable”. In 2001 Quebec was again back in the “affordable” column and Toronto, Hamilton and Vancouver were still “severely unaffordable”.

Table 13 summarizes the trends in ownership accessibility for renters\* over the period from 1981 to 2001. The first column shows the number of cities where the situation worsened over successive census – four between 1981 and 1986, twelve from 1986 to 1991, nine from 1991 to 1996 and one from 1996 to 2001. The number of “severely unaffordable” markets has increased over the period from two to three. Ten cities were “moderately affordable” in 1986 compared to 3 in 1996 while the number of “seriously unaffordable” markets increased from two to seven over the same period. Overall, there was some improvement from 1996 to 2001. From the first column, it can be seen that in only one city did affordability worsen for renters on this measure.

Table 13: Trend in Renter Affordability, Selected Cities, 1981-2001					
	Worse	AFF	MOD	SER	SEV
1981	n/a	2	6	3	2
1986	4	1	10	2	0
1991	12	2	3	5	3
1996	9	0	3	7	3
2001	1	1	6	3	3
Source: Demographia and Census Microdata files					

\* As measured by comparing the median house value to the median renter household income.



## **Discussion**

This section looked at affordability trends with reference to macroeconomic indicators. Following the recessions of 1981-1982 and 1990-1991, there was a discernible increase in the percentage of renters devoting 30% or more of their income to their rent at the time of the following census. The increase was larger in 1996 than in 1986, reflecting the deeper recession in 1990-1991. This would tend to confirm the relationship between the level of overall economic activity and the incidence of affordability problems. The increase in unemployment may have been the link between the economic downturn and the increase in the incidence of affordability problems, although the correlation is not very strong.

There was a decrease in the availability of affordable units, measured by the percentage of units renting at 30% or more of the median rental income to 1996 with some improvement in the last intercensal period. At the same time, renters were faced with a larger financial hurdle, relative to their income, to access homeownership. This tends to confirm the observation made earlier that renters, as a group, are coming increasingly to compose a group of households that would have difficulty becoming owners – if that was their preference.

## ***Summary and Conclusions***

The international literature review suggested that housing affordability, on some measures, was worse in other countries than in Canada. However, aggregate measures such as median house prices compared to median household income do not capture the incidence or severity of housing affordability at the household level; they are more useful as measures of change in housing affordability over time or for comparing one country to another. In the final section of the report, (to better understand Canadian affordability levels) we constructed an analogous measure of renter accessibility by comparing the median cost of a home to the median income of a household with a maintainer in the 25-44 age group (the “home buying demographic cohort”, as it were). On this measure, renter accessibility deteriorated over the period, with some moderation in the latest intercensal period of 1996-2001.

Income inequality is not rising in Canada generally, based on the studies cited earlier, and in fact, Canada compares favourably with other OECD countries in this regard. However, there is a growing income gap between owners and renters. The ratio of renter to owner household income declined from 64% in 1981 to 46% in 2001. Renters are increasingly drawn from the bottom two income quintiles. This change in relative income for renters as compared to owners could be partially explained by the changing household composition among the renter population towards a higher concentration of lone-person and single parent households.

The wealth difference between owners and renters is increasing. Since owners have higher incomes, they can be expected to accumulate more wealth. Also, home ownership itself, as a passive form of wealth accumulation, increases the gulf between renters and owners. Over the period 1981 to 2001 there has been a growing rate of homeownership overall because of lowering interest rates and down payment requirements for obtaining a mortgage and because

of the changing age profile of household maintainers. A reasonable inference from this review would be that those households, who could afford to do so, have been drawn to homeownership while the others remain as renters.

Owners spend more than renters for shelter. However, the ratio of renter to owner shelter costs rose to 86% in 1986 and has been coming down since. Although, for CMAs as a whole, shelter cost per room rose for all tenures, it rose more sharply for owners than for renters except for the intercensal period between 1981 and 1986. That has not been the case as a general rule across individual CMAs as the experience varied. Renters always pay more per room than owners without mortgages but have also spent more per room than those with a mortgage in some cities at times.

The increase in shelter cost outpaced that of incomes for both tenure groups over most of the period covered by this review. Renters lost income in the period from 1991 to 1996 and, indeed, the year 1996 was a particularly low point for renters in terms of affordability, possibly as a result of the fairly deep recession in the early 1990s. Their situation improved somewhat in the last intercensal period covered in this review, namely from 1996 - 2001.

The percentage of renters paying 30% or more of their income on shelter increased from 31% in 1981 to 43% in 1996 and decreased to 39% in 2001. While the corresponding rate for owners followed the same trend, it peaked at 19% in 1996. The percentage point difference in the rate between the tenures went from 14 percentage points in 1981 to 24 percentage points in 1996. Measured in rooms per dwelling or persons per room, there was no major increase in housing consumption over the period. At the same time, an increasing percentage of both owners and renters felt that their dwellings were in need of repair, indicative (at the least) that the quality of the stock was not improving significantly. Therefore, over the period of 1981 to 2001, the housing situation of renters worsened both on the major indicators and relative to owners.

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