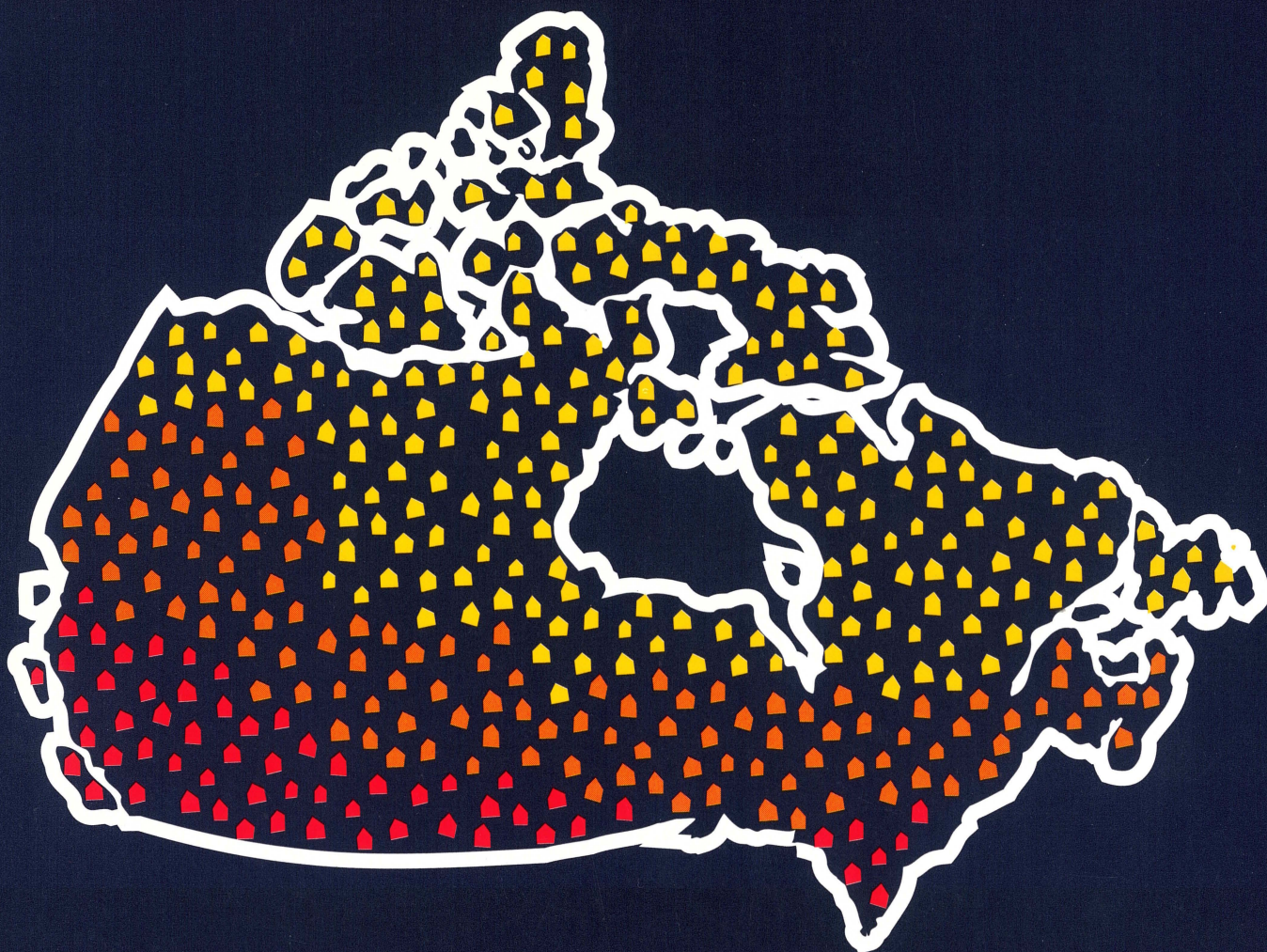


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**COMMUNITIES OF  
DIVERSITY :  
REGIONAL  
DIFFERENCES IN  
CANADA'S HOUSING**

**SUMMARY REPORT**

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# **COMMUNITIES OF DIVERSITY: REGIONAL DIFFERENCES IN CANADA'S HOUSING**

## **SUMMARY REPORT**

This project was funded by the Canada Mortgage and Housing Corporation, but the views expressed are the personal views of the author and the Corporation accepts no responsibility for them.

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## 1. INTRODUCTION

"[Canada is] ... a country whose most distinguishing feature is probably its diversity.

We don't yet seem to have learned to see diversity as a basis of stability, with differences as strengths to build on rather than as irritations to be smoothed out for the sake of consistency."

**Reg Lang,  
Canada: An  
Urban Agenda,  
1976<sup>1</sup>**

In Canada, discussions of the wide variations in personal outlook and lifestyles, economic development and social conditions, culture and politics found in different regions are commonplace. Surprisingly, what may amount to a national obsession in other fields has rarely been examined in relation to housing. Indeed, this report is the first comprehensive look at the nature, extent and causes of regional differences in the housing situation across Canada.<sup>2</sup>

Its overall aims are:

- to map out the major differences and variations captured in national data series, and assess which are the most significant, based on readily available indicators;
- to interest housing researchers and policy analysts in the possibility of building a "regional differences perspective" more fully into their future work, and offer guidance on how this may be done in the most efficient manner.

"Regions" in this study are defined to mean chiefly Atlantic Canada, Quebec, Ontario, the Prairies, British Columbia and the Northern Territories. Provinces within the multiprovince regions are also considered extensively. Subprovincial regions are addressed only in the form of metropolitan area markets.<sup>3</sup>

The term "regional differences" includes:

- major variations in the current form or condition of the housing stock which can be linked to regional location;
- variations in patterns of housing tenure and occupancy;
- variations in housing industry structure, technology, design, etc.;
- variations in housing market conditions and trends and in housing investment;
- variations in the social conditions surrounding housing;
- variations in patterns of expectations about housing; and
- variations in governmental structures and programming.

When considering the contents of this report, it is essential to distinguish between regional differences and regional *disparities*. The latter refer to gaps between the quantity or quality of housing services and conditions available from one region to the next. This report *does* include explicit and substantial coverage of disparities because they are an important aspect of regional differences. But they are not the *same* as regional differences.

Specifically, disparities tend to be measured in relation to a national perspective on equitable economic shares. They do not bring into play many historical, cultural or other aspects of regional differences which are just as interesting, or which may affect policy and corporate strategy in equally vital ways.

1. Subtitled *A Collection of Papers* (Ottawa: Community Planning Press, 1976), p.83.

2. More detailed information and supporting tables are available in *Communities of Diversity: Regional Differences in Canada's Housing. Reference Document*, which may be obtained from the Canadian Housing Information Centre, 700 Montreal Road, Ottawa, Ontario K1A 0P7.

3. It is possible to envisage other housing-specific "regions" which do *not* follow administrative or market boundaries, e.g., those based on predominant use of given materials or on particular technologies.



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## **2. DIFFICULTIES IN IDENTIFYING AND MEASURING REGIONAL DIFFERENCES**

For over 45 years, there have been conscious policies seeking to reduce Canadian regional differences in the form of income disparities or inequalities and barriers to access from one market to another. As well, a national framework of institutional arrangements has been established for financing and selling housing, for diffusing technology and designs, and for promoting various public policy objectives. It should not be surprising, therefore, to find that many differences today tend to be small, subtle or difficult to define, and hard to measure.

As the charts presented in the text and the table in Annex C illustrate, some of the most marked differences, based on available data, lie in the following areas:

- land and housing costs and prices;
- housing technologies in use; in particular, those associated with energy for home heating;
- the degree of urbanization in different regions;
- tenure patterns;
- cyclical patterns of housing production; and
- some specific aspects of housing need, such as the proportion of dwellings in need of major repair.

Where the efforts to promote Canada-wide systems and standards have been most active, whether through market forces or by policy, the tendency is for differences to be less dramatic. For example, differences in rates of mortgage defaults, in “crowding” of households and in rent-to-income ratios are surprisingly small across Canada. In most cases, they appear to have narrowed in the decades since World War II.

## **3. REGIONAL DIFFERENCES IN CANADA’S HOUSING TODAY**

There are some dangers inherent in separating housing from the rest of what might be called “the regional experience of Canada.” Housing is the stage upon which half or more of life is played, based on hours spent in and around the home. But the larger determinants of the regional experience lie, for the most part, outside of the home—in the economy, community relations, geography, history, language and culture. Housing can be very similar from region to region as a physical artifact, or even as an ensemble of market relations, in the midst of substantial variations in other aspects of regional life.

This report offers the following basic thesis on Canada’s regions today: the regions are most different from a housing perspective because of their precise mix of components, more than because of variations considered one by one. Historical differences in demography, technology, design,



housing types and living patterns have tended to converge and become less pronounced. Hence, individual components of the housing scene may seem on the surface to be rather similar from one end of the country to the other. But the *ways in which these components go together* to form regional wholes are unique.

Thus, for example, there are now decidedly “urban” high-density housing forms to be found in all regions, but more so in those dominated by large metropolitan centres.

The types of “housing problems” to be found, including, for example, “crowding,” physical deterioration and unmet special housing needs, are not so different when considered in isolation. However, the particular pattern within which they fit, and which makes them easier or more difficult to address, is highly variable across Canada. Moreover, the web of social and economic relations, including the degree of public desire for action by governments and community agencies, appears quite distinctive, based on polling data and other indicators.

#### **4. DETERMINANTS OF REGIONAL DIFFERENCES**

A comparatively small number of factors appear to account for a large proportion of regional differences in housing across Canada. These include:

- *the historical evolution of Canadian settlements* and, in particular, where different regions fitted into the pattern of westward and northward movement of European settlers from about AD 1500 onward;
- *climatic and environmental* differences which, in turn, shape the choice of housing materials, construction types, forms and standards;
- differences in the *composition and dynamics of the population*, including especially the degree of urbanization;
- related differences in the *economic base and, hence, personal incomes* of the different regions, including the extent of dependency on primary resource extraction and agriculture or more urban, higher value-added manufacturing or service industries;
- differences in the geographic and population size of the regional economic, social and political system;
- differences in *indigenous building materials*, such as clay, cut stone and lumber;
- historical differences in the extent to which housing is rented or owned, and in the legal systems surrounding *tenure*;
- differences in *investor preferences* in each region; and
- differences in *provincial government approaches* to the regulation of land development, planning and building standards.

From these nine “driving forces,” many other housing differences can be anticipated.

In major Canadian textbooks on regional development, housing is usually treated as a “passive” aspect of the situation. That is, it is considered to reflect other factors, but to have no, or very limited, effects of its own.

For example, authors tend to assume that housing has little impact on population mobility since people moving to a new area can freely enter



the housing market. The latter are presumed to leave behind their previous dwellings rather easily. Such assumptions have not been tested through research and may prove simplistic. Surely, there are psychic as well as dollar costs in moving from one community to another. Housing probably has more effects on mobility than have been measured to date. At a minimum, well-designed and well-constructed, affordable housing is obviously a factor in *attracting* new industry to locate in a given community.

Housing dynamics *are* driving forces in their own right when it comes to such questions as how large the residential construction industry in a given region is likely to be, and what skills, technologies and building methods it is likely to employ.

## **5. HISTORICAL EVOLUTION OF CANADIAN SETTLEMENT**

Canadian economic history continues to play a role in shaping housing today. The pattern of settlement established to create and sustain a mix of staple goods and a range of production and transportation technologies may now produce stresses in housing markets. Specifically, communities which once had a secure place in the hierarchy of settlements may now be declining and their housing losing value due to changing industrial technology, new transportation systems and shifting world demand for major commodities.

In the decades ahead, *smaller settlements* in the resource-producing regions are likely to be challenged, as never before, to find creative ways of surviving and prospering. In some regions, between 40 and 60 percent of all census districts are declining in population, and this trend is unlikely to be reversed in the future. The best hope may be to retain a stable population and associated amenities and services.

Although housing tends to be built and occupied as a function of larger settlement patterns and trends, there is some evidence that it also has *stabilizing effects*. That is, because inexpensive inherited homes are available and comfortable, people may tend not to move away from communities which they would otherwise leave.

Based on an examination of trends between 1981 and 1986 in both migration and dwelling values of centres which are losing population, the housing market may continue to function rather normally for a period, due to internal dynamics and expectations.

## **6. CLIMATIC AND ENVIRONMENTAL DIFFERENCES**

Canada has ten distinct "ecoclimatic regions," as shown in Chart 1. Chart 2 shows the relative densities of housing development, according to environmental areas called "sub-sub basins" by Statistics Canada. As is



## CHART 1 TEN DISTINCT ECOCLIMATIC REGIONS IN CANADA



### LEGEND:

- |                       |                          |
|-----------------------|--------------------------|
| 1. ARCTIC             | 6. GRASSLAND             |
| 2. SUBARCTIC          | 7. SUBARCTIC CORDILLERAN |
| 3. BOREAL             | 8. CORDILLERAN           |
| 4. COOL TEMPERATE     | 9. INTERIOR CORDILLERAN  |
| 5. MODERATE TEMPERATE | 10. PACIFIC CORDILLERAN  |

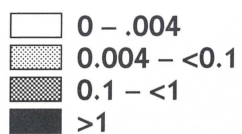
Source: Environment Canada



## CHART 2 MOST HOUSING LOCATED IN SOUTHERN CANADA



DWELLINGS PER SQUARE KILOMETRES



Source: Statistics Canada, Environment and Wealth Accounts Division



evident, the vast majority of the Canadian population lives in the southern parts of the country.

Currently, the technology of Canadian housing allows the vast majority of the population to *adapt* to regional climatic differences. There are, of course, regional variations in insulation levels, annual heating costs, and the extent to which different outdoor amenities are used. But climate does not appear to be a significant driver in relation to housing design and construction, except in the North. There, previous attempts to ignore regional climatic differences are now largely being abandoned. Based on recent research, distinctive Northern housing forms and technologies are emerging. These constitute one of the most exciting changes in housing development to accommodate regional needs better.

## **7. POPULATION GROWTH AND COMPOSITION**

Population growth is an obvious driving force in creating demand for housing, in determining the rate at which development occurs and, over time, the age patterns of the housing stock. As shown in Chart 3, the rates of population growth in the different regions ranged from 0.4 percent in Newfoundland to 11 percent or more in Ontario and British Columbia, between 1981 and 1989.

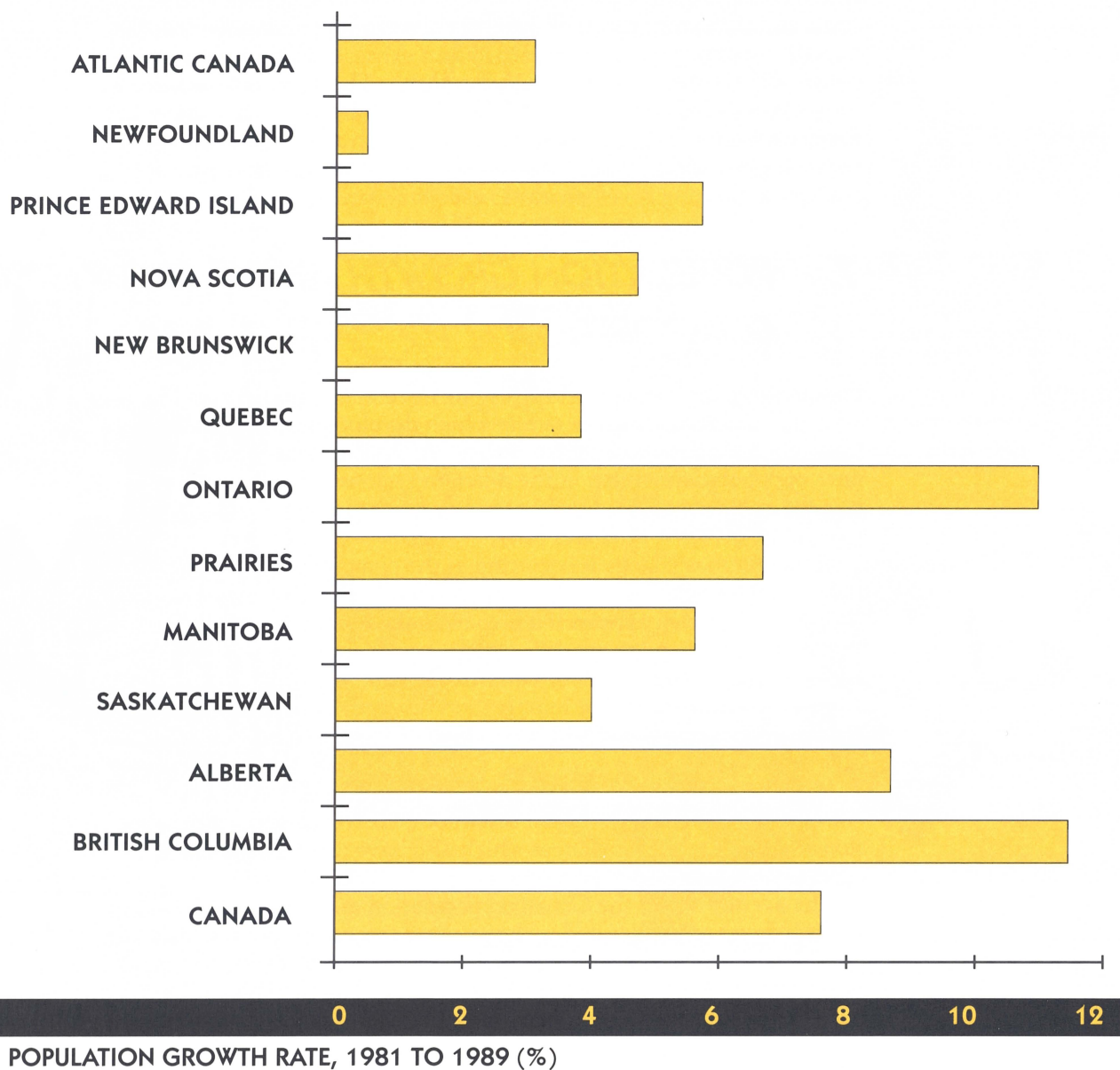
A momentous change is occurring in the composition of Canada's population growth that will have profoundly different effects on each region: immigration appears likely to overtake natural increase as the driver of population growth. Immigrants have been tending to go chiefly to the metropolitan centres of Ontario, British Columbia, Quebec and Alberta. To the extent that immigration becomes the major factor in growth, these regions will continue to grow at much faster rates than the others. (Chart 4)

In such a context, the attractiveness and affordability of housing and communities may help to confer some competitive advantages on some slower-growth subregional areas which also have jobs to offer. But it appears unlikely to alter the basic trend.

The average age of the Canadian population as a whole is increasing, but it is doing so at rates and with net effects on composition which vary considerably from region to region. Different community services needs associated with housing for the elderly are only one example of the current and future effects of these variations.



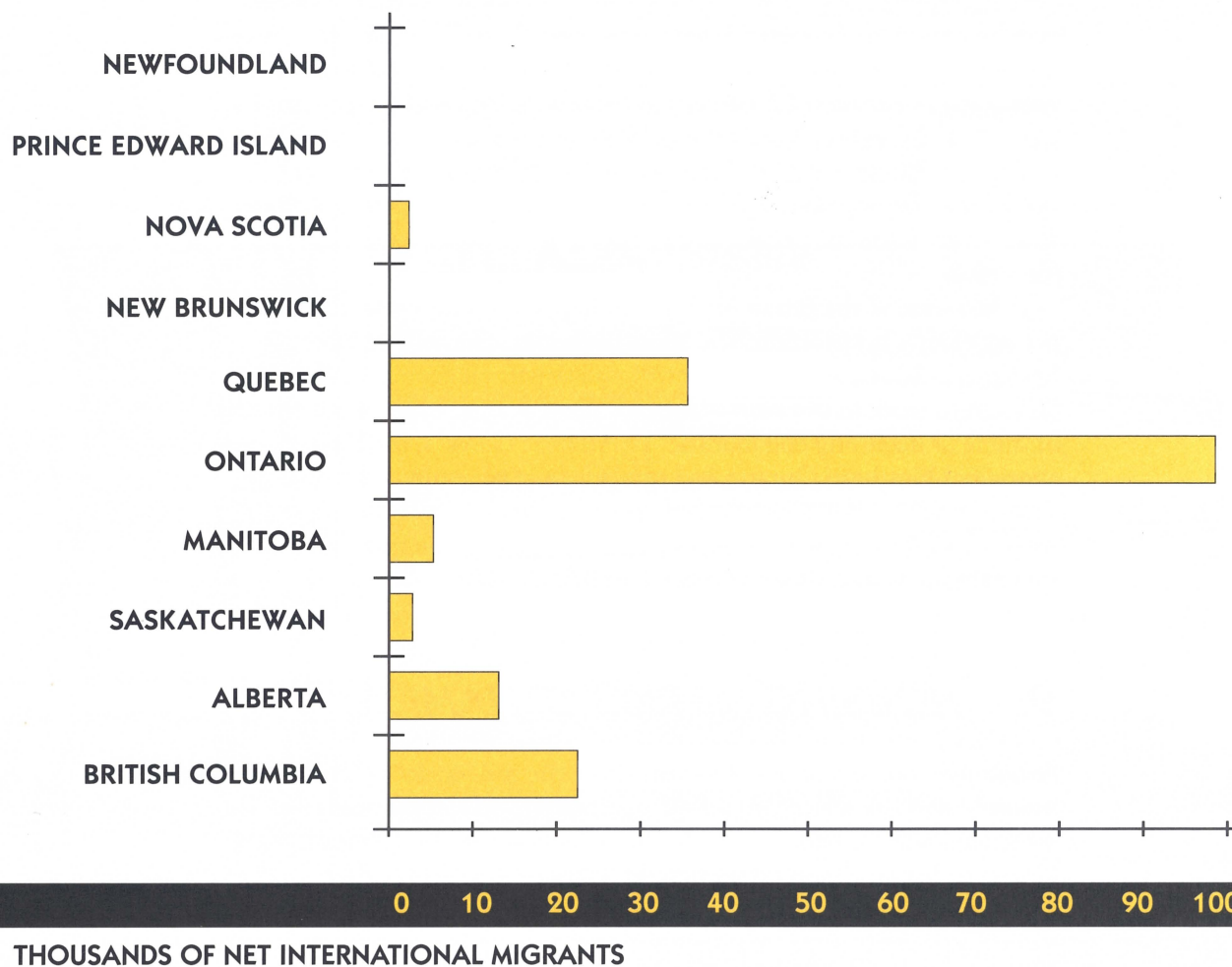
**CHART 3 POPULATION GROWTH RATES FOR DIFFERENT REGIONS VARY WIDELY  
1981 TO 1989**



Source: Canadian Housing Statistics



**CHART 4 IMMIGRANTS GO MAINLY TO ONTARIO, BRITISH COLUMBIA AND QUEBEC  
1989 TO 1990**



Source: Canadian Housing Statistics



## **8. HOUSEHOLD PATTERNS**

Over the past decade especially, the number of *households* has been growing faster than the population in all regions. People have been demanding more and more dwelling space in relation to their numbers and forming more households with fewer members. For example, rates of “crowding” have come down among all income groups in all regions and now stand at between 4.6 percent in Newfoundland and 1.6 percent in Ontario and Quebec, based on the 1986 census data.

Because different regions have somewhat different age structures, household composition, price structures and occupancy patterns, there will, nevertheless, be persistent differences in rates of household formation.

A key issue of the future is what will happen to one-person and two-person elderly households. The lower birth rate, the shift to more immigrant-driven population growth and structural economic changes, all seem to work in the same direction. That is, disproportionate numbers of stable or declining communities in Atlantic Canada, the Prairies, non-aboriginal Northern Ontario and rural Canada generally, with higher-than-average proportions of elderly people. Urban-rural differences within and across Canada’s regions could, thus, become more marked as we enter the next century. (Charts 5 and 6)

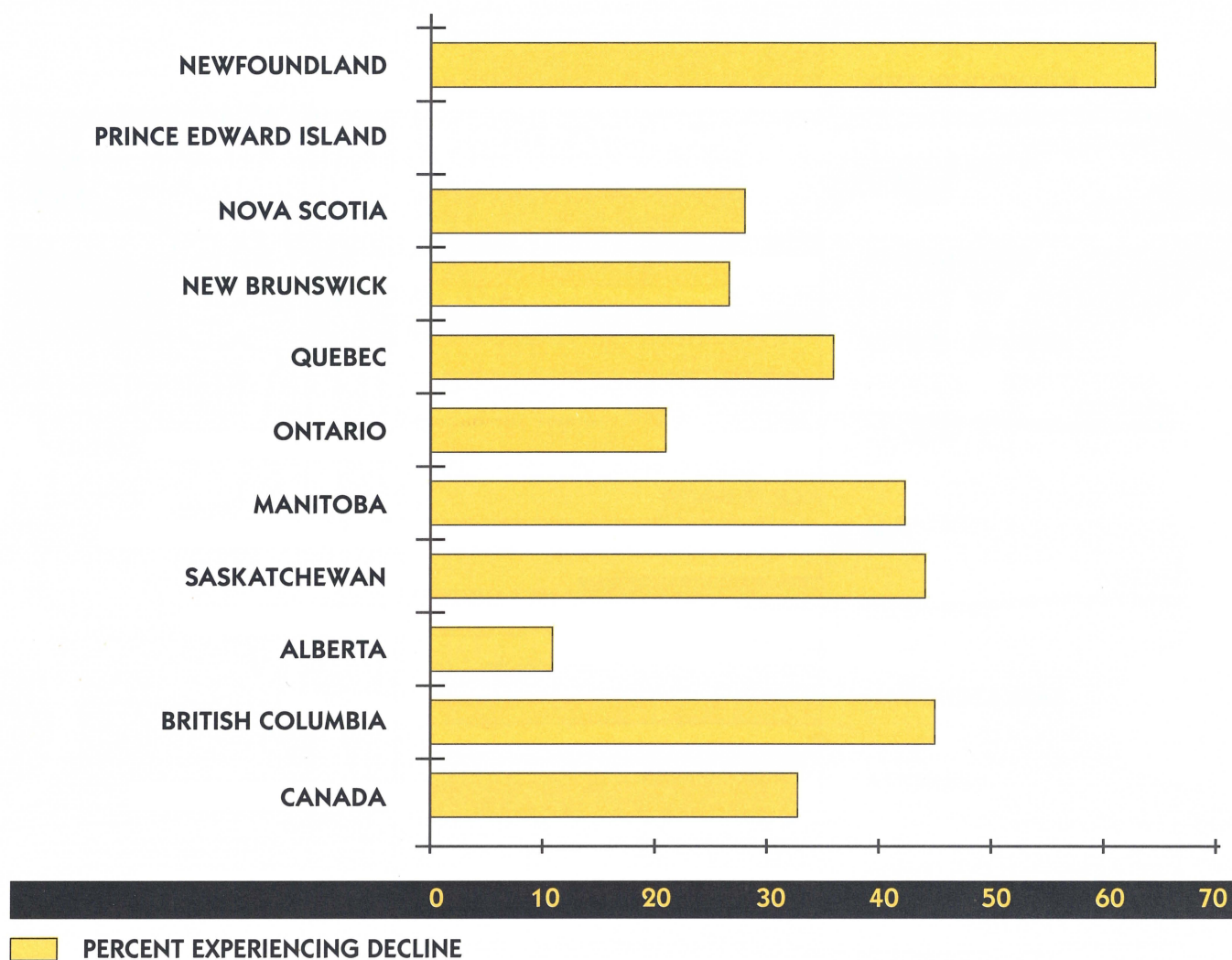
## **9. HOUSING MARKET DYNAMICS**

Housing market dynamics obviously drive the residential construction industry, and the related materials, equipment and service industries associated with it, and have multiplier effects across the economy. However, housing markets as such do not appear to drive other economic, demographic or social changes in ways that can be readily identified.

Given the free movement of the population in search of economic, social and cultural opportunities, housing markets would seem to be one of the few potential sources of moderating pressures on population flows to and from given regions. That is, inexpensive but adequate housing could help to reduce the movement from slow-growth to fast-growth regions. Expensive housing in the most attractive regions could work over time to constrict the flow into them. Coupled with other factors, such as lower costs of serviced industrial land and more attractive natural environments, it could even help push industry to relocate, creating permanent counterweights to their attractiveness.



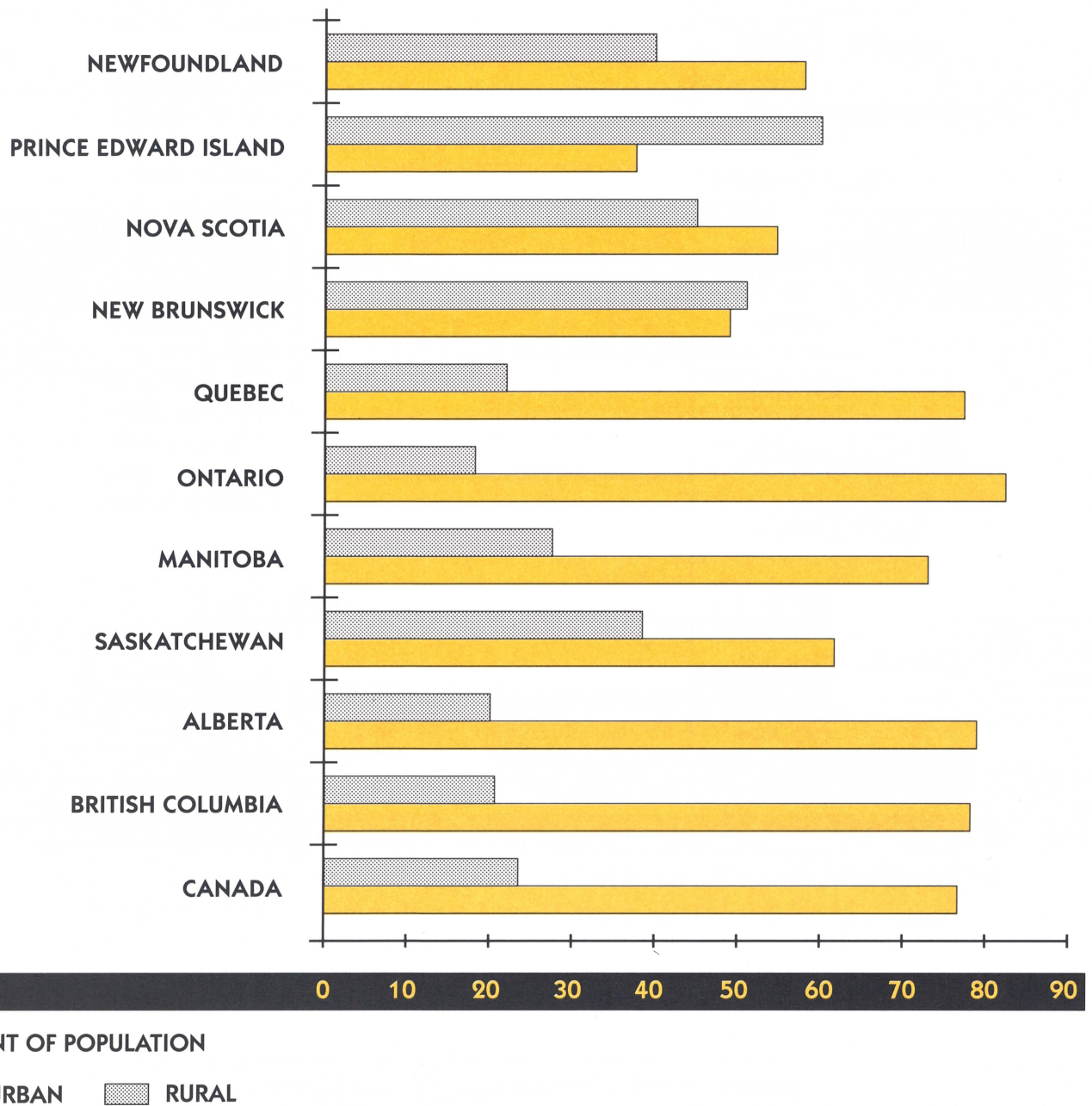
**CHART 5 A THIRD OF ALL CENSUS DIVISIONS EXPERIENCING DECLINING POPULATION 1986**



Source: Statistics Canada, 1986 Census of Canada



**CHART 6 WIDE VARIATIONS IN URBAN-RURAL POPULATION PATTERNS  
1986**

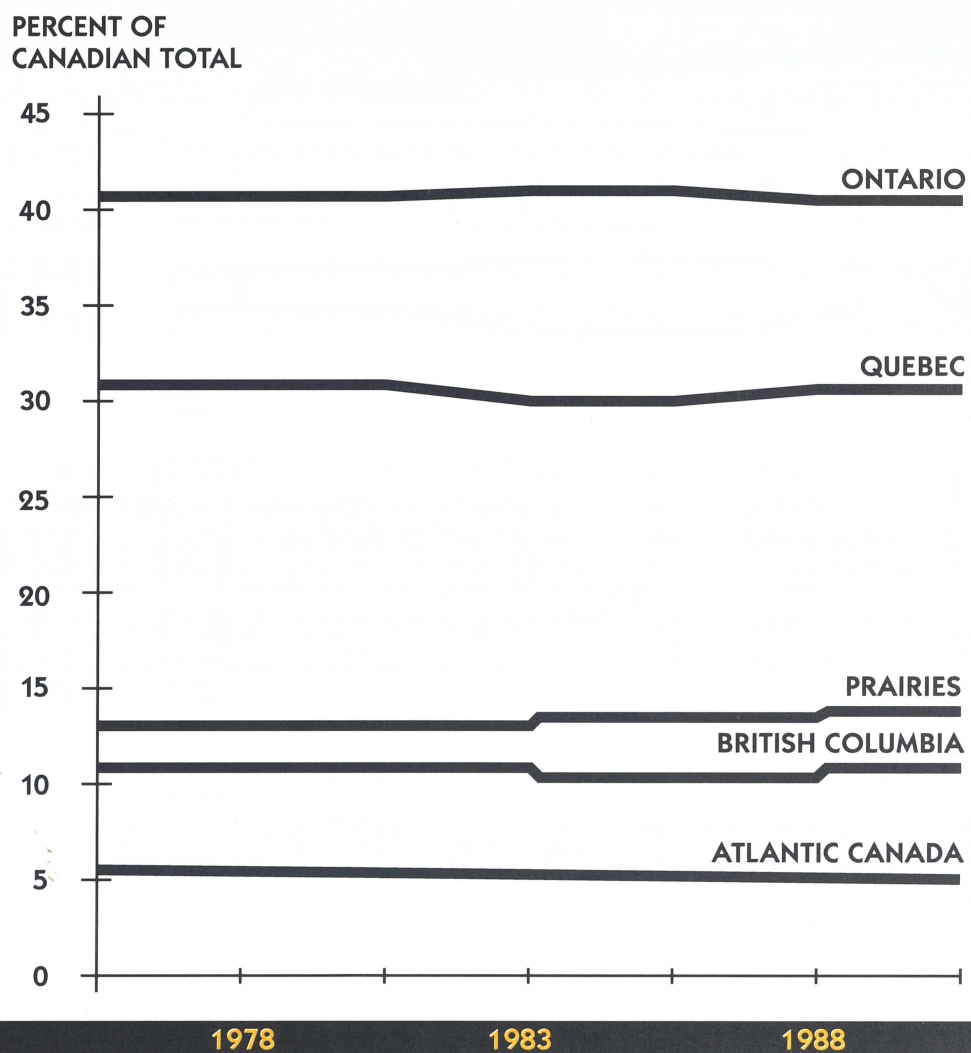


Source: Statistics Canada, 1986 Census of Canada



To date, available data on trends in the numbers of manufacturing establishments by region seem to sustain only the first stage of this hypothesis. During the 1980s, every region continued to roughly maintain its share of the entire manufacturing sector, with some overall shift in numbers from Central Canada to the West. (Chart 7)

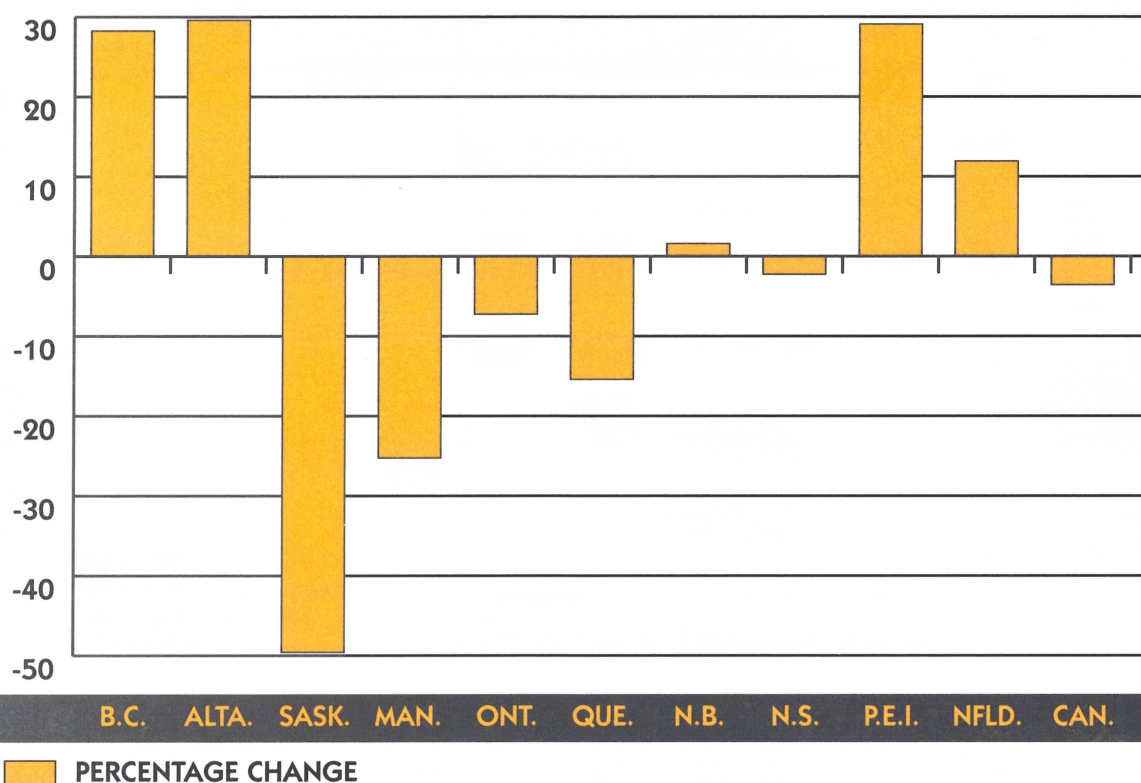
### CHART 7 VERY LITTLE DECENTRALIZATION OF MANUFACTURING ESTABLISHMENTS 1978 TO 1988





Larger economic and social forces, such as proximity to markets, may easily override any housing market effects. That is, firms in all sectors of the economy may move to the Toronto region despite the high costs of housing, and move out of Atlantic Canada despite the relative attractiveness of housing and communities there. The importance of such larger economic forces is particularly well illustrated by the marked regional variations in rates of annual housing production, as set out in Chart 8. As well, the comparatively reasonable rents and high vacancy rates of some Prairie cities in recent years do not appear to have had any appreciable effects in attracting migrants from other provinces.

**CHART 8 GREAT REGIONAL VARIATION IN HOUSING STARTS  
1988 TO 1989**



Source: Canadian Housing Statistics

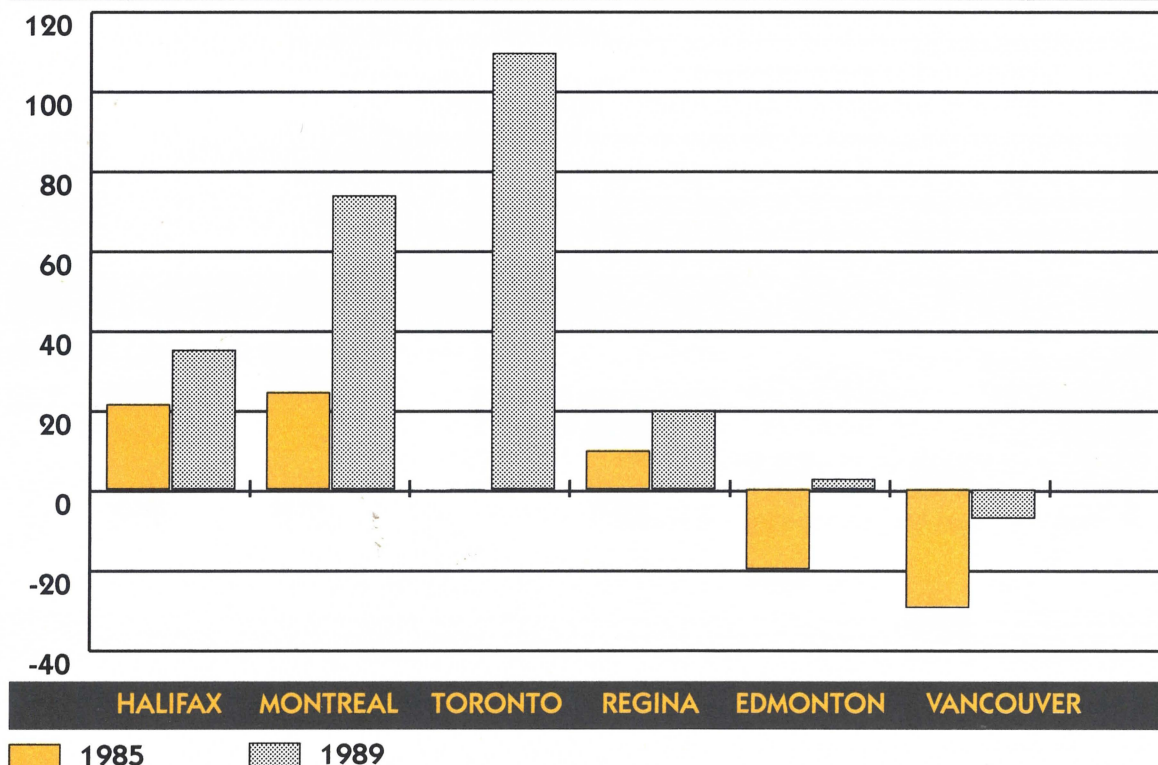


## 10. HOUSING FINANCE

Housing finance in Canada is predicated on the fact that about 42 percent of all personal savings take the form of housing. In the years since the disastrous value losses of the Great Depression, a framework for confidence in housing as an asset and a basis for lending has been established that, steadily, has become more sophisticated. Public mortgage insurance is offered at the same premium regardless of location, helping to increase access in riskier areas. Such a system is particularly required when prices drop as they did in much of Western Canada during the 1980s. (Chart 9) Note that in the case of Toronto, the 1985 figure was 100.4, so it does not appear on the chart at all, being so close to the 1981 price level.

As David Bettison pointed out in his study *The Politics of Canadian Urban Development*, however, the effect of establishing this framework has probably been to help centralize substantial control over housing finance and to accelerate the process of urbanization.<sup>4</sup> Housing that is not risky for lending tends to be located in prosperous, Southern, urban-centred regions. It meets standards which preclude or limit amateur work. It shows value growth and is not dramatically different from its neighbours, in order to facilitate resale.

**CHART 9 NEW HOUSING PRICES FALL IN WESTERN CANADA 1985 TO 1989**



Source: Canadian Housing Statistics

4. *The Politics of Canadian Urban Development* (Edmonton: University of Alberta Press for the Human Resources Research Council of Alberta, 1975).



All of these factors have helped to reenforce the trend toward housing as a homogeneous product from region to region. Even in the regions which have established financial institutions independent of the large Toronto- and Montreal-based banks and trust companies, e.g., regional credit unions, caisses populaires and trust companies, the same basic rules apply.

Because housing is part of a much larger capital market, it is subject to the same interest rate policies in all regions, regardless of the particular housing situation. The use of higher interest rates to curb "inflationary" markets may also accelerate a downturn in those with declining prices.

Yet no formula for detaching housing in given regions from world-wide economic forces has so far been devised. At best, various "cushioning" schemes—such as mortgage interest rate protection programs—may be put in place. In recent years, these have been questioned and frequently terminated.

If trends toward further polarization of regions into "growth" and "non-growth" areas are confirmed in the 1990s, governments and the private sector will likely seek ways to try to preserve the value of housing in declining centres.<sup>5</sup> Precipitous declines would serve neither individual owners, nor regional economies, lenders and investors well.

## **11. INDUSTRY STRUCTURE**

The housing industry includes building contractors; specialty construction trades; materials fabricators and suppliers; and residential development services such as architects, planners, real estate brokers and agents, lawyers, and property managers.

Housing is a major source of small business investment and employment across Canada. Construction aspects alone account for roughly 2 to 3 percent of the economy in all regions. Construction and renovation businesses tend to be small and decentralized.

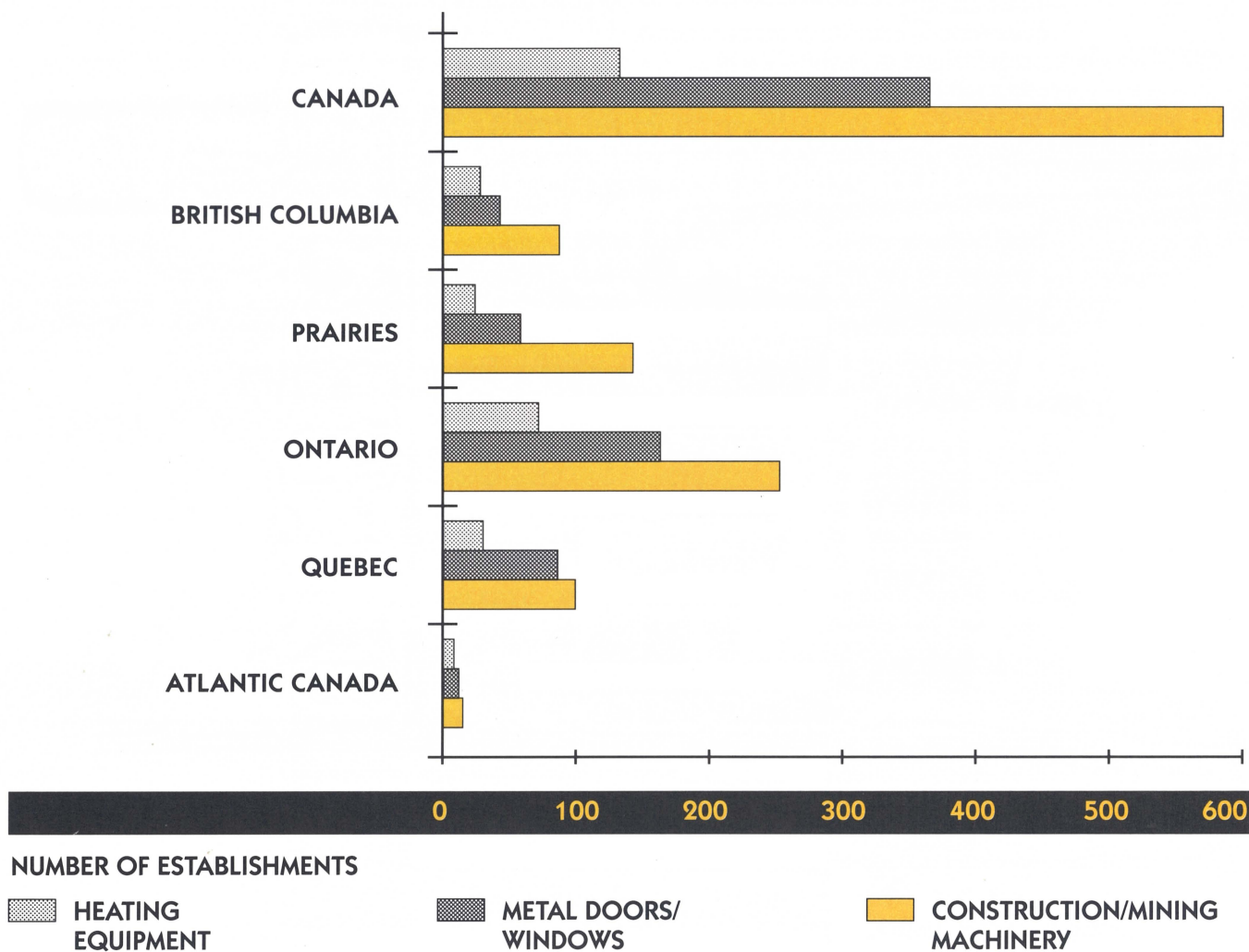
However, as in the case of housing finance, high value-added "strategic" components of the industry tend to be based mainly in Southern Ontario and Quebec. These include the manufacture of metal doors and windows, heating equipment, and construction machinery and equipment. (Chart 10)

While the data to track the basic phenomena are scarce and partial, it would appear that, on the whole, technological innovation and productivity growth occur more rapidly in those regions too. The net effect is to reenforce rather than to counter other patterns of economic development that lead to regional disparities.

5. For example, the Yukon Government developed a "buy-back" program to support a home-ownership market in the midst of fluctuating cycles in mineral prices and economic uncertainty.



**CHART 10 "STRATEGIC" HOUSING-RELATED INDUSTRIES LOCATED MAINLY IN CENTRAL CANADA 1988**

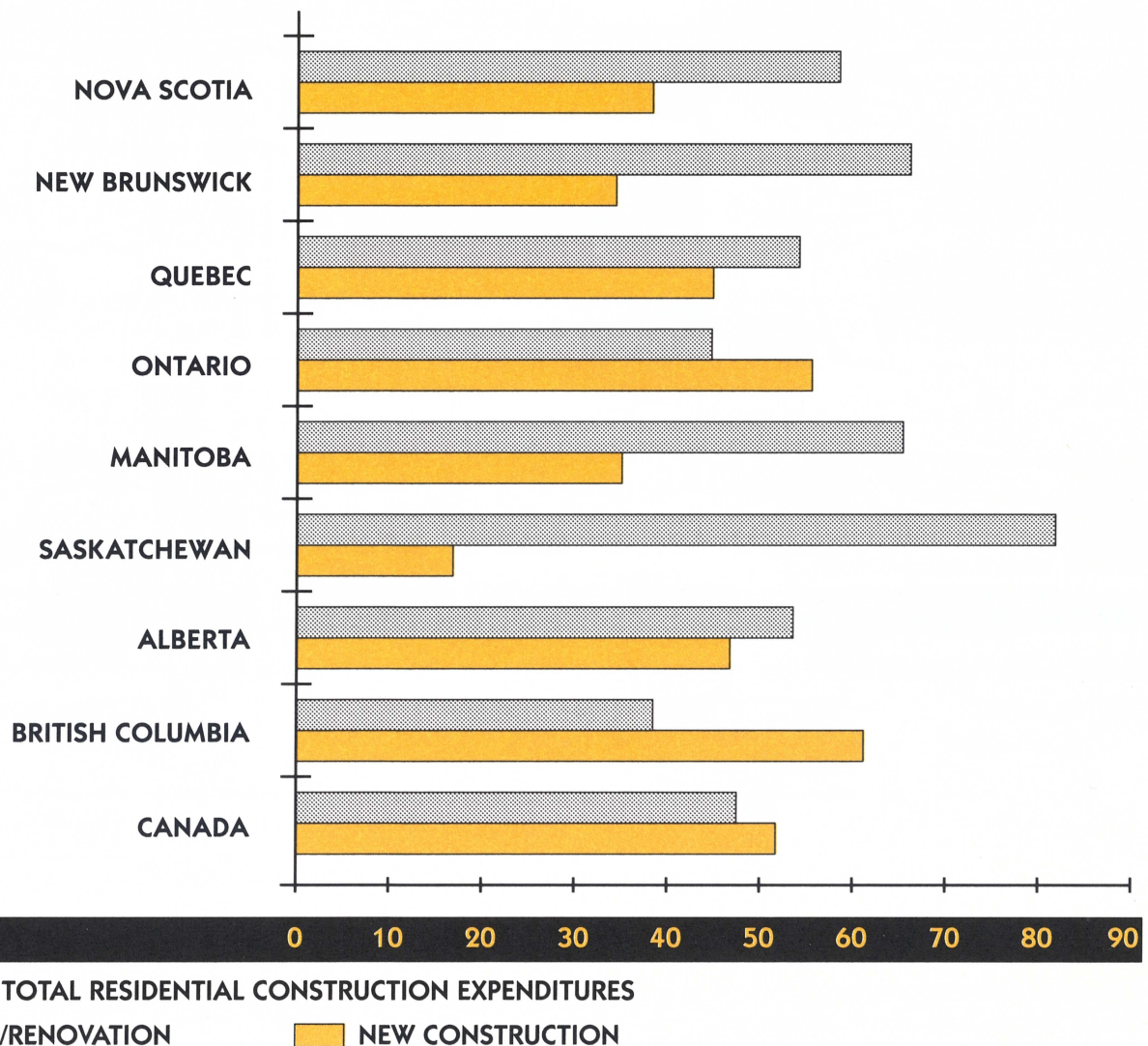


Source: Statistics Canada, Catalogue 31-203



Because of the ease of entry for new firms, and the need to counter local pressures toward deterioration, the *home renovation industry* will probably continue to be a factor in promoting more diverse community economies in the future. That is, it may help to broaden the nature of employment opportunities in rural service centres, in small towns and other centres with limited prospects for diversified types of business investment. Chart 11 shows how much of this shift is already a reality in such provinces as Saskatchewan.

**CHART 11 HOME RENOVATION AND REPAIR BUSINESS VITAL IN SLOWER GROWTH PROVINCES 1989\***



Source: Statistics Canada, Catalogue 64-201

\* Note: Data not available for Newfoundland and PEI.



## 12. HOUSING TECHNOLOGY AND DESIGN

Historically, housing technology was closely related to the traditions of the immigrants who came to Canada and the readily available materials they found.

Canadian woodframe construction and poured-in-place or modular high-rise technologies have now come into use across the country and have supplanted both aboriginal and immigrant housing technologies. Some early generations of the new technology—particularly the higher-density forms—tended to follow rather bland or conventional designs, the housing equivalent of the “Yale box” in commercial and institutional architecture.

A continuing marketing emphasis on housing as a means of showing improved socio-economic status, coupled with a scarcity of urban land and changes in architectural concepts, has led to a variety of multiple-unit forms in “Post-Modern” style. This now competes with traditional designs and facades. From the available data, few regional differences are apparent in the overall design trends. However, Post-Modernism *has* facilitated the use of cladding and facades which “harken back” to the cultural heritage of given regions.

The most significant regionally variable technological changes on the horizon are those associated with creating a more *environmentally friendly* house. In this field, the comparative advantages may lie with regions where the population already prefers smaller and less ostentatious housing. In the past decade, some of the most significant technological advances to lower environmental impact have come from regions outside of Central Canada, or have been inspired by their needs. For example, there is the work of the National Research Council/Saskatchewan Research Council on energy-efficient housing in Saskatchewan.

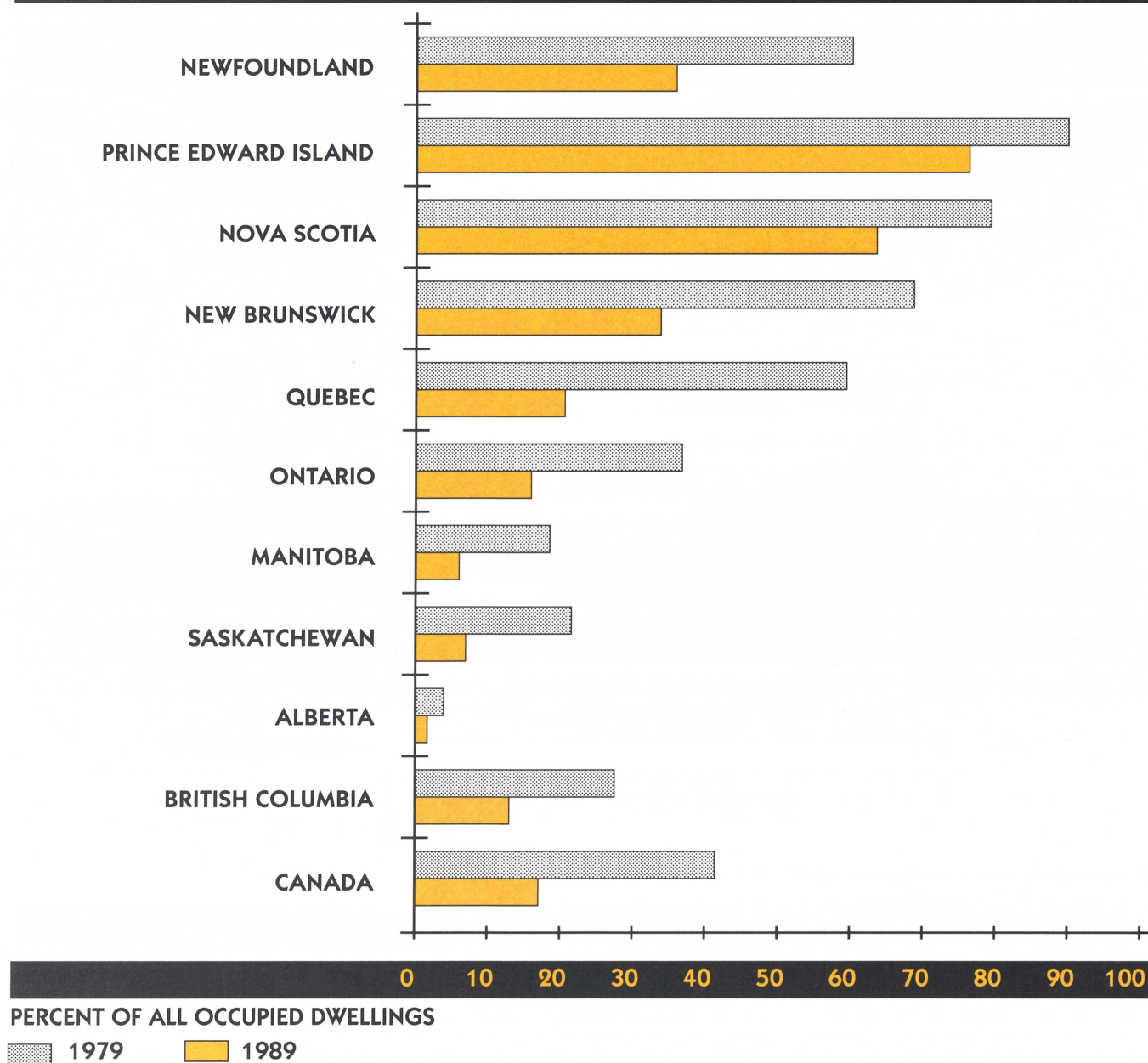
The traditional emphasis of policy analysts and the research community on the *process of construction* does not prepare one very well for the new concern about the environment and housing. That is, the main environmental concerns often having to do with the *contents* of the house, its *daily operation*, its *site services* and its *demolition*. For example, the use of ozone-destroying chlorofluorocarbons in more than 9.4 million refrigerators, 5.5 million freezers and 2.3 million air conditioners is a looming issue.<sup>6</sup>

6. Data are from Statistics Canada, *Household Facilities and Equipment, 1989* (Ottawa: Minister of Supply and Services Canada, 1989).



A major aspect of housing's impact on the environment, and one in which there is the greatest amount of regional variation amongst all factors considered in this study, is energy use by type of fuel. This has, of course, received continuing attention since the "energy crisis" of the 1970s, when the shift from oil to natural gas and electricity was actively promoted. (Chart 12) You can see that movement away from oil heating has taken place in all regions, but substantial differences remain.

**CHART 12 DECLINE IN USE OF OIL FOR HOME HEATING 1979 TO 1989**



Source: Statistics Canada, Catalogue 64-202



The focus of relevant innovation in many aspects of housing and the environment over the past decade has probably been in the *energy generation and distribution* or *manufacturing* sectors, rather than among private home-builders.

However, much of what we have learned from energy conservation efforts can now be applied, with modifications, to the new environmental agenda for housing. Public sector organizations, like CMHC and Energy, Mines and Resources Canada, are already very actively engaged in promoting a shift from energy conservation to the environmental agenda and associated technologies and practices. Both the Healthy Housing Design Competition and the Advanced Houses Program, for example, encourage regionally sensitive solutions to housing/environment problems.

Some contradictions between energy conservation and environmental protection goals—such as problems arising from the “volatile organic compounds” (VOC’s) resulting from using wood for fuel—have different regional implications as a pollution source and need to be resolved.

### **13. HOUSING AFFORDABILITY**

Housing affordability needs to be considered from two different perspectives: the *current occupants* of dwellings, and *new entrants* to given markets.

In the first group, the data on those paying over 30 percent of *income* for rent suggest that affordability is driven more by a combination of regional location and incomes than by *housing costs*. That is, regions with lower average household incomes tend to have *greater* rental affordability problems than those with higher incomes.

In 1986, the proportions of tenant households paying over 30 percent of income for rent were higher in Newfoundland, Prince Edward Island, New Brunswick, Nova Scotia and Quebec than in Ontario, by a significant margin. Rents were higher in Southern Ontario, but so was the capacity to pay them. Similarly, all provinces in the Prairie region experienced higher proportions of tenants with affordability problems than Ontario. The sole exception to this pattern was British Columbia, with the highest proportion of tenants with affordability difficulties in the country—44.2 percent.

In the case of *new entrants* to major urban markets, at the end of the 1980s, younger renters seeking to own in Toronto, Oshawa, Kitchener, Victoria and Vancouver, clearly, faced the greatest barriers. Fewer than 10 percent of these renters could afford to buy a starter home, according to CMHC calculations.

By contrast, first-time home ownership appeared open to a third or more of the renters in such markets as Saskatoon, Regina, Winnipeg, Windsor, Chicoutimi-Jonquière and St. John’s.

The affordability problems of many lower-income people in *all* regions are neither fully nor directly addressed by developments in the private rental market because their incomes are too low to afford even lower-end-



of-market rents. However, the decline in the numbers of 18- to 24-year-olds now underway across Canada is being experienced first in the slower-growing regions.<sup>7</sup> As a result, some remaining low-income affordability problems in these markets may be resolved through reallocation of the existing rental stock. For example, in most urban Saskatchewan markets adequate rental housing is available at affordable rents.

Higher rental vacancy rates, because of the trend toward fewer young people entering the market, could result in increased attention to techniques which focus on the *existing housing stock*.

## **14. PROGRESS IN REDUCING HOUSING DISPARITIES**

As Hans Blumenfeld has indicated, the most significant disparities in housing and living conditions in any society, including Canada, occur among individual *households* living in the same communities.<sup>8</sup> Nevertheless, because of the role of governments in seeking to alleviate interregional as well as interpersonal inequalities, it is important to consider the question: are disparities in housing across Canada's regions becoming narrower or wider?

The three most common indicators of housing need, employed daily by housing policy analysts across Canada, are: "affordability," "suitability" and "adequacy." Taken together, they offer *one* basis for considering the relative progress and continuing disparities among different regions in improving housing and living conditions. Such indicators offer, by no means, the *complete* picture of progress and cover a relatively short timeframe.

In terms of affordability, housing conditions in Canada as a whole *worsened* between 1981 and 1986, based on the numbers of tenant households paying over 30 percent of income for rent. According to Chart 13, the change in affordability was most significant in one of the highest-income provinces, British Columbia, and in the lowest, Newfoundland.

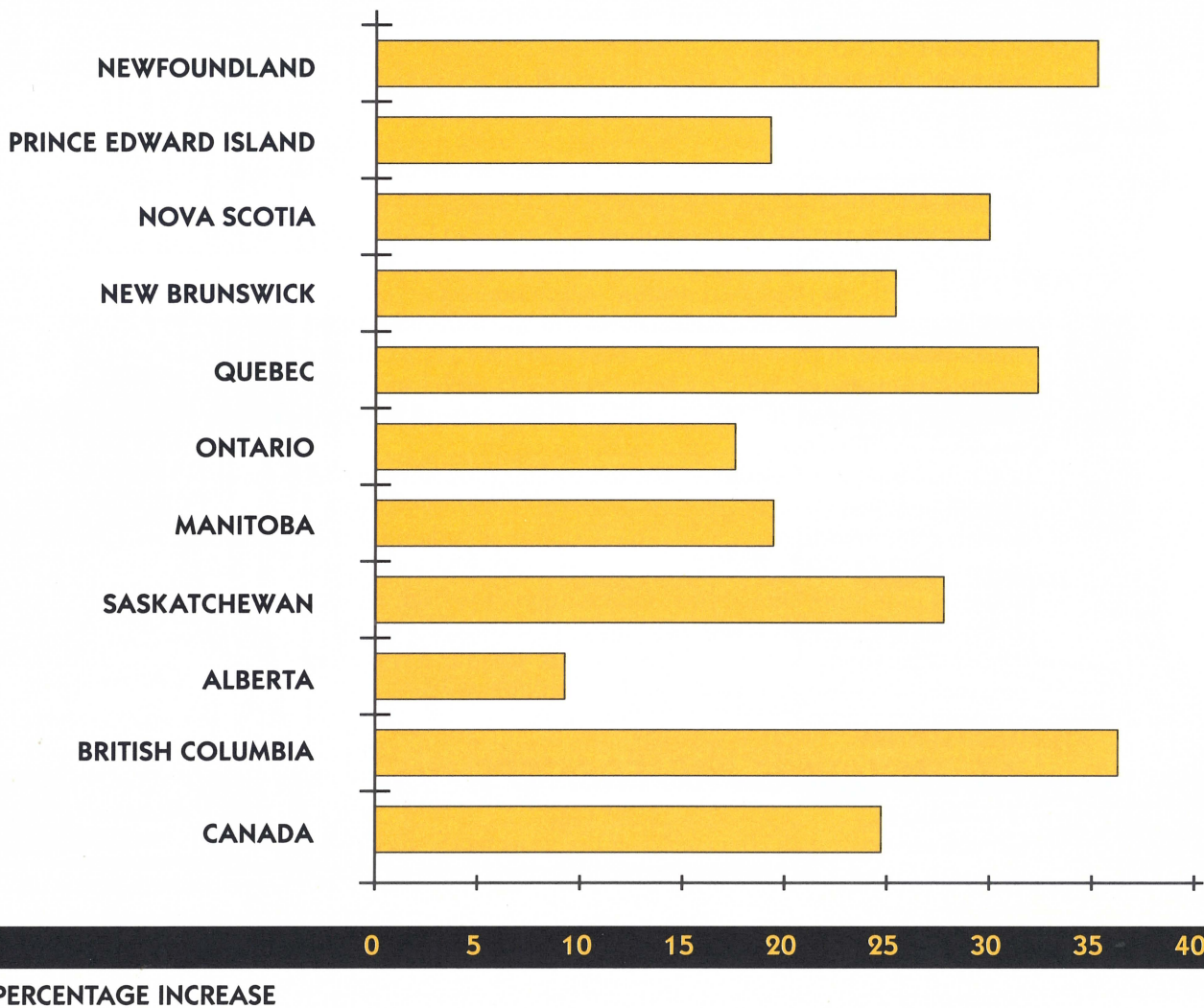
The comparatively low rate of increase in Alberta shows the impact of the deep recession in the energy sector: lower rents and higher vacancy rates. The contrast in the rates of increase between Ontario and Quebec suggests the continuing importance of regional income disparities in determining housing progress.

7. This is illustrated by the vacancy rates for bachelor and one-bedroom units in slower-growth metropolitan markets. They are both the highest in the country *and*, generally, higher than vacancies of larger apartment units in the same markets. See *Canadian Housing Statistics*, 1990 (Ottawa: CMHC, 1991), Table 30.

8. "The Rational Use of Urban Space as National Policy," in *Urban Planning in Transition*, edited by Ernest Erber (New York: Grossman, 1970), p.91.



**CHART 13 INCREASE IN "AFFORDABILITY" PROBLEMS 1981-1986**



"AFFORDABILITY" PROBLEMS: NUMBERS OF TENANT HOUSEHOLDS  
PAYING OVER 30% OF INCOME FOR RENT



The news emerging from consideration of “suitability,” or the match between people and dwelling space, was more hopeful. (Chart 14) In all regions, but the North, there was a reduction in the numbers of “crowded” dwellings, based on a standard of at least one room per person, not counting bathrooms and hallways. The change in Atlantic Canada was especially marked, reflecting both construction of new dwellings and reduced household sizes. Ontario and Quebec again offered contrasting numbers and rates of change. Progress in the latter regions was most substantial in the period *prior to 1981*, so that the rate of improvement appears small during the time covered by this chart.

The data on the physical condition of housing in Canada are based on occupants’ own assessments of the “need for major repairs.”

Chart 15 shows that the reduction in the number of inadequate dwellings was greatest in Ontario, based on the 1982-89 figures.<sup>9</sup> A modest decline in the number of substandard dwellings is shown for Atlantic Canada (except New Brunswick), Manitoba and Saskatchewan. However, the higher-income provinces of Alberta and British Columbia recorded actual *increases* in need for major repairs.

On balance, there would appear to be potential for increased housing disparities across Canada’s regions as a result of economic and demographic trends, particularly in relation to affordability and adequacy of housing. In considering the proportions, called “the incidence,” which different indicators form of the total households in each region, current disparities are evident. Chart 16 gives the incidence of those households—both owners and tenants—in “Core Housing Need,” by province, according to recent CMHC calculations.<sup>10</sup>

## 15. HOUSING PREFERENCES

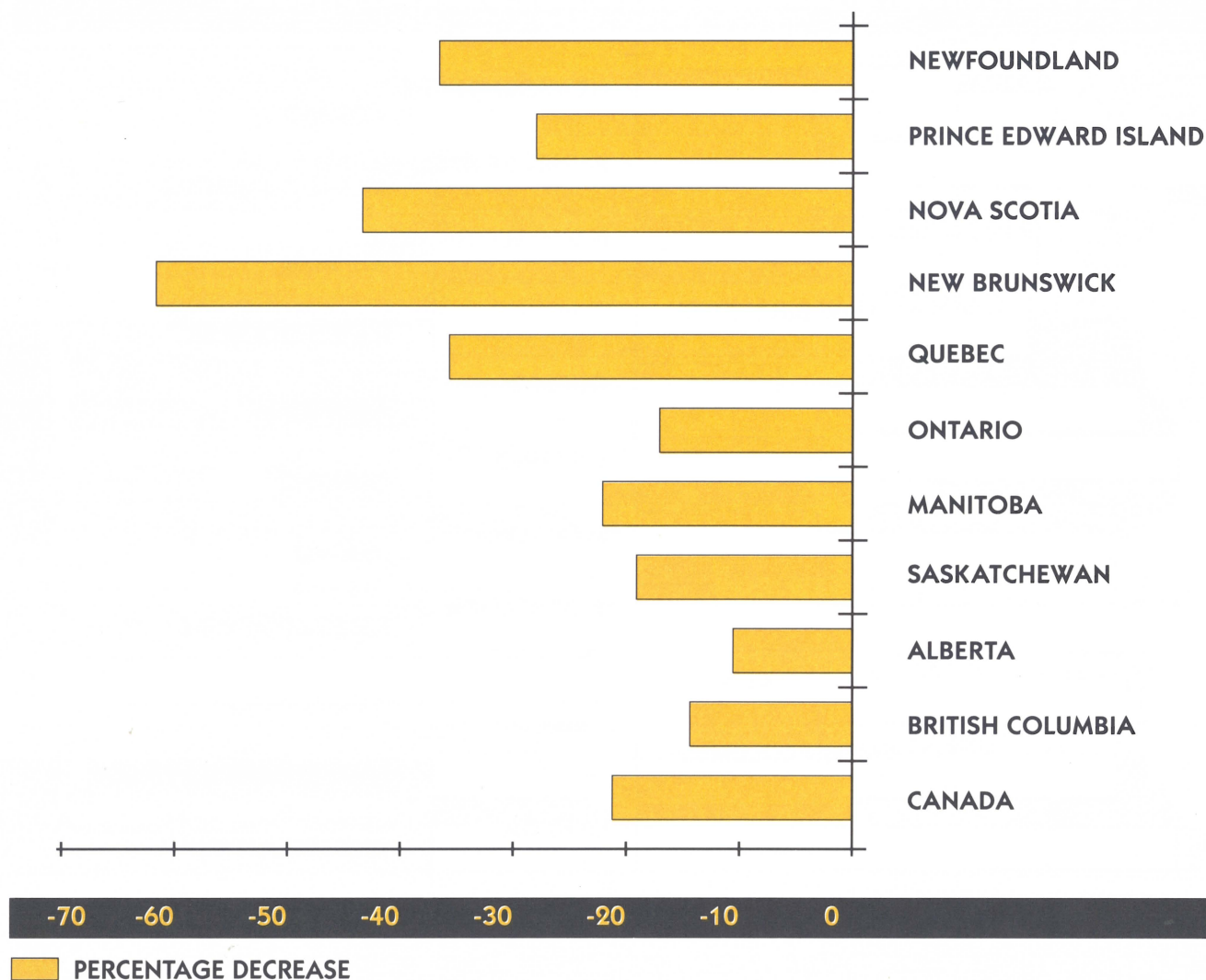
Consumer survey data collected over the years by the Environics Research Group Limited “Homes National” poll indicate that, in different regions, people tend to express preferences most strongly for what they fear they may not get, e.g., quality construction. They also ask for what the marketplace considers to be satisfactory within their community, e.g., generally, smaller units on the Prairies. What is remarkable about the literature on housing preferences in different regions, and in the country as a whole, is that it appears ephemeral and of short-term nature. This appears to be a field in which a solid text is needed (and is highly marketable) to allow governments and industry to identify structural trends rather than simply matters of passing taste. The *environmental aspects* of housing would appear to be an area particularly vulnerable to shifts in public concern.

9. The Prince Edward Island figures should be treated with some caution because they are based upon a small sample size. See Statistics Canada, *Household Facilities and Equipment, 1989* (Ottawa: Minister of Supply and Services Canada, 1989), p.31.

10. “In core housing need” means a household is unable to obtain market housing in adequate condition that is suitable in size and affordable. “Adequacy” is defined in relation to the presence of indoor plumbing and the state of repair, “suitability” in relation to the number of bedrooms for household size and composition, and “affordability” in relation to whether 30 percent or more of income is being spent on shelter.



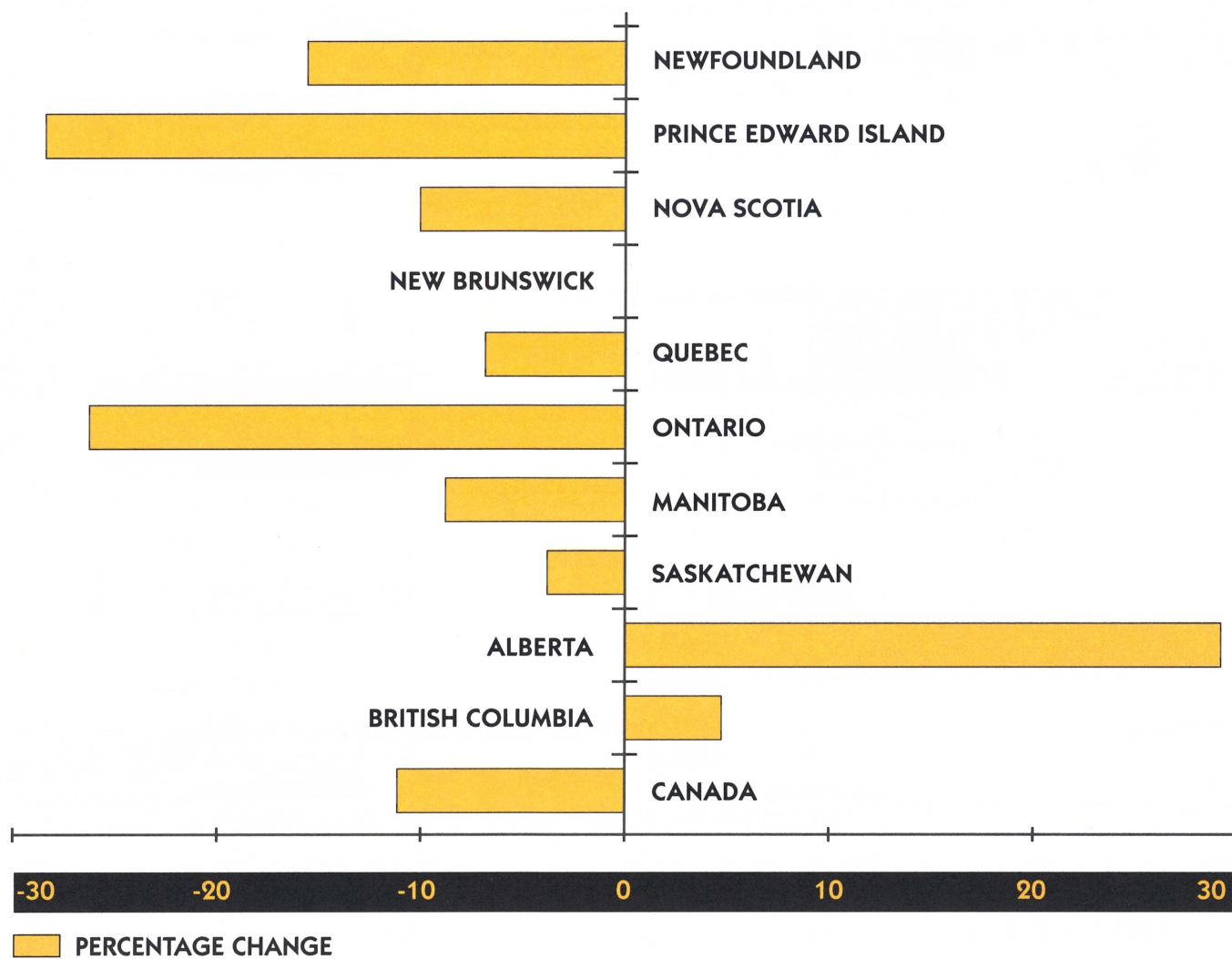
**CHART 14 REDUCTIONS IN "CROWDING" 1981-1986**



"CROWDING": NUMBERS OF DWELLINGS WITH MORE THAN ONE ROOM PER PERSON



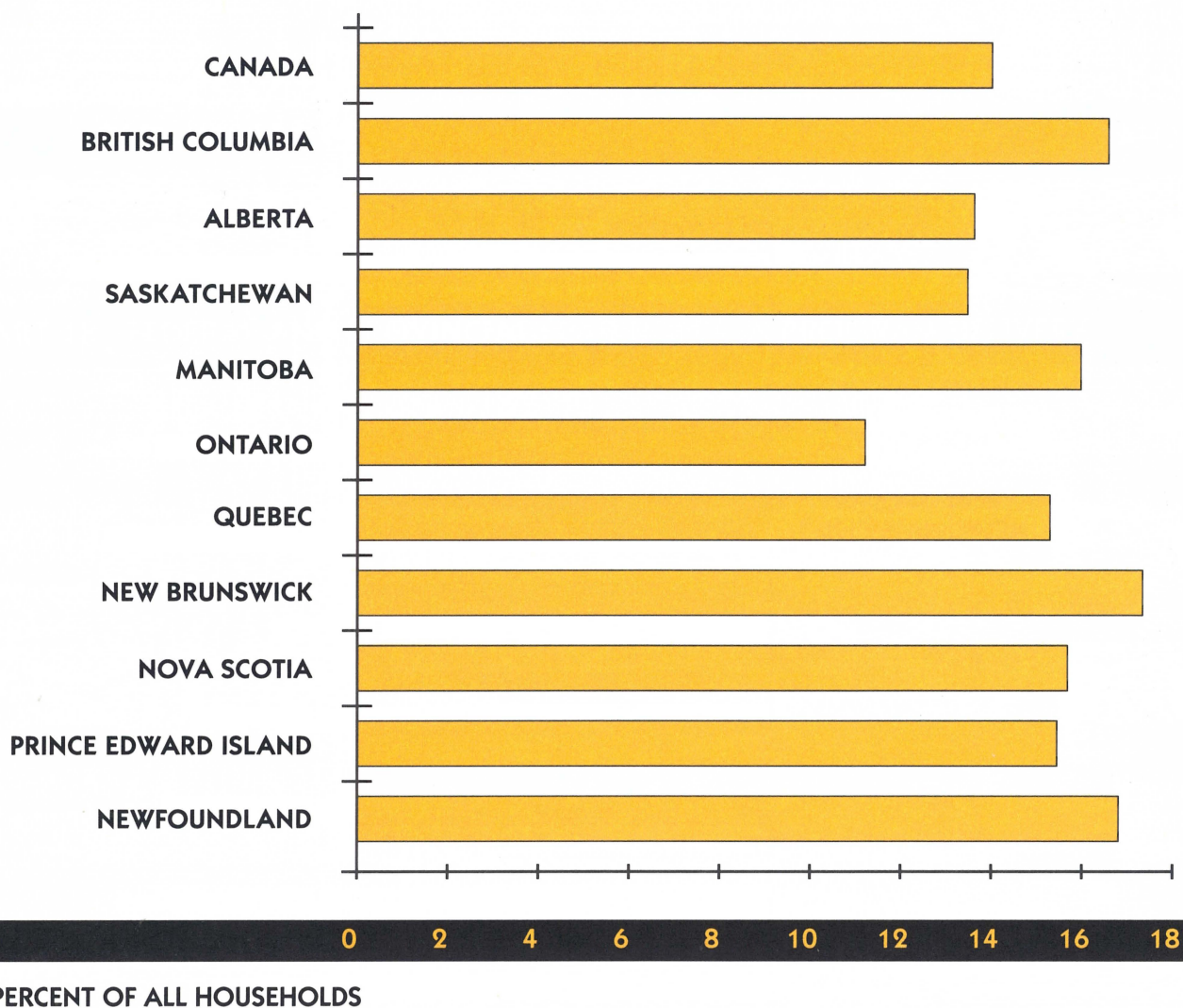
**CHART 15 MIXED TRENDS: DWELLINGS IN NEED OF MAJOR REPAIRS 1982-1989**



Source: Statistics Canada, Catalogue 64-202



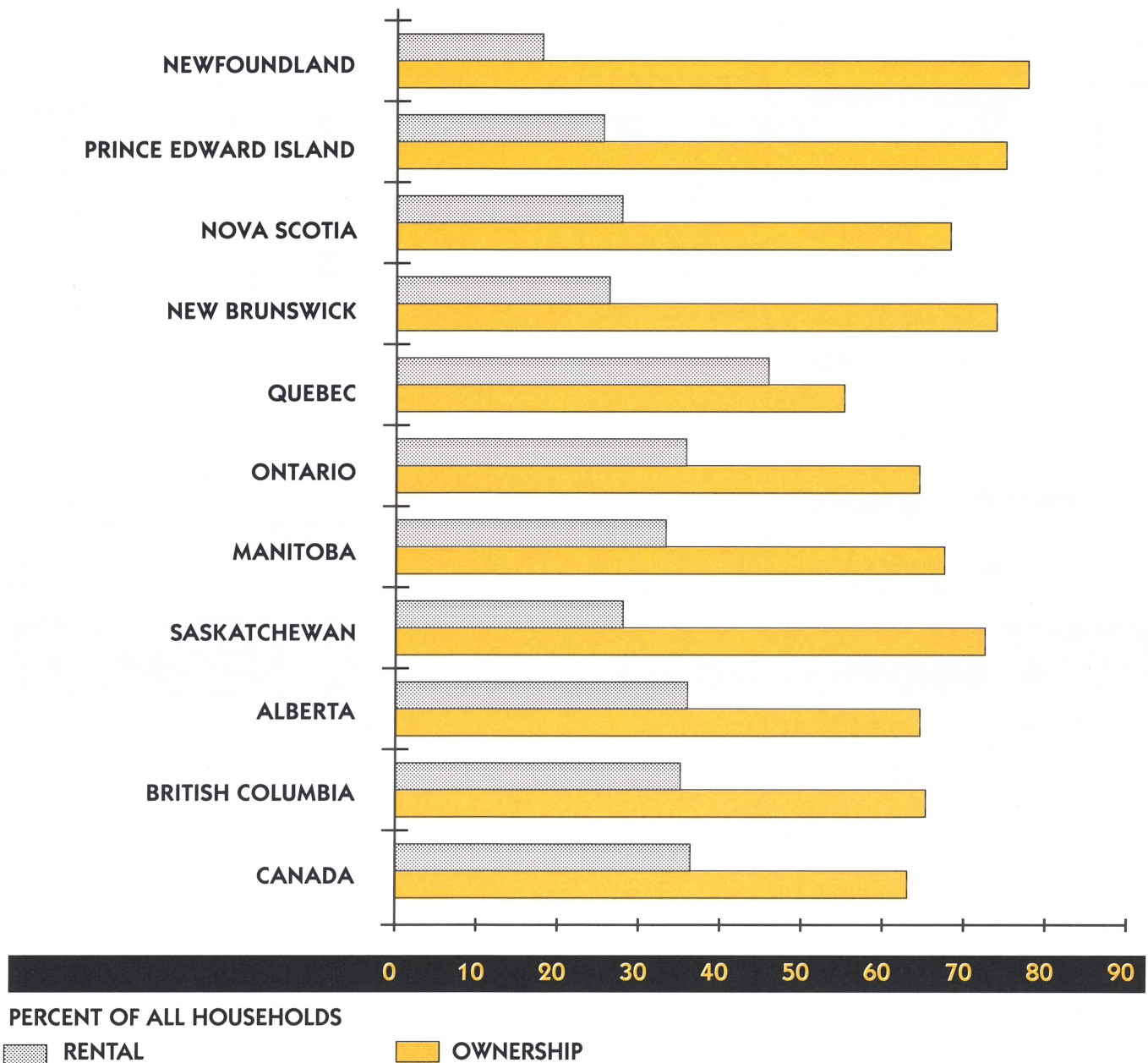
**CHART 16 LARGEST PROPORTIONS OF ALL HOUSEHOLDS "IN CORE NEED" IN ATLANTIC CANADA, BRITISH COLUMBIA AND MANITOBA 1988**





*Tenure* is clearly one of the major aspects of housing preferences and one of some significance in setting different regions apart. In particular, there is a significantly higher proportion of renters in Quebec, which has persisted over time, despite such innovations as condominium ownership. (Chart 17) Note, however, that the patterns in centres outside of Montreal and in rural areas of Quebec tend to be much more like those in the rest of Canada, with dominant proportions of owned dwellings.

**CHART 17 RENTAL AND OWNERSHIP PATTERNS VARY BY REGION 1989**



Source: Statistics Canada, Catalogue 64-202



## 16. PRESSURES FOR GOVERNMENT ACTION ON HOUSING

EnviroNics Research Group Limited polling shows clear regional differences across Canada in the readiness for government intervention in housing markets. The greatest support is in Toronto, Montreal and Atlantic Canada, the least is in the West and the rest of Ontario.

A region-by-region structure of government policy and programming has been established in Canada, whether operated through stand-alone provincial activities or through regionally sensitive federal programs, e.g., using market-by-market limits on housing unit costs. (Chart 18)

**CHART 18 FEDERAL AND PROVINCIAL LEAD ROLES IN PROGRAM DELIVERY**

PROV./ TERR.	NON- PROFIT	RENT SUPP.	URBAN NATIVE	RURAL/ NATIVE	RRAP	ERP
NEWFOUNDLAND	P	P	P	P	P	P
P.E.I.	F	F	F	F	F	F
NOVA SCOTIA	P	P	F	F	F	F
NEW BRUNSWICK	P	P	F	P	P	P
QUEBEC	P	P	P	P	P	P
ONTARIO	P	P	F	F	F	F
MANITOBA	P	P	F	F/P	F	F
SASKATCHEWAN	P	P	F	F	F	F
ALBERTA	P	P	F	P	F	F
BRITISH COLUMBIA	P	P	F	F	F	F
YUKON	T	T	F	F	F	F
NORTHWEST TERRITORIES	F	T	F	T	F	T

### LEGEND:

"NON-PROFIT" = Non-profit and co-operative housing programs targeted to those "in core need"

"RENT SUPP." = Rent Supplement program to provide subsidies to cover the difference between market/economic rents in private or non-profit rental accommodation and what the household can afford to pay

"URBAN NATIVE" = Version of Non-Profit Housing Program targeted to natives living in urban areas

"RURAL/NATIVE" = Program to promote ownership, rental and lease-to-purchase arrangements in centres under 2 500

"RRAP" = Residential Rehabilitation Assistance Program: subsidies and loans to bring dwellings to basic standards

"ERP" = Emergency Repair Program: assistance for very basic repairs 'til more extensive rehabilitation can be done

"F" = Federal lead role via Canada Mortgage and Housing Corporation

"P" = Provincial lead role

"T" = Territorial government lead role

"F/P" = In Manitoba, delivery is divided along geographic lines for this program.

Source: Canada Mortgage and Housing Corporation



Opinion polls show the public is fairly comfortable with *provincial* leadership in housing matters or, in the case of Quebec, with municipal and provincial leadership. A number of emerging transregional issues remain. Such issues include: changes in the technology of housing; international trade in Canadian areas of strength in housing products and services; environmental problems shared across provincial boundaries; and new forms of housing finance. Currently, governments and the housing industry are addressing these topics.

## **17. CONCLUSIONS: THE IMPORTANCE OF REGIONAL DIFFERENCES**

Certain dramatic regional differences in Canadian housing persist, but appear to be largely taken for granted, or grasped intuitively, and “worked around” by individuals, firms and governments alike.

Major historical *disparities* in housing conditions, to the extent these can be measured by indicators of facilities and crowding, etc., have diminished. Many are now falling below the level at which a sample survey can capture them accurately.

The topic of regional differences in housing and urban development has declined as an issue of concern. In part, this is because of the focus on their existence by federal institutions—such as the Department of Regional Economic Expansion and the Ministry of State for Urban Affairs—has disappeared. As well, real improvements have taken place, and, in part, people consider other issues to have higher priority.

Significant policy and program adjustments have been made to federal housing programs in an attempt to avoid, or modify, “top-down” programming, e.g., via global agreements and joint planning among federal and provincial governments. Federal programs also have explicit variations to take regional differences into account on prices, income levels and rents.

Research and policy attention, according to the opinions of experts in the housing field, appear to have shifted to the *subregional* level within provinces, due to the dynamics of major metropolitan centres and a concern about the polarization of the economies of the Northern and Southern portions of most provinces.

The 1990s could well see a *return to regional differences as an issue* of housing policy and planning from a number of perspectives.

First is the continuing shift in the economy, particularly in Southern Central Canada, toward a high-technology-based economy for manufacturing and services. This may help contribute to increasing disparities which will, in turn, result in slippage of the housing improvements made over the past four decades. However, lower housing costs in some other regions may also create new opportunities for growth through immigration, if employment can also be offered.

A closely related development concerns the demographic change, especially the “aging” of the population. Will there be an acceleration of community decline, leading to a “trapped” population without the means to support community services or the housing equity to move elsewhere?



In this context, the kind of *community environment* offered by a residential area will likely become even more important in determining whether it continues to grow or decline.

There is a potential for polarization into young immigrant-driven metropolitan and major urban areas and elderly small towns. Disproportionate shares of the latter could remain in Atlantic Canada, several regions of Quebec and outside the metropolitan corridors on the Prairies. Charts 19 and 20—province-by-province results from CMHC household projections—show this hypothesis.

In Chart 19, it can be seen that the numbers of households led by younger people could decline most rapidly in Atlantic Canada from 1991 to 2011. In addition, overall proportions there would be the lowest in Canada, ranging from 3.0 percent in Prince Edward Island down to just 1.8 percent in Newfoundland.<sup>11</sup> Chart 20 sets out patterns of long-term growth among the elderly population. At least to the year 2011, they do *not* conform to the expectations just mentioned. The highest rates of projected growth are in Alberta, British Columbia, Ontario and Quebec, as well as in the Territories. However, it is evident that a continuing loss of younger people would lead to more dramatic increases in the proportions of elderly persons in Atlantic Canada in the next century, much of which would likely occur in smaller centres and rural areas.

A key question for policy analysts and researchers alike is: Which regional differences really matter? Based on the analysis offered in this report, they are the following:

- Those which reflect widening of previously narrowed disparities, e.g., increased income differences leading to increased affordability problems.
- Those which contribute to, or reflect, widening gaps between the quality of life in smaller centres and rural areas and that of major urban centres.
- Those which affect national unity and identity, e.g., a sense that one region is getting “more than its fair share” of available housing funds.
- Those which need to be addressed by different program arrangements, environmental regulations, design, construction and so on, e.g., the North.
- Those which add to the interest and diversity of Canadian life or increase attractiveness to tourists, e.g., regional variations in residential architecture.

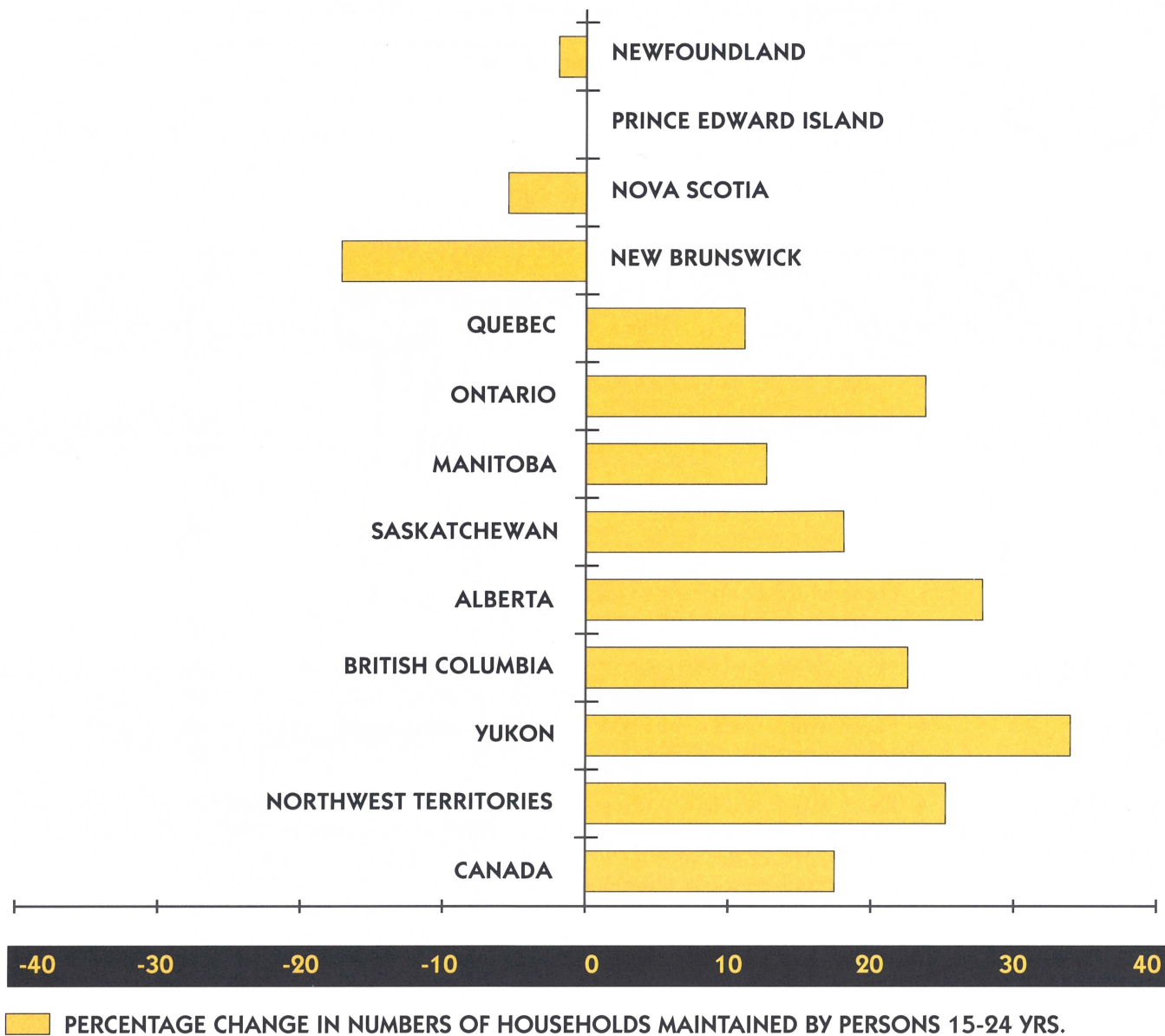
In summary, regional differences in housing are here to stay. They are not something to be resisted or eliminated. They are an inherent part of the functioning of the national housing system. To the extent that they confer particular competitive advantages on given regions, adding to their attractiveness and increasing resiliency or “capacity to cope,” regional differences may well be the objects of active promotion.

However, to seize the opportunities inherent in regional differences, first we need to be aware of them through adequate research, then to adopt a policy focus which begins outside the housing field per se, e.g., in economic, demographic or environmental analysis, and, from there, work back to regionally sensitive housing solutions. Greater awareness of regional differences in housing thus also leads toward a greater appreciation of the multidisciplinary nature of this important subject.

11. Note, as well, that substantial populations of aboriginal people in the Prairie region push the proportions of households led by younger people in the year 2011 above the national average of 4.0 percent. The numbers are: Manitoba, 4.7; Saskatchewan, 6.0; Alberta, 5.7.



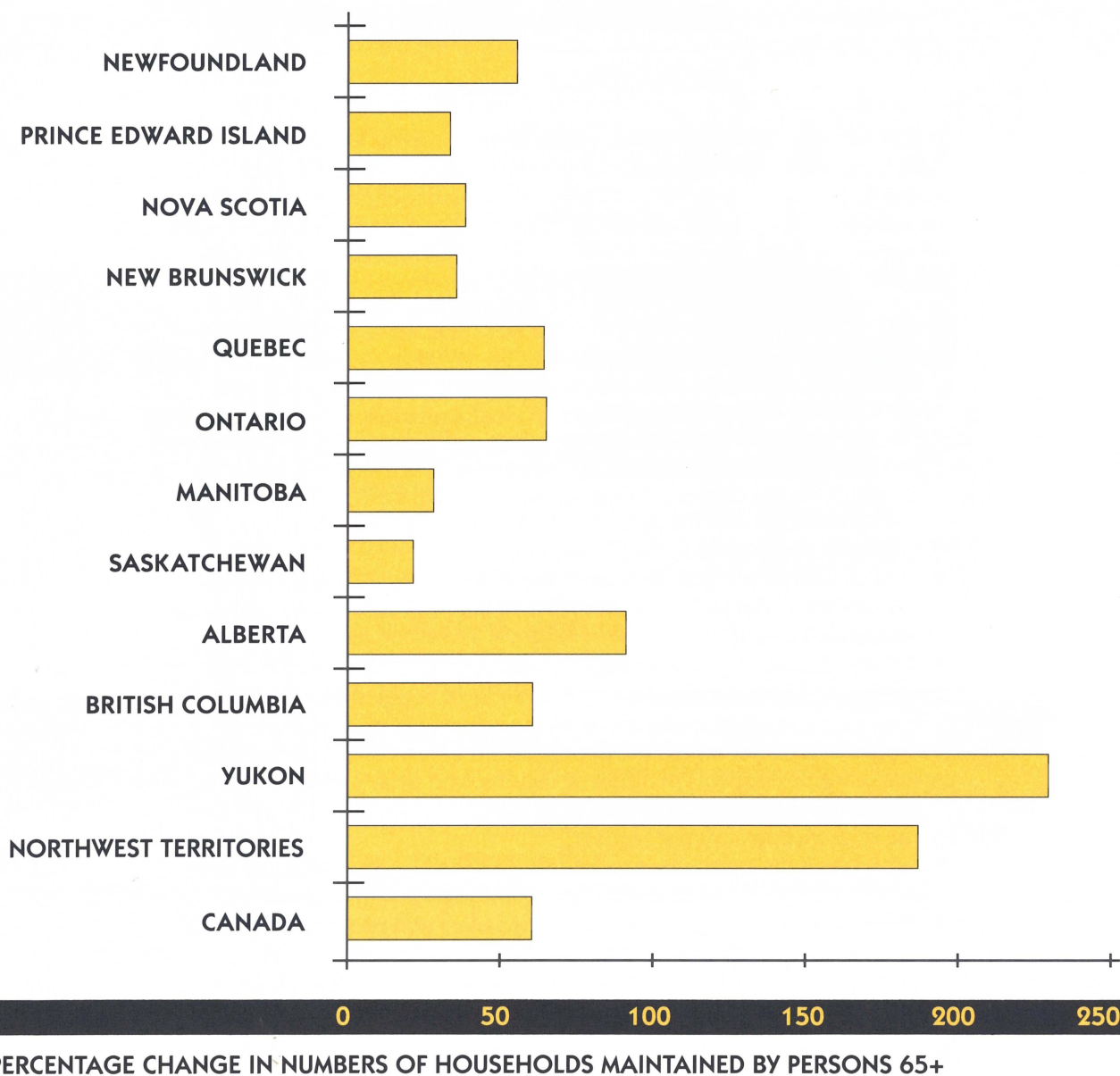
**CHART 19 DECLINE IN HOUSEHOLDS MAINTAINED BY YOUNGER PERSONS  
IN ATLANTIC CANADA 1991-2011**



Source: CMHC, *Potential Housing Demand Projections*



**CHART 20 MOST RAPID GROWTH NUMBERS OF HOUSEHOLDS MAINTAINED BY ELDERLY PERSONS IN TERRITORIES AND ALBERTA 1991-2011**



Source: CMHC, *Potential Housing Demand Projections*



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## ***ANNEX A: PROPOSED AREAS FOR FUTURE RESEARCH ON REGIONAL DIFFERENCES IN HOUSING***

It is rather easy to call for “more research” in a general way, but more difficult to select specific topics for priority attention. The following research questions, raised in the author’s own order of priority, are based on close to three years of considering the topic and on consultations with others in the field. They are intended for consideration either as distinct projects in their own right or as elements in other research.

### **Higher Priority: Vital to Current Understanding and Policy Decisions**

- What are the housing aspects of ongoing regional economic disparities? Are these widening or narrowing? If they are widening, what are the apparent causes?
- Do regional differences in housing prices and values have an impact on interregional migration? If so, do they act as stabilizers, e.g., reduce pressures on “overheated” economies, or do they contribute additional instability? Do firms move in relation to housing prices, or are these normally outweighed by other considerations?
- How do different regional economic cycles affect investor and lender confidence in housing as an asset? Are some regions less favoured than others by lenders?
- What is happening in communities and regions with an established pattern of declining population? Is the loss of population leading to cumulative economic and social effects which are self-reinforcing?
- How will regional variations in population growth affect the housing markets and prospects of different regions, and what pressures on provincial governments are likely to occur as a result? Will these affect the relationship amongst regions?
- Which regions are the first to innovate in the housing field, and what significant variations in design and technology persist as a result?
- How do the emerging issues of housing policy and programming, such as reduced environmental impact of housing development and operation, affect different regions, and how can these differences be addressed most effectively?

### **Medium Priority: Useful for Program Evaluation and Ongoing Policy Analysis, and as Grounding for Major Research Projects**

- What are the region-by-region long-term trends in key housing indicators?
- Do regional variations in the numbers and composition of special need groups help account for regional differences in affordability, along with poverty?
- What is the relationship between regional differences in poverty rates and the affordability of housing?
- How do different provincial governments respond to market pressures and failures with housing programs? How do regional differences in



planning and regulation of housing delivery affect the overall results achieved?

- What literature is available on the housing conditions, trends and problems in each region?
- Which differences are most important in considering the transfer of research results from one jurisdiction to another, interregional or sub-regional?
- Aside from that supplied by Statistics Canada, CMHC and similar national data series, what other data series and unpublished sources exist which could offer interregional perspectives on housing, living conditions and trends, e.g., welfare caseloads?
- How are regional variations in affordability related to housing characteristics and occupancy patterns?
- How are housing conditions and problems evolving in the non-metropolitan and rural areas of each of the regions in the country, as compared to the metropolitan regions?
- Are patterns of overall industry structure found in given regions also found in the housing industry? Does the degree of concentration of economic control also affect the housing industry?

**Lower Priority: Interesting to Know More About, and to Round Out the Canadian Literature**

- When given a choice of amenities at the same cost, do people in regions tend to pick the same things or different ones? In general, what are the persistent patterns in regional housing preferences?
- How have major lenders and development corporations been influenced and shaped by their regional locations and the regional pattern of their operations?
- How and why have the different provincial housing agencies evolved in the way they have?
- How did regional differences in housing design, technology and building practice develop, and how significant are they today?
- What, precisely, are the drivers of regional differences, and how do patterns of investment, local housing industry structure and government regulation figure in these?



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## ***ANNEX B: A CHECKLIST FOR POLICY ANALYSTS IN APPLYING RESULTS OF CANADA-WIDE AND REGION-SPECIFIC RESEARCH***

### **Considering Your Own Situation**

- Are there likely to be major differences in conditions which must be addressed by the policy? How will these differences be addressed? How have others in similar regions addressed the issues of climate, topography and isolation?
- What is the rural-urban split of population in the areas in which the policy is to be implemented/evaluated?
- Is the process of urbanization continuing or has it stabilized?
- To what extent do the housing solutions adopted need to differ according to whether clients are rural or urban?
- What is the economic base of the communities in which the housing policy is to be implemented/evaluated?
- Are there world commodity cycles which will affect the ability of the program clients to pay for housing or to resell their dwellings?
- What role does housing itself play in the economy of the communities concerned?
- How have other regions with a similar economic base addressed the housing problems being experienced?
- What housing institutions exist at the moment?
- Are they at a comparable stage of development with those in similar regions elsewhere?
- Which institutions appear to be comparatively less developed: planning; land development; standards development and enforcement; housing program delivery; housing research and development?

### **Applying Policy and Program Results from Aggregate Studies and Other Regions**

- Is the intervention idea being considered for transfer geared to a growing, stable or declining population?
- Does the intervention assume that the reallocation of new production will help to resolve the problem in question? If so, is this realistic, based on a twenty-year time horizon, i.e., how long will it take new production to “resolve the problem” at a reasonable rate of future growth?
- Does the intervention relate to the particular needs of immigrants/long-standing residents best?
- Does the intervention assume continued stability in housing conditions? What provisions does it make for the need to target assistance more precisely to declining communities?
- What is the basic motivation of those entering the housing market in which the transferred idea will operate: to minimize shelter costs with acceptable quality, or to demonstrate acquisitive success?



- 
- How diverse is the economy underlying the housing market where the intervention now operates? What international or regional events could turn the economy around and invalidate the results or cast them into serious question?
  - Is the market in which the intervention now operates part of a larger urban regional system, or is it fairly isolated and insulated from “spill over effects,” such as those which flow from Toronto to Oshawa and to Brampton?
  - Are there regulatory or other intervening factors making the market in which the intervention now operates unrepresentative, e.g., the largest employer owns the bulk of the housing stock?
  - How confident or risk-averse are investors, builders and lenders in the market in which the intervention now operates? Are they similarly confident/risk averse in your market?
  - How many of the economic benefits of the intervention under consideration “leak” to other regions? Would the same or more spill over occur in your own?
  - Is the ownership structure of the housing industry in the area affected by the intervention concentrated or dispersed among many smaller firms? How about your own region or area?
  - How quickly are innovations usually adopted by industry or by delivery agencies in the region in which the intervention now operates? How about your own region/area?
  - If the intervention under consideration focuses on the new production of housing, is this relevant to your situation? Could better allocation of the existing housing stock offer an alternative at lower cost?
  - At what rate are special housing needs increasing in the region within which the intervention operates, compared to your own? Does the intervention have the flexibility to address special needs or circumstances? Is the institutional network for addressing such needs well-developed or weak? Is its focus on prevention or response after the fact?
  - How does the rate of housing progress, when measured by indicators of affordability, suitability and adequacy in the region where the intervention now operates, stack up in relation to your own?
  - Have consumers affected by the intervention been surveyed or consulted about results? If so, are the consumers involved similar to those you have in mind for your own intervention?



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## **ANNEX C: WHAT ARE THE LARGEST REGIONAL DIFFERENCES?**

Throughout the companion Background Report associated with this study, detailed tables of data illustrate and document regional differences. For the most part, such tables compare the regions in a way that removes the obvious differences in size in order to see what is going on within the individual regions compared to the whole.

Where comparable data are involved, an “Index of Regional Variation” has been calculated, as appropriate, simply by summing the percentage points by which each province differs from the Canadian average. Unfortunately, consistent data series on the Northern Territories were not available, so they have not been included for purposes of calculating the Index of Regional Variation.<sup>12</sup>

If each region yielded exactly the same value, the Index of Regional Variation would be zero. *Total* variation in which five provinces were at -50 points from the national *average* and five at +50 points would yield a maximum index of 500. Another way of thinking about the indices is that, divided by 10, they show the average percentage difference between the various provinces and the national norm.

In the table which follows, the Indices of Regional Variation from throughout the Background Document have been drawn together and ranked in order, from largest to smallest index or largest to smallest regional variation.

12. Some slight errors may be introduced since the index, in each case, is based on differences from a Canadian average that includes the two Territories. Including the Territories, however, is very unlikely to alter the basic results. It is more than offset by the fact that large differences on such a small population base also could skew the results. That is, apparently large differences created by high percentages in the North, in some cases, are not experienced by more than a minority of the entire population. Recall that the aim is to offer an illustrative basis for assessing the extent of differences, rather than a scientific measure of them.



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***INDICES OF REGIONAL DIFFERENCE, FOR  
SELECTED VARIABLES, RANKED FROM  
GREATEST TO LEAST DIFFERENCE***

VARIABLE	INDEX OF REGIONAL VARIATION
Proportion of households using piped gas as a principal heating fuel, 1989	342.6
Proportion of households using oil as a principal heating fuel, 1989	186.7
Proportion of households using electricity as a principal heating fuel, 1989	183.1
Proportion of population living in urban areas, 1986	137.7
Proportion of population living in rural non-farm areas, 1986	123.2
Proportion of households living in apartments, 1989	118.2
Proportion of census divisions in which population declined, 1981-86	114.2
Proportion of households living in a single-detached dwelling, 1989	112.5
Proportion of households with central air conditioning, 1989	100.5
Proportion of population who moved during 1981-1986	99.8
Proportion of population living in urban centres of 100 000+, 1986	94.7
Proportion of households which are tenants, 1989	89.0
Proportion of home-owner households without a mortgage, 1989	78.8
Proportion of lone-parent families headed by females and paying over 30% of income for rent, 1986	65.8
Proportion of households using wood as a principal heating fuel, 1989	64.4



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## ***INDICES OF REGIONAL DIFFERENCE, FOR SELECTED VARIABLES, RANKED FROM GREATEST TO LEAST DIFFERENCE***

VARIABLE	INDEX OF REGIONAL VARIATION
Proportion of the labour force engaged in manufacturing, 1986	51.6
Proportion of the labour force engaged in primary industries, 1986	43.7
Proportion of population living on farms, 1986	36.4
Proportion of unattached individuals below the "poverty line," 1989	36.2
Proportion of the labour force engaged in service industries, 1986	35.8
Proportion of tenant households paying over 50% of gross income for rent, 1986	29.3
Proportion of labour force unemployed, 1986	28.3
Proportion of all households which were multi-family households, 1986	26.9
Proportion of home-owner households with a mortgage, 1989	21.4
Proportion of tenant households paying over 30% of gross income for rent, 1986	20.7
Proportion of households living in mobile homes, 1989	18.8
Proportion of dwellings in need of major repair, 1989	18.7
Proportion of households composed of one person occupying single-detached dwellings, 1986	18.3
Proportion of family households below the "poverty line," 1989	17.6
Proportion of households living in a single-attached dwelling, 1989	17.5
Proportion of one-family households with additional persons, 1986	16.1



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***INDICES OF REGIONAL DIFFERENCE, FOR  
SELECTED VARIABLES, RANKED FROM  
GREATEST TO LEAST DIFFERENCE***

VARIABLE	INDEX OF REGIONAL VARIATION
Proportion of home-owner households paying over 30% of income for principal payments, 1986	14.0
Proportion of labour force engaged in management and administrative occupations, 1986	11.5
Proportion of households living in dwellings with more than one person per room, 1981	11.4
Proportion of the labour force engaged in scientific and technical occupations, 1986	8.7
Proportion of households living in dwellings with more than one person per room, 1986	5.6
Proportion of home-owner households paying over 50% of income for principal payments, 1986	5.5
Proportion of non-family households consisting of two or more persons sharing, 1986	4.6
Proportion of households composed of nine or more persons, 1986	1.3



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## **ANNEX D: DETAILED REFERENCES FOR CHARTS IN THE TEXT**

- Chart 1: Ecoregions Working Group, Canada Committee on Ecological Land Classification, *Ecoclimatic Regions of Canada* (Ottawa: Minister of Supply and Services Canada, 1989), cover.
- Chart 2: Statistics Canada, *Human Activity and the Environment*, 1991 (Ottawa: Minister of Industry, Science and Technology, 1991), p. 74. The geographic units employed for the map are called "Drainage sub-sub basins." Drainage basins are water catchment areas delineated by heights of land. They provide a basis for measuring indirect effects of human activity, such as residential sewage disposal and water use, as these activities have impacts on other parts of the drainage basins downstream. Ibid., p. 216.
- Chart 3: Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1990 (Ottawa: CMHC, 1991), p. 98.
- Chart 4: Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1990 (Ottawa: CMHC, 1991), p. 93.
- Chart 5: Calculated from Statistics Canada, *Census of Canada, 1986: Population and Dwelling Counts - Provinces and Territories* (Ottawa: Minister of Supply and Services Canada, 1987). Data are from Catalogue Nos. 92-109 to 92-120, Table 2.
- Chart 6: Calculated from Statistics Canada, *Census of Canada, 1986: Population and Dwelling Counts - Provinces and Territories* (Ottawa: Minister of Supply and Services Canada, 1987). Data are from Catalogue Nos. 92-109 to 92-120, Table 4.
- Chart 7: Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*, 1988 (Ottawa: Minister of Industry, Science and Technology, 1991). Data are from Tables 1, 5, 25, 29, 33 and 49. Data from Yukon and Northwest Territories are included in the Canada total.
- Chart 8: Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1989 (Ottawa: CMHC, 1990), p. 7.
- Chart 9: Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1985 (Ottawa: CMHC, 1986) and Canada Mortgage and Housing Corporation, *Canadian Housing Statistics*, 1989 (Ottawa: CMHC, 1990). Data for 1985 are from p. 84, and for 1989 are from p. 85.
- Chart 10: Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*, 1988 (Ottawa: Minister of Industry, Science and Technology, 1991). Data are from Tables 3, 7, 27, 31, 35 and 50.



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## **DETAILED REFERENCES FOR CHARTS IN THE TEXT (CONTINUED)**

Chart 11: Statistics Canada, *Construction in Canada, 1989-1991* (Ottawa: Minister of Industry, Science and Technology, 1991). Data are from Tables 9 and 20-27. British Columbia data include Yukon and Northwest Territories.

Chart 12: Statistics Canada, *Household Facilities and Equipment, 1979* (Ottawa: Minister of Supply and Services Canada, 1979) and Statistics Canada, *Household Facilities and Equipment, 1989* (Ottawa: Minister of Supply and Services Canada, 1989). Data for 1979 are from Table 14, and for 1989 from Table 2.2. "Oil" includes other liquid fuels such as kerosene.

Chart 13: Calculated from Statistics Canada, *Census of Canada, 1986: Dwellings and Households: Part 2 - The Nation* (Ottawa: Minister of Supply and Services Canada, 1989). Data are from Table 5.

Chart 14: Ibid. Data are from Table 12.

Chart 15: Statistics Canada, *Household Facilities and Equipment, 1982* (Ottawa: Minister of Supply and Services Canada, 1982) and Statistics Canada, *Household Facilities and Equipment, 1989* (Ottawa: Minister of Supply and Services Canada, 1989). Data for 1982 are from Table 39, and for 1989 from Table 1.12.

Chart 16: Canada Mortgage and Housing Corporation, *Canadian Housing Statistics, 1990* (Ottawa: CMHC, 1991), p. 62.

Chart 17: Statistics Canada, *Household Facilities and Equipment, 1989* (Ottawa: Minister of Supply and Services Canada, 1989). Data are from Table 1.5.

Chart 18: Information provided by Canada Mortgage and Housing Corporation.

Chart 19: Roger D. Lewis, *Potential Housing Demand Projections: Canada and Provinces, 1986-2011* (Ottawa: Canada Mortgage and Housing Corporation, 1991). Data are calculated from the Base Projection.

Chart 20: Ibid.