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**CMHC**

**Central Mortgage  
and Housing Corporation**

**Société centrale  
d'hypothèques et de logement**

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**RESIDENTIAL REHABILITATION IN CANADA  
MANAGEMENT SUMMARY**

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Program and Market Requirements Division,  
Central Mortgage and Housing Corporation.

March, 1979.

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(1.0) The Problem

- (1.1) In view of the fact that Canada will experience a 20% decline in new residential construction activities over the next ten years, there is a growing interest toward the possibility of reallocating the idle resources to other residential related industries. One of them is the residential rehabilitation industry.
- (1.2) There is strong evidence indicating the potential need for rehabilitation. In 1974 16.9% of all rental households lived in a unit which required rehabilitation and the figure goes as high as 56.2% for the category of family household of seven or more earning less than \$10,000 annually. The comparable figures for owner-occupied households (valued at \$74,999 or less) are 13.4% for all households and an alarming 100% for certain types of households.<sup>1</sup>
- (1.3) Despite healthy potential demand, it has not been translated into effective demand. Both the growth rate and market share of rehabilitation activities has been declining over the past decade and there is no indication that the trend will reverse itself in the near future.
- (1.4) Premature dwelling deterioration in relative terms is observed in several Canadian cities; for example, in the dwelling age group of 4 to 14, Saskatoon has a 5.6% net deterioration rate of the housing stock while St. John's has a low of 0.3%. With respect to the total stock, Winnipeg assumes the lead with 13.6% while Victoria has a low of 2.6%. Net deterioration rate is defined as gross physical deterioration rate minus the rate of repairs and maintenance.

(1.5) The response to rehabilitation needs by different households is far from satisfactory and the poor attitude is especially apparent in the low to middle income households. In 1974 only 48.4% of the households earning between \$10,000 and \$14,999 and living in a unit need of rehabilitation responded to the need. The lack of private incentive is a major factor to the process of premature housing deterioration.

(2.0) Objectives of the Study

The focus of this paper is not on rehabilitation program design per se nor is it a critical review of the existing program (on this subject see Rostum\*); rather, it attempts

- (2.1) to explore the market potential of rehabilitation activities and such activities as a viable alternative to absorb the idle resources released by the projected decline in new residential construction over the next ten years,
- (2.2) to explore the behaviour of households and landlords towards rehabilitation, and
- (2.3) to identify the social need of a much broader and more flexible rehabilitation program.

In this light, the findings of this paper define the parameters and constraints within which a universal program must operate.

(3.0) Major Findings

- (3.1) We can describe the residential rehabilitation industry as small, fragmented, informal, profitable but

risky, extremely labor intensive and insignificant as a sub-industry in the residential construction industry.

- (3.2) While new residential construction activities grew at an increasing rate, repair construction is increasing at a decreasing rate. Furthermore its market share declined steadily from a peak of 27.7% in 1963 to a low of 14.8% in 1976.
- (3.3) Rehabilitation activities did not significantly contribute to the overall instability of the construction industry. Nevertheless the stable trend we observed prior to 1974 deteriorated quite dramatically over the past few years.
- (3.4) There are some basic behavioral differences towards rehabilitation with regard to both owner-occupants and landlords. Landlords viewed themselves primarily as producers of housing services which implies that rehabilitation is simply a profitability matter; that is, rehabilitate if expected monetary gains outweigh expected monetary cost. They welcome government concessions such as tax incentives, loans and grants but dislike rent control. Owner-occupants, on the other hand, are consumers of housing services; by and large their attitude is governed by taste and relative costs in adjusting to their housing consumption. Tenants play no significant role in rehabilitation activities since their response is largely obligatory rather than as a result of choice. The need for government intervention arises from the need to reconcile these basic differences and as such sufficient flexibility must be incorporated into the programs.

- (3.5) Although private incentive towards rehabilitation is rather weak, an affordability problem exists among homeowners and renters with an annual income of less than \$10,000. Furthermore they are the major contributors to the premature deterioration observed in several cities.
- (3.6) Contrasting with traditional belief, an owner's decision to permit excessive deterioration is by no means an irrational process; rather it is due to unfavourable market forces. If the perverse market conditions were allowed to prevail for a sufficiently long period of time, the process of neighbourhood decline would result in the filtering down of owners of lesser means and more modest tastes for housing. It follows that the immigration of low income families to an area is the accommodation of a market outcome rather than the cause of neighbourhood decline.

(4.0) Policy Recommendation

The issues raised in this section can be broken down into two categories: supply management and demand management. It should be noted that they are, by no means, independent options but must be considered jointly. In other words the success of an incentive oriented demand management program is contingent upon the ability of the industry to efficiently absorb the excessive burden.

(4.1) Supply Management Policies

Although there is no indication of a deficient supply of labor and capital, the lack of entrepreneurial skills, the absence of economies of scale in production, the considerable degree of risk and uncertainty and the lack of

competition are all factors which accounted for the inefficiency and insignificance of the residential rehabilitation industry. Firms in new construction must be encouraged to enter and the entire sub-industry must be geared towards better managerial know-how and rehabilitation technology. Government sponsored demonstration projects should have a broader scope than just to bridge the gap between demand and supply; they should also be viewed as an experiment with objectives such as stimulating the interest of the suppliers, demonstrating the potential profitability and identifying and reconciling the problems encountered.

To assure the smooth expansion of rehabilitation activities, maintenance and occupancy standards must be unambiguous, enforceable and complete. These ingredients are essential to the uniformity of the industry and to the wholesale reduction in risk and uncertainty.

Finally the residential construction industry must be made aware of the imminent decline in new construction activities and that the transition into repair construction is the only logical alternative available to them in terms of future social need and the survival of the industry.

(4.2) Demand Management Policies

Premature housing deterioration, which in effect translates to social wastage and inefficiency, should not be viewed as an irrational process; it is simply a matter of affordability. In this light direct

government subsidies or low cost loans to low income owner-households and low income rental suppliers have the potential to reduce the universe of rehabilitable units by as much as 35.9% and 60.3% respectively. (assuming income eligibility is set at under \$10,000). Increasing the income eligibility to under \$15,000 increases the upper limit to 82% for rental units and 62.6% for owner-occupied units.

Given the fact that the government is interested in maintaining the standard of housing quality, a more economical way to achieve this is renewal through rehabilitation rather than renewal through replacement.

A spillover from making the industry more competitive and efficient is to make rehabilitation an economically feasible investment (in terms of costs and benefits) through lower capital costs. This would allow the transformation of potential need into effective demand which otherwise would not occur.

(5.0) Residential Rehabilitation Industry

As witnessed in Table 1, the majority of residential rehabilitation establishments are small ventures. In 1976, for example, 92.1% of them had annual gross construction revenue of no more than  $\frac{1}{4}$  million dollars and they account for more than 48% of total activities. New residential construction, on the other hand, had approximately 70% of the establishments below the  $\frac{1}{4}$  million dollars market but they merely occupied 10.4% of total value of output.

The minor role played by firms specializing in repair construction is further demonstrated in the distribution of repair activities; a modest average of 60% of the market from 1973 to 1976.

In terms of diversity of activities, 9% of the revenue of rehabilitation oriented firms came from new construction in 1973 and the share subsequently increased to 16.8% in 1976.

Although repair construction enjoyed a higher rate of return, for example, 16.2% in 1975 compared to 10.4% for new construction establishments, it is more susceptible to risk. Measuring risk as a percentage loss in relation to output and as a percentage of bad debts to output places repair activities consistently more uncertain than new construction.

In addition, repair construction is more labor intensive. For each thousand dollars of output, repairs required as many as 52 manhours in 1974 compared to 17 manhours in new construction in the same year.

Many factors explain the insignificance and informality of the industry. One of them is a general lack of maintenance and occupancy standards. While new construction is governed by the National Building Code (and local variations) which spells out complete and definitive acceptable design and construction methods and is enforceable by qualified building inspectors, standards for existing structures are difficult to formulate and to enforce. This inability reflects the diversity of dwelling types. Even with health and safety guidelines, the application of such guidelines can be non-uniform, since, quite often, subjective interpretation is inevitable.

A second factor is the apparent lack of entrepreneurial skills. Although there is an

abundant supply of sub-contractors who are willing and capable of doing portions of a large contract, e.g. electrical work, plastering, roofing, etc., the most essential ingredient, i.e. management know-how such as cost estimating, design, specification and supervision is often in excess demand because rehabilitation techniques are so different from new construction and they are so difficult to acquire.

An immediate consequence of few large firms with skills and experience to accept large contracts reflects in the much higher cost in rehabilitation than in an equivalent amount of new construction due to the absence of a corresponding degree of competition.<sup>2</sup> A second explanation for the high cost is the substantial margin built-in to cover contingencies. As pointed out earlier, percentage loss and bad debts were significantly higher in rehabilitation compared to new construction. It seems reasonable to suggest that the lack of definitive and enforceable maintenance and occupancy standards were, to a great extent, responsible for this high degree of uncertainty.

There are two reasons to suspect low or absence of economies of scale in residential rehabilitation activities. First, the diverse nature of rehabilitation projects does not lend itself to the standardization of techniques which would encourage large scale production techniques.<sup>3</sup> Second, the absence of large contracts in a single location or the predominance of numerous small contracts in a variety of locations would not permit the use of large scale production techniques, even if the latter did exist.

(5.1) Performance of the Industry

Chart 1 compares expenditures generated by residential repair and maintenance activities, new residential construction and all construction from 1958 to 1977. While both new residential construction and all construction increased at an increasing rate through time, an average rate of 7.6% and 4.7% respectively, repair construction increased at a decreasing rate. Chart 2 which measures the growth rates of the three expenditure series further confirms the trend. Both the raw growth rate and the 3-year moving average growth rates of repair construction exhibit steady declines. Furthermore the share of repair construction in total residential construction is contracting quite significantly from a peak of 27.7% in 1963 to a low of 14.8% in 1976.

A common question often raised in sectoral expenditures analysis is the issue of stability. Measuring stability as the percentage deviations from the long term trend reveals that residential repair and maintenance activities from 1958 to 1973 displayed a rather stable growth path with only a modest variation of less than five percentage points. New residential construction, on the other hand, is much more unstable; it fluctuated with an average deviation of more than fifteen percentage points. Therefore we can conclude, with some degree of confidence, that rehabilitation activities did not significantly contribute to the overall instability of the construction industry. Nevertheless the stable trend we observed prior to 1974 has deteriorated quite dramatically over the past few years.

(6.0) Attitude Towards Residential Rehabilitation

There should be no objection to the suggestion that certain market forces are responsible for an owner's decision to permit deterioration. The crucial question is if market conditions can lead to under-maintenance, could they not also encourage maintenance and, to a greater extent, stimulate improvements? To answer this question let us assume a typical household employs a cost-benefit criterion to evaluate a rehabilitation project; that is, rehabilitate if and only if benefits outweigh costs. The ingredients are as follows:

<u>Benefits</u>	<u>Costs</u>
(1) Better housing	(1) Capital cost of rehabilitation
(2) Higher market value	(2) Carrying charges of financing or interest foregone if self-financed
(3) Possibly greater marketability	(3) Potential increase in property taxes <sup>4</sup>
(4) Lower maintenance expenditure	(4) Inconvenience suffered during the construction period
(5) Longer economic life of the dwelling	(5) Alternative use of the site

Since each of the factors listed is controlled by some market forces, a planning authority can manipulate the incidence and magnitude of rehabilitation by changing its determinants directly or indirectly. Let us consider a few specific cases. A highly progressive property tax structure for one may significantly reduce the incentive to rehabilitate. Lowering the market value of housing in a neighbourhood such as broadening the alternative use of the site is detrimental to private incentive while improving

the community services, access and environment would induce a higher rate of rehabilitation. Finally, government assistance programs such as outright grants or low cost loans will accelerate rehabilitation activities through a reduction in the capital cost, carrying charges or interest foregone.

Given the fact that our results were founded on the basis of a simultaneous landlord and tenant relationship, i.e. an owner-occupant, do they hold in the case of a landlord? The basic difference between a landlord and an owner-occupant lies in the fact that the latter is affected directly by any changes in rehabilitation strategy since he is the beneficiary as well as the investor while the former is merely an investor. In this light, a landlord's strategy is governed by his flexibility to rent the dwelling under different rehabilitation schemes and his ability to realize a higher rent that otherwise would not occur. It is precisely this lack of synchronization and the presence of uncertainty that constantly encouraged a landlord to invest at a lower rate than an owner-occupant. In 1974 16.9% of all rental units required some form of rehabilitation compared to 13.4% of all owner-occupied units. (see Table 3).

The picture is further complicated by market distortions such as the tax system and rent control. Tax deductions affect behavior in a rather peculiar way; they are incentives to the group receiving them but are disincentives to others not receiving them. Under the present tax system an owner-occupant is treated as a consumer and a landlord as producer and as such a landlord is entitled to certain rental income deductions not available to an owner-occupant although the latter, as we argued, is a simultaneous landlord and tenant in the strictest qualification. With reference to rehabilitation capital cost and

carrying charges, they are tax deductible which effectively lowers the real financial burden. Owner-occupants, having to assume the full cost may find frequent moving as a viable alternative. To provide an indication of the magnitude of the tax incentive, Hussein Rostum\* shows that tax savings in the year which rehabilitation takes place could account for 47% of the investment and first year interest charges.

Rent control, although it is neutral to owner-occupants, has a detrimental effect on the feasibility of rehabilitation in the case of the landlords. This is due to the fact that a landlord can often realize a higher return by demolishing and rebuilding an existing structure, thereby able to impose the maximum return on his investment.<sup>5</sup>

(6.1) The potential and Effective Demand for Rehabilitation

The entries in Table 2 which measures the net deterioration rate of the housing stock by different dwelling age groups and by different cities reveal a rather significant degree of premature deterioration. Net deterioration rate is conceptually defined as gross physical deterioration rate minus the rate of maintenance and repairs. As indicated cities like Regina, Saskatoon, Winnipeg and Saint John have experienced a substantially higher degree of neglect in relative terms. If we accept the hypothesis that such an outcome is due to the lack of favourable local market forces, government incentives are required in order to accommodate the observed market failure.

Of all renter-households living in a unit in need of rehabilitation 60.3% of them

earned less than \$10,000 annually and they represent 20% of the households in that particular tenure-income class. The figures for the owner-households making less than \$10,000 are 35.9% and 13.3% respectively. Expanding income to include the households earning less than \$14,999 raises our percentages to 82% for the renters and 62.6% for owners. (See Table 3). This clearly indicates the problem of affordability and from a social welfare standpoint low income owners and suppliers of low income rental housing deserve the greatest attention.

Distribution of Dwelling Units In Need of Rehabilitation  
by Household Income and Tenure Mode

Household Income	Renters		Owners	
	% of Units in Need of Rehab.	% of Group Represent- ation	% of Units in Need of Rehab.	% of Group Represent- ation
Under \$10,000	60.3	20.0	35.9	13.3
\$10,000-\$14,999	21.7	14.8	26.7	9.6
\$15,000-\$19,999	10.3	12.3	17.4	8.0
\$20,000 or more	7.7	12.7	20.0	7.4

The incentive towards rehabilitation is not particularly strong given the fact that income is allowed to rise substantially. However the higher incidence of rehabilitation by households living in such a dwelling is a comforting result to note (See Table 4).

Table 1 CHARACTERISTICS BY PRINCIPAL TYPE OF CONSTRUCTION<sup>6</sup>

ITEMS	ESTABLISHMENTS CLASSIFIED BY PRINCIPAL TYPE OF WORK							
	NEW CONSTRUCTION				REPAIR CONSTRUCTION			
	1973	1974	1975	1976	1973	1974	1975	1976
(1) % of total number of establishments	93.9	94.6	76.3	86.7	6.1	5.4	23.7	13.3
(2) % share of total new construction	99.8	99.9	99.4	99.4	0.2	0.1	0.6	0.6
(3) % share of total repair construction	43.5	39.4	38.6	40.1	56.5	60.6	61.4	60.9
(4) % of activities in new construction	98.8	99.2	97.6	98.1	9.0	8.6	14.0	16.8
repair construction	1.2	0.8	2.4	1.9	91.0	91.4	86.0	83.2
(5) % of establishments by size group**								
249,999 or less	70.4	65.4	79.5	70.8	90.6	86.9	98.6	92.1
250,000-499,999	15.5	16.9	13.1	13.0	5.4	8.6	0.8	4.5
500,000-999,999	7.9	8.7	2.9	7.4	3.5	2.8	0.4	2.3
1,000,000-1,999,999	3.7	4.9	2.2	4.4	0.5	1.7	0.2	0.7
2,000,000-9,999,999	2.3	3.5	2.0	3.7	-	-	*	0.4
10,000,000 or more	0.2	0.6	0.3	0.7	-	-	-	-
(6) Pre-tax net operating profit as a % of output	6.1	8.7	9.9	8.8	7.0	7.2	15.0	7.9
% Profit	6.6	9.1	10.4	9.4	7.5	7.7	16.2	9.0
% Loss	0.5	0.4	0.5	0.6	0.5	0.5	1.2	1.1
(7) Man-hour per thousand 1971 dollar of output	17.4	17.3	23.0	18.2	51.7	52.1	38.8	35.7
(8) Bad debts as a % of output	0.1	0.1	0.2	0.1	0.3	0.7	0.2	0.3

Table 1 continued

ITEMS	ESTABLISHMENTS CLASSIFIED BY PRINCIPAL TYPE OF WORK							
	NEW CONSTRUCTION				REPAIR CONSTRUCTION			
	1973	1974	1975	1976	1973	1974	1975	1976
(9) % of total output by size group								
249,999 or less	18.6	13.0	18.0	10.4	49.2	43.1	77.1	48.2
250,000-499,999	14.5	10.8	14.2	8.2	20.8	24.1	10.5	18.7
500,000-999,999	15.2	11.7	6.7	9.6	19.0	16.2	4.7	11.9
1,000,000-1,999,999	13.9	13.0	9.6	11.5	9.1	13.9	5.2	8.9
2,000,000-9,999,999	22.7	27.0	25.6	28.2	1.9	2.7	2.3	11.6
10,000,000 or more	15.1	24.5	25.9	32.1	-	-	0.2	0.7

Source: The Residential General Building Contracting Industry,  
1973-1976  
Statistics Canada, Catalogue 64-208

\* less than 0.1%

\*\* size groups are classified by gross construction revenue  
adjusted by change in work in progress.

CHART 1

Types of Construction Expenditure, 1958-1977,  
(million 1971 dollars)

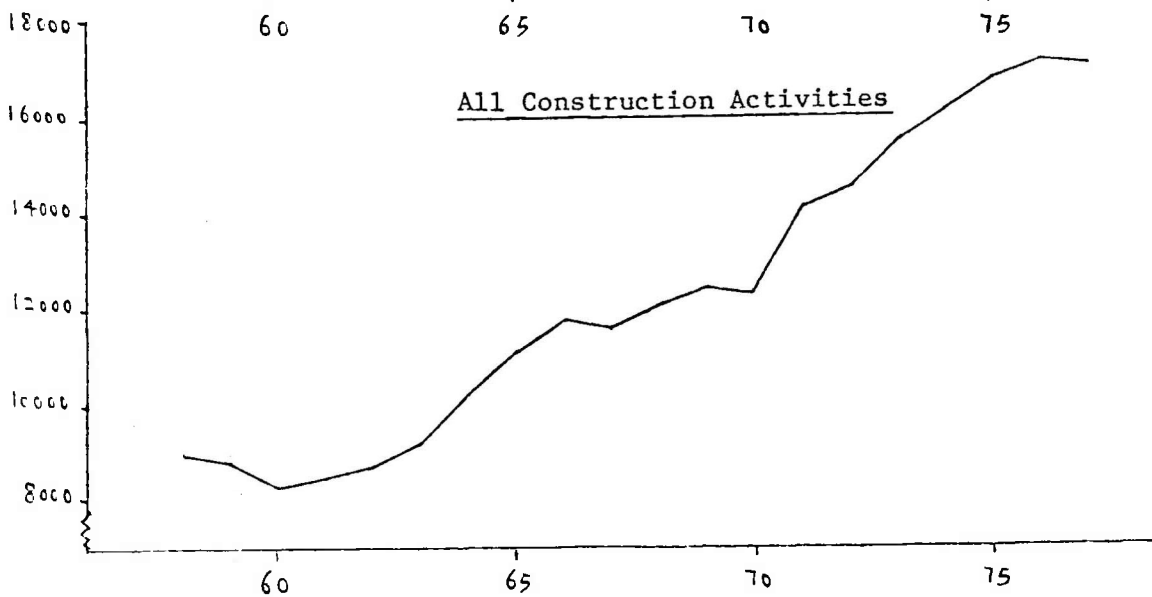
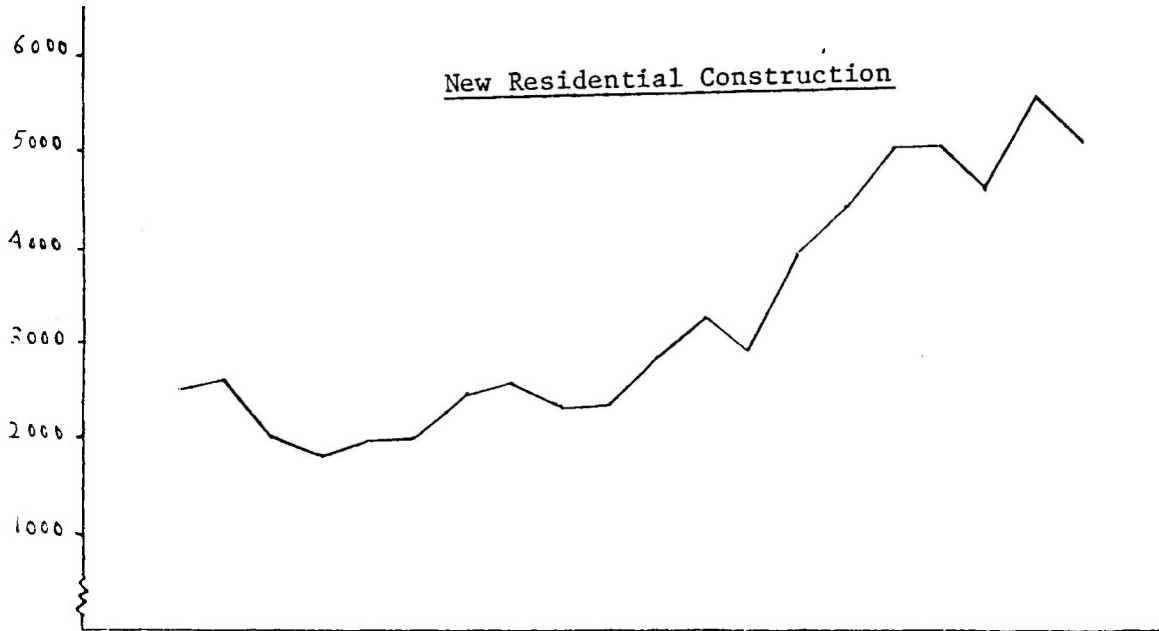
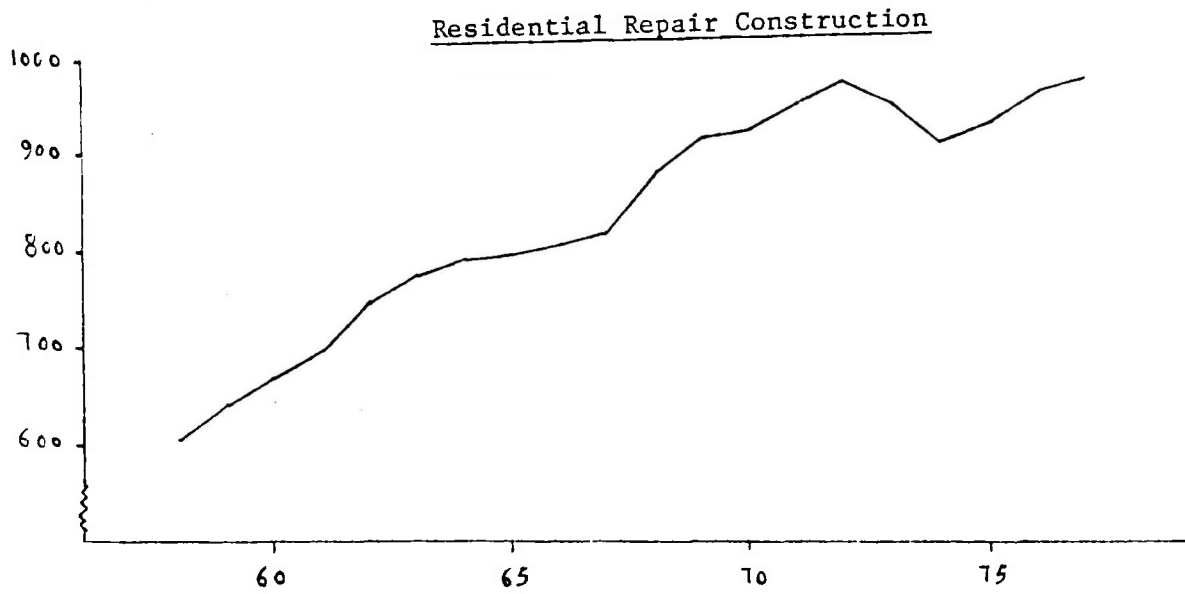


CHART 2

Real Growth Rates of Residential Repair, New Residential  
and all Construction Expenditure, 1958-1977

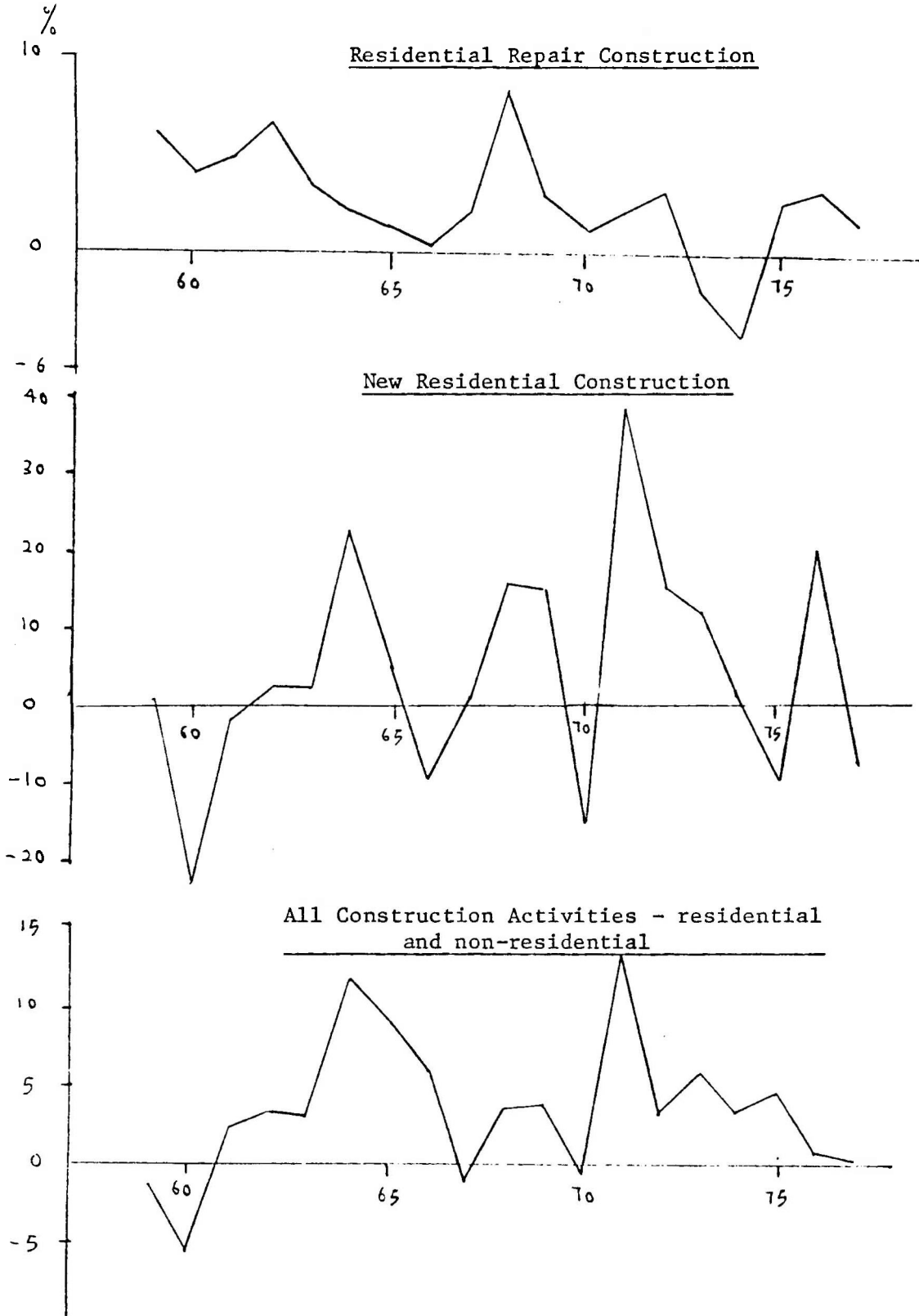


CHART 3

Share of Repair Construction in Residential Construction

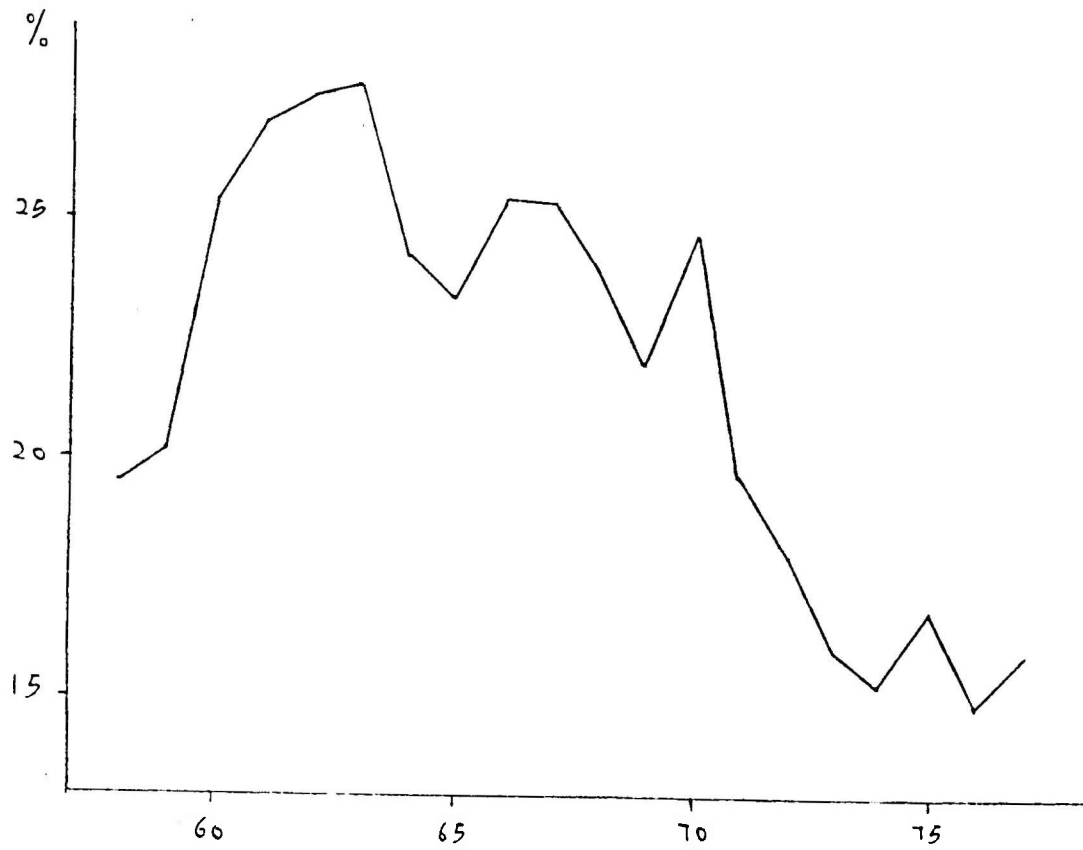


TABLE 2

Net Deterioration Rate of the Housing Stock  
by Dwelling Age and by Cities

Selected survey metro area	Age of Dwelling in Years				
	4-14	15-24	25-34	35 or Over	All Age Class
Vancouver	0.4%	1.9%	4.3%	16.5%	7.8%
Victoria	0.6	0	1.8	5.3	2.6
Calgary	2.5	5.4	8.3	20.8	5.5
Edmonton	0.8	3.9	6.5	26.9	4.9
Regina	1.0	10.0	30.3	23.9	11.2
Saskatoon	5.6	8.9	19.7	24.1	11.3
Winnipeg	1.6	4.6	11.1	28.4	13.6
Sudbury	2.1	5.6	19.6	17.9	9.3
Toronto	0.5	1.1	4.0	18.0	6.4
Ottawa-Hull	0.4	3.9	8.7	13.7	4.4
Montreal	2.7	6.3	17.4	18.6	7.7
Quebec	0.9	1.9	3.9	12.6	3.7
Saint John	1.5	8.1	15.5	22.2	11.9
St. John's	0.3	2.5	9.7	12.6	6.7
Halifax	1.8	7.0	11.4	14.9	8.6
Charlottetown	0.8	3.8	4.9	9.8	5.1
Average	1.5	4.7	11.1	17.9	7.5

Source: Survey of Housing Units, 1974.

TABLE 3

Percentage of Dwellings in Need of Rehabilitation  
By Household Type, Household Income and Tenure Mode

Tenure mode and household income	Household Type					
	Family Households		Non-Family Households		All Households	
	Number of Units	% of Group Count	Number of Units	% of Group Count	Number of Units	% of Group Count
<b>Renter:</b>						
Under \$10,000	97,467	22.9	67,680	16.9	165,147	20.0
\$10,000-\$15,999	47,350	16.0	12,153	11.3	59,503	14.8
\$15,000-\$19,999	19,452	11.6	8,622	14.3	28,074	12.3
\$20,000 or more	17,225	13.2	3,894	11.1	21,119	12.7
Sub-Total	181,494	17.8	92,349	15.3	278,843	16.9
<b>*Owner:</b>						
Under \$10,000	32,357	11.3	18,979	19.0	51,336	13.3
\$10,000-\$14,999	34,184	9.3	3,934	13.8	38,118	9.6
\$15,000-\$19,999	22,301	7.5	2,649	17.9	24,950	8.0
\$20,000 or more	26,763	7.2	1,818	12.6	28,581	7.4
Sub-Total	115,605	8.8	27,380	17.4	142,985	9.7
Grant Total	297,099	12.7	119,729	15.7	416,828	13.4

Source: Survey of Housing Units, 1974

\* value of dwelling \$74,999 or less

TABLE 4

Percentage of Households (Owners) Incurring  
Non-Zero Rehabilitation Expenditure

Household Income	Condition of Dwelling	
	Dwelling in Good Condition	Dwelling in Need of Rehabilitation
Under \$10,000	47.0%	62.0%
\$10,000-\$14,999	46.0	48.4
\$15,000-\$19,999	43.9	59.2
\$20,000-\$24,999	50.3	68.1
\$25,000 or over	46.4	82.8

Source: Survey of Housing Units, 1974.

FOOTNOTES

\* Hussein Rostum (1978) "A Follow-Up to the Evaluation of the Residential Rehabilitation Assistance Program" CMHC.

1. These owner-occupied households are

	<u>Household Income</u>	<u>Dwelling Value</u>	<u>Head Age</u>	<u>Household Size</u>	<u>Household Type</u>
a)	\$10,000-\$14,999	\$60,000-\$74,999	less than 35	7 or more	family
b)	\$15,000-\$19,999	\$60,000-\$74,999	60 or over	7 or more	non- family

2. "...in some cities it is often difficult to obtain more than a single bid for a RRAP job (e.g. Ottawa, Winnipeg, Montreal). Consequently, rehabilitation costs and quality may be affected." (Rostum 1978 pp. iv).
3. Very often it is extremely difficult to predict the amount of rehabilitation work required under the standards and guidelines set out by the different levels of government. In some instances the interior walls have to be removed before one can determine the extent of rehabilitation required; e.g. plumbing and electrical wiring.
4. "...repairs to a homeowner dwelling, if they substantially raise the dwelling's market value, result in property tax increases which the homeowner has to bear. For low and moderate income RRAP clients this presents a discouraging prospect. Because of the widely diverging property assessments between municipal areas across the country, RRAP homeowner clients face different tax adjustments as a result of rehabilitation." (Rostum 1978, pp. 46).
5. For a landlord to amortize a \$10,000 investment in 25 years at an effective rate of 10% the monthly rent has to go up by \$87.85. If the pre-rehabilitation rent were \$300, the increase would be 29.3%.

6. The figures presented in Table 1 must not be viewed as the absolute measurements of the different characteristics; rather, they should be interpreted as indications in relative terms. The ambiguities are due to
  - (a) Significant residential building construction is performed by owner builders and project managers who are not classified to the construction industry and who, for this reason, are not included in the sample.
  - (b) Residential building construction performed by general contractors primarily engaged in non-residential and engineering construction is not included.
  - (c) In 1973 and 1974 no adjustment is made for non-response.