Summary

Equity, Tenure Choice Patterns and Homeownership Subsidies: The Assisted Home Ownership Program, 1973-1975

> Effectiveness Evaluation Division Planning Branch T.B.S.

This Report has been prepared by the Effectiveness Evaluation Division, Planning Branch, Treasury Board Secretariat.

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Introduction

This report describes the results of a study of the operation and performance of the Assisted Home Ownership Program (AHOP). The study is microanalytic in nature in that the basic unit of observation underlying the results is the individual program beneficiary. As such, the primary emphasis within the study has been placed on the performance of AHOP in relation to considerations of distributional incidence and equity. In addition, the study addresses the question of the likely long-run impact of the program on the Canadian housing sector.

Every government policy or program inevitably affects both the allocation of resources and the distribution of welfare. Regardless of the primary objective of the government initiative, both types of effects are relevant to a consideration of the effectiveness of the policy or program. Thus, although the dominant objective underlying AHOP has increasingly become one of generating housing starts, the very nature of the program also means that specific distributional effects will occur. The latter cannot be ignored in light of the acknowledged redistributional goals of the Government. The importance of this consideration is reflected in the methodological approach of this study.

The Assisted Home Ownership Program

The Assisted Home Ownership Program was formally launched in June of 1973 by means of legislative amendments to the National Housing Act. As its title indicates, the program was created in order to assist eligible families, by means of cash transfers, to purchase housing for onwer occupation. Administered by the Central Mortgage and Housing Corporation (CMHC), AHOP was originally conceived as a major component of federal social housing policy. As a consequence, from its inception, AHOP was established with the following broad program objectives:

> to extend the opportunity of homeownership in all parts of Canada to the ranges of incomes of those families who desire, but who are not presently able to enter into the homeownership market.

to provide an increased number of families with an alternative to renting.

to encourage the building industry to produce modestly priced housing by the introduction of a continuing program.

All program objectives are pursued, in an operational sense, by federal subsidization of the monthly carrying costs associated with the purchase of residential property.

Despite its brief existence, AHOP has quickly become a major component of federal housing initiatives. For example, in 1975 capital commitments authorized under AHOP amounted to \$458 million, representing 28.6% of total CMHC capital commitments. Budgetary disbursements under AHOP were \$10.2 million in 1975, constituting 4.1% of total CMHC budgetary disbursements. However, since the size of the program's clientele has not yet peaked, budgetary requirements are expected to reach \$58 million by 1979, amounting to 8.3% of CMHC budgetary disbursements.

AHOP's existence has also become highly visible in the housing sector. It was estimated that in 1975 one in every eight newly completed dwellings destined for the owner-occupied market was purchased with the assistance of AHOP

Data Sources

This study makes use of two independent micro data files. One data file was supplied by CMHC and contains fairly comprehensive descriptions of 37,000 AHOP clients. The other data source was a Statistics Canada Public Use data tape - the 1974 HIFE - which contains detailed descriptions of 24,600 Canadian households. The latter data are collected according to statistical sampling procedures and thus may be used to generate reliable estimates of the Canadian household population.

Methodology

The report describes the results of three largely independent empirical studies. Each study was designed to provide a distinctive perspective on the operation and performance of the Assisted Nome Ownership Program.

The first study focused on the distributional characteristics of the AHOP clientele. Using the AHOP clientele data file, a profile of AHOP recipients was derived in the form of simple one-way frequency distributions over selected family characteristics. A more intensive analysis of selected dimensions of this profile was pursued by means of two-way and three-way cross tabulations in order to explore the program's equity implications.

The AHOP target population and the program participation rates were the topics of the second study. An estimate of the size and composition of the AHOP target population was derived by simulating the program's basic guidelines and parameters in the context of the 1974 HIFE micro date file. The AHOP clientele profile was then compared with the profile of eligible families in order to derive rates of participation.

The third study examined the probable impact of the program on the tenure choice decisions of Canadian families. A probability model of tenure choice was specified as a regression model and the latter was estimated in the context of the 1974 HIFE data file. The estimated regression equation for the probability model was then used as a forecasting equation to predict the probability of homeownership for each family in the AHOP clientele data file. In addition, the regression results were used to predict changes in the tenure choice of AHOP clients after the elapse of ten years.

Summary of Major Results and Conclusions

This study examined the operation and performance of the Assisted Home Ownership Program for the period July 1973 to March 1976. The major results and conclusions of this study are presented below.

1. Profile of AHOP Clientele

Income Distribution

in 1975 the median gross income of Canadian families was \$14,925; 20% of Canadian families had incomes below \$8,000, 16% had incomes between \$8,000 and \$12,000

two-thirds of the AHOP clientele had gross family incomes between \$8,000 and \$12,000 (measured in 1975 dollars)

only 1.5% had incomes below \$6,000

the proportion of clients with incomes below \$8,000 (in constant dollars) declined from 10% in 1973 to 5% in the first quarter of 1976

8.4% of the program's recipients had incomes falling below the Statistics Canada low income cut-offs

there was substantial variation in the provincial rate of participation by low income families; onethird of AHOP clients in Saskatchwan had incomes below the low income cut-offs; low income clients in Quebec, Ontario and British Columbia represented less than 5% of the total clientele in each province.

supplementary provincial assistance to encourage participation of low income families was available in each of the Prairie provinces and in the Atlantic provinces excluding P.E.I..

These results indicate that the program has encouraged participation by those families of low and moderate income, with emphasis on the latter. Moreover, since on a year by year basis, the income distribution of AHOP clientele has been shifting upward, the program has increasingly become one serving middle income Canadians. It also appears that in the absence of supplementary provincial assistance the federal program would benefit substantially fewer low income families.

Housing Affordability Problems

93% of AHOP clients previously occupied rental housing; of these only 9% spent more than 25% of their gross family income on rental payments

- . 73% of the former tenants spent 20% or less of their income on rent
- . having purchased a house, 82% of the clientele would be required to allocate more than 25% of gross family income to PIT payments in the absence of federal assistance
- . after the application of AHOP assistance 15% of the clientele are still spending in excess of 25% of gross income on PIT payments.

These results suggest that AHOP clients did not experience housing affordability problems when renting, while the purchase of a house would in fact introduce such problems in the absence of federal assistance via AHOP. By encouraging or arranging for these families to become homeowners, AHOP establishes a group facing incipient housing affordability problems, problems which it then serves to alleviate.

AHOP Housing

- . 70% of the dwellings purchased with the assistance of AHOP were single detached units
- . 60% of the units contained between 900 and 1100 square feet of living space
- . 63% of the dwellings were purchased for between \$20,000 and \$30,000;
- . there was a dramatic upward shift in the price distribution of AHOP sponsored housing between 1973 and 1976; while in 1973 more than half of the houses were purchased for less than \$20,000, less than 1% of the houses sold for this amount in 1975 and 1976.

On the basis of these results, it would appear that, despite the proclaimed emphasis on "modest" housing, the housing purchased under the auspices of AHOP does not differ greatly in type and size from that generally available in many housing markets throughout the country. Rising house prices, in conjunction with higher mortgage rates, are responsible for dramatic increases in the average federal subsidy. For example, the proportion of families receiving \$100 or more in monthly assistance was 3.6% in 1974, 19% in 1975, and 39% in 1976.

Age, Regional and Urban Distribution

- 60% of the clientele were between 25 and 35 years of age; only 12% were 40 years of age or older
- 60% of the AHOP clients resided in Ontario or Quebec; Quebec families alone comprise almost 40% of the AHOP clientele

24% of the clientele lived in one of the four largest urban centers (Toronto, Montreal, Vancouver, Winnipeg); only 6.6% of the clients were rural families

2. Equity Considerations

Distribution of Federal Assistance

- the distribution of total federal AHOP budgetary commitments by income group is identical to the corresponding distribution of families. For example, families with incomes between \$4,000 and \$6,000 constituted 1.3% of the clientele and as a group received 1.4% of total federal assistance. Families with incomes between \$10,000 and \$12,000 represented 35.3% of the clientele and received 35.2% of total commitments
- on a year by year basis, the distribution of federal assistance by income group has shifted upward over time, thus following the upward shift in the clientele income distribution.
- the distribution of federal assistance according to other family characteristics (e.g. age, location) is also virtually identical to the corresponding distributions of the clientele

These results indicate the absence of any operative equity principle underlying program disbursements. Instead, the aggregate distribution of federal subsidies appears to depend directly on those factors which determine differential rates of participation by eligible families. Although an analysis of the determinants of participation rates was beyond the scope of this study, it did appear, on the basis of available information, that the existence of supplementary provincial assistance within AHOP has a significant influence on the provincial distribution of federal disbursements.

Inter-family comparison of AHOP benefits

- families with identical or similar incomes, but residing in different housing markets, receive differing amounts of cash benefits which assist them in purchasing houses of different types, sizes, and prices
- comparisons across housing markets reveal that cash benefits received by higher income families are frequently larger than those received by low income families
- there is no systematic relationship between the quality of dwelling purchased and the amount of federal assistance received

Thus, although the design of the program incorporates vertical equity at the local market level, inter-family comparisons across markets reveal a substantial degree of vertical and horizontal inequity in the relative magnitude of dollar benefits provided to AHOP clients. This inequity is not merely benign (as suggested in the results of section 2(a) above) but actually contrary to conventional equity principles. Since the program provides in-kind transfers, it is possible that differences in the quality of housing purchased could offset perversities in the distribution of dollar benefits. While there was some supporting evidence in this latter regard, in general it is not possible to conclude that such offsets do occur.

Interregional Comparisons

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there was substantial interregional variation in the house prices paid by AHOP clientele. For example while 70% of clients in Manitoba and Saskatchewan paid less than \$25,000, only about 20% of clients in Ontario, British Columbia and Newfoundland were able to do likewise

comparison of income distributions of AHOP clientele reveals considerable interregional differences. In general, the distributions for the Atlantic and Praire regions lie to the left of those in Quebec, Ontario and British Columbia

- interregional differences in the average federal AHOP subsidy are small; the subsidies range from \$56 per client per month in the Prairies to \$64 per month in the Atlantic region
- there was substantial variation in the type of housing which families in different regions were able to acquire with the assistance of AHOP. For example, the proportion of families purchasing new housing ranged from 86% in Quebec to 54% in British Columbia; 89% of Quebec clients purchased detached dwellings, only 47% in Ontario did so
 - the average size of dwellings purchased under AHOP varied considerably by region. Prairie families tended to purchase the smallest dwellings - 69% being less than 1,000 square feet; only 31% of Ontario clients purchased housing in this size range

These results suggest that the program inequities identified earlier have a strong regional dimension. In particular, there are substantial interregional differences in the size and type of housing clients are able to purchase, and these differences in housing quality are not offset by differences in dollar benefits. For example, clients residing in the Prairies and in Quebec received similar amounts of federal assistance. Nonetheless, while also acquiring housing of similar value, Prarie families purchased dwellings that were smaller and less likely to be single detached than was the case for Quebec families. In turn, these types of inequities can be attributed to the failure to maintain, across Canadian housing markets, a consistent relationship between the AHOP assistance scale and the quality of housing that may be purchased within the program.

Assets and Net Worth

- . prior to joining the program, one-quarter of the AHOP clientele held assets valued in excess of \$10,000; 3% or about 1,000 families held assets with a total value of \$20,000 or more
- . the net worth of 16% of the clients was equal to or exceeded \$10,000; 2% had net worth exceeding \$20,000

This evidence indicates that inadequate wealth may exclude otherwise eligible families from participation in the program. Morever, since AHOP subsidizes the acquisition of an asset and facilitates the accumulation of wealth, it seems reasonable that existing assets and wealth, in addition to current income, be considered in assessing a family's need and ability to pay. Presently, the magnitude of AHOP assistance is determined solely on the basis of an income test.

3. AHOP Participation Rates

It was estimated that the rate of participation in the program by eligible families was:

- . inversely related to family income
- . higher for young families those under 35
 - years of age
- lower for rural families
- . higher in provinces which supplement AHOP

These estimated rates of participation must be viewed as tentative because they are based on a simulation of the eligible population of families. Not only is it extremely difficult to simulate a program as complex as AHOP but given the interaction of program parameters with market realities, theoretical eligibility will frequently not mean functional eligibility. However, to the extent that our estimates are indicative, it appears that useful research could be directed toward determining why older families and rural families are less likely to participate in the program.

4. AHOP's Allocational Effects

AHOP has apparently had a significant gross impact on the Canadian housing sector. For example, it was estimated that, in 1975, one in every eight completions destined for the owner-occupied market was purchased with AHOP assistance. Although this study has not attempted to measure directly the program's net impact on the allocation of resources to and within the housing sector, it has been argued, with the aid of some indirect evidence, that this allocational effect is likely to be slight, particularly in the long-run. Specifically, any net production effect will be cyclical in nature largest during periods of widespread excess capcity and lagging demand and minimal in periods of full capacity

utilization and buoyant demand. During these latter periods, AHOP will more closely approximate a conventional in-kind transfer program and hence, its distributional implications become extremely important. Finally, since the majority of AHOP clients are young families, a major effect of the program will be to alter the timing of lifetime tenure choice patterns. Given the usual pattern of tenure choices over a family's life cycle, those AHOP clients who would not have currently purchased housing anyway, would have most likely done so in the future. In this regard, it was estimated that about half of the clientele would have probably still purchased housing in the absence of AHOP, and that of the remainder, at least one-third would have done so before another ten years elapsed.

In summary, the major conclusions of this study are:

- that AHOP has become a program for the middle income;
- that families with income or housing affordability problems do not participate and, in general, would not qualify for program assistance;
- that there are substantial inequities in the program's benefit delivery system;
- that the long-run impact of the program on the housing sector will be slight.

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1. Introduction

This report describes the results of a study of the operation and performance of Assisted Home Ownership Program (AHOP). The study is microanalytic in nature in that the basic unit of observation underlying the results is the individual program beneficiary. As such, the primary emphasis within the study has been placed on how the program has performed in relation to considerations of distributional incidence and equity. In addition, the study addresses the question of the likely long-run impact of the program on the Canadian housing sector.

Every government policy or program inevitably affects both the allocation of resources and the distribution of welfare. Regardless of the primary objective of the government initiative, both types of effects are relevant to a consideration of the effectiveness of the policy or program. Thus, although the dominant objective underlying AHOP has increasingly become one of generating housing starts, the very nature of the program also means that specific distributional effects will occur. The latter can not be ignored in light of the now widely accepted redistributional goals. The importance of this consideration is reflected in the methodological posture of this study. The design of the research framework contained in this study was also guided by considerations of analytical tractibility and measurement capability. Given the availability of clientele data, an analysis of a program's distributional effects are reasonably straightforward; this is in contrast to the complex technical and measurement problems associated with an attempt to estimate resource allocation effects. Nevertheless, while we have not attempted to measure empirically the net impact of AHOP on housing production, we do present some analyses which consider this question from a broader perspective, namely the effect of the program on the tenure choice decisions of Canadian families.

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This latter analyses will be seen to complement the distributional analysis of the program.

The Assisted Home Ownership Program was formally launched in June of 1973 by means of legislative amendments to the National Housing Act.¹ As its title indicates, the program was created in order to assist eligible families, by means of cash transfers, to purchase housing for owner occupation. Administered by the Central Mortgage and Housing Corporation (CMHC), the program followed on the heels of periodic ad hoc experimentation with homeownership programs.² However while the latter were all initiated for purposes of economic stabilization, AHOP was originally conceived as a major component of federal social housing policy.³

As a consequence, from its inception, AHOP was mounted under the following broad program objectives⁴:

- to extend the opportunity of homeownership in all parts of Canada to the ranges of incomes of those families who desire, but who are not presently able to enter into the homeownership market.

- to provide an increased number of families with an alternative to renting.

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The legislative authority underlying the program is contained in Sections 34-15 and 34-16 of the NHA. These sections were added to the NHA in June of 1973, and it is the resulting program which represents the topic of this study.

For example, in August of 1970, CMHC's budget was increased by \$240 million in order to stimulate housing starts.

³ A tangible reflection of this novel posture was the fact that purchasers of existing housing were eligible for program assistance However, during its brief existence, the focus of the program has gradually reverted back to that of its antecedents, as the reliable but unimaginative stabilization dimension of federal housin initiatives has regained dominance. This change in emphasis was signaled in January, 1975 when purchasers of existing housing were declared ineligible for the program.

⁴ This list of objectives is taken from a CMHC draft memorandum August, 1974, which describes the structure and the administrative detrils associated with the program.

to encourage the building industry to produce modestly priced housing by the introduction of a continuing program.

On the basis of these objectives, it appears that the program was designed not only to further a modified form of the usual production goal but also with explicit social objectives in mind. Specifically, the program was viewed as a means of altering the configuration of market parameters which impinge on tenure choice decisions and also as a vehicle which would permit families from the lower income groups to exercise this choice in favour of homeownership. All program objectives are pursued, in an operational sense, by federal subsidization of the monthly carrying costs associated with the purchase of residential property.

AHOP was launched in the company of several other innovative programs.¹ As a new continuing program, AHOP was novel in several respects, related both to its underlying principles and to its benefit delivery mechanism. For example, in encouraging homeownership through subsidization, the program became one of a small group of governmental activities which explicitly assist individuals or families to acquire capital assets for private use and benefit.² The attempt to promote the construction of modest forms of housing signals an intent to influence the quality and composition of new housing rather than simply the magnitude of starts.

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¹ These other programs included Non-Profit Housing Assistance, the Neighbourhood Improvement program, the Residential Rehabilitation Assistance Program; in addition the Cooperative Housing Program was substantially modified.

² The only other types of government activity falling in this catego that come to mind, are federal assistance to education and the art particularly post-secondary education, manpower training programs, and perhaps health care programs. Moreover, these latter activiti all relate to the accumulation or maintainence of human capital rather than material assets.

Finally, as will be described in detail below, in designing the program, an attempt has been made to acknowledge a basic fact of the national housing sector - that it is comprised of a number of largely independent urban and local markets which exhibit substantial variation in the nature of demand and supply conditions and in relative housing prices.

Our study of AHOP is based on the analysis of data which describe, in considerable detail, the families who have purchased housing with the assistance of the program between July, 1973 and March, 1976. As such, this study focuses on the distributional patterns which are revealed by an examination of the demographic and economic characteristics of the program's beneficiaries. No attempt was made, in the course of our study, to address the short-run impact of AHOP on the allocation of resources to or within the housing sector. a yet you draw implications on this issue

Our narrative begins, in the next section, with an examination of the program from a somewhat broader perspective than will be encountered in the remainder of this paper. In this context, we discuss the gross quantitative impact of AHOP in relation to the Canadian housing sector, the likely economic effects of the program, the magnitude of its claim on federal government funds, and the structure and chronological history of the program. As constituted, these initial sections are designed to provide an overview of the program prior to the detailed description of the program's clientele. The latter begins with the presentation of a straightforward multi-dimensional profile of AHOP beneficiaries; these results provide an impressionistic view of the distributional

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characteristics exhibited by the program. This is followed by a more detailed examination of a number of specific issues, each related in one way or another to considerations of equity. The fifth section of this paper contains a discussion of ANOP participation rates, the latter derived in part by our simulation of the program's target population. Finally, the paper concludes with a discussion of tenure choice patterns which includes, in addition to a historical perspective, a description of our attempt to estimate the likely impact of the program on tenure choice.

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2. Overview of AHOP

a) AHOP and Aggregate Housing Activity

The contents of Table 1 represent an attempt to illustrate the gross quantitative impact of AHOP in relation to total annual production activity in the Canadian residential housing sector. This illustration, which is based on a comparison of data reporting total annual starts and completions with that describing mortgage approvals and house purchases carried out under the aegis of AHOP, must be viewed as a rough approximation for a number of reasons. First, it is not possible, on the basis of published data, to distinguish between dwelling starts or completions destined for the ownership market from those destined for the rental housing sector. Hence, although AHOP sponsored units are produced and sold entirely in the ownership market, it was not possible to identify, for comparative purposes, the actual number of units started or completed in aggregate for that market. Secondly, data reporting annual housing starts are not commensurate with contemporaneous data describing mortgage approvals because of the existence of a time lag which separates the two activities, and because of the occasional failure by mortgage applicants to consummate the mortgage transaction. As a consequence, without detailed information on the duration of the time lags and on the rate of mortgage cancellations, one is unable to determine, with any precision, the magnitude and time path of housing starts following from the mortgage approval activity in any given year. This problem of time lags also arises in conjunction with the relation between dwelling completions and sales.

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Despite these qualifications, one might still. reasonably inter that AHOP sponsored housing has constituted an increasing proportion of all starts and completion of dwellings destined for the owner-occupied market over the first three years of program operation. Indeed, in 1975, it appears that about one in every eight newly completed dwellings for owner occupation was purchased with the assistance of AHOP. Thus, it would appear from the information contained in Table 1 that AHOP has achieved a fairly substantial quantitative impact in the owner-occupied housing market. Of course, the crucial question, which can not be addressed with this evidence, is what proportion of this gross impact also represents an ultimate net addition to the annual flow of housing starts, or conversely, to what extent does ANOP sponsored housing merely substitute for housing which would have been forthcoming in the market in the absence of the program?

b) Economic Impact of AHOP

One of the major objectives of AHOP has been to encourage housing production in general, and to encourage the production of modest family housing in particular. In this context, AHOP is intended to exert an influence on the allocation of resources to and within the Canadian residential housing sector. Moreover, because the program delivers benefits to only particular members of Canadian society, while excluding others entirely from participation in the program, AHOP necessarily generates a non-neutral impact on the distribution of welfare among Canadian families. In addition, the distributional implications of the program

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interact, perhaps in a crucial way, with the allocative effects to determine the social welfare implications of the program. For example, if the allocative effects turn out to be simply a reallocation of resources within the housing sector with no change in the overall level of activity, the distributional implications of the program will be the sole determinants of the program's impact on social welfare.

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From a microeconomic perspective, the major effect of AHOP is to alter the set of relative prices faced by eligible families. The AHOP subsidy has the effect of reducing the price of housing services that are available under ownership tenure relative to the price of similar services available under tenancy status. In addition, since housing is not only a consumption good but also a capital asset, the program also reduces the price of residential property relative to the prices of other assets which may be included in a family's asset portfolio. This alteration in relative prices can be expected to induce some families to switch their mode of housing tenure in order to adjust to the reordered consumption and/or investment alternatives which are available through participation in the program.¹

From an aggregate perspective, therefore, the program will be responsible for an increase in the demand for owner-occupied dwelling units. However, the ultimate impact on the housing sector of this shift in demand cannot

A decrease in the relative price of a good would generally induce all consumers to increase consumption of that commodity; in the case of housing, increased consumption would frequently mean an owner-occupied house. However, since the choice of housing tenure is a discrete decision, the change in relative prices would be expected to induce those families at the margin to switch tenure. The extent to which intra-marginal families decide to switch depends on the magnitude of the price change.

be predicted without appeal to empirical facts. Undoubtedly, the impact envisioned by the designers of the program would be an increase in the production of housing for owner occupation and perhaps an increase in the overall level of activity in the housing sector. Although the latter is a plausible result, other results are also possible and indeed each type of possible result may appear at some point in time. Moreover, the long-run implications of the program for the housing sector may be quite different from the short-run impact.

In order that AHOP sponsored dwellings be fully incremental to housing starts generated by pure market forces, a number of stringent conditions must be satisfied. First, it is required that no AHOP client would be exercising or intending to exercise effective demand in the owneroccupied housing market in the absence of the program. This condition ensures the maximum shift in the demand for owneroccupied housing. The second condition requires that the supply of owner-occupied housing is perfectly elastic over the relevant range of production. As a consequence, there must be no capacity constraints or other bottlenecks which would prevent producers from satisfying the incremental demand at prevailing prices. Thirdly, the supply of loanable funds must be perfectly elastic; otherwise mortgage funds must be diverted from other uses for lending to AHOP clientele. Finally, there could not be any feedback effects to other sectors of the housing market which would result in an offsetting decline in construction activity.

One is readily convinced that these conditions are not likely to be satisfied individually, and certainly not simultaneously. Indeed it appears more likely that the

converse of some those conditions could obtain in reality. For example, absolute capacity constraints associated with a buoyant market could mean that all AHOP housing would entail the diversion of resources from other potential areas of employment within the housing sector. The preceding considerations also suggest that, in general, the net impact of AHOP will vary with the level of activity in the housing sector, and in particular, this impact will be largest, although still less than the gross impact, during periods of widespread excess capacity.

The historical experience of AHOP, although brief, does allow us to develop some expectations as to the net production impact of the program to this point in time. AHOP was launched during a period when apparent excess demand existed in many housing markets throughout Canada. As a consequence, one would expect that the initial supply response to the program would have been marginal, particularly at the low price - low profit segment of the market that was covered by AHOP. Capacity constraints on the supply side should have restricted the flow of new housing into the market. The level of activity in the housing market declined during 1974 and 1975 relative to 1973. However production was still at historically high levels and to the extent that capacity constraints were relaxed, they were replaced by other supply bottlenecks - in particular a shortage of serviced residential building lots. As a consequence, it appears that as yet there has been little opportunity to exercise the stabilization potential inherent in the program.

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In any event, the production effects of AHOP, in the sense of contributing net new housing starts, can only be a short-run phenomenon unless it can be shown to be responsible for undoubling or new family formation which would not have taken place in the absence of the program. More probably, the effect of the program will be to change the time stream of new starts, that is, performing a stabilization function by reducing the trough of the housing cycle. In the short-run the program will also succeed in changing the composition of starts, that is proportionately more owner occupied starts and less rental starts than in the absence of the program. The latter effect is more likely to be a lasting effect the greater the extent to which the program permanently alters tenure choice patterns.

Hence although the program may have short-run or impact effects on both the number and composition of starts, the long-run or steady state impact of the program is likely to be negligible, except perhaps for a change in ownership patterns. As a consequence, from a long-run perspective, which appears appropriate for a continuing program, the program can be usefully viewed as a particular type of transfer program - one which enables selected Canadian families to acquire a capital asset at a reduced overall cost.

One final possible effect of AHOP and one that would have definite distributional implications, relates to the prospect that filtering may occur as a result of the program. The concept of filtering, in the context of housing,

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derives from the recognition that when a family occupies a new dwelling, it also typically vacates another, usually poorer quality dwelling. The latter would then be available to the lower income, more poorly housed, families. Thus, one may argue that the housing vacated by AHOP clients becomes available to those families who are currently poorly housed. However, a crucial condition for successful filtering must also be that the poorer families have access to the better quality housing at prices they can afford - that is at prices below those paid by the previous tenant. Although AHOP may contribute to temporary excess supply and thus downward pressure on prices in the rental sector, one would also expect further adjustments on the supply side to restore market equilibrium at or near previous rent levels. In the absence of a permanent reduction in the rental value of the housing vacated by AHOP clientele, lower income families will still be unable to upgrade their housing consumption and hence filtering will not have occurred.

Despite the importance of the preceding issue, this study has not attempted to analyse or estimate the net aggregate impact of AHOP on housing starts or on the composition of starts nor in relation to the process of filtering. Instead, we have focused almost entirely on the distributional implications of the program, viewing it as simply a special type of federal transfer program. This approach was selected because, for a number of reasons, we feel that the analysis of the production effects of AHOP would not only be an extremely difficult but perhaps also intractable problem. This latter view derives from an appreciation of the multifaceted nature of the housing market in conjunction with the

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For an elaboration on this line of reasoning, see: William B. Brueggeman, "Federal housing subsidies: conceputal issues and benefit patterns", Journal of Economics and Business 27(2) (Winter, 1975) pp. 141-149.

technical and quantitative problems associated with the scale of analysis that would be required to analyse this issue.

The Canadian housing sector is, in fact, comprised of a large number of more or less independent market areas each with a unique geographic location and its own particular set of market conditions. Although individual markets are linked through the intermarket flow of some factor inputs, the nature of the final output precludes trading across markets. As a result, the structure of demand, the nature of supply and hence the level of prices vary considerably among local markets. Given this environment, AHOP may have quite different production effects in different markets at the same time as well as at different points in time. This variability in market conditions across the country is a major factor mitigating against any aggregate macroeconomic analysis of AHOP, or indeed of all housing programs. The alternative, a market by market analysis, although a costly and time-consuming undertaking would appear to be the appropriate research posture. A yel you ciplicise Attop fer attain!

In a related vein, given the multi-dimensional impact of CMHC, in conjunction with the considerable influence exerted by governments at all levels, and the effects of many other exogenous factors on the housing market, one would require extensive time series data with adequate controls on all relevant factors, in order to isolate the net impact of a particular program. In view of this consideration, and the inability to summarize adequately housing market supply conditions, existing macroeconomic models of the

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Canadian economy introduce the housing sector in a rather primitive fashion making it difficult to estimate with confidence even the net impact of overall CMHC activity on the housing sector. Hence, an analysis of the impact of AHOP on the allocation of resources to and within the Canadian housing sector must await the development of further technical and analytical tools.

c) AHOP and Federal Funds

As the final element in an overview of AHOP, Table 2 reports annual budgetary expenditures and capital funds authorized under Sections 34-16 and 34-15 of the NHA for the period 1973 to 1975 and the corresponding forecasts for the period 1976 to 1979. Inspection of this table reveals a startling rate of growth in actual and forecast budgetary expenditures. This observation is explained by the nature of the relationship between capital commitments and budgetary expenditures as well as by the fact that AHOP is a relatively new program with a continually expanding clientele.

The commitment of capital funds to housing built under the auspices of AHOP also carries with it a commitment to provide subsidization for up to a maximum of five years, to the ultimate purchaser of the housing. In addition, the time interval separating the original commitment of capital funds and the commencement of subsidy payments may vary from between three months to over two years. Hence a commitment of capital funds in a given year could generate budgetary expenditure implications over the next seven years with a peaking of expenditures only in about the third year. Moreover as capital funds are committed in subsequent years and as the clientele continues to expand the budgetary implications become cumulative, resulting in the observed rate of growth in budgetary expenditures.

One other observation from Table 2 that perhaps requires an explanation is the forecast decrease, both in absolute terms and in relative terms of the AHOP capital budget. This result follows from the intent to shift the major burden of mortgage financing from CMHC to private lending institutions.

d) Program Structure

The structure of AHOP may be decomposed into two fundamental components: the scale of assistance and the eligibility criteria. Each of these components is generated independently of the other, although they interact to determine the dollar amount of the subsidy available to a particular family unit. The scale of assistance, which relates the degree and magnitude of subsidization to a particular range of incomes, is derived from the interplay of four key parameters: the AHOP house price benchmark, the mortgage rate, the tax ratio and a target gross debt service ratio (GDSR).

The formulation of the scale of assistance may be understood by going through the following steps. Given the price of a "modest" dwelling unit in housing market X, say Regina, and given typical local property tax rates and assuming that a 95% mortgage loan amortized over 35 years at the prevailing NHA lending rate is obtained, one questions what income is required such that no more than 25% of that income is devoted to the monthly payment of principal, interest and taxes. Next, assuming that a family with this income or above will not require assistance in order to purchase a house, this derived income becomes the upper bound of the scale where assistance would fall to zero. Further, assuming that families with lower incomes should also not spend more than 25% of their income on monthly housing contractual payments, the assistance scale is immediately defined as \$25 for every \$100 shortfall from the maximum allowable income.

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The final step consists of defining the lower bounds of assistance or, put somewhat differently, the maximum amount of assistance to be made available. To resolve this question, the assistance was divided into two parts - interest rate assistance and grant assistance. The magnitude of interest rate assistance is not regulated and refers to the subsidy required to reduce the mortgage rate, at which the loan contract is written, to an effective rate of 8%. Hence the magnitude of the interest rate assistance depends on the spread between the prevailing mortgage rate and 8% as well as, of course, on the total loan amount. The grant assistance is used to extend assistance further down the income range. Since it is viewed as an outright transfer, the maximum grant assistance is specified in the NHA housing regulations. The AHOP house price benchmark, which serves as the basis for calculating the PIT, is specified for each local housing market and hence the assistance scale exhibits regional and interurban variation. In addition, for the period considered, the assistance scale and dollar amount of assistance were generally independent of the amount actually borrowed by a client.¹

Whether a family may participate in AHOP, and the extent of the assistance which would be made available to the family is determined by the eligibility guidelines. Program eligibility is restricted to family units with dependent children or to single parents. In addition the program was primarily directed to first time purchasers of owner occupied housing although special provisions could be invoked for previous owners. On satisfying these preliminary eligibility criteria, one links a family unit to the scale

¹ The statement is true subject to the satisfaction of the minimum GDSR, to be discussed shortly.

of assistance by means of the family's adjusted income. The adjusted income is defined as the gross income of the family, from all sources, received by either adult member of the family, less family allowance payments and less an allowance of \$300 per dependent child. In addition, if the co-applicant is also working, gross income may be reduced by deducting this person's income to a maximum of \$1,000. Finally, if the applicant is a single parent, gross income may be reduced by up to \$1000 of earned (i.e., non-transfer) income in order to arrive at the adjusted income. The difference between a family's adjusted income and the maximum income per the assistance scale determines the total subsidy which would be made available to the family - at the rate, in the case of the above example, of \$25 per \$100 shortfall. Those families with adjusted incomes exceeding the maximum qualifying income would have no incentive to participate in AHOP, although they could qualify for a standard NHA mortgage loan.

A concrete example may serve to clarify the mechanisms involved. Given an AHOP house price of \$30,000 and a prevailing (Section 58) mortgage rate of 11%, a 96% mortgage (95% first mortgage, 1% mortgage insurance fee) amortized over 35 years would give rise to monthly principal and interest payments of \$264.39 or \$3173 annually. Assuming property taxes of \$600 per annum, an income of \$15092 would be required to attain a gross debt service ratio of 25%. This income would be the maximum qualifying income for markets with the assumed house price and tax rate. Performing the identical calculation for an 8% mortgage rate results in a required income of \$12089. Hence, a family with an adjusted income falling in

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the above income range would receive interest rate assistance, with maximum annual assistance amounting to about \$750. A family having an adjusted income below \$12089 would also receive grant assistance, again at a rate of \$25 per \$100 shortfall relative to \$12089 and up to the maximum fixed by regulation. For example, if the maximum grant assistance were \$600 (as it was for a portion of the period under study) a family with an adjusted income of \$9689 would receive the full amount of federal assistance available about \$1350 per annum. A family with a lower income would also receive this amount provided the family did not exceed the GDSR guidelines. This could be achieved by assuming a lower ratio mortgage (i.e., contribute a larger down payment) and/or by purchasing a less expensive house. Of course, any family participating in the program could also seek to reduce their debt service ratio (after subsidy) by choosing either of these options. To safeguard against this eventuality, a further administrative guideline specified a minimum allowable (net) debt service ratio, after which the amount of assistance could be reduced to maintain the minimum ratio.

The above description has not explicitly incorporated actual program parameters for two reasons; some parameters vary across local markets or over time while others have been changed occasionally during the period under study. The chart presented as Appendix D illustrates the historical pattern of these key parameters during the period of AHOP operation and the following discussion will provide further elaboration.

a) AHOP House Price Benchmark

The AHOP house price benchmark is a vital ingredient in the generation of the assistance scale. Formally, this parameter has taken two forms. From July 1973 through March 1975 it was known as the Basic House Price Index (BHPI). Subsequent to that period it became the maximum house price (MHP). Both versions of this parameter were employed as the benchmark according to which the scale of assistance was derived. In addition, both versions varied across housing markets in order to reflect regional and interurban variation in the cost of producing what was locally perceived as modest housing. However whereas the BHPI version did not directly restrict the maximum price paid by AHOP clientele, the MHP, as the name indicates, served to set the maximum house price which could be paid by an AHOP client.

The AHOP price benchmark originates in the local CMHC office and is submitted to head office for approval and implementation. The local benchmark is derived on the basis of a consideration of local land and construction costs of a modest family home (generally 3 bedroom) which is deemed to be readily marketable in that area. The latter qualification appears sensible at first glance since one may have difficulty selling high-rise condominium apartments in rural Saskatchewan. However this consideration is also related to other issues and will be examined in more detail later.

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The house price benchmark is an exceedingly powerful parameter within the overall structure of the program. The choice of the benchmark for any particular housing market would be a major determinant of the general degree of participation in the program, of the income range eligible in that market, and of the types and quality of dwellings produced and purchased under the program. As such, this single parameter may be utilized to pursue other objectives in addition to the primary program objectives or may serve to introduce substantial regional and interurban variation and perhaps inequity as to the types and quality of dwellings available /

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b) Mortgage Rate

The mortgage rate applicable in the aforementioned calculation of monthly P&I is the prevailing Section 58 Lending Rate. Changes in this rate, which is exogeneous to the program, have occurred frequently during the period under review. The effect of a rise in the mortgage rate is to raise the maximum qualifying income and thus broaden the income range embedded in the assistance scale. Further, while the interest rate assistance increases, the minimum income qualifying for the full federal subsidy remains unchanged. The latter would contrast with the effect of a rise in the AHOP house price benchmark; in this case the entire income range associated with the assistance scale would move upwards. Hence, with an unchanged maximum grant assistance, a higher minimum income would qualify for the full federal subsidy.

c) Gross Debt Service Ratio Guidelines

From July 1973 to April 1975, AHOP was designed to ensure that clientele need spend no more than 22% of adjusted income and no more than 25% of gross family income on net PIT payments. A general guideline also required clients to spend a minimum of 22% of adjusted income on PIT payments with a possible reduction in federal assistance to satisfy this guideline. In April 1975, this guideline was altered in that assistance was designed to allow clients to spend no more than 25% of adjusted family income on PIT payments. In addition, to be eligible for assistance, clients were required to spend a minimum of 20% of adjusted family income; again assistance could be reduced to meet this latter guideline.

d) <u>AHOP - Private</u>

In the Spring of 1975 the NHA was amended to allow potential AHOP clients to obtain mortgage financing from approved lending institutions. Although the AHOP house price benchmarks and maximum qualifying incomes were made identical for the new and original version of AHOP, the assistance scales differed. Under AHOP Private no interest rate assistance was explicitly available, all assistance was designated an outright grant and set by regulation at a maximum of \$600. However, due to the substantially more generous assistance available under the AHOP direct, AHOP Private did not become truly operational until the late fall of 1975 - after the maximum grant available had been raised to \$1200.
e) Eligible Income Range

As described above, the maximum qualifying income for AHOP assistance depends on the AHOP house price benchmark, the mortgage rate and terms, and a desirable or target gross debt service ratio. Conceptually and administratively no minimum eligible income exists, only a lower bound income where maximum assistance will be received. For practical purposes however, the fact that a minimum house price, particularly a minimum new house price, prevails in any housing market at any point in time determines the minimum income which qualifies for the program, especially in light of the maximum gross debt service ratio permitted.

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A family with income below the level which derives maximum assistance, is faced with few alternatives - to qualify for the program it must purchase a house priced lower than the price benchmark or provide a larger downpayment. These options are softened to the extent that some provinces and municipalities also provide a capital grant or monthly subsidy which would allow lower income families to participate in the program. This consideration again emphasizes the significance of the house price benchmark. The choice of the benchmark relative to the price range of new houses in the market will determine if lower income families can choose the first alternative above and thereby qualify for AHOP assistance. We might note here that given the flexibility associated with the budget share guidelines (particularly those post April 1975), households falling within the income range where maximum assistance is not attained could also reduce their GDS ratio to 20% by increasing the equity contribution or purchasing a lower priced house. However given the existence of this 20% minimum GDS ratio, and the fact that the assistance available depends only on the family's adjusted income and is hence independent of the amount borrowed, there is no incentive to make "excessive equity" contributions. Even if a family has substantial liquid assets the program encourages it to contribute only sufficient equity to reduce the GDS ratio to 20%.

In December of 1975 AHOP was substantially modified by means of amendments to the NHA. Although the basic objectives of the program remain unchanged, the assistance scale, the eligibility criteria and the magnitude of benefits were revised. The interest rate assistance formerly available under AHOP direct was replaced by an interest reduction loan (IRL) which is designed to reduce the effective mortgage rate to 8% in the first year of the mortgage. The loan, the amount of which may be reduced in each of the years subsequent to the year approved, is interest free for five years and repayments are not required until the 7th year of the loan. All family units, regardless of income, are eligible for the interest reduction loan provided the family purchases a new house priced at or below the AHOP maximum house price. An income-tested subsidy (of up to \$750) is still available to family units with dependent children, if the IRL fails to

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reduce the family gross debt service ratio to 25% of gross family income. The assistance scale is no longer based on the AHOP maximum house price but instead is directly related to the actual PIT payment with the subsidy provided to maintain a gross debt service ratio (with respect to gross income) of 25%.

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f) Program Operational Procedures

A few comments on the nature of program operational procedures will be useful in understanding the results which are presented in subsequent sections.

The initial application for an AHOP sponsored mortgage loan may be initiated by a family, as a prospective owner of a dwelling unit, or by a builder. In the latter case the builder obtains interim financing from CMHC or an approved lender and the AHOP designation attached to his units would be expected to facilitate eventual sale of the dwellings. Builders may obtain financing on a speculative venture where they build for a specific segment of the market intending to sell only on completion of the dwelling - or on a presold basis - where the ultimate purchaser has already been identified. In either case the ultimate purchaser assumes the builders mortgage on eventual sale of the dwelling; provided the purchaser is approved by CMHC and is eligible for AHOP the purchaser becomes an AHOP client. AHOP subsidy payments begin only after the dwelling unit is occupied by the final purchaser.

In the case of loans to builders, the mortgage rate and terms and the prevailing AHOP guidelines and parameters are attached to the dwellings financed by the builders. Since the interval between initial mortgage approval and eventual completion and sale of a dwelling unit may take up to two years, the AHOP provisions prevailing at any point in time may be enjoyed by ultimate AHOP clients in several different periods. For example, although a mortgage rate of 9½% prevailed only from August 1973 to July 1974, a large number of AHOP clientele who purchased housing in 1975 were able to assume a 9½% builder's mortgage.

Finally, participation in AHOP (prior to the December 1975 amendment) meant a commitment by CMHC to deliver the agreed benefits for a period of five years - the usual term of first mortgages. At the end of this commitment, the family may be eligible for further assistance if its GDS ratio would exceed the program guideline. CMHC's obligation vis-à-vis subsidization ceases on sale or when the family no longer occupies the dwelling as a principal residence.

3. A Profile of AHOP Clientele

Table 3 reports the distribution of AHOP clientele among a number of characteristics describing the family, the dwelling, and program attributes. The reader should note that these tabulations are based on information derived from mortgage application and approval forms which are generated in the routine administration of the program. In addition, these data are based on the complete set of AHOP assisted purchases since the inception of the program and hence do not coincide with a description of AHOP clientele at any point in time. The active file of AHOP clients is changing continually due to attrition as housing is resold and due to additions as new clients join the program. In addition, of course, the families included in the active file are continually experiencing demographic and income changes. The results presented here focus on the circumstances of the family and its interaction with AHOP at the time of induction into the program. This perspective is identical across all families despite the fact that the actual calender date of the observation ranges over a period of roughly 30 months.

The contents of Table 3 illustrate that almost two-thirds of AHOP clients, when joining the program, had gross family incomes in the range of \$8,000 to \$12,000 and that 93% of the families had incomes in the range of \$6,000 to \$14,000. The distribution of incomes of AHOP families is also reported, in Table 4, on a year by year basis. This latter tabulation illustrates that the distribution of incomes has shifted upward between 1973 and 1976. Hence, while in 1973 only about 24 percent of program participants had incomes in excess of \$12,000 (measured in 1975 dollars),

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in the first three months of 1976, 45 percent of families had incomes exceeding this amount. On the other hand, over the same period, the proportion of AHOP clientele with incomes below \$8,000 declined from about 10% to 5%.¹

The program appears to have served predominately young families. About 60 percent of the clientele are between 25 and 34 years of age; only about 12 percent of AHOP assisted purchases have been undertaken by family heads forty years of age or older.

The regional distribution of AHOP assisted purchasers indicates that roughly 60% of the new homeowners resided in Ontario and Quebec. AHOP clientele are also concentrated in the large urban centers. Twenty-four per cent of the families purchased dwellings in one of the four largest Canadian cities (Montreal, Toronto, Vancouver, Winnipeg), while two-thirds of the applicants reside in urban areas with a population of 40,000 or more. Rural sections of the country contained only 6.6% of AHOP assisted dwellings.

For the thirty month period considered here, three-quarters of the dwelling units acquired with AHOP assistance were new housing units. However, prior to January 1975 when AHOP eligibility was restricted to new housing, roughly 50% of AHOP clients had purchased an existing (resale) housing unit. All of the existing housing was financed under Section 34.15 of the NHA (AHOP - Direct Lending); of the new housing in the hands of AHOP clients, 93% were financed directly by CMHC.

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To provide some perspective on this information, one might note that in 1975, the median gross income of Canadian families was \$14,925; 20% of Canadian families had incomes below \$8,000; 16% had incomes between \$8,000 and \$12,000.

Table 3 also contains frequency distributions of the prices, types, and sizes of dwelling units purchased under the aegis of AHOP. Although for the period considered, 70% of the units were single detached dwellings, inspection of the year to year trend indicates that single detached units are a declining proportion of total units occupied under the program. Although this latter trend would be expected, as a response to market conditions of the past few years, (because of generally increasing house prices throughout Canada since 1972 and particularly because of the increase in the relative price of land intensive, single detached housing) the period under study is not of sufficient duration to confirm the existence of this trend. Differential time lags between the start and the completion of the various types of dwellings will likely influence the annual flow of the different types of units over a period as short as that covered by this study.

The uniformity in dwelling type is matched by the frequency of dwelling sizes. Although spanning a wide range of sizes, 60% of the dwellings contained between 900 and 1,100 square feet of useable living space. Prices paid by ANOP clientele also covered a wide range, nonetheless 63% of the dwellings were purchased for between 20 and 30 thousand dollars. A time trend is also evident in the case of house prices. Referring to Table 4, one will note a dramatic upward shift in the distribution of prices between 1973 and 1976. While more than half of the houses sold for less than 20 thousand dollars in 1973, less than 1% of the houses were purchased in that price range in 1975 and early 1976. This trend in the distribution of house prices, together with progressively higher mortgage rates and the increase in the federal grant maximums, is reflected in the changing distribution of monthly federal subsidy entitlements over time. For example, while for the entire period only about 11% of AHOP clients were eligible for subsidies in excess of \$100 per month, by far the greatest number of these families joined to program in 1975 and 1976. Meanwhile, the proportion of families eligible for monthly assistance of from \$25 to \$49, fell from 70% in 1973 to 11% in 1975. Hence, since the inception of the program, the distribution of incomes of AHOP assisted homeowners has shifted upwards each year and each year these clientele have purchased relatively more expensive housing and have received larger federal subsidies to allow them to do so.

Table 3 also contains some results which address, in a preliminary fashion, the issue of housing affordability. A crude rule of thumb which is often invoked in discussions of housing affordability problems and which is frequently employed as a guideline in many programs, including AHOP, is that families should allocate no more than 25% of the gross family income to annual housing expenditure, the latter usually referring to rent or PIT payments. The AHOP assistance scale was, in fact, designed so that families need not spend more than 25% of their adjusted income on PIT payments and program guidelines preclude loan approval where the GDSR would exceed 25%. Employing this rule of thumb, we may explore the housing affordability problems of AHOP clients at the time of application (when the majority were renters) and, also in their new tenure, with regard to their annual PIT payments both before and after application of federal subsidies.

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In Table 3 we have reported the distribution of AHOP clients by the rent¹ to income ratio and by the gross debt service ratio (using gross family income) with and without federal assistance. Of the 93% of AHOP clients who were previously tenants, only 9% spent more than 25% of their gross family income on annual rent payments. Moreover, 73% of the former tenants spent only 20% or less of their income on rent. Hence, AHOP clientele as a group did not appear to face housing affordability problems while residing in rental housing.

In contrast, on purchasing a house under the auspices of AHOP, 82% of the families have assumed the contractual obligation of spending more than 25% of gross family income on annual payments of principal, interest and property taxes. Nonetheless, slightly more than half of the families still fall within the lending guidelines (of 30% GDSR) usually followed by conventional mortgage lenders. Given the incipient affordability problems faced by these families, federal subsization under AHOP is provided to reduce the GDSR actually carried by AHOP participants. Hence, following assistance, only about 15% of AHOP clients make a contribution to their annual PIT payments which amounts to more than 25% of their gross income.² The GDSR, after assistance, of two-thirds of the AHOP clients falls into the range deemed desirable under program guidelines. In addition, it appears that even though some of those homebuyers would not have faced budgetary constraints if

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¹ The rent used here does not contain an adjustment for the fact that rental payments may include one or more utility charges as well. If one were to make the adjustment, by deducting utility costs from the inclusive cash rent, the the distribution in Table 3 would shift downward.

One may perhaps question why this proportion of clients still face a net GDSR exceeding 25% when program guidelines generally exclude this eventuality.

paying full PIT, federal subsidization further reduced the burden of annual housing payments. Thus, about 17% of the AHOP clients were required to contribute less than 20% of their gross family income as their share of the gross annual PIT payment.¹

The foregoing results suggest that while AHOP applicants do not experience housing affordability problems when renting, the purchase of a house would in fact introduce such problems in the absence of federal assistance via AHOP. In other words, by encouraging or arranging for this group of families to become homeowners one also establishes a group facing incipient housing affordability problems, problems which AHOP serves to alleviate. Hence, in one sense AHOP becomes the cause and cure of housing affordability problems for that segment of the population which participate in the program.

The preceding results also indicate that for the period covered by this study, the majority of AHOP beneficiaries have been young families, under 35 years of age; have had income between \$8,000 and \$12,000; have been located in large urban areas; and have been residents of Ontario or Quebec. Moreover, these families have tended to purchase a new detached house containing between 900 and 1,100 square feet of living space. Finally, in purchasing a unit priced at between \$20,000 and \$30,000, they have received between \$25 and \$75 per month in federal subsidization.

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¹ This result likely indicates some violation of the program guideline which specifies that assistance should be reduced so that families spend at least 20% of <u>adjusted income</u> on housing payments.

4. Equity Considerations

The preceding section provided a descriptive profile of AHOP clientele during the period July 1973 to March 1976. However since that profile was based largely on one-dimensional frequency distributions, the discussion failed to pursue the existence of associations or relationships between the various characteristics. This section carries the analysis one step further in addressing, in a more analytical fashion, the implications of the program for the issues of equity and housing affordability problems.

a) Asset and Net Worth Positions of AHOP Clientele

AHOP is a member of a small set of governmental programs which explicitly assist individuals or families in acquiring private assets. In contrast most social programs delivering benefits to citizens have been created in order to ensure or to supplement the family's access to fundamental prerequisities to human health, nutrition and safety. As a consequence of the nature of AHOP, one could reasonably argue that an asset test should be required in the light of equity considerations and/or that the private gains due to capital appreciation should be returned to the public realm.

The owner-occupied home is the major asset of the majority of Canadians, while the mortgage debt is the major liability. A decision to acquire a dwelling unit is partially an investment decision in that the family decides in what form to hold its wealth. One can argue that a family who

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does not own a house but who does hold substantial wealth in other forms, has decided not to choose ownership tenure given the various rates of return, market opportunities and its preference set. Put another way, one could argue that a government program designed to encourage households to acquire a particular asset should take note of the asset position of program applicants and prohibit participation to those which have chosen to hold their assets in other forms.

Total asset holdings and total outstanding liabilities are recorded on the mortgage application of each AHOP applicant. As a consequence this information was available in the AHOP clientele data file and some analysis has been done based on this information. One should note at the outset that the quality or reliability of this data may be suspect. Both pieces of information will be based on the applicant's estimate and there may be some perceived incentive in understating asset holdings. On the other hand, while failure to report reasonably accurate outstanding liabilities may jeopardize mortgage approval, the method of coding this information restricted the maximum value to \$9,999; hence net worth may be overestimated in some cases.

Table 5 reports the distribution of AHOP clientele with respect to total asset holdings and by net worth. On this basis, it appears that about one-quarter of the families held assets valued in excess of \$10,000 and that roughly 16 per cent of the families possessed a net worth of that amount. Sixty-three per cent of the families held assets valued at between \$5,000 and \$15,000 and 47 percent had net worth in this range. It also appears that a small but not insignificant number of AHOP clients (3% or about 1,000 families) could have purchased their new home by simply rearranging the contents of their asset portfolio.

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To gain some perspective on the above information we have also compared the preceding results with those derived from a special survey schedule attached to the Survey of Consumer Finances conducted by Statistics Canada in May, 1970. This comparison is presented in Table 6. The fact that the information describing Canadian families and unattached individuals was collected in 1970 makes this a less than ideal comparison since one would have expected at least the nominal values of assets and net worth to have increased considerably in recent years. As a consequence, the distribution of families and attached individuals would be shifting upwards across higher asset and net worth groups.

This expectation is reinforced by the observation (the last column of Table 6) that a substantial portion of total assets were held in the form of owned housing, particularly for those households with assets of between \$2,000 and 50,000 in 1970. Given the substantial increase in the real and nominal value of housing since 1972, the total value of assets and net worth held by homeowners has also increased substantially. However, we can also be confident that non-homeowners have not experienced the same rate of appreciation in asset values and net worth. The asset portfolio held by those in the lowest asset groups (under \$5,000) is dominated by liquid assets (largely cash and deposits) and the value of the family automobile.¹ Since renters dominate this latter group and in general possess fewer real assets then homeowners, the distribution of

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See Statistics Canada, Incomes, assets, and indebtedness of families in Canada, 1969 (Catalogue No. 13-547) Table 50.

renters presented in Table 6 for 1970 has probably changed little in recent years. Since 93 per cent of AHOP clientele were renters at the time of application, a relevant comparision appears `feasible.

On this basis, it appears that families who participate in AHOP are as a group wealthier then all tenant households. In particular, while 63 per cent and 47 percent of AHOP clients held assets and net worth valued, respectively, at between \$5,000 and \$15,000 dollars, the corresponding proportions among all tenants is 12 and 10.3 per cent. We would hasten to point out that this contrast is likely overstated and also not unexpected. The distribution of tenants includes unattached individuals which typically have less assets and lower net worth and thus shift the overall distribution downwards. In addition, despite the high-ratio mortgage and the variety of acceptable forms of downpayment, in addition to cash, available to AHOP participants, a minimum net worth position is required in order to cover the direct and indirect costs associated with the purchase and especially the first time purchase of a house. Nonetheless, it appears that some AHOP clients may have been in a net worth position which would have enabled them to participate in the owner-occupied housing market in the absence of public assistance.

In summary, our results suggest that a wealth constraint may be a significant barrier to participation in AHOP. It also appears that AHOP clients, as a group, are in a relatively more favourable position vis à vis the command over real resources than that indicated by a consideration of the distribution of their incomes.

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b) Distribution of Federal Assistance

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In this section, we focus on the magnitude and on the distribution of federal subsidy commitments granted to AHOP clientele. The relevant information is reported in Table 7 according to selected family characteristics. This information may also be interpreted as addressing the issue of vertical equity. However one must be cautious in this latter regard; the data are aggregated over a thirty month period, and the underlying calculations were in nominal dollar terms. An attempt to address this issue in terms of the real value of housing made available to AHOP clientele will be illustrated in a subsequent section.

Perhaps the most striking observation derived from a quick perusal of the contents of Table 7 is the absence of any major variation in the mean monthly subsidy, regardless of how the AHOP clientele are classified.¹ As a consequence of this similarity in mean subsidy values, the distribution of total federal assistance among families grouped in the various ways is very similar to the corresponding frequency distributions of families (as reported in Table 3 above).

To illustrate this point we may refer to the distribution of total federal subsidy commitments by income group. Although the relationship between income and mean monthly federal assistance is slightly progressive, nonetheless, families contained in income groups bounded by \$4000 and \$12,000 (measured in 1975 dollars) were eligible on average, for quite similar amounts of assistance. These families,

¹ The only exceptions to this statement are the somewhat higher average subsidies received by members of the lowest income and asset groups.

representing about 74 percent of the clientele, qualified for assistance ranging between \$59 and \$66 per month. As a result, the distribution of these families by income group is virtually identical to the corresponding distribution of total federal assistance. For example, families with incomes between \$4000 and \$6000 constituted 1.3% of the clientele and, as a group, received 1.4% of total subsidy commitments. Families with incomes between \$10,000 and \$12,000 represented 35.3% of all AHOP families and obtained 35.2% of total federal assistance. In turn, these results suggest that, to the extent that income is an indication of 'need', and to the degree that average dollar subsidy is a fair representation of benefits, the program does not appear to incorporate the principle of vertical equity.

This observation must be qualified somewhat, however, in that these results may be attributed, at least in part, to autonomous changes in program parameters in addition to the original program design. It was pointed out in an previous section that on a year by year basis, the income distribution of AHOP clientele has shifted upward between the autumn of 1973 and the spring of 1976. In turn, this has been a result of two factors: the occasional upward adjustment of the AHOP price benchmark to keep abreast of steadily rising house prices in most markets, and the application of higher mortgage rates. Each of these factors while raising the maximum qualifying income, also serves to increase the amount of interest rate assistance available to program participants. Finally, the higher income families are generally only eligible in the higher priced housing markets. As a consequence, the larger loan amounts and the higher average mortgage rates have resulted in subsidies for the higher income families which are similar in magnitude to those of the lower income groups.

To shed further light on this matter, we have disaggregated the above result according to the year in which a family joined the program. As Table 8 indicates, the average monthly subsidy made available to members of each income group has increased substantially between 1973 and 1976. For example, members of the five highest income groups received subsidies in 1975 and in 1976 which, on average, exceeded those received by the five lowest income groups in 1973. As a consequence, when aggregating over these four calendar years, as was done in deriving the contents of Table 7, one would expect the observed results, namely reduced variation in average monthly assistance across income groups.

The contents of Table 8 also indicate, however, that as the income distribution of AHOP families has shifted upward between 1973 and 1976, so has the distribution of federal disbursements under the program. Hence, not only has the proportion of low income clients declined each year but the latter have received a declining share of total program disbursements. Although from a somewhat different perspective, this would again indicate the presence of vertical inequity.

An alternative perspective on the equity issue is presented in Table 9 which reports the federal government share of PIT payments by income and age groups. These results show that the federal share of PIT payments by income group ranges from 37 per cent to 14 per cent with a grand mean of 24 per cent. These results also indicate that there is a strong inverse relation between the share of PIT covered by the federal contribution and family income. The federal assistance received by the lowest income groups, expressed as a proportion of PIT is, in general, substantially greater than that received by higher income groups. Thus, while all income groups were entitled to similar dollar amounts of assistance under AHOP, the federal subsidy may be viewed as making a relatively greater contribution to the ability and facility of low income families to become homeowners. These results reflect the income-tested nature of the program in a more appropriate manner because the ratio form serves to control for regional variation in the assistance scale. They may also be due to the fact that lower income families tend to purchase housing priced lower than the AHOP price benchmarks.

Returning to the results reported in Table 7, the relationship between the mean monthly subsidy and the value of asset holdings reveals a slight progressive element; in particular, those families reporting assets valued at under \$500 received 42 per cent more per month than the average AHOP participant. However, since the program does not impose an asset test, these observations are the result of the joint association of asset holdings with family income, age of applicant, and location. There also does not appear to be any relationship between federal assistance and the age of family head. As a consequence, the distribution of federal subsidies by age group corresponds to the analogous distribution of families; 60 per cent of the total benefits were received by families in the age group 25-34.

The provincial and regional distribution of total federal assistance indicates that about 60 per cent of the federal transfers are received by residents of Quebec and Ontario, and that Quebec families have been the major beneficiaries of AHOP both in terms of the absolute number of participants and in terms of federal dollars received. This distribution depends on a number of factors including the initial regional allocation of AHOP funds by CMHC; the level of the AHOP price benchmark relative to local market prices (which will partly determine the regional distribution of eligible families and the regional participation rates); the average level of family income relative to prevailing local market house prices (which will affect the average size of subsidy per family); and the degree of cooperation exhibited by provincial and municipal governments.

Provincial involvement in the program appears to have been especially important not only in generally promoting the program among their citizens but in actively encouraging participation by lower income families who would otherwise be eligible for other forms of federal or provincial housing assistance. In pursuing this objective six of the provinces (Newfoundland, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, and Alberta) had provided an additional subsidy under the

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program, thereby permitting the participation of lower income families. Referring to Table 7, it appears that the Saskatchewan government, in particular has been successful in encouraging the participation of its citizens, and especially those of low incomes.

In summary, the preceding discussion has described the distributional patterns of total federal subsidy commitments under AHOP. Our results illustrate that the aggregate distributions of federal disbursements is virtually identical to corresponding distributions of the clientele. In turn this suggests the absence of any operative equity principle underlying program disbursements. Instead the aggregate distribution of federal subsidy disbursements appears to depend directly on those factors which determine differential rates of participation by eligible families. Although an analysis of the determinants of participation rates was beyond the *a* way point scope of this study, available evidence did indicate the prominent role played by the provinces in influencing the provincial distribution of federal AHOP assistance.

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c) Vertical and Horizontal Equity

The principles of vertical and horizontal equity are typically invoked during an analysis of governmental transfer programs. In particular, the merit of such programs may be judged largely according to whether program benefits are delivered in a manner which at least does not violate these basic equity precepts. According to the concept of vertical equity, fairness demands that those individuals or families who are in greatest need should receive the greatest amount of benefits. In typical applications of this principle, income is taken to be the indicator of need and hence a program is said to incorporate vertical equity if the magnitude of benefits is inversely related to the recipients' incomes. Horizontal equity is a companion principle which asserts that for purposes of fairness, individuals or families with identical needs should receive identical benefits. Again in the typical application this would mean that the benefits of a program should be identical for all beneficiaries with identical incomes.

The application and interpretation of these equity principles is relatively straightforward in the case of programs which deliver pure income transfers that are available, without exception, to all members of society. However, in reality, few programs can be described in this manner, and as a consequence the application of these principles becomes difficult and their interpretation frequently ambiguous. For example, most government programs categorically exclude participation by certain segments of the population while many of these programs also deliver benefits either explicitly tied to or consisting of specific goods or services.

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While categorical exclusion from a program on the basis of income may not violate these basic equity principles, exclusion on the grounds of age, occupation, education, family size or any other of the commonly used eligibility criteria, will almost certainly do so. Only in cases where those eligible for a particular program are deemed to be in special need from the viewpoint of society as a whole, can the program be considered just, despite the violation of the principles of vertical and horizontal equity. The latter consideration would, for example, presumably be the appropriate justification in the case of OAS and GIS payments. However, despite the inability to apply these concepts in their most general form, they are nonetheless still usefully applicable, in a more limited fashion, in the assessment of the benefits received by those eligible for a particular program. In other words, although it may have been decided that a program will not satisfy the principles of equity in a global sense, it may still be desirable to adhere to such principles within the ambit of the program.

The above discussion addresses cases where a program delivers pure income transfers. However if a program delivers a specific good or service or more typically, if it delivers cash benefits which may only be used for the purchase of specific goods or services, different problems arise in the application and interpretation of conventional principles of equity. The fundamental cause of these problems is the fact that relative commodity prices may vary considerably both intraregionally and interregionally throughout Canada. As a consequence, recipients of identical cash benefits may be able to purchase different quantities of a commodity in different parts of the country. Moreover, interregional

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relative price differentials can result in families with identical incomes being able to attain different levels of welfare in different regions of the country. In this context both identification of need and the evaluation of the benefits is no longer straightforward; use of the various combinations that are possible will generally yield ambiguous results.

An analysis of AHOP in the light of the principles of vertical and horizontal equity is plagued with both of the foregoing types of problems, that is, categorical exclusions associated with transfers in kind in the presence of substantial interregional and intraregional variation in the relative price of housing. In addition, the structure of the program, particularly the use of market price benchmarks, introduces substantial potential for various types of horizontal inequity. In what follows, we shall focus on the equity implications inherent in the structure and guidelines of the program as well as on the characteristics of the benefits delivered under its auspices.

The AHOP assistance scale incorporates the principle of vertical equity at the level of the local market area in that the amount of assistance varies inversely with the level of family income. The exceptions to this statement pertain to the presence of a maximum amount of assistance which introduces a discrete segment in the assistance scale over the range of incomes in which all families would receive the same maximum assistance. In addition, in practice the lowest income families will be entirely excluded from participation in the program. The other exception derives from the use of

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adjusted family income rather than total family income to determine benefit entitlement. This practice, which results in relatively greater benefits for larger families, for families with working spouses, or for single parent families implies a slight departure from the use of total family income as the index of need.

The greatest scope for vertical and horizontal inequities with regard to AHOP derives from the regional variation in the assistance scale. However the rationale for this variation - the regional variation in house prices also creates difficult problems in the application and interpretation of these equity criteria. These problems include choice of the relevant benefits (cash transfer or real housing services made available), the comparability of benefits (small bungalow versus large row house), and the selection of a "needs" indicator (nominal income or real income).

An example of the ambiguity which can arise is reflected, in the context of horizontal equity, by a situation in which families with identical nominal incomes, but residing in different housing markets, receive differing amounts of cash benefits which assist them in purchasing houses of different types, sizes and prices. Given the identical incomes, the only element common among all families would be an identical GDS ratio after application of federal assistance. One can confront this example in various ways in search of horizontal equity. If gross income defines equals and only cash transfers are considered, equity requires equality of benefits for all families and hence the program, in this case would be inequitable. If, on the other hand, benefits are defined as the quality and quantity of housing services provided under the program, again the program would be inequitable. However by including both of these perspectives in a wider context, it may be that these families receiving the larger cash benefits also purchase the more modest housing, indicating that perhaps on balance, the program treats these families in a fair manner. Finally, if one recognizes that despite the identical incomes, families residing in areas with relatively lower housing prices will likely be better off in a welfare sense than families facing relatively higher housing prices in other areas then we leave the issue of horizontal equity and move into the realm of vertical equity where similar problems arise.

These problems are further complicated by the use of the concept of marketability in determining the AHOP price benchmark appropriate to a local market area. By selecting a price benchmark which ensures that housing forthcoming at that price will be easily marketable in an urban area, there is no assurance of a consistant relationship between the level of the price benchmark in local markets and the type and quality of housing available at those prices. Hence it becomes possible that AHOP clients may be able to buy bungalows in a relatively expensive market while otherwise identical clients may purchase only row housing in a relatively low priced market.

The foregoing comments were designed to illustrate that it is not possible to present a straightforward unambiguous

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analysis of AHOP in the context of conventional equity principles. Apart from consideration of the categorical exclusions, perhaps the only uncontentious statement one can make with respect to program equity derives from the regional nature of the assistance scale. Specifically, the program is necessarily inequitable in the sense that a family, for example with an income of \$6000, can be eligible in an area where market prices are relatively low while another family with the same income could be rendered ineligible in a relatively expensive market. Hence only the first family would receive assistance despite the fact, that, if the families have similar preferences, this family is also unambiguously better off.

The results presented below should be considered in light of the foregoing discussion. Although we can examine questions of equity from a number of perspectives, no single perspective enables one to summarize effectively the multi-dimensional nature of this issue in the context of a program such as AHOP.

Table 10 illustrates the distribution of AHOP clientele within family income groups and according to the value of the house purchased and the amount of federal assistance which was committed. The patterns revealed by these results are clear reflections of the explicit operational structure of the program. The direct relationship between income and house price is expected in that the eligible income range varies with the level of the AHOP house price benchmark. As a consequence, higher income families are only eligible for the program in areas with relatively high

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house prices. Nonetheless, there is some variation within each income group in the value of the housing purchased under the program. This, in turn, partly explains the considerable variation in federal assistance available to the families of any particular income group, since the amount of assistance forthcoming depends on the local house price benchmark. Table 12, presented below, also illustrates this phenomenon in presenting the mean monthly federal subsidy commitment by house price group. Hence families within the same income group receive differing amounts of federal assistance because these families have purchased housing in different markets

Although this observation follows from the design of the program in that an attempt was made to recognize explicitly the interurban variation in house prices and the corollary that families of a given income will require a greater amount of federal assistance in more expensive markets, it also addresses the issue of horizontal equity. In particular, although all families with identical incomes will be spending roughly the same proportion, and thus similar absolute amounts, of their incomes on housing, the variable federal assistance permits the acquisition of housing of varying nominal value. In turn this implies that the prospects for capital appreciation and the proceeds of ultimate liquidation of this asset will vary considerably across families with identical incomes. In addition, the gross PIT payments of the families who have purchased in relatively expensive housing markets will be considerably higher than otherwise identical families residing in lower priced housing markets. If all families experience similar

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increases in income over time, this means that the former families will be eligible for federal assistance for perhaps a considerably longer period of time than the latter families. This consideration means that from a life time perspective, the variation in the amount of federal assistance provided to families with similar or identical incomes will be even greater than indicated above. Hence on the basis of the evidence presented to this point, it appears that the program violates, in a substantial fashion, the principle of horizontal equity. On the other hand, while the inverse relation between income and average federal assistance does reflect some correspondence with the concept of vertical equity within each house price group, apparent cases of vertical inequity are obvious across the house price groups.

The foregoing analysis represents one perspective on the issue of program equity. The general impression which emerges from that analysis is that the program fails to adhere to the principles of horizontal and vertical equity in its treatment of individual program participants. Although this analysis corresponds to a conventional perspective on program equity, the emphasis on the nominal value of federal assistance will not likely convey a balanced impression of the equity implications of the program. In turn, this is because the existence of interregional and interurban variation in house prices means that a given money outlay will purchase quite different packages of housing services in different parts of the country. Hence, despite possible differences in family income and federal assistance, real housing consumption, that is, the quantity and quality of housing consumed, could be identical. Moreover, if the quantity and quality of

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housing which may be purchased by AHOP clientele varies inversely with the AHOP price benchmark then there will a tendency for differentials in real housing consumption to offset the differentials in nominal federal assistance.¹ Hence variation in the real consumption of housing services that families are able to obtain under the program may offset apparent inequities in the disbursement of nominal federal assistance within and among income groups.

In order to explore this latter possibility, we selected three features of the housing actually purchased by AHOP clientele to serve as proxies for overall quality and quantity of housing services consumed. First, whether the acquired dwelling was a new or a resale unit may be taken to be a crude indicator of housing quality in that it reflects the age and perhaps the state of repair of the dwelling. The structural type of dwelling purchased is also assumed to represent a quality dimension since this characteristic will reflect associated lot size and the density of proximate residential development. Moreover, studies of relative house prices in particular urban housing markets indicate that families are prepared to pay a premium for detached housing, even when one accounts for all other quality features, reflecting, in turn, the perceived quality associated with detached housing. Finally, the size of dwelling, measured in square feet of living space is a straightforward indicator of housing quality.

Table 11 reports the aggregate distributions of AHOP clientele within each income group and according to dwelling class, type and size. On this basis, it appears that,

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¹ As house prices vary from market to market so will the definition of modest housing which will be considered marketable in the various markets.

during the period under study, a larger proportion of each of the lower income groups tended to purchase new housing than was the case for the higher income groups. This observation is perhaps surprising since typical market behaviour would lead you to expect that, since resale housing is generally lower priced, it would be more accessible by lower income families. Moreover existing housing was excluded from the program at a time when the rate of participation by relatively higher income families was increasing. However, this result appears to be due to a concentration of the higher income clients in markets in which the level of the price benchmark restricted AHOP activity in the new housing market.

Table 11 also illustrates that proportionally more of the lower income families were able to purchase single detached housing under the program than was the case for the higher income families. In fact, a relatively large proportion of the latter group purchased housing of the greatest density, that is row and apartment housing. These observations appear to be explained by the fact that proportionally more of the lower income families purchased housing in the relatively inexpensive markets where modest housing was defined as detached housing. In addition the initial ability to participate in the resale market would have allowed some lower income families to take advantage of the tradeoffs in price, age and structure type available in that market.

With respect to our final dimension of housing quality, the contents of Table 11 suggest that the size of dwelling purchased with the assistance of AHOP tends to

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increase with family income. For example, while substantially more than half of the families in each of the four highest income groups were able to purchase a dwelling containing at least 1000 square feet of living space, only about 20, 28, and 34 percent of the lowest income groups were able to do so.

To summarize, while the higher income families have tended, on average, to purchase higher density housing, this housing is, on average, larger in size than the detached housing typically purchased by the lower income families. The equity implications of these results are unclear and certainly would not be unambiguous. On the contrary, they are presented here to illustrate the substantial variation in the quality of housing purchased by AMOP clientele. Moreover, it is the existence of this variation in quality which generates implications for equity which transcend the simple analysis of federal subsidy disbursements.

In order to assess the implications of this dispersion of housing types and sizes from the perspective of the principles of vertical and horizontal equity, we calculated the mean monthly federal assistance by income group and for dwelling price class, type, and size. The results of these calculations are presented in Tables 12 and 13. In the context of these results, we have assumed that a presumption in favour of horizontal equity exists if, within each income group, one observes an inverse relationship between mean federal assistance and housing quality. Furthermore, a presumption in favour of vertical equity is said to prevail if within any quality category, one observes an inverse

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relationship between federal assistance and family income and if, in addition, the amount of assistance received by families of any given income level within a particular quality category is not more than that received by lower income families who have purchased inferior quality housing.

Inspection of Tables 12 and 13 reveals that our results do not provide unambiguous conclusions. In the case of the new-existing housing distinction, there appears to be a substantial differential in average federal assistance received by families within each income group. This result is partly explained by the fact that existing housing could be purchased in the first half of the period under a study, a period when house prices were generally lower, and by the fact that in some markets an independent lower AHOP price benchmark was applicable to the resale market. Nonetheless, it still appears to have been less costly to assist with the purchase of existing as opposed to new housing. On the basis of these results, the program fails to incorporate the principles of vertical and horizontal equity.

In contrast to the immediately preceding result, however, the tabulation of mean monthly federal assistance by dwelling type and for each income group indicates that, in this context, program disbursements do display some tendency to follow the principles of vertical and horizontal equity.

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An explicit example may help to clarify this condition. Semidetached housing is considered one guality class comprising the dimension of quality reflected by dwelling type. Vertical equity requires that, with regards to all families who purchased semi-detached houses, mean federal assistance vary inversely with family income. In addition, of these families, if those with incomes between 10 and 12 thousand received an average of \$50 per month in federal assistance, vertical equity requires that all families with incomes lower than 10 thousand who have purchased housing in a lower quality class, (e.g., row, apartment), should not receive less than \$50 in monthly federal assistance.

Hence, within each income group, the average subsidy tends to decline as the apparent quality of the dwelling improves. Moreover, for each dwelling type, the average subsidy tends to decline as income rises, while, with only a few exceptions, the average subsidy received by members of each income group is less than that received by members of all lower groups who have purchased the same or a "poorer quality" dwelling. As a consequence, one could consider these results to mitigate the equity implications derived in our earlier analysis.

Finally, Table 13 also contains a description of average federal assistance by dwelling size according to each income group. In this case, within each income group, there appears to be a tendency for average assistance to rise with dwelling size, a result counter to that desired on equity grounds. Within each size category, there is a weak tendency for the average subsidy to decline with income; however this result is not maintained for comparisions across size categories.

Summary

In this section of the study, we have addressed the question of whether the benefits available under AHOP are delivered in an equitable manner. Our results illustrated the presence of vertical and horizontal inequities in the relationship between family income and the magnitude of federal assistance. Indeed, in the aggregate, and on average, there is little apparent relationship between family income and the amount of federal subsidization. This result is directly attributable to the design of the program. However, it was also observed that federal assistance enables families to purchase housing of varying size and quality. This observation suggested that the nominal value of federal assistance may be a poor proxy for program benefits. To determine if variation in the quality of housing purchased under the program would serve to offset the perverse equity implications noted above, we examined the quality of AHOP housing and related the latter to the amount of federal assistance provided under the program. Our results indicate that while there is some evidence that such offsets do occur, this is not a general result which can be inferred from a consideration of the three quality dimensions examined in this study. Hence, it appears that there is considerable inequity associated with the delivery of program benefits.

d) <u>Regional Distribution of AHOP Clientele</u>

Examination of the distribution of federal transfer payments to individuals according to the principle of horizontal equity inevitably involves implicit interregional as well as intraregional comparisons. One further question which may be addressed in this context is the treatment accorded, on average, to residents of each particular region. In this section we briefly review the characteristics of AHOP clientele with aggregation taking place at the regional or provincial level.

Table 14 reports the distribution of AHOP clientele within each province and region and according to the purchase price of the house. These results, in reflecting the interregional variation in price benchmarks, illustrate the substantial degree of variation in house prices across Canada. For example, while in Manitoba and Saskatchewan, about 70 per cent of the AHOP participants were able to purchase homes for under \$25,000, only about 20 per cent of clients in Ontario, British Columbia and Newfoundland were able to do so. Moreover, it is clear from a comparison of the overall distributions, that Ontario and British Columbia contain the most expensive housing while Saskatchewan, Quebec, and New Brunswick all tend to fall at the lower end of the price distribution.

Given the foregoing results and given that the income range associated with the AHOP assistance scale is sensitive to regional variation in house prices, one can readily infer the expected distribution of family incomes by region. In particular one would expect participants from

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Quebec and from the Atlantic and Prairies regions to be concentrated at the lower end of the income distribution, at least relative to those families from Ontario and British Columbia. Table 15A indicates that such expectations would be correct except in the case of Quebec. The latter discrepancy is attributable to the relatively higher property taxes prevailing in Quebec; the impact of these taxes tends to exclude the lower income families despite the lower priced housing available. In addition to lower house prices, the greater proportions of families lying in the lower range of the income distributions of the Atlantic and Prairie regions are also a consequence of the fact that provincial assistance is available in all but Prince Edward Island.

Table 15B reports the mean monthly federal assistance made available to families within each region and by income group. The interregional variation in the average subsidy within income groups displays a much greater degree of variability in some cases than that suggested by the range of \$56 to \$64 for the regional aggregates. However, in general, with only a few exceptions, the average subsidy received by families of similar income is not greatly different across regions.

Despite the fairly small differences in the average amount of federal assistance received by families under AHOP, there appears to have been substantial variation in the nature of the housing which families in different regions were able to acquire with federal assistance. As the contents of Table 16 demonstrate, the proportion of families who purchased new housing ranged from a high of 86° in Quebec to

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a low of 54% in British Columbia. Since families in those regions with the higher house prices purchased the smallest proportions of new housing, it appears likely that the AHOP price benchmarks may have been a poor reflection of the price of modest new housing in those regions. On the other hand, it appears that price benchmarks in Quebec were established at levels sufficient to encourage active participation in the new housing market. ¹

The type of dwelling purchased by the typical AHOP client also varied considerably by region. For example, while 89 per cent of Quebec families purchased detached dwellings, only 47 per cent of Ontario clients did so. Not surprisingly, the purchase of row and apartment dwellings was more common among families in Ontario and British Columbia. Moreover the fact that about 20% of families in the Atlantic and Prairies regions also purchased this higher density form of housing, as opposed to only about 4% in Quebec is likely explained by the relatively greater participation by lower income families in these former regions. Nonetheless, it appears that although acquiring housing of similar value, families in the Atlantic and Prairie region were less likely to purchase detached housing than were residents of Quebec. In turn, this seems to suggest that the definition of modest housing in Quebec tended to be less modest than that defined in these other two regions.

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¹ These inferences ignore the possible impact of supply bottlenecks in certain markets that may have prevented a sufficient flow of new housing even with an appropriate price benchmark.

Table 16 also reports the distribution of AHOP dwellings within each region by dwelling size. This tabulation also reveals considerable variation in the quality of housing purchased by AHOP participants in the different regions. For example, while Prairie families tended to purchase the smallest housing, 69% of the dwellings being under 1000 square feet, only about 31% of Ontario families purchased housing in this size range. Dwellings purchased by Quebec families display the greatest uniformity in size with 77% of all units containing between 900 and 1100 square feet of living space. Finally a relatively greater proportion of families in the Atlantic region and in Ontario and British Columbia purchased dwellings containing in excess of 1100 square feet. This latter result, in the case of Ontario and British Columbia, is probably due to the greater proportion of existing housing bought by families in these provinces. However, it is also likely due to the natural operation of the market in encouraging the substitution of low density development by increased indoor space.

The preceding evidence indicates that, under the sponsorship of AHOP, families have been able to purchase housing which varies considerably in type and size both within and across income groups. Using Quebec as a point of reference, families there have purchased largely new detached housing of average size (900 to 1100 square feet). Prairie families have tended to pay somewhat lower prices in acquiring housing with less floor space and which is less likely to be detached. Families in Ontario and British Columbia have purchased more expensive housing which tends to be larger in size but of a higher density. Finally, families in the Atlantic region have purchased housing at somewhat higher

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prices, with a slightly lower incidence of detached housing but of larger size than families in Quebec.

e) Housing Problems and AHOP

Another perspective from which to view the impact of AHOP is from that derived by an analysis of the extent to which AHOP has served to relieve the housing problems of program participants. In order to identify such problems among program clientele or more generally within the overall population, one may select various "needs" criteria which can be used to identify the population subset in need of assistance. AHOP incorporates one specific "needs" criterion in that prospective homeowners who would be required to spend more than 25 per cent of family income on PIT payments in order to purchase a "modest" house in a particular market are deemed to be in need of assistance. However this approach is rather self-serving because, if strictly adhered to, it defines virtually all AHOP participants as facing a potential - if not actual - housing problem. In addition, the population group which is identified in this fashion may be enlarged or contracted through manipulation of program parameters. Finally, this approach does not identify housing problems per se but instead a potential problem to be encountered by families wishing to participate in the homeownership market. It would appear that an inability to afford adequate shelter would be of substantially greater social concern than an inability to acquire real property. Furthermore, it also seems reasonable to assume that housing problems actually being experienced by Canadian families are of greater relevance than problems which families may encounter if they were to change their housing tenure.

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In light of the preceding considerations and in order to observe the impact of AHOP on housing problems which are defined independently of the program, we have employed two alternative "needs" criteria which focus on the actual financial circumstances of families as they relate to the ability to satisfy fundamental shelter requirements. The first alternative, the Statistics Canada low income cutoff, is a general affordability criterion which allows us to estimate the number of families for which expenditure on basic necessities such as food, clothing and shelter will likely comprise in excess of 62 percent of total family This measure, which serves as one means of articulating income. the Canadian poverty problem, can also be specified for each of five urban size categories and by size of family in recognition of the variation in commodity prices and in physical consumption requirements associated with these factors.

For the purpose at hand, the low income cutoff was specified for each family size - urban size category as well as for each of the years covered by this study. The family income of each AHOP client was then compared to the relevant low income cutoff. On this basis, it was estimated that 8.4 percent of AHOP clients were below the low income cutoff at the time they joined the program.

Table 17 reports the distribution of AHOP clientele in relation to the low income cut-off and according to selected family characteristics. The provincial classification provides some particularly interesting observations. Although AHOP clients residing in Quebec and Saskatchewan constituted the largest

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absolute number of low income AHOP beneficiaries, in relative terms, the Atlantic provinces plus Manitoba and Saskatchwan contained the largest proportions of low income families. Indeed, almost one-third of AHOP clients in Saskatchewan had incomes below the low income cut-offs. In contrast, low income clients in Quebec, Ontario and British Columbia represented less than 5 percent of the total clientele for each of these provinces. It is noteworthy that, during the period under study, only these latter three provinces, in addition to P.E.I., failed to supplement the federal program. Hence, it would appear that in the wholesale absence of supplementary provincial assistance the rate of participation by low income families in the federal program would be even lower than that observed.

On the basis of the results in Table 17, it also appears that proportionately more of the low income families were likely experiencing housing affordability problems when renting than was the case for families with incomes above the low income cut-offs. Grouping AHOP clientele by their rent/income ratio also indicates that as the severity of the affordability problem increases, so does the proportion of families with low incomes. Finally, a grouping of AHOP clientele by year of purchase appears to indicate a downward trend between 1973 and 1976 in the proportion of low income families participating in the program. This observation serves to confirm our earlier observation regarding the upward shift over time in the income distribution of AHOP clientele.

The second "needs" criterion that was employed is the conventional budgetary guideline which recommends that a family should spend no more than 25 percent of total family income on shelter payments. This guideline although similar to the AHOP eligiblity guideline with respect to PIT payments, is retrospective rather than prospective, in that it focuses on a family's actual housing expenditure. In addition, the emphasis here is placed on the expenditure associated with the consumption of housing services and hence, excludes the element of savings implicit in PIT payments.

In an earlier section it was pointed out that only 9 percent of AHOP participants were spending more than 25 per cent of family income on housing prior to becoming homeowners. This observation represents only an approximate application of this second "needs" criterion because it is widely recognized that this budgetary guideline, by itself, is actually a rather crude measure of housing affordability. The deficiencies of this measure arise in two ways. First, it fails to indicate the greatly differing burdens which adherence to this guideline would place on families from different income groups. After spending 25 percent of their income on housing, lower income families will have considerably less income available to purchase other goods than will the higher income families. Secondly, universal adherence to this guideline would also clearly mean that higher income families would be spending considerably more in absolute terms than lower income families; as a result the quantity and quality of housing services which may be purchased will vary substantially with family income. Hence while lower income families may not be able to afford adequate housing under the guidelines, higher income families would typically need to spend considerably less than 25 percent of their incomes to obtain merely adequate housing. Indeed one may reasonably assert that if we do observe higher income families exceeding the budgetary guideline, this does not reflect an affordability problem.

These considerations suggest that the budgetary guidelines, if used as a needs criterion, should always be viewed in relation to the absolute level of family income and also, ideally, in relation to prevailing market conditions and prices. Toward this end, Table 18, illustrates, for each income group, the proportion of total family income which was spent on housing by AHOP recipients prior to their becoming homeowners. This tabulation indicates, not surprisingly, that proportionately more of the lower income families were likely experiencing an affordability problem when renting. In contrast, only a small proportion of families in each of the income groups exceeding \$10,000 spent more than 25 percent of income on rent. As a consequence, four out of every five families which were apparently experiencing alfordability problems while renting, also had incomes of less than \$10,000. Nonetheless, these families constitute an extremely small proportion of the total AHOP clientele.

Although AHOP beneficiaries may not have experienced an affordability problem in their previous tenure, this problem may, in fact, be introduced because of participation in the program. Moreover, it is not clear, a priori, what affect the program will have on those participants who were actually experiencing an affordability problem prior to joining the program. To examine these questions, we have reported, in Tables 19 and 20, the distribution of the GDS ratio, calculated before and after the application of federal assistance, within each income group. In reviewing these tabulations, one should recognize that these results are derived from calculations based on annual PIT payments. Not only does the latter contain a savings component, albeit of

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small magnitude, but more importantly, it ignores many other, not insignificant costs associated with homeownership. Hence the calculated GDS ratio will be an underestimate of the share of income devoted to housing. Moreover these additional costs, including maintainence, insurance and utility costs, contain a fixed element which is largely independent of the value of the house purchased. As a consequence the degree of downward bias inherent in the calculated GDS ratio will vary inversely with the family's income.

Table 19 indicates that in the absence of federal assistance, at least 82 percent of the families would be required to spend more than 25 percent of family income on housing. Morever these families represent a large proportion of families in each income class, although this proportion does decline substantially as income rises. As Table 20 indicates, on the application of federal assistance, the incidence of potential affordability problems declines. dramatically within each income group. Nonetheless, a large proportion of families in the lower income groups would still appear to face an affordability problem even after receipt of the federal assistance. Finally, we may compare the contents of Tables 20 with those of Table 18, keeping in mind the problem of potential bias discussed above. On the basis of this comparison, it appears that although AHOP assists families to become homeowners, and undoubtedly in most cases, also to consume better quality housing, the program does not, in general, remove the housing affordability problem which confronted some families prior to becoming homeowners. Indeed, the program encourages most households to devote an increased proportion of their income to housing.

5. AHOP Participation by the Program Eligible Population

The eligibility criteria and program guidelines which together define AHOP also serve to delineate a subset of Canadian families who are eligible to participate in the program. This section discusses an attempt to identify and describe this group of families and then describes the estimated rates of participation in the program, based on AHOP clientele data, by these families according to some common family characteristics. It should be noted at the outset that we have not attempted to identify the determinants of AHOP participation rates but simply to document plausible values. There are undoubtedly a host of reasons as to why families participate in the program; the information required to analyze these factors is, however, not generally available.

In order to observe the true participation rates of families in AHOP one should compare the group of AHOP participants who joined the program during a given period with the entire group of families who were eligible for the program during the identical period of time. In addition in making this comparison one should ensure that both groups encountered identical program parameters and that these as well as other relevant factors are measured in the same manner. Unfortunately and not unexpectedly, this ideal comparison cannot be produced; this is a consequence of the complexity of AHOP in conjunction with the absence of sufficiently disaggregated population data. Nonetheless, it is possible, by the appropriate selection of the reference groups and with some data adjustments, to gain an approximate estimate of the AHOP target group for specific periods and hence to estimate the AHOP participation rate.

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Between July, 1973 and December, 1975, those eligible for AHOP included, as a first approximation, families who had at least one dependent child and who were not currently homeowners. This approximation serves as a preliminary sorting rule which may be applied to a data set describing the overall population. The data set utilized for this purpose was the 1974 HIFE public use micro-data file produced by Statistics Canada. Subject to this first sorting rule, the families eligible for AHOP at any point in time are those with adjusted family incomes lying below the prevailing maximum qualifying income applicable to their particular urban area. Since the local maximum qualifying income depends on the local AHOP house price benchmark and on the mortgage rate, changes in either of the latter will change the former and alter the size and composition of the program target group. In recognition of this fact, the program parameters which prevailed during the period August, 1973 to July, 1974 were employed in the simulation exercise; in addition to the prevailing house price benchmarks, these parameters included a mortgage rate of $9\frac{1}{2}$ per cent and maximum grant assistance of \$300. Together these parameters determine the maximum qualifying income for each urban market (at which no assistance would be forthcoming) and also the adjusted income at which maximum total assistance could be obtained.

The AHOP house price benchmarks are uniquely defined for each individual urban agglomeration throughout the country. However the population data file permits disaggregation at the geographical and urban level only by province and by a five category urban size classification. In order to apply the price benchmarks (and associated income range for the assistance scale) in the context of the population data, some simplifying assumptions were invoked to permit the required adjustments. First, the individual urban agglomerations which are recognized by the program were sorted according to the five level urban size classification for each province. If by following this exercise, only one urban center appeared at a particular level, the associated program parameters also became the simulation parameters. If instead, as was usually the case, several urban areas, each with different program parameters, all occupied one cell of the urban size classification a further assumption was required. In these cases the urban center with the highest price benchmark was used to select the maximum qualifying income which would be employed as the simulation parameter.

The adjusted income which was eligible for maximum total assistance, and which was associated with an urban center with among the lowest price benchmarks, was also employed as a simulation parameter in order to specify the minimum program eligible income. This latter decision reflects the fact that a minimum house price prevails in any market and that this fact, in conjunction with program guidelines, would exclude AHOP participation by the lowest income families. However, our method of choosing this parameter also recognizes that the minimum house prices available in a market may lie below the AHOP house price benchmark.

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The adjustments described immediately above introduce a large element of potential error in our estimates of the AHOP target population. If we were able to disaggregate according to individual urban centers within any urban size class, we would find that we have overestimated the number of eligible lower income families in the high price markets and have also overestimated the number of eligible higher income families in the low price markets. Hence the total effect will be an overestimate of the number of families eligible from any particular urban size. However it is not clear whether this result biases the distribution of families within any urban class or between urban size categories. As a result, our estimates of AHOP participation rates will likely be biased downwards while the distribution of these rates according to the various family characteristics should be interpreted with some caution.

All of the household information contained in the 1974 HIFE micro data file, except for income, describes the status of the household as it existed in May of 1974. The income data however, refer to income received during the 1973 calender year. In contrast, the AHOP income guidelines refer to the annual rate at which income is being received by the family at the time of mortgage application. Finally, the AHOP income parameters available for the simulation are expressed in 1974 dollars. In the actual simulation of the AHOP target group estimates were produced for the years 1973 and 1974, and in each case adjustments were made to allow for the foregoing considerations. Specifically, for simulation of 1973 target group, the original simulation parameters were deflated by the change in the CPI in order to convert

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them to 1973 dollars that would then be roughly comparable to the 1973 income data. In the simulation of the 1974 target group, the family income data from the 1974 HIFE micro data file were inflated by the change in average family incomes between 1973 and 1974 in order to provide comparability with the simulated program guidelines.¹ Since either of these adjustments is only approximately correct on average and is not necessarily appropriate in any particular case, it was felt that the production of simulated target groups for both 1973 and 1974, would convey a more reliable impression of the distribtuion of AHOP participation rates. One might note that both of these adjustments strive for consistency with respect to family incomes. No attempt was made to adjust the 1974 socio-demographic characteristics of the population sample in the 1973 simulation exercise. Hence, the adjustments allow us to observe changes in the income distribution of families eligible for the program in each of the two years, while any changes in other characteristics only come about because of their association with the distribution of income.

Table 21 reports the results obtained from the simulation of the AHOP target group and also presents comparable estimates for the overall population. Before discussing these results, two additional caveats to their interpretation should be recognized. First, no appeal has been made to evidence which would describe supply conditions

¹ The change in the CPT employed for the first adjustment was 10.9%. The change in average personal incomes used to make the second adjustment was 15.1%. For the latter see Statistics Canada, Family Incomes - Census Families 1974 (Catalogue Number 13-208).

in various markets or would indicate the integrity of the AHOP price benchmark relative to the actual house prices prevailing in any market. A plausible situation could arise in certain markets, however, where no houses can be purchased at or below the price benchmark. Thus, although some families in those markets would be nominally eligible for the program in that their incomes are less than the maximum qualifying income, nonetheless the program parameters would also ensure that all families, in actual practice, would be ineligible for the program. Secondly, these estimates contain no presumption as to fundamental housing problems apart from those implicit in the program guidelines. Τn other words, the target group is identified on the basis of eligibility for the program and not necessarily because its members are experiencing housing problems or are in need of social assistance in order to cope with their housing requirements.

In Table 21, the income distribution of the estimated AHOP target group is reported for 1973 and 1974 as well as that of all non-farm family units and households. Inspection of these distributions reveals that as the income distribution of the overall population groups has moved up between 1973 and 1974, so has the analogous distribution of families eligible for AHOP. However, while the bulk of the AHOP target families are drawn from the middle range of the distribution in both years, the 1974 income distribution of the target families appears to have shifted upwards relative to that of all family units.

Table 22 describes our estimates of the AHOP target group in the context of selected characteristics of the family and also compares these estimates with analogous estimates for all non-farm family units. In addition, the

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table contains estimates of the incidence of the AHOP target groups; that is, the proportion of all families which represents membership in the target groups. In interpreting these latter results, one should be aware of the fact that the estimates of all family units include both owners and tenants. Hence, many of the specific results can be explained by an underlying relationship involving tenure patterns. For example, since homeownership rates increase with income and age, decrease with urban size and vary by province, it is not unexpected that a higher proportion of young families and of families in Quebec and Ontario would be eligible for the program.

One result which does exclude homeowners is the incidence of eligible families among all tenant families when classified according to the proportion of gross family income devoted to annual rental payments. This particular information has been derived in two alternative ways; the first approach simply involved the calculation of the rent to income ratio using the values of these variables as contained in the micro-data file. The second approach formed this ratio following an adjustment to the reported rental payment to account for cases where the monthly rent included payment of heating costs.¹ On the basis of either approach, it is evident that the incidence of AHOP eligible families among all families is strongly and inversely related to the proportion of family income devoted to rental payments. In other words, those families most likely to face housing affordability problems as tenants are also those least likely to be eligible for AHOP.²

¹ The adjustment factor was derived via the estimation of an hedonic price equation.

² Although it was pointed out above that our estimates of the AHOP target group likely overestimate eligibility by the lowest income families, this consideration would change only the qualitative but not the quantitative nature of this observation.

In order to compare in a consistent manner these estimates of AHOP target families with the observed participation in the program, we selected those AHOP clients who on joining the program in either 1973 or in 1974 faced the same program guidelines as were used for the simulation exercise.¹ Since the program commenced midway through 1973 and since some program guidelines (and hence the target group) were changed in the late summer of 1974, neither sample of the actual program participants represents a full year of program operation. As a consequence, the absolute magnitude of the participation rates that are reported below are of limited value; instead, it is the relative values of these estimated participation rates which provide the most useful information as to the impact of the program.

Table 23 reports the estimated rates of participation by families eligible for the program according to selected family characteristics and for each period. These rates are also expressed in the form of an index in order to focus on their relative values. On the basis of these results, it appears that a relatively greater rate of participation in the program takes place among those families in the lower part of the income distribution describing eligible families. Moreover, the participation rate appears to be inversely related to income. One plausible explanation for this result may be that the quality of housing priced at or below the AHOP benchmark increasingly falls short of the expectations and aspirations of families as we move up the income scale. In other words, higher income families, although eligible for the program, are not willing to accept what is perceived

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¹ The sorting rule guiding this selection was the existence of a 91% mortgage. This mortgage rate prevailed from the commencement of the program until July 1974. In August of 1974 the mortgage rate was increased to 111% and at about the same time, the maximum grant assistance rose to \$600. As a consequence, the maximum qualifying income increased and the minimum income eligible for maximum assistance decreased.

to be an inferior dwelling in exchange for federal subsidization, particularly when for many, conventional mortgage terms are still in reach. Although the latter course may involve a higher GDSR, this represents a much lighter absolute burden to those in the higher income groups then would be the case for lower income families.

It also appears from Table 23 that participation from the lowest eligible income group is high in both absolute and relative terms and indeed, that some participants were drawn from income groups that were not even included in our estimated target groups. There are two likely explanations of these specific results. First, it may be that the minimum qualifying incomes that were used as parameters in our simulation of the target groups were too high. This in turn would mean that housing priced below the AHOP price benchmarks was available in at least some markets, enabling lower income families to remain within the program's maximum GDSR guidelines. The plausibility of this explanation is enhanced by the recollection that prior to 1975 the purchase of existing housing was permitted under the program. However, despite the greater variability expected in the prices of existing houses, lower income AHOP clients have, in fact, been observed to have been relatively less active in the existing housing market. The second explanation derives from the fact that only the federal program guidelines have been simulated; hence the existence of provincial stacking has been ignored. Six provinces do in fact supplement federal assistance, permitting members of the lower income groups, who would not otherwise be eligible, to participate in the program. As a consequence, the observed participations

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rates among the lowest income groups are relatively higher than expected on the basis of federal eligibility criteria.

Returning to Table 23 our estimates illustrate that participation rates are relatively higher for families in the younger age groups. The fact that families over 40 years of age tend to have relatively low rates of participation in AHOP may indicate that families in those age groups have largely decided upon their chosen mode of housing tenure, and that the incentives to homeownership provided by AHOP are not sufficent to alter that decision. On the other hand, relatively high participation rates by young families would be expected in that many, and perhaps all, would ultimately have chosen homeownership as the preferred tenure in any case. Hence it appears that AHOP largely fails to alter the tenure choice pattern that would otherwise tend to prevail over the life cycle of the clientele. Hence not only do young households comprise the greatest proportion of AHOP clientele in absolute terms, but young families also exhibit the relatively highest rates of participation among families eligible for the program.

The extensive variation in provincial participation rates is also the result of many interrelated factors. Again the choice of the AHOP benchmark house price is likely a chief determinant of this result; for example, the rapid escalation of house prices in Ontario between 1972 and 1974 probably caused the price benchmark to become quickly obsolete, even if, at the time of implementation it stood in reasonable relation to then prevailing market prices. In

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the case of Queboc, it will be shown in a subsequent section that Quebec residents tend to exhibit quite different tenure choice patterns then do the rest of Canadians. Specifically, within every age group, a larger proportion of Quebec families, relative to other provincial residents, have remained tenants. To the extent that this latter observation is a reflection of family preferences, we would expect a lower participation rate by Quebec tenants eligible for a homeownership program. Active participation in the program by provincial housing authorities also offers a likely explanation of the provincial participation rates. Four of the six provinces which supplement federal assistance under the program exhibit the highest participation rates; among the provinces with the lowest rates, Quebec has no complementary arrangements while Ontario operates a provincial program (H.O.M.E.) which is similar in some respects to AHOP.

In summary, the results presented in this section suggest that the target population of families who are eligible for AHOP are largely young families, under 40 years of age, who reside in medium to large urban centers, many of which are located in Ontario and Quebec. In most respects these families correspond to the typical Canadian tenant. However families eligible to participate in AHOP are unlikely to have incomes below the Statistics Canada low income cutoffs and are unlikely to be currently experiencing a housing affordability problem.

The rate of participation by families eligible for the program was estimated to be lower for those families in the highest eligible income groups and for rural families.

6. Patterns of Tenure Choice and the Probability of Ownership

The form of housing tenure chosen by a typical Canadian family is closely related to the family's life cycle. The earliest stages of the life cycle generally take place in rental accommodation. At some point, however, a switch is made to ownership tenure which then extends for a number of unbroken years over subsequent stages of the cycle. Finally, some families, in the final stages of their life, choose to return to tenancy status.

The execution and timing of these discrete tenure choices depend on a number of factors. Changing family demography income, wealth, preferences and life style, together with market phenomena such as relative prices and characteristics of the housing stock, all intereact to determine the pattern of tenure choice. Moreover, the decision to purchase a home implies two distinct considerations - first, that in consuming a certain quality and quantity of housing services, the family has chosen to acquire rather than rent the requisite durable good; and secondly, that the family has chosen to allocate existing wealth or to accumulate future wealth in the form of residential real estate. Both of these considerations are closely associated with prominent dimensions of the life cycle. Families typically acquire durable goods in a sequential pattern which is closely related to the life cycle; housing is the ultimate consumer durable. In addition, the accumulation of personal wealth also generally follows a predictable pattern over the life cylce of the family; again typically, for the majority of families, residential property - the owner-occupied home - is a major component of the asset portfolio.

The existence of a tenure choice pattern which closely follows the family life cycle means that the likelihood that a family owns a home increases as the family ages. As a consequence, while young families are largely tenants, the majority can be expected to purchase a home later in life. On the other hand, we would expect older families to be largely homeowners; those who remain tenants have either deliberately chosen that tenure form or have been forced to do so by economic circumstances.

AHOP assists families to purchase owner-occupied housing. This assistance is largely independent of the life cycle of families, that is, independent of whether a family is likely to purchase a home in the future or of why the family is currently a tenant. This section addresses these issues in the context of the setting described in the opening paragraphs. Specifically, we begin with a review of historical evidence on tenure choice patterns. Next, based on regression analysis of cross-sectional data, we present conditional predictions as to the probability that the AHOP assisted family would have already been an owner (or conversely the probability of being a tenant) at the time of application, and also the probability that the family would have become owners (or remained tenants) ten years hence in the absence of the program. As such, this analysis will generate implications with respect to both the allocative and distributional impact of the program. For example, to the extent that the program does not distort life time tenure choice but instead, at most, alters the stage in the life

cycle when the choice is considered, the long-run impact of the program on the composition of starts will be negligible. On the other hand, when the probability of owning a home differs substantially between types of families - while all are treated identically under the program - a question of equity arises in that families with differing needs and aspirations are treated in the same manner.

a) Preliminary Evidence

In this section we examine some common patterns of tenure choice as they are exhibited by the Canadian population. In particular, we focus on the association of tenure choice patterns with age, income, region and size of area of residence. To provide an historical perspective on the tenure choice patterns of Canadians, we report, in Table 24, the rates of ownership by Canadian households and family units as observed since 1961. It appears from this evidence, that since 1966 there has been a gradual downward trend in the incidence of homeownership among Canadian households. However, this result is not unexpected since over this same period the number of non-family households has increased considerably. On the other hand, although based on more limited data, there appears to have been a slight upward trend in rate of homeownership among family households. In general, however, patterns of tenure choice over the past fifteeen years appear to have been relatively stable.

The pattern of tenure choice, when viewed from an aggregative perspective, would be expected to change rather gradually as only a minor proportion of the population

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explicitly consider this decision in any one year. Concealed behind this aggregate measure, however, are quite diverse and systematic differences in tenure choice patterns, which may be identified by suitable disaggregation of the population data. Prior to such an analysis, one can easily predict the nature of these systematic differences in tenure choice. patterns. In the case of interregional and interurban variation, the major causal factors would be expected to be the composition of the standing housing stock, ¹ the demographic characteristics of the local or regional population and the price of ownership relative to that of tenancy status. In addition to the latter factor, variation in tenure choice patterns across households or families could be seen to depend on individual preferences, physical needs as reflected by family size, age, income, and wealth. The latter three factors are clearly associated in the life cycle of a household.

Prior to an attempt to analyze and estimate the role of these various determinants of tenure choice patterns, we first present, in Tables 25, 26, and 27 an indication of the nature of the relationships between various types of family characteristics and the tenure choice decision. In assembling these results two types of data have been employed. Since tenure choice is exercised by the consumer unit, and since this choice is vitally related to the life cycle of that entity, the ideal data set would be a longitudinal collection of information which describes individuals or families as they move through their life cycle. Given the obviously costly nature of this form of data collection, and

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A simultaneity problem is present here since tenure choice patterns not only respond to but also shape the nature of the housing stock.

in view of the extensive time lag before meaningful results would begin to appear, two alternative types of data have been employed in analyses of tenure choice patterns. The first type represents an abbreviated form of the ideal data in that a group of individuals and families are observed at two different points in time in order to focus on changes which are specific to the aging process. This first methodological approach, which involves the designation of age cohorts, may observe the identical units at two points in time or alternatively, compare cross-sectional data from different years on the basis of age groupings that explicitly recognize the aging process. The second methodological approach simply focuses on one cross-sectional data set under the assumption that variation across families which differ in age will reflect the behaviour of individual families as they move through the life cycle.

Table 25 contains results which focus on the association of age with the rate of homeownership. These results are drawn from a study which attempted to identify age cohorts in a comparison of cross-sectional data collected in 1964 and in 1970.¹ Hence the results describe changes which have occurred in the characteristics of each age cohort over a period of six years. Although this approach represents an attempt to isolate those factors closely associated with the aging process, one should recognize that the use of cross-sectional data to simulate age cohorts is

¹ This study is described in the Statistics Canada publication: Survey of Consumer Finances Volume 1 Selected Reports 1970. (Catalogue No. 13-550) Part I, "Changes in the Assets and Debts of Canadian Families Over a Period of Six Years, 1964-1970", pp. 7-71

only an approximation to a pure age cohort analysis since family formation and immigration-emigration will alter the size and composition of the age groups selected for the analysis.

Nonetheless, these results indicate that quite striking changes did occur during the six year period and that these changes are closely associated with the household's life cycle stage. For example, while the average income of the youngest age cohort increased by 89 percent in six years, the corresponding increase for the oldest age group was only 10 percent. Changes in the average asset position of the various age cohorts are even more dramatic, although, as in the case of income changes, the lower absolute levels of income and wealth for the youngest families tend to be the major factor in producing those results. Reflecting these changes in income and, in particular, asset position, are the changes in the rate of homeownership over the six year period. Thus, although the aggregate rate of ownership increased by only about 5 percent, this included a doubling of the rate among members of the youngest age cohort, and almost no change in the two oldest age groups. Hence, although explicit changes in housing tenure status do take place, in the aggregate, at every stage of the life cycle, it appears that the likelihood of making this choice increases rapidly in the early stages of a family's life cycle, reaches a peak in about the early forties and then stabilizes from that stage into the later years.

Further evidence regarding the role of the life cycle and an indication of the substantial influence which

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income appears to exert on tenure choice decisions are presented in Table 26. These results are derived from analysis of cross sectional data collected in 1974¹ and illustrate the rate of homeownership for various combinations of income and age. Reading across any row in the table indicates the influence of age while controlling for the level of income. In contrast, reading down any column reflects the impact of higher incomes within any age group. Apart from the observation that age appears to be more important than income in determining the incidence of homeownership, the general impression conveyed by this table is the substantial variation in the rate of homeownership when Canadian families are disaggregated according to income and age groups. However, despite this variation there is a continuous and marked rise in the rate of homownership as both age and income increase; age and inceasing income are, of course, prominent manifestations of the typical family life cycle.²

Some other interesting features of tenure choice patterns, as exhibited by the Canadian population, are presented in Table 27. These results, which focus on interregional and interurban variation in tenure choice experience, may be causally attributed to differences in the composition

¹ The 1974 HIFE micro data file. This data set has been described in an earlier section.

One final interpretation may be attached to these results. The converse of the rate of homeownership is the tenancy rate. When the array of age and income groups is viewed from this perspective, we note that the likelihood of occupying rental housing is greatest among young families and, to a lesser extent, among low income families. On the other hand, the likelihood of remaining a tenent throughout one's lifetime is greatest among low income families.

of the stock, to differences in the demographic characteristics of the local population, to different relative prices both within the housing sector and as opposed to other goods and services generally, and to family tastes which are similar intraregionally but differ interregionally. For example, the marked difference in the incidence of homeownership between metropolitan and non-metropolitan areas of the country would likely be explained by all these factors. In particular, a comparison of homeownership rates between households and family units indicates the significance of a specific demographic characteristic - the impact of nonfamily households who typically reside in rental housing.

Perhaps the most striking result contained in Table 27 is the regional variation in the incidence of homeowership. The rate of homeownership among households and families in Quebec falls considerably short of that observed in other regions of the country. Moreover, it also appears that residents of the Altantic region and British Columbia are slightly more likely to be homeowners than are residents of Ontario or the Prairies. In addition homeownership rates are very similar in each of these pairs of regions, a somewhat unexpected result in view of the differing market conditions and prices between members of each pair. On the other hand home ownership rates reported according to size of urban area conform to a priori expectations. The availability of rental accommodation plus relative prices and life style would likely explain these observations. A final interesting feature of homeownership patterns is revealed by a breakdown according to income groups within metropolitan and non-metropolian areas. This tabulation, which also appears in Table 27, appears to indicate that

income is a much more important factor in determining homeownership rates among residents for metropolitan centers than is the case for other areas of the country. This result in turn likely reflects the very different sets of economic conditions associated with the tenure choice decision in these two types of residential environments.

b) The Determinants of Tenure Choice: Further Analysis

Although the preceding results serve to illustrate the major characteristics of tenure choice patterns in Canada and to suggest the primary determinants of homeownership rates, they do not provide precise estimates of the absolute and relative quantitative impact of these various determinants. In addition, the foregoing analysis fails to recognize, in an explict manner, that a family's real income will typically rise over its life cycle, not only by sharing in the fruits of general productivity improvements but also because the aging process many enhance the productive skills of the individual wage earner. The analysis, which is described below, reflects an attempt to identify, in a quantitative manner, the impact on tenure choice of two crucial and interrelated factors - the effect of age and the offect of changes in real income attributable to the aging process.

The first stage in the analysis of these issues involved the specification of a regression model designed to evaluate the quantitative significance of the various potential determinants of the tenure choice decision of the individual family. The hypothesis underlying the regression model is

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simply a variant of the conventional demand function. In particular, it is hypothesized that the choice of homeownership as the preferred housing tenure depends on the price of owning relative to renting, on family income, family tastes, and on the physical housing needs of the family. To formulate this hypothesis as a regression model which could be estimated in the context of cross-sectional data, the specific content of the hypothesis was modified somewhat to accommodate the available data. Since tenure choice is a discrete decision, the dependent variable of the regression equation was specified as a dichotomous variable. A common feature of this form of specification is that the predicted value of the dependent variable takes the form of a probability estimate; in our case this will be the probability of homeownership.

Data describing relative housing prices were not available. In order to account for variation in these prices, at least in an approximate manner, locational variables were employed; the latter may be viewed not only as proxy variables for relative prices but also as reflecting regional and urban variation in supply conditions and family preferences. Both family income and the age of the family head were specified in quadratic form in order to reflect the expectation that each variable will be related to tenure choice in a non-linear fashion. For example, one would expect the probability of homeownership to increase at a decreasing rate as a family moves through its life cycle. Finally family size was employed to represent the physical housing needs of the family. This variable is introduced for two reasons. First the composition of the housing stock is such that housing which can accommodate large families

can often only be obtained through ownership tenure. Secondly, as family size increases, this not only increases the family's space requirements but also likely alters family preferences in favour of housing. In the actual estimation of the regression model family size was specified in logarithmic form to reflect the final expectation that economies of scale are present in the relationship between family size and physical housing requirements.

The regression equation was estimated using the OLS regression procedure¹ and was applied in the context of the cross-sectional 1974 HIFE data file. Two subsets of the overall data set were selected for the regression analysis. First, because households consisting of family units would be expected to behave differently than non-family households, and because we ultimately wish to relate our results to a housing program available only to family units, we have focused on the tenure choice decision of family unit households only.² Secondly, from the universe of all family unit households, we selected those families who had experienced a change of residence at some time during the three years

¹ It is well known that the application of OLS in the context of a dichotomous dependent variable does suffer from some statistical disadvantages. In particular, although the estimates are unbiased, they will also tend to be inefficient because the specification invariably introduces heteroscedasticity into the error structure. In addition since the use of OLS does not involve any constraints on the predicted values which will be generated by the regression model, this procedure does not preclude the possibility that the pre-dicted probability of ownership may, in some cases, fall outside the zero-one range. However, in the absence of evidence indicating the likely quantitative impact of these problems, we preferred the simple and straightforward use of OLS to that of other considerably more complicated regression techniques. For a more detailed discussion of these econometric problems see: E.A. Roistacher, "Race and Home Onwership: Is Discrimination Disappearing? Economic Inquiry Vol. XIV (March, 1976) pp. 59-70 and references therein.

For our purposes we defined a family unit as including married couples with or without children and single parents.

prior to the survey date. Our regression analysis was duplicated for this group of recent movers because in making their move they implicitly if not explicitly, made a tenure choice decision on the basis of recently prevailing conditions in the housing market. Although each household may be viewed as choosing its housing tenure anew at the commencement of each household budgetary period, despite the fact that no change of residence or tenure takes place, one can also argue that imperfect information and substantial transactions costs prevent the continual adjustment of a household to a new equilibrium. Moreover given the discrete nature of tenure choice, marginal adjustments to changing market conditions or family tastes may not involve a change in housing tenure. Hence, by focusing on recent movers, we are able to analyse the behaviour of a group of families all of which have recently adjusted their consumption of housing services and some of which, in doing so, have also altered their housing tenure.

The results of the regression analyses are presented in Table 28. In qualitative terms, they reinforce the results reported in an earlier section in that all variables have the expected sign and the order of importance within each set of categorical variables is maintained. In particular, age of family head and hence point in the life cycle appears to be the dominant determinant of the tenure choice patterns of Canadian families. In the early stages of the life cycle, each additional year increases the probability of ownership by three to four percent in the case of all families and from 1.5 to 3 percent for recent movers. In contrast, the probability of ownership increases by about 2 percent for each additional thousand dollars added to the incomes of the lower income families. In addition, since the quadratic specification of age and income appear to be statistically acceptable formulations of the true relationships, these latter values will decline for older families and for higher income families. The quantitative impact of the urban and regional characteristics of a family's residence appears to be of substantial magnitude. Thus, after controlling for other family characteristics including age and income, residents of Quebec are considerably less likely to be homeowners than is the case for families located in all other regions. In addition, for families residing in large urban centers the probability of ownership is 28 points lower than that of rural families, in the case of recent movers this differential rises to 37 points.

The coefficient associated with the logarithm of family size has the correct size and is statistically significant in both versions of the regression equation. However it also appears that the precise values of these coefficients may be suspect due to the apparent presence of multicollinearity between age and family size. For example, a comparison of equations λ and B for each case indicates that the coefficient on age decreases substantially with the introduction of family size into the equation. This result is not unexpected in view of the close relationship between age and family size which is characteristic of the family life cycle.

Table 28 also reports regression coefficients for two additional variables which have not yet been mentioned but were included in the regression analysis. Since family income may represent the aggregate earnings of more than one

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wage earner, two dummy variables were created to reflect the fact that second earner may be contributing to family income on a regular or part-time basis. As such, these variables may be viewed as serving as proxies for the stability of family income, although a number of other plausible interpretations are possible. In any case, these variables turned out to be statistically significant only in the case of all family units. This latter result holds some interest, however, in that the presence of a spouse working full-time appears to reduce the probability of ownership given identical gross family income. In turn, while this provides support to the income stability hypothesis, it contradicts the often heard assertion that two full-time incomes are frequently required to permit families to become homeowners.

A comparison of the regression results for all family units with those for recent movers only provides some interesting observations. The hypothesis that only recent movers will have adjusted to a new housing consumptionhousing tenure equilibrium according to recently prevailing market conditions gains some support here in light of the notable differences in the coefficients of the urban and regional variables between the two sets of results. In particular, the results indicate a substantial reduction in the probability of ownership for recent movers in urban centers relative to those in rural areas as opposed to the corresponding inferences derived from all family units. Inspection of equation B in each case also reveals a marked difference in the coefficient for age; however this appears to be attributable to the collinearity between age and family size.

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c) <u>Tenure</u> Choice and AHOP

The foregoing regression analysis emphasizes the influence of age and, to a lesser extent, that of income, in determining the tenure choice patterns of Canadian families. Moreover, the regression model enables us to predict the conditional probability of homeownership based on knowledge of a family's income, size and locational characteristics. This feature permits us to develop a novel perspective from which to view the operation of AHOP. Despite the fact that virtually all AHOP clients were tenants prior to purchasing a house with the assistance of the program, we can nonetheless predict, for each AHOP client, the probability that each would have instead been a homeowner at the time of mortgage application. In turn, this type of information would identify those AHOP families who would typically be tenants at the time of application and also other families who in actually being tenants are atypical of general behaviour by Canadian families.

The contents of Table 29 summarize the results of this exercise in that they were derived by estimating the conditional probability of homeownership for each AHOP family on the basis of its income, life cycle characteristics and location.¹ Each entry in the table is the average of the predicted probability of ownership for each of the families having the associated age and income characteristics. As would be expected from our earlier results, the range of these average predicted values is considerable with a low of .169 and a high of .938. Ninety-two percent of AHOP families

Regression equation B, based on an analysis of all family units, was used to calculate the predicted values.

had incomes of between \$6000 and \$14000; for these families the range of predicted values is less although still substantial with a low of .272 and a high of .847. The relationship between the probability of ownership and the family's age and income characteristics are also clearly demonstrated here.

Once can infer from these results that the impact of AHOP on the tenure choice decision of its clientele varies considerably across families. Indeed, our analysis suggests that families who currently occupy rental housing do so for several different reasons. One is that they have not yet reached that stage of their life where the tenure choice decision would be seriously considered. Secondly, on reaching the appropriate stage of the life cycle, they may have decided, on the basis of market information and individual preferences to remain tenants. Thirdly, while a change in housing tenure may be desirable, insufficient financial resources (income and net worth) have caused families to postpone, perhaps indefinitely, the serious consideration of the housing tenure alternatives.

From the viewpoint of social housing policy, it would appear that the way in which one addresses the problem of need in the case of any particular family would very much depend on how the family fits into the three-fold characterization. For example, those families who are currently most likely to be tenants have simply not reached the point in their life cycle where the change in tenure typically occurs. Hence it is highly likely that the majority of these families will choose to become homeowners at the appropriate time, even in
the absence of any non-market incentives. In contrast, there are other families for whom, given their age and current income, the likelihood of being a tenant is quite small; if they happen to be tenant at this time, the future prospects for a change in tenure are also poor. Moreover, most of these latter families would be tenants because of either the second or third reason given above. Although there is no precise method of sorting the families on this basis, apart from some rule of thumb based on income, it is clear that those families who have explicitly chosen rental housing as the preferred tenure would not require social assistance to purchase a house. Nonetheless, if proffered, the assistance may constitute sufficient incentive to induce some families to become homeowners. The final set of families, those who have not been able and who, in the future, are not likely to be able to become homeowners, remain as the only group of families who could be viewed as genuinely in need of social assistance in order to confront the tenure choice alternatives in a viable manner.

In the preceding discussion, it was asserted that those families with a relatively high probability of being tenants would likely alter their housing tenure in the future as they pass through those stages of the life cycle in which the tenure choice decision typically receives serious consideration. Moreover, those families who continue to rent in the later stages of the life cycle are less likely to change housing tenure as they grow older. In support of these propositions, we have employed our regression results to forecast the change in the probability of owernship if each of the families was to age by five and by ten years

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while all family characteristics and income remain unchanged. The results of this analytical exercise are reported in Table 30 according to age groups for the two consecutive five-year periods and for the full ten years.¹ The general pattern exhibited by these results is simply a numerical illustration of the curvilinear nature of the relationship between age and the probability of ownership. Hence the average change in the probability of ownership for the youngest families would be almost 20 percent after ten years while that for the oldest age group would be only about one percent. Although more comprehensive analysis of these projections will be given in a subsequent section, these results do demonstrate that the longer run impact of AHOP on tenure choice will depend on the age of the client on joining the program.

d) Age-Earning Profile

In the previous section, we focused on the probability of homeownership of AHOP clients given their demographiceconomic characteristics at the time of joining the program. In addition, we estimated the change in this predicted value which is attributable to the aging process as each family moves to a later stage of its life cycle. In this later case, by isolating the effect of aging while conceptually holding constant all other family characteristics, including income and family size, our results likely reflect the influence of changing tastes and accumulating wealth on tenure choice patterns. However, the family life cycle is a useful concept because many family characteristics change in predictable manner that is vitally linked to the aging

¹ To calculate these changes in the probability of ownership due to aging, we have employed the relevant regression coefficients (on age and the square of age) for regression equation B, based on all family units.

process. In turn, as we have determined, these other factors also exert an independent influence on the choice of housing tenure.

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Although each of these other factors is deserving of further analysis, we have chosen to focus on the impact of changing income over the life cycle and its impact on a family's probability of ownership. In a growing economy, all families experience increases in real income as they share in the fruits of general productivity improvements. In addition, a family also experiences changes in real income which are closely associated with the family's movement through the life cycle and, in particular, with the labour market history of the family head. In a growing economy, this latter effect is manifested by a rate of change in family income which differs from the average rate of productivity growth. In the absence of economic growth, however, movements in family income have been observed to follow a common pattern which typically traces out a concave relationship between income and the age of the family head. Family income tends to rise at a decreasing rate during the early years, to reach a peak and then stabilize during the middle years and finally to decline during the remaining years of active participation by the family head in the labour force. A final decline to a lower level will also likely occur in the retirement stage of the life cycle.

Competing explanations have been offered for this observed relationship between income and age, both hypotheses focusing on the labour force history of the family head. On the one hand, it has been argued that a worker's income

earning potential continues to expand during the initial years of work experience as on the job training supplements his formal education. As the worker's human capital continues to accumulate in these early years, the associated income flow also increases. Only when the work-related training is completed does the flow of income stabilize at a level which may be maintained over the remainder of one's working life or perhaps decline as certain acquired skills or knowledge becomes obsolete. The alternative explanation is less elegant and simply attributes the observed age-earnings pattern to the aging process itself rather than to work experience and training per se. According to this hypothesis, the process of aging engenders those attributes which are conducive to increased productivity, particularly during the early years of work activity. In any event both hypotheses produce similar predictions, namely that income varies in a systematic manner over a person's life cycle.

The exact nature of the age-earnings relationship also tends to vary with the type of occupation because of differences in the length and intensity of formal training. As a consequence, the age at which earnings commence, the rate at which earnings increase and the ultimate level attained may all vary by occupation. Nonetheless, an underlying relationship between age and earnings tends to be present regardless of occupation.²

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¹ For a discussion of these alternative hypotheses, and for a thorough exposition of the human capital approach, see Jacob Mincer Schooling, Experience and Earnings National Bureau of Economic Research (New York: Columbia University Press: 1974).

For examples of age-earning patterns for various occupations and skill classes see: (British) Royal Commission on the Distribution of Income and Wealth, Report #3, January, 1976, pp. 221-231.

The major implication of the foregoing discussion is that a worker's current income depends not only on his occupation but also on his age. Older workers will typically earn more than younger workers with identical or similar occupations. Younger workers can expect that over time their incomes will rise relative to those of older workers although current incomes are identical. For these reasons, recent research has increasingly been expanded in scope in order to consider age-earnings patterns and more generally life-time earnings patterns in assessing the personal distribution of incomes.

For present purposes, the existence of an ageearning relationship means that our earlier estimates of the change in the probability of homeownership for the AHOP clientele were underestimates of the effect of increasing age. Since family income will generally change during this aging process, and since the probability of homeownership varies with income, our estimates should be adjusted to account for changing income with increasing age.

To determine the appropriate magnitude of this adjustment factor, we first estimated a simplified version of the age-earnings relationship.¹ Using the latter as a

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This was done by developing a regression model which was estimated in the context of the 1974 HIFE micro data file. The dependent variable in this regression equation was family income. The following variables were considered to be plausible determinants of the variation in family income: the age, occupational class, and educational attainment level of the family head, the urban and regional location, and a dummy variable designed to control for seasonal or irregular work patterns. In addition, since the hypotheses underlying the age-earnings relation only apply to the experiences of the individual worker, while we are attempting to explain variation in family income, we included additional explanatory variables to represent the educational attainment level of the spouse, and to indicate whether the spouse worked full-time or part-time (or not at all). Our model is a crude version of the theoretical propositions both because of the basic linear nature of the specification and because of the absence of interactive terms. In particular, occupation and educational attainment are only permitted to affect the level but not the shape of the age-earnings relation. The latter, however, was specified in quadratic form in order to approximate the expected curvilinear shape.

forecasting equation, we next predicted the change in income which each family would tend to experience while it aged by ten years. Finally, using the income coefficient from our regression model of tenure choice, we predicted the change in the probability of ownership which would occur as a result of the change in income.

An illustration of the final result of the exercise is presented in Table 31 which reports for each age group the average change in the probability of homeownership that is attributable to changes in income. Hence the total effect of changes in age on the probability of homeownership would be the sum of the corresponding values in Tables 30 and 31. The results of Table 31 indicate that by taking account of changes in income that would be expected to occur as part of the family's aging process, one can identify a small but not insignificant effect on the family's probability of homeownership. For example, for the youngest families, increases in income over the next ten years will increase the probability of ownership, thus representing an addition to the pure age effect. In, contrast, older families will experience decreases in income over the same period resulting, on average, in a decline in the probability of ownership^{\perp}.

Although the foregoing discussion has emphasized expected changes in the probability of ownership, the results presented there also directly address questions of equity. In particular, if a group of families have identical or similar current incomes, but differ in age, we would predict that in terms of future earning potential, the younger

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The results at the level of the individual family exhibit substantially more variation than is illustrated by the age group averages presented in Table 31. On an individual basis, the predicted values range from .063 to -.09 for the ten year period. In addition the range of income changes underlying this result is from a high of \$4400 to a low of -\$5300 for the ten year period.

families will be better off than the older families. Indeed while we would expect the future incomes of the younger families generally to increase, those of the older families will likely not increase at the same rate and perhaps may actually decline. Nonetheless, in the case of AHOP assessment of need is based on current income, even though the purchase of a house involves a long term financial obligation. Moreover, our analysis of the age-earnings relation excludes the impact on family income (and on the probability of homeownership) of productivity gains due to economic growth. Since in a growing economy, all families will generally experience regular increases in real income over time, the young may be considered to have superior income prospects, regardless of current income, simply because their working lives extend much further into the future. In previous sections we addressed the question of whether AHOP clientele would have become homeowners in the future in the absence of the financial incentives provided by the program. Our results suggest that the younger families are more likely to become homeowners for two reasons; first, they are moving toward or still passing through that stage of the life cycle when a change in housing tenure commonly occurs, and secondly, future increases in income will encourage choice of this housing tenure. In contrast, the older families are less likely to become homeowners in the future; they have, for one reason or another, already likely rejected that alternative and their incomes will only tend to rise slowly or perhaps decline in the future.

The contents of Table 32 provide a more detailed summary of our results in that they illustrate, for each income and age group, the total predicted change in the average probability of homeownership for AHOP clients. Each of these predicted values is the sum of the age effect and the effect of age related changes in income. It should be recognized that increases in real income attributable to economic growth will cause these predicted values to be underestimates, particularly for young families. In other words, the relative size of the predicted values is of more significance than their absolute magnitude.

As the results contained in Table 32 indicate, the average change in the probability of homeownership varies from .25 to -.05. This means that for some families, the

probability of being owners will almost double in ten years while for other families this probability will actually decline.

Table 33 casts these results in different light by reporting the average percentage reduction in the probability of being a tenant (the converse of the probability of being an owner), in ten years for AHOP clients grouped according to initial age and income. In this case, the probability of remaining a tenant falls by up to 50% for younger families while for older families, the likelihood of being a tenant in 10 years decreases slightly and, in some cases actually increases.¹

On the basis of these results, it appears that the impact of AHOP on the tenure choice patterns of Canadian families will depend on the current age and income characteristics of these families who participate in the program. In the case of young families, the most likely effect will be simply to alter the stage of the life cycle in which the change in housing tenure takes place. Many of these families would eventually become homeowners in any event. In contrast, the program would likely be responsible for a change in the tenure choice of older families that would probably

¹ These results were also computed after grouping AHOP clients according to whether they were located in a metropolitan or non-metropolitan urban area. Since our forecasting equations were identical for the two groups, the predicted changes in the probability of homeownership were also similar. However, because the levels of the overall (beginning of period) predicted values were initially higher for non-metropolitan families, the percentage reduction in the probability of being a tenant in ten years was also correspondingly higher. In other words, those families residing in metropolitan areas will still have a greater probability of being tenants than similar families located in non-metropolitan areas. Hence the long run impact of AHOP on housing tenure patterns will be greater in metropolitan areas of the country.

not have otherwise occured in the absence of the program. Hence, to the extent that the clientele of AHOP continue to be predominately young families, the long term effect of AHOP on Canadian housing tenure patterns is likely to be insignificant. In particular, our results suggest that at least one-third of the AHOP recipients would have become homeowners anyway at some point during the subsequent ten years.

Summary of Major Results and Conclusions

This study examined the operation and performance of the Assisted Nome Ownership Program for the period July 1973 to March 1976. The major results and conclusions of this study are presented below.

1. Profile of AHOP Clientele

Income Distribution

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- . in 1975 the median gross income of Canadian families was \$14,925; 20% of Canadian families had incomes below \$8,000, 16% had incomes between \$8,000 and \$12,000
- two-thirds of the AHOP clientele had gross family incomes between \$8,000 and \$12,000 (measured in 1975 dollars)
- . only 1.5% had incomes below \$6,000
 - the proportion of clients with incomes below \$8,000 (in constant dollars) declined from 10% in 1973 to 5% in the first quarter of 1976
 - 8.4% of the program's recipients had incomes falling below the Statistics Canada low income cut-offs
 - there was substantial variation in the provincial rate of participation by low income families; onethird of AHOP clients in Saskatchwan had incomes below the low income cut-offs; low income clients in Quebec, Ontario and British Columbia represented less than 5% of the total clientele in each province.
 - supplementary provincial assistance to encourage participation of low income families was available in each of the Prairie provinces and in the Atlantic provinces excluding P.E.I..

These results indicate that the program has encouraged participation by those families of low and moderate income, with emphasis on the latter. Moreover, since on a year by year basis, the income distribution of AHOP clientele has been shifting upward, the program has increasingly become one serving middle income Canadians. It also appears that in the absence of supplementary provincial assistance the federal program would benefit substantially fewer low income families.

Housing Affordability Problems

93% of AHOP clients previously occupied rental housing; of these only 9% spent more than 25% of their gross family income on rental payments 73% of the former tenants spent 20% of less of their income on rent

- having purchased a house, 82% of the clientele would be required to allocate more than 25% of gross tamily income to PTT payments in the absence of federal assistance
- . after the application of AHOP assistance 15% of the clientele are still spending in excess of 25% of gross income on FIT payments.

These results suggest that AHOP clients did not experience housing affordability problems when renting, while the purchase of a house would in fact introduce such problems in the absence of federal assistance via AHOP. By encouraging or arranging for these families to become homeowners, AHOP establishes a group facing incipient housing affordability problems, problems which it then serves to alleviate.

AHOP Housing

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70% of the dwellings purchased with the assistance of AHOP were single detached units

60% of the units contained between 900 and 1100 square test of living space

- 63% of the dwellings were purchased for between \$20,000 and \$30,000;
- there was a dramatic upward shift in the price distribution of AHOP sponsbred housing between 1973 and 1976; while in 1973 more than half of the houses were purchased for less than \$20,000, less than 1% of the houses sold for this amount in 1975 and 1976.

On the basis of these results, it would appear that, despite the proclaimed emphasis on "modest" housing, the housing purchased under the auspices of AHOP does not differ greatly in type and size from that generally available in many housing markets throughout the country. Rising house prices, in conjunction with higher mortgage rates, are responsible for dramatic increases in the average federal subsidy. For example, the proportion of families receiving \$100 or more in monthly assistance was 3.60 in 1974, 190 in 1975, and 390 in 1976.

Age, Regional and Urban Distribution

- . 60% of the clientele were between 25 and 35 years of age; only 12% were 40 years of age or older
- . 60% of the AHOP clients resided in Ontario or Quebec; Quebec families alone comprise almost 40% of the AHOP clientele

2. Equity Considerations

Distribution of Federal Assistance

- the distribution of total federal AHOP budgetary commitments by income group is identical to the corresponding distribution of families. For example, families with incomes between \$4,000 and \$6,000 constituted 1.3° of the clientele and as a group received 1.4% of total federal assistance. Families with incomes between \$10,000 and \$12,000 represented 35.3% of the clientele and received 35.2% of total commitments
- on a year by year basis, the distribution of federal assistance by income group has shifted upward over time, thus following the upward shift in the clientele income distribution.

the distribution of federal assistance according to other tamily characteristics (e.g. age, location) is also virtually identical to the corresponding distributions of the clientele

These results indicate the absence of any operative equity principle underlying program disbursements. Instead, the aggregate distribution of federal subsidies appears to depend directly on those factors which determine differential rates of participation by eligible families. Although an analysis of the determinants of participation rates was beyond the scope of this study, it did appear; on the basis of available information, that the existence of supplementary provincial assistance within AHOP has a significant influence on the provincial distribution of tederal disbursements.

Inter-family comparison of AHOP benefits

- families with identical or similar incomes, but residing in different housing markets, receive differing amounts of each benefits which assist them in purchasing houses of different types, sizes, and prices
 - comparisons across housing markets reveal that each benefits received by higher income families are frequently larger than those received by low income families

there is no systematic relationship between the quality of dwelling purchased and the amount of federal assistance received:

Thus, although the design of the program incorporates vertical eq. (y at the local market level, inter-family comparisons across markets reveal a substantial degree of vertical and horizontal inequity in the relative magnitude of dollar benefits provided to AHOP clients. This inequity is not merely benign (as suggested in the results of section 2(a) above) but actually contrary to conventional equity principles. Since the program provides in-kind transfers, it is possible that differences in the quality of housing purchased could offset perversities in the distribution of dollar benefits. While there was some supporting evidence in this latter regard, in general it is not possible to conclude that such offsets do occur.

Interregional Comparisons

there was substantial interregional variation in the house prices paid by AHOP clientele. For example while 70% of clients in Manitoba and Saskatchewan paid less than \$25,000, only about 20% of clients in Ontario, British Columbia and Newfoundland were able to do likewise

comparison of income distributions of AHOP clientele reveals considerable interregional differences. In general, the distributions for the Atlantic and Fraire regions lie to the left of those in Quebec, Ontario and British Columbia

interregional differences in the average federal AMOP subsidy are small; the subsidies range from \$56 per client per month in the Prairies to \$64 per month in the Atlantic region

there was substantial variation in the type of housing which families in different regions were able to acquire with the assistance of AHOP. For example, the proportion of families purchasing new housing ranged from 86° in Quebec to 54° in British Columbia; 39° of Quebec clients purchased detached dwellings, only 47° in Outario did so

the average size of dwellings purchased under AHOP varied considerably by region. Prairie families tended to purchase the smallest dwellings = 69% being less than 1,000 square feet; only 31% of Ontario clients purchased housing in this size range

These results suggest that the program inequities identified earlier have a strong regional dimension. In particular, there are substantial interregional differences in the size and type of housing clients are able to purchase, and these differences in housing quality are not offset by differences in dollar benefits. For example, clients residing in the Prairies and in Ouebee received similar arounts of federal assistance. Nonetheless, while also acquiring housing of similar value, Provis ferifies purchase (dwellings that were scaller and less likely to be simple lettched than was the case for quebee facilies. In turn, these types of inequities can be attributed to the failure to maintain, acress Canadian housing markets, a consistent relationship between the ADD assistance scale and the quality of housing that may be purchased within the program.

Assets and Net Worth

prior to joining the program, one-quarter of the -AHOP clientele held assets valued in excess of \$10,000; 3% or about 1,000 families held assets with a total value of \$20,000 or more

the net worth of 16% of the clients was equal to or exceeded \$10,000; 2% had not worth exceeding \$20,000

This evidence indicates that inadequate wealth may exclude otherwise eligible families from participation in the program. Morever, since AHOP subsidizes the acquisition of an asset and facilitates the accumulation of wealth, it seems reasonable that existing assets and wealth, in addition to current income, be considered in assessing a family's need and ability to pay. Presently, the magnitude of AHOP assistance is determined solely on the basis of an income test.

3. AHOP Participation Rates

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It was estimated that the rate of participation in the program by eligible families was:

- inversely related to family income
- higher for young families those under 35 years of age
- lower for rural families .
- higher in provinces which supplement AHOP

These estimated rates of participation must be viewed as tentative because they are based on a simulation of the élicible population of families. Not only is it extremely difficult to simulate a program as complex as AHOP but given the interaction of program parameters with market realities, theoretical eligibility will frequently not mean functional eligibility. However, to the extent that our estimates are indicative, it appears that useful research could be directed toward determining why older families and rural families are less likely to participate in the program.

4. AHOP's Allocational Effects

AHOP has apparently had a significant gross impact on the Canadian housing sector. For example, it was estimated that, in 1975, one in every eight coepletions destined for the owner-becupied market was purchased with AHOP assistance. Although this study has not attempted to measure directly the program's not impact on the allocation of resources to and within the housing sector, it has been argued, with the aid of some indirect evidence, that this allocational effect is likely to be slight, particularly in the long-run. Specifically, any not production effect will be cyclical in nature largest during periods of widespread excess capcity and lagging demand and minimal in periods of full capacity

utilization and buoyant demand. During these latter periods, APP will more closely approximate a conventional in-kind transfer program and hence, its distributional implications become extremely important. Finally, since the majority of AHOP clients are young families, a major effect of the program will be to alter the timing of lifetime tenure choice patterns. .Given the usual pattern of tenure choices over a family's life , cycle, those AHOP clients who would not have currently purchased housing anyway, would have most likely done so in the future. In this regard, it was estimated that about half of the clientele would have probably still purchased housing in the absence of AHOP, and that of the remainder, at least one-third would have done so before another ten years elapsed.

In summary, the major conclusions of this study are:

that AHOP has become a program for the middle income;

that families with income or housing affordability problems do not participate and, in general, would not qualify for program assistance;

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- that there are substantial inequities in the program's benefit delivery system; that the long-run impact of the program on the
- housing sector will be slight.

Equity, Tenure Choice Patterns and Homeownership Subsidies: The Assisted Home Ownership Program, 1973-1975

APPENDICES

Effectiveness Evaluation Division Planning Branch T.B.S.

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- 27A. Rates of Homeownership Among Canadian Households and Families and by Selected Household Characteristics, 1974
- 27B. Rates of Homeownership Among Canadian Households by Household Income Group and Area of Residence, 1974
- 28. Regression Analysis of Tenure Choice by Family Units
- 29. The Probability of Homeownership of AHOP Clientele by Income and Age Groups
- 30. Changes in the Probability of Homeownership for AHOP Clientele: The Effect of Aging
- 31. Changes in the Probability of Homeownership of AHOP Clientele: The Effect of Changes in Real Income
- 32. Changes in the Probability of Homeownership for AHOP Clientele Following Elapse of Ten Years, by Income and Age Groups
- 33. Percentage Change in the Probability of Being a Tenant for AHOP Clientele Following Elapse of Ten Years, by Income and Age Groups.

	Total Starts	Non-Apt. Starts	AHOP Mo	rtgäge Ap ew Housin	provals – g	Total Completions	Non-Apt. Completions		AHOP Sales New House	of s
ïear	÷	#	# #	7 of Total Starts	Z of Non-Apt. Starts				7 of Completions	Socf Non-Apt. Completion
1972	249,914	146,199	-		· -	232,227	134,108	-	-	_
1973	268,529	162,073	_	- ·	_	246,581	151,007	-	-	-
197 3 2nd half	151,198	90,931	5,513	3.6	6.1	137,938	84,657	1,284	0.9	1.5
1974	222,123	148,098	10,539	4.7	7.1	257,243	161,438	8,326	3.2	5.2
1975	231,456.	161,095	25,771	11.1	16.0	216,964	141,807	16,731	7.7	11,8
1976 lst Q.	-	-		-			-	879	-	<u> </u>

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Canadian Housing Starts and Completions Relative to AHCP Mortgage Approvals and Sales

Source: Starts, Completions - Canadian Housing Statistics, 1975, Table 9 Sales - Tabulation from AHOP Clientele data file Mortgage Approvals - Canadian Housing Statistics

Table 2*

Actual and Forecast Expenditures Under AllOP, 1973-1979

Capital Budget (Section 34-15)				Budgetary Expenditures (Section 34-16)			
Calendar Year	Original AHOP \$ Millions	Modified AHOP \$ Millions	Per Cent of Total CMHC Budget	Original AHOP \$ Millions	Modified AHOP \$ Millions	Total AHOP \$ Millions	Per Cent of Total CMHC Budget
1973	133.1	-	14.3	0.7	-	0.7	0.6
1974	453.2	-	35.5	5.0	-	5.0	3.5
1975	458.2	_	28.6	10.2	-	10.2	4.1
1976	-	353.6	18.9	17.3	3.9	21.2	5.4
1977	-	333.6	17.1	20.9	13.6	34.5	6.5
1978	-	334.0	16.8	20.4	25.5	45.9	7.4
1979	-	351.0	17.4	19.1	38.7	57.8	8.3

* Sources: 1973-1975 - Canadian Housing Statistics (CMHC) 1975, Table 29. 1976-1979 - CMHC Program Forecast 1977/78, Draft, March, 1976.

DISTRIBUTION OF AHOP CLIENTELF BY SELECTED CHARACTERISTICS

Characteristic	Per Cent	Characteristic	Per Cent
Parily Income Crown		Urban Siza Crount	
Family income Group.		orban size Group.	2 4 - 5
0 - 1,999	0.0	500,000 & over	24.0
2,000 - 3,999	0.3	100,000 - 499,999	33.1
4,000 = 5,009	2.2	40,000 - 99,999	10.2
6,000 - 7,999	14.6	10,000 - 39,999	15.2
8,000 - 9,999	33.8	9,999 & under	10.9
10,000 - 11,999	30.4	Rural	6.6
12,000 - 13,999	13.8		
14,000 - 15,999	3.7		100.0
16,000 - 17,999	1.0		
18,000 - 20,999	0.3	Sample Size	35,544
21,000 & over	0.1	Ass of Heads	
	100 0	Age of nead;	
	100.0	19 & under	0.5
	25 120	20 - 24	14.7
Sample Size	\$10,130	25 - 29	36.9
Mean Family Income	φr0,047	30 - 34	23.9
Duranta and Duration t		35 - 39	12.5
Frovine and Region:		40 - 44	6.5
Newfoundland	3.9	45 - 49	3.2
Prince Edward Island	0.7	50 - 54	1.4
Nova Scotia	3.7	55 & over	0.8
New Brunswick	.3.2		
Atlantic	11.5		100.0
Quebec	39.4		•
Ontario	21.3	Sample Size	35,089
Manitoba	3.6	Mean Age	30.8
Saskatchewan	6.7		
Alberta	5.6	Program Type:	
Prairie	15.9	AHOP Direct	94.5
British Columbia	11.7	Private	5.5
N.W.T. & Yukon	0.1		
	100.0		100.0
Sample Size	35,544	Sample Size	35,544
		Dwelling Class:	
Gross Debt Service Ratio:			
(before subsidy) Z		New	/5.4
10.0 & under	0.0	Existing	24.6
10.1 - 15.0	0.3		100 0
15.1 - 20.0	1.9		100.0
20.1 - 25.0	16.0		27 001
25.1 - 30.0	35.4	Sample Size	57,001
30.1 - 35.0	28.6	Durt/Income Putio	
35.1 - 40.0	12.5	Rent/Income Ratio	
40.1 & over	5.4	Prior lenure (%).	
		10.0 & under	9.0
	100.0	10.1 - 15.0	30.4
		15.1 - 20.0	33.6
Sample Size	35,138	20.1 - 25.0	18.2
Mean G.D.S.R.	30.2	25.1 - 30.0	6.2
		30.1 - 35.0	1./
Debt Service Ratio After Subsidy (2):		35.1 - 40.0 40.1 & over	0.6
10.0 & under	0.1		100.0
10.1 = 15.0	1.1		100.0
15.1 - 20.0	16.3	0	22 026
20.1 - 25.0	67.1	Sample Stre	32,030
25.1 - 30.0	13.7	Mean Kent/Income Katio	1/.2
30.1 - 35.0	1.0		
35.1 = 40.0	0.4		
40.1 & over	0.3		
	• • • •		
	100.0		
Sample Star	35,138		

Sample Sites

TARLE 3	(Cont'd)

Characteristic	Per Çent	Characteristic	Per Cen
Monthly Federal Subsidy:		Dwelling Price:	
(dollars)		Under 20,000	16.2
0	27	$20\ 000 - 24\ 999$	28.1
$\frac{1}{1} - \frac{24}{2}$	11 9	25,000 - 29,999	2011
25 - 49	31 3	$30^{\circ}000 - 34^{\circ}999$	15 2
50 - 74	18.3	35,000 - 39,999	3.4
75 - 99	24.8	40.000 - 44.999	1.6
100 - 124	10.8	45.000 & over	0.2
125 & over	0.3		
			100.0
	100.0		
		Sample Size	35,150
Sample Size	35,138	Mean Price	\$26,34
Mean Subsidy	59.03		
The shift of the transform America		Dwelling Type:	
Useable Living Area:		Detached Bungalow	53.6
(Sq. r.c.)		Other Single Detached	17.0
Under 700	1.6	Semi-Detached and Duplex	10.0
700 - 799	3.5	Row	17.0
800 - 899	12.4	Apartment	2.3
900 - 999	33.9	Mobile Home	0.1
1,000 - 1,099	26.1		
1,100 - 1,199	11.7		100.0
1,200 - 1,399	8.6		÷
1,400 - 1,599	1.4	Sample Size	35,64
1,600 & over	0.7		
	100.0		
Sample Size	35,470		
Mean Living Area	1,011		
		· · · · · · · · · · · · · · · · · · ·	
Family Income Group (\$ 1975)			*
	0.0		
2,000 - 3,999	0.2		
4,000 - 5,999	1.3		
6,000 - 7,999	9.3		
8,000 - 9,999	28.3		
10,000 - 11,999	35.3		· .
12,000 - 13,999	18.5		
14,000 - 15,999	5.1		
16,000 - 17,999	1.4		
18,000 - 20,999	0.5		
21,000 and over	0.1		
	25 1 2 /		

DISTRIBUTION OF AHOP CLIENTFLE BY SELECTED CHARACTERISTICS BY YEAR OF PURCHASE

•

Characteristic	1973	1974	1975	1976
Family Income Group:				
Under \$2,000	_	-	· · · · · · · · · · · · · · · · · · ·	_
2.000 - 3.999	0.7	0.3	0.2	0.5
4 000 - 5.999	4.7	3.1	0.9	0.5
6.000 - 7.999	28.7	19.3	8.1	3.7
8,000 - 9,999	45.2	40.0	26.6	13.6
10,000 - 11,999	17.1	26.7	36.0	36.8
12,000 - 13,999	3.1	7.8	20.7	30.9
$14\ 000\ -\ 15\ 999$	0.3	2.1	5.8	8.0
16.000 - 17.999	0.0	0.7	1.3	3.8
18,000 - 20,999	0.1	0.1	0.4	2.2
21,000 & over				
Sample Size	2,644	15,922	15,706	862
•				
Príce Group:				
Under \$20,000	54.3	26.3	0.8	0.1
20,000 - 24,999	28.4	36.7	20.4	8.3
25,000 - 29,999	13.8	23.9	49.6	45.2
30,000 - 34,999	3.4	8.5	22.9	31.4
35,000 - 39,999	0.1	2.6	4.4	8.9
40,000 - 44,999	0.0	1.8	1.5	6.1
45,000 & over	0.0	0.2	0.4	0.0
Sample Size	2,605	15,722	15,567	854
Monthly Federal Subsidy:				
\$ ()	3.5	3.8	1.6	0.3
1 - 24	23.5	18.3	3.9	3.0
25 - 49	70.6	46.4	10.9	6.7
50 - 74	2.3	18.5	21.0	13.8
75 - 99	0.1	9.4	43.7	37.4
100 - 124	0.0	3.6	18.4	37.1
125 & over	0.0	0.0	0.6	1.0
Sample Size	2,644	15,922	15,706	862
			-	-
Family Income Group (\$ 1975)				
2,000 - \$ 3,999	0.3	0.2	0.2	0.5
4,000 - 5,999	1.5	1.6	0.9	0.5
6,000 - 7,999	8.8	10.9	8.1	3.7
8,000 - 9,999	27.7	30.9	26.6	13.6
10,000 - 11,999	37.7	34.0	36.0	36.8
12,000 - 13,999	18.2	15.8	20.7	30.9
14,000 - 15,999	4.9	4.4	5.8	8.0
16,000 - 17,999	0.6	1.6	1.3	3.8
18,000 - 20,999	0.2	0.5	0.4	2.2
21,000 and over	0.2	0.1	0.1	0.1
Sample Size	2,644	15,894	15,706	862

Table 5

Distribution of AllOP Clientele by Asset and Net Worth Positions

Total Asset Group	Per Cent	Mean Not Worth
Under \$ 500	10.1	\$ -19
5()() - ~ 000	0.3	214
1,000 - 1,999	1.6	437
2,000 - 2,999	3.3	1,007
3,000 - 3,009	5.9	1,818
4,000 - 4,999	7.8	2,611
5,000 - 6,000	19.1	4,088
7,000 - 9,000	25.9	6,333
10,000 - 14,000	18.4	9,710
15,000 - 19,999	4.6	14;263
20,000 - 29,999	2.1	19,698
30,000 - 49,999	0.8	31,862
50,000 & over	0.1	52,346
	100.0	
Sample Size	37,001	\$ 5,944

Not Worth Group	Per Cent
Negative	4.1
\$ 0 - 409	11.3
5()() 099	2.4
1,000 - 1,900	5.3
2,000 - 2,999	7.3
3,000 - 3,009	8.5
1,000 - 1,000	S.8
5,000 - 6,990°	17.5
7,000 - 9,000	18.2
10,000 - 14,999	11.6
15,000 - 10,090	2.9
20,000 = 20,000	1.3
30,000 - 39,999	0.4
40,000 & ever	0.2
	100.0
Connellar Citta	37 001

Table 6*

Total Asset	AHOP Clientele	All Families and Unattached Individuals	All Tenants	All Families and Unattached Individuals: Per Cent of
Group	Per Cont	- Per Cent (1970)	Per Cent (1970)	(1970)
No Assets	0.0	4.0	8.7	-
Under \$ 500 . 500 - 090	10.1 0.3	12.3	38.6	1.9
1,000 - 1,000	L. 6	7.5	14.8	7.4
2,000 - 4,999	17.0	11.5	19.2	19.2
5,000 - 9,999	35.0	9.7	9.0	48,0
10,000 - 14,999	18.4	7.3	3.0	65.6
15,000 - 19,999	4.0	8.3	2.1	72.8
20,000 - 29,999	2.1	15.4	2.1	76.3
30,000 - 49,000	0.8	12.1	1.4	65.2
50,000 & over	0.1	6.2	1.0	44.9**
	100.0	100.0	100.0	

Asset Holdings and Net Worth Position: Distribution of AHOP Clientele and of all Families and Unattached Individuals in Canada

Net Worth Group	AllOP Clientele Per Cent	All Homeowners (1970) Per Cent	All Tenants (1970) Per Cent
Negative	4.1	1.8	26.3
Under \$1,000	13.7	1.6	33.6
1.000 - 1.999	5.3	1.9	10.2
2,000 - 4,999	24.6	7.6	13.2
5,000 - 9,999	35.7	15.7	7.5
10,000 - 14,999	11.6	16.1	2.8
15,000 - 29,999 30,000 & over	4.2 0.6	55.3	6.3
	100.0	100.0	100.0
Mean Net Worth	\$5,944	\$17,106	\$3,929

Source: * Statistics Canada, Incomes, assets and indebtedness of families in Canada 1969 (Catalogue No. 13-547) Tables 15, 16, 50 and 78.

** This ligure is reported for the asset range \$50,000 - \$100,000.

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TABLE 7

Distribution of Federal Subsidy Commitments Under AHOP for Selected Family Characteristics

Family Characteristic	Number of Families	Mean Monthly Subsidy	Group's Share of Total Federal Subsidies
	#	\$	Z
Family Income Group			
$\frac{1}{2}$ $\frac{1}$	90	67.38	0.3
4,000 - 5,999	767	59.19	2.2
6,000 - 7,999	5,124	58.81	14.5
8,000 - 9,999	11,871	58.43	33.5
10,000 - 11,999	10,676	60.52	31.2
12,000 - 13,999	4,835	60.10	14.0
14,000 - 15,999	1,312	51.89	3.3
16,000 - 17,999	347	46.09	0.8
18,000 - 20,999	93	53.98	0.2
21,000 & over	23	62.78	0.1
		:	
			100.0
All families	35,138	59.01	
Total Asset Value Group			
Loss than \$ 500	2.616	84.01	10.5
500 - 999	83	68.54	0.3
1 000 - 1.999	518	61.29	1.5
2.000 - 2.999	1,222	57.47	3.3
3,000 - 3,999	2,150	54.70	5.6
4,000 - 4,999	2,880	54.93	7.5
5,000 - 6,999	7,017	56.21	18.8
7,000 - 9,999	9,511	57.53	26.1
10,000 - 14,999	6,751	58.92	19.0
15,000 - 19,999	1,699	57.79	4.7
20,000 - 29,999	764	53.06	1.9
30,000 - 49,999	288	49.64	0.7
50,000 & over	45	54.38	0.1
			100.0
All families	35,544	59.01	
Age Group	1999		
10.0	101	60.00	0.6
19 & under	5 1/2	60.90	15-1
20 - 24	2,143	50.11	36.8
20 - 29	9 265	57 97	23.4
25 - 30	1. 266 /. 266	50 21	12.5
33 - 39	9 965	57.46	6.3
$q_{1} = q_{4}$	1 101	58 83	3.1
40 - 47	283 	58.83	1.4
55 % older	286	61.39	0.8
			100.0
All families	35,089	59.01	T.0.0 • O

TABLE	7	(cont	inued)

# , 385 239 , 328 , 154 , 106 , 013 , 558 , 288 , 395 , 003 , 686 , 155 26 , 544 , 547 , 763 , 611	$ \begin{array}{r} & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & $		$ \begin{array}{r} $	
, 385 239 , 328 , 154 , 106 , 013 , 558 , 288 , 395 , 003 , 686 , 155 26 , 544 , 547 , 763 , 611	$ \begin{array}{r} 62.79\\ 64.98\\ 68.43\\ 60.80\\ \hline 64.18\\ 57.21\\ 61.82\\ 49.59\\ 64.14\\ 50.31\\ \hline 55.97\\ 59.12\\ 68.04\\ \hline 59.01\\ \hline 58.39\\ 61.88\\ 53.12\\ \end{array} $		4.2 0.7 4.3 3.3 12.5 38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
, 385 239 , 328 , 154 , 106 , 013 , 558 , 288 , 395 , 003 , 686 , 155 26 , 544 , 547 , 763 , 611	$ \begin{array}{r} 62.79\\ 64.98\\ 68.43\\ 60.80\\ \hline 64.18\\ 57.21\\ 61.82\\ 49.59\\ 64.14\\ 50.31\\ \hline 55.97\\ \hline 59.12\\ 68.04\\ \hline 59.01\\ \hline 58.39\\ 61.88\\ 53.12\\ \end{array} $		4.2 0.7 4.3 3.3 12.5 38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0	
239 ,328 ,154 ,106 ,013 ,558 ,288 ,395 ,003 ,686 ,155 26 ,544 ,547 ,763 ,611	$ \begin{array}{r} 64.98\\ 68.43\\ 60.80\\ \hline 64.18\\ \hline 57.21\\ 61.82\\ 49.59\\ 64.14\\ 50.31\\ \hline 55.97\\ \hline 59.12\\ 68.04\\ \hline 59.01\\ \hline 58.39\\ 61.88\\ 53.12\\ \end{array} $		0.7 4.3 3.3 12.5 38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
, 328 , 154 , 106 , 013 , 558 , 288 , 395 , 003 , 686 , 155 , 26 , 544 , 547 , 763 , 611	$ \begin{array}{r} 68.43\\ 60.80\\ \hline 64.18\\ 57.21\\ 61.82\\ 49.59\\ 64.14\\ 50.31\\ \hline 55.97\\ 59.12\\ 68.04\\ 59.01\\ \hline 58.39\\ 61.88\\ 53.12\\ \end{array} $		4.3 3.3 12.5 38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,154 ,106 ,013 ,558 ,288 ,395 ,003 ,686 ,155 26 ,544 ,544	$ \begin{array}{r} 60.80 \\ \hline 64.18 \\ 57.21 \\ 61.82 \\ 49.59 \\ 64.14 \\ 50.31 \\ \hline 55.97 \\ 59.12 \\ 68.04 \\ 59.01 \\ 58.39 \\ 61.88 \\ 53.12 \\ \end{array} $		3.3 12.5 38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,106 ,013 ,558 ,288 ,395 ,003 ,686 ,155 26 ,544	64.18 57.21 61.82 49.59 64.14 50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		12.5 38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,013 ,558 ,288 ,395 ,003 ,686 ,155 26 ,544 ,544	57.21 61.82 49.59 64.14 50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		38.2 22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,013 ,558 ,288 ,395 ,003 ,686 ,155 26 ,544 ,544 ,547 ,763 ,611	57.21 61.82 49.59 64.14 50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		$ \begin{array}{r} 38.2\\22.3\\3.0\\7.3\\4.8\\\hline 15.1\\\hline 11.7\\0.1\\\hline 100.0\\\end{array} $ 23.8 34.7	
,558 ,288 ,395 ,003 ,686 ,155 26 ,544 ,544 ,547 ,763 ,611	61.82 49.59 64.14 50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		22.3 3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,288 ,395 ,003 ,686 ,155 26 ,544 ,544	49.59 64.14 50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		3.0 7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,395 ,003 ,686 ,155 26 ,544 ,544 ,547 ,763 ,611	64.14 50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		7.3 4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,003 ,686 ,155 26 ,544 ,544 ,547 ,763 ,611	50.31 55.97 59.12 68.04 59.01 58.39 61.88 53.12		4.8 15.1 11.7 0.1 100.0 23.8 34.7	
,686 ,155 26 ,544 ,547 ,763 ,611	55.97 59.12 68.04 59.01 58.39 61.88 53.12		15.1 11.7 0.1 100.0 23.8 34.7	
,155 26 ,544 ,547 ,763 ,611	59.12 68.04 59.01 58.39 61.88 53.12		11.7 0.1 100.0 23.8 34.7	
,155 26 ,544 ,547 ,763 ,611	59.12 68.04 59.01 58.39 61.88 53.12		23.8 34.7	-
,544 ,547 ,763 ,611	59.01 58.39 61.88 53.12		23.8 34.7	
,544 ,547 ,763 ,611	59.01 58.39 61.88 53.12		100.0 23.8 34.7	- - -
,544 ,547 ,763 ,611	59.01 58.39 61.88 53.12	· · · · · · · · · · · · · · · · · · ·	23.8 34.7	
,547 ,763 ,611	58.39 61.88 53.12		23.8 34.7	
,547 ,763 ,611	58.39 61.88 53.12		23.8 34.7	
,763 ,611	61.88		34.7	
,611	53 12		5	
• () L .1			9.1	
305	59.04		15.2	
, 395	57 73		10.7	
.070	57.75		6 5	
, 358	38.27		0.5	
			100.0	
, 544	59.01			
	7/ 00		0.2	
00	14.20		0.2	
452	66.14		1.4	
, 367	65.98		10.4	
,939	63.30		30.4	
, 377	58.98		35.2	
, 504	53.26		16.7	
,797	46.58		4.0	
505	45.58		1.1	
164	47.54		0.4	
35	45.63		0.1	
,106	59.02		100.0	
	66 452 367 939 377 504 797 505 164 35	66 74.20 452 66.14 367 65.98 939 63.30 377 58.98 504 53.26 797 46.58 164 47.54 35 45.63 106 59.02	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	66 74.20 0.2 452 66.14 1.4 367 65.98 10.4 939 63.30 30.4 377 58.98 35.2 504 53.26 16.7 797 46.58 4.0 505 45.58 1.1 164 47.54 0.4 35 45.63 0.1 106 59.02 100.0

TABLE	8
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Distribution of Federal Subsidy Commitments Under AHOP by Year of Approval and According to Family Income Groups

				Year of Mortga	ge Approval			
1	19	973	· · ·	1974		1975		1976
Group (5 1975):	Average Monthly Subsidy	Share of Subsidy Bill	Average Monthly Subsidy	Group's Share of Subsidy Bill	Average Monthly Subsidy	Group's Share of Subsidy Bill	Average Monthly Subsidy	Group's Share of Subsidy Bill
\$2,000 - 3,999	35.22	0.4	56.96	0.2	92.44	0.2	168.50	0.9
4,000 - 5,999	37.54	1.7	55.35	2.1	91.69	1.1	113.00	0.6
6,000 - 7,999	38.43	10.3	52.58	13.0	88.26	9.3	94.69	4.0
8,000 - 9,999	37.52	31.7	47.89	33.4	84.93	29.4	98.09	15.3
10,000 - 11,999	33.02	38.0	41.73	32.1	78.25	36.7	91.39	38.6
12,000 - 13,999	26.73	14.8	36.97	4.0	67.49	18.2	81.24	28.8
14,000 - 15,999	18.67	2.8	40.38	1.5	53.57	4.0	69.35	6.4
16,000 - 17,999	11.88	0.2	43.76	0.4	46.58	0.8	69.27	3.0
18,000 - 20,999	23.00	0.1	35.99	0.1	52.93	0.2	88.47	2.2
21,000 & over	11.20	0.1	26.47	0.2	74.64	0.1	99.00	0.1
All Families	32.79	100.0	44.27	100.0	76.82	100.0	87.08	100.0

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Federal Assistance As a Per Cent of Principal, Interest, and Tax Payments: AHOP Participants July 1973 - April 1976

	Federal Share of PIT	Number of Familie
Income Group	X	#
2.000 - 3.999	37.2	88
4.000 - 5.999	32.4	754
6.000 - 7.999	28.5	5,062
8,000 - 9,999	24.8	11,654
10,000 - 11,999	22.7	10, 337
$12\ 000 = 13\ 999$	20.7	4,610
14,000 - 15,999	16.4	1,251
16,000 = 17,999	13.9	333
18,000 = 17,999	16.3	87
21,000 & over	24.9	21
All families	23.9	34,197
Age Group		
19 or 1088	25.8	187
20 - 24	25.0	5.049
25 - 29	23.6	12.540
20 - 24	23.3	8,119
30 = 34	24.0	4 243
33 - 39	23 8	2 199
	25.0	1 070
45 - 49	25.1	468
50 - 54	23.0	272
55 & older	27.4	
		34,147
rovince		
Nfld.	26.5	1,327
ΈI	29.8	238
1.S.	26.7	1,316
1.B.	27.9	1,118
Quebec	23.4	13,456
Intario	23.2	7,418
lan.	23.0	1,278
Sask.	28.6	2,362
Alta.	22.4	1,976
3.C.	22.1	4,075
		34 564

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Distribution of AHOP Clientele Within Income Groups and by House Price and Federal Subsidy Groups

Family Income			Hous	e Price Gi	roup					Month	ly Feder	al Assis	tance	
Group (S 1975):	Under \$20,000	20,000- 24,999	25,000- 29,999	30,000- 34,999	35,000- 39,999	40,000- 44,999	45,000 & over	0	\$1-24	25-49	50-74	75-99	100-125	125 à over
2,000 - 3,999	46.9	21.9	21.9	9.4	-	-	-	1.5	1.5	30.3	22.7	25.8	12.1	6.1
1,000 - 15,000	47.2	30.6	13.5	3.6	-	-	: → .	2.2	3.3	34.5	22.6	21.0	15.3	1.1
6,000 - 7,999	37.3	35.6	23.7	3.3	0.1	-	-	1.1	3.7	35.3	18.1	29.5	12.1	0.2
3,000 - 9,999	23.8	35.8	31.9	8.2	0.3	-	-	1.5	6.3	35.4	16.3	30.3	10.2	0.1
10,000 - 11,999	12.1	28.5	40.7	16.4	2.1	0.2	_	2.1	12.5	30.9	18.6	24.9	10.8	0.2
	5.0	18.4	40.4	26.2	7.8	2.0	0.2	4.8	19.5	25.4	19.9	18.3	11.5	0.6
14,000 - 15,999	2.4	11.8	30.8	30.2	13.2	9.7	1.8	7.6	23.7	26.9	18.0	13.4	9.6	0.7
16,000 - 17,999	1.4	4.2	17.5	18.8	19.8	34.3	4.0	4.4	23.8	30.3	22.8	12.9	5.7	0.2
18,000 - 20,999	4.9	6.7	11.0	7.9	15.2	46.3	7.9	5.5	21.3	28.0	22.6	14.6	7.9	<u> </u>
21,000 1 over	11.4	37.1	31.4	17.1	: 	2.9	. –	11.4	25.7	22.9	17.1	8.6	14.3	-
All Families	16.2	28.1	35.3	15.2	3.3	1.6	0.2	2.7	11.9	31.4	18.2	24.7	10.8	0.3

Distribution of AHOP Clientele Within Income Groups and According to Dwelling Class, Type and Size

Family Income	Dwell	ing Class			Dwelling I	уре			Dwelling Size (Floor Space in sq. ft.)								
Group (3 1975):	New	Existing	Detached Bungalow	Other Detached	Semi- Detached	Row House	Apart- ment	Mobile Home	Under 700	700- 799	800- 899	900- 999	1000- 1099	1100- 1199	120 <u>0</u> - 1399	1400- 1599	1600 å over
2,010- 3,999	71.2	29.8	50.6	25,7	4.5	9.1	0.0	0.0	6.1	13.6	37.9	24.2	6.1	3.0	9.1	0.0	с.э
-,:::- 3,999	65.5	34.5	62.6	23.5	6.2	6.6	ĵ. <u>'</u>	0.7	5.6	8.0	32.0	23.8	15.3	6.0	б. О	2.2	1.1
6,010- 7,999	73.6	26.4	58.0	18.3	7.9	14.4	1.1	0.2	2.4	6.3	26.6	31.7	17.0	8.9	5.0	1.3	6.7
2,000- 9,999	75.3	24.7	56.2	17.0	10.3	15.3	1.1	0.1	1.7	3.8	14.7	37.9	23.6	10.2	6.1	1.4	0.6
10,000-11,999	76.6	24.4	54.9	16.7	10.6	15.4	2.3	0.1	1.3	2.9	9.3	36.1	28.8	11.5	8.1	1.3	0.7
12,000+13,999	73.9	26.1	50.0	17.9	9.9	18.7	3.5	0.0	1.1	2.0	8.0	30.1	30.3	14.0	11.3	1.5	0.7
14,000-15,999	69.5	30.5	44.1	16.3	9.3	24.8	5.5	0.0	1.8	2.7	7.4	23.3	29.3	17.3	15.3	1.7	0.7
16,000-17,999	56.4	43.6	39.6	10.7	9.3	32.5	7.9	0.0	2.5	5.0	8.5	17.1	23.2	19.2	22.4	1.2	1.0
18,000-20,999	53.7	46.3	43.3	10.4	6.1	36.6	3.7	0.0	3.7	3.7	7.9	17.7	18.9	14.0	28.7	3.7	1.8
21,000 & over	68.6	31.4	48.6	17.1	2.9	28.6	2.9	0.9	11.4	5.7	5.7	31.4	14.3	17.1	8.6	2.9	2.9
All families	74.1	25.9	53.9	17.1	9.9	16.6	2.3	0.1	1.6	3.6	12.4	33.9	26.2	11.7	8.5	1.4	0.7

Average Monthly Federal Assistance by Income Group and According to House Price and Dwelling Class

Family Income			Но	ouse Price Group	S			Dwell	ing Class
Group (S 1975):	Under \$20,000	20,000- 24,999	25,000- 29,999	30,000- 34,999	35,000- 39,999	40,000- 44,999	45,000 & over	News	Existing
52,100 - 3,009.	50	83	107	112	-	-	_	27	43
 100 - 5.999	45	82	93	83	-		-	77	<u>4</u> 6
6.000 - 7,999	<u>4</u> 2	74	88	97	114	-	-	-3	46
3,000 - 9,999	34	61	80	94	96	-	111	70	42
10,000 - 11,999	25	43	67	85	100	110	-	65	39
11,000 - 13,999	15	27	52	65	92	107	83	58	40
14,000 - 15,999	10	17	35	44	77	88	97	48	44
16,000 - 17,999	18	27	28	30	56	58	64	-6	46
13,000 - 20,999	27	39	49	39	30	58	48	58	35
21,000 & over	16	38	56	52	-	108	-	55	25
All families	33	51	67	75	86	80	79	65	41

Average Monthly Federal Assistance Available to AHOP Clientele by Family Income Group and According to Dwelling Type and Size

	Mean	Monthly Fed	eral Assist	ance b	y Dwelling T	уре		Mean M	onthly I	Federal	Assistan	ce by Dwe	lling Siz	e (Sr. Ft	.)
Group (5 1973):	Bungalow	Other Single Detached	Semi- Detached	Row	Apartment	Mobile Homes	< 700	700- 799	800- 399	900- 999	1,000- 1,099	1,100- 1,199	1,200- 1,399	1,410- 1,599	> 1,600
2,000 - 3,999	72	64	128	93	_	- -	37	74	79	74	121	70	51	-	-
4.000 - 5,999	68	57	66	80	95	83	44	61	66	76	69	68	50 s	52	95
6,000 - 7,999	67	57	62	75	72	92	44	52	64	69	72	71	61	50	47
8,000 - 9,999	62	58	ń5	72	71	59	44	47	57	66	68	56	60	52	43
10,000 - 11,999	56	57	60	67	73	49	42	48	49	60	62	63	59	42	44
12,000 - 13,999	50	52	51	62	66	17	51	46	47	51	56	57	56	<u>-</u> - 5	46
14,000 - 15,999	43	42	45	55	55	-	53	48	46	39	47	52	51	50	22
16,000 - 17,999	47	35	49	48	41		56	51	53	40	45	48	44	3 ố.	26
18,000 - 20,999	45	42	46	55	24	- 1	44	41	42	38	47	42	63	26	31
21,000 2 over	46	52	-	43	71	-	26	35	80	55	78	23	44	0	0
All Families	58	55	59	67	67	61	45	49	55	61	62	62	57	46	44

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The Distribution of House Prices Within Provinces: Purchases by AHOP Clientele

Province	House Price Group										
Region	\$20,000	20,000- 24,999	25,000- 29,999	30,000 34,999	35,000- 39,999	40,000- 44,999	45,000				
Nfld.	7.4	10.6	42.4	39.2	0.4	0.1	-				
PET	17.3	29.1	40.1	13.5	-	-					
.s.	11.3	25.1	41.9	15.6	6.2	· _	-				
B.	17.4	38.7	38.7	5.2	-	- · ·	_				
Atlantic	12.0	24.2	41.1	20.5	2.1	0.0	_				
Quebec	21.8	34.4	39.5	4.1	0.1	0.1	-				
Ontario	4.5	17.4	32.7	33.0	8.5	2.8	1.1				
Man.	41.2	30.7	16.0	12.1	_	· _	_				
Sask.	39.6	28.5	28.3	3.5	-	-	· _				
Alta.	11.3	53.1	22.1	13.5	0.0	_	_				
Prairie	30.1	37.5	23.4	9.0	0.0	— .	_				
B.C.	3.3	16.3	36.1	24.3	10.7	9.0	0.2				

TABLE 15A

The Intraregional Distribution of AHOP Clientele by Income Group

		Percentage	Distribution	Within Regions	3	
Family Income Groups (\$1975):	Atlantic	Quebec	Ontario	Prairies	B.C.	Canada
	7.	%	7.	%	%	7,
<pre>\$ 2,000 - 3,999 4,000 - 5,999 6,000 - 7,999 8,000 - 9,999 10,000 - 11,999 12,000 - 13,999 14,000 - 15,999 16,000 - 17,999 18,000 - 20,999 21,000 & over</pre>	0.4 3.8 19.3 33.5 27.1 12.8 2.6 0.3 0.1 0.1	$\begin{array}{c} 0.0\\ 0.1\\ 4.9\\ 29.7\\ 41.4\\ 18.9\\ 4.2\\ 0.6\\ 0.1\\ 0.1 \end{array}$	$\begin{array}{c} 0.1 \\ 0.5 \\ 3.5 \\ 20.2 \\ 38.2 \\ 25.3 \\ 8.3 \\ 2.8 \\ 0.9 \\ 0.1 \end{array}$	0.6 3.8 24.5 39.7 23.4 6.3 1.2 0.2 0.2 0.2 0.1	0.2 0.9 4.1 17.9 33.7 27.1 9.9 4.6 1.5 0.2	$\begin{array}{c} 0.2 \\ 1.3 \\ 9.3 \\ 28.3 \\ 35.3 \\ 18.5 \\ 5.1 \\ 1.4 \\ 0.5 \\ 0.1 \end{array}$

TABLE 15B

Mean Monthly Federal Subsidies Under AHOP by Income Group and Region

Family Income Group (\$1975)	Mean Monthly Federal Subsidy By Region					
	Atlantic	Quebec	Ontario	Prairies	B.C.	
\$ 2,000 - 3,999 4,000 - 5,999 6,000 - 7,999 8,000 - 9,999 10,000 - 11,999 12,000 - 13,999 14,000 - 15,999 16,000 - 17,999 18,000 - 20,999 21,000 & over	52 60 72 70 62 51 33 53 (9) 15	87 55 60 62 59 51 35 27 48 58	61 59 66 67 64 58 53 47 52 66	74 73 65 58 47 36 35 41 43 17	136 66 69 66 57 58 58 58 51 42 29	
All Families	64	57	62	56	59	
- 19' -

TABLE 16

The Distribution of AHOP Clientele Within Regions and According to Dwelling Class, Type, and Size

Dwelling Characteristic	Atlantic	Quebec	Ontario	Prairie	B.C.
Dwelling Class:					х.
New	76.6	86.5	62.2	74.0	53.7
Existing	23.4	13.5	37.8	26.0	46.3
Dwelling Type:	· · · · · ·				
Bungalow	55.3	71.2	28.4	48.6	47.8
Other Single Detached	16.5	17.7	18.9	17.7	11.8
Semi-detached	6.4	7.2	12.7	14.0	11.7
Row	21.2	3.8	30.6	19.4	26.1
Apartment	0.0	0.0	9.4	0.0	2.6
Mobile Home	0.6	0.0	0.0	0.3	0.0
Living Area in Dwelling:					
Less than 700 sq. ft.	1.3	0.6	1.7	2.7	3.4
700- 799	2.8	1.9	3.3	6.9	6.0
800- 899	12.4	7.0	5.6	33.1	14.6
900- 999	26.7	49.0	20.2	26.3	25.6
1,000-1,099	26.7	28.1	32.3	16.0	21.9
1,100-1,199	18.2	6.5	18.0	9.2	14.4
1,200-1,399	8.9	5.7	14.9	4.4	11.7
1,400-1,599	1.9	0.8	2.7	0.9	1.8
1,600 8 over	1.0	0.3	1.3	0.4	0.7

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Distribution of AMOP Clientele With Respect to the Low Income Cut-Offs

Family Characteristic		Relati	on to Low In	ncome Cut	-0ff		· · · · · · · · · · · · · · · · · · ·
	Above Cut	-Off	Below (Cut-Off	Distrib Within	ution Each Class	
	# of Families	%	∦ of Families	7.	Above	Below	
Province							
Nfld. PEI N.S. N.B. Quebec Ontario Manitoba Sask. Alta.	1,186 193 1,171 880 13,326 7,312 994 1,632 1,805	$3.6 \\ 0.6 \\ 3.6 \\ 2.7 \\ 41.0 \\ 22.5 \\ 3.1 \\ 5.0 \\ 5.6 $	199 46 157 274 687 246 294 763 198	$ \begin{array}{c} 6.6\\ 1.5\\ 5.2\\ 9.1\\ 22.9\\ 8.2\\ 9.8\\ 25.4\\ 6.6\\ \end{array} $	85.6 80.8 88.2 76.3 95.1 96.7 77.2 68.1 90.1	14.4 19.2 11.8 23.7 4.9 3.3 22.8 31.9 9.9	
B.C.	4,020	12.4	135	4.5	96.8	3.2	
CANADA	32,519	100.0	2,999	100.0	91.6	8.4	• *• • • • • •
Monthly Federal Subsidy \$0 \$1-24 25-49 50-74 75-99 100-124 125 & over	914 4,095 10,000 5,970 7,966 3,501 99	2.8 12.6 30.7 18.3 24.5 10.8 0.3	41 122 1,133 524 834 333 12	1.4 4.1 37.8 17.5 27.8 11.1 0.4	95.7 97.1 89.8 91.9 90.5 91.3 89.2	4.3 2.9 10.2 8.1 9.5 8.7 10.8	
Rent/Income Ratio 10% & less 10.1-15.0 15.1-20.0 20.1-25.0 25.1-30.0 30.1-35.0 35.1-40.0 40.1 & over	2,776 9,296 10,080 5,332 1,598 332 89 22	9.4 31.5 34.1 18.1 5.4 1.1 0.3 0.1	98 440 669 499 389 220 103 93	3.9 17.5 26.6 19.9 15.5 8.8 4.1 3.7	96.6 95.5 93.8 91.4 80.4 60.1 46.4 19.1	3.4 4.5 6.2 8.6 19.6 39.9 53.6 80.9	
<u>Year of Furchase</u> 1973 1974 1975 1976	2,39614,38914,912844	7.4 44.2 45.8 2.6	256 1,655 1,053 35	8.5 55.2 35.1 1.2	90.3 89.7 93.4 96.0	9.7 10.3 6.6 4.0	

Family Income	Ly Income Rent/Income Ration (ion (Per Cent)			
Group	10 or less	10.1-15.0	15.1-20.0	20.1-25.0	25.1-30.0	30.1-35.0	35.1-40.0	40.1 & Over
\$ 2,000 - 3,999	-	_	5.6	2.8	8.3	20.8	16.7	45.3
4,000 - 5,999	-	9.0	17.1	23.3	17.5	14.5	10.9	7.7
6,000 - 7,999	3.5	18.3	33.2	24.2	14.6	4.4	0.4	0.5
S,000 - 9,999	6.2	30.1	33.3	21.7	6.7	1.5	0.1	-
10,000 - 11,999	9.3	33.7	36.6	15.8	3.8	0.8	-	
12,000 - 13,999	17.7	34.4	33.0	12.5	2.1	0.2	_	_
14,000 - 15,999	18.3	43.5	28.1	9.2	1.0	_	-	-
16,000 - 17,999	18.5	48.0	28.0	5.2	0.3	_	_	-
18,000 - 20,999	35.4	43.9	19.5	1.2	-	÷		_
21,000 & over	95.0	5.0	-	-	-	-		— .
All Families	9.0	30.4	33.6	18.2	6.2	1.7	0.6	0.4

The Distribution of AHOP Clientele Within Income Groups and According to the Rent/Income Ratio

The Distribution of AHOP Clientele Within Income Groups And According to the Gross Debt Service Ratio

Family Income			C	Foss Debt Service	e Ratio (Per cent	:)			
Group	10 or less	10.1-15.0	15.1-20.0	20.1-25.0	25.1-30.0	30.1-35.0	35.1-40.0	40.0 & Over	
3 1.000 - 3,999	-	1.1	-	-	3.3	3.3	13.3	78.9	
4,000 - 5,999	-	0.3	1.2	3.9	9.9	15.6	24.5	44.6	
6,000 - 7,999	-	0.1	0.8	5.5	25.5	30.7	19.6	17.7	
3,000 - 9,999	_	0.1	1.3	12.8	34.2	31.1	16.5	4.0	ı
10.000 - 11,999	-	0.1	1.9	18.2	38.1	31.1	9.9	0.7	23
12,000 - 13,999		0.1	3.4	24.1	44.8	24.3	3.1	0.1	4
14,000 - 15,999	-	0.6	3.0	39.2	43.4	11.7	2.1	- I	
16,000 - 17,999	-	2.9	9.5	42.4	40.9	4.3	-	: 	
15,000 - 20,999	_	21.5	18.3	19.4	40.9	-		-	
21.000 & Over	13.0	47.8	39.1	-	-		-	-	
All Families	0.0	0.3	1.9	16.0	35.4	28.6	12.5	5.4	

Family Income										
	10 or less	10.1-15.0	15.1-20.0	20.1-25.0	25.1-30.0	30.1-35.0	35.1-40.0	40.1 & Over		
3 2,102 - ×3,999	2.2	5.6	13.3	5.6	12.2	7.8	11.1	42.2		
4,000 - 5,999	0.1	3.4	17.5	37.2	27.0	8.0	3.8	3.1		
6,000 - 7,999	0.0	0.7	14.3	63.1	19.2	1.7	0.5	0.5		
3,000 - 9,999	0.1	0.4	15.3	67.8	15.1	0.8	0.3	0.2		
10,000 - 11,999	-	0.9	16.5	69.1	12.6	0.7	0.2			
12,000 - 13,999	· -	1.7	19.3	70.7	7.5	0.8	0.1			
14,000 - 15,999	0.3	1.4	18.6	71.0	8.3	0.4	_	-		
16,000 - 17,999	1.4	6.9	21.0	66.3	4.3	-	-	_		
18,000 - 20,999	4.3	30.1	9.7	55.9	_ ·	_	· _	- -		
21,000 & Over	26.1	73.9	-	_	. –	-	· _	_		
All Families	0.1	1.1	16.3	67.1	13.7	1.0	0.4	0.3		

The Distribution of AHOP Clientele Within Income Groups and According to the Net Debt Service Ratio¹

¹ The Net Debt Service Ratio is derived by adjusting the Gross Debt Service Ratio to take account of federal subsidization.

Estimates of the AHOP Target Group: Distribution of Gross Family Incomes

1973 Family Income Group: \$1,999 or less 2,000 - 3,999 4,000 - 5,999 0,000 - 7,999 12.5 8,000 - 9,999 35.1 10,000 - 11,999 12.2 14,000 - 15,999 12.2 14,000 - 15,999 12.2 14,000 - 15,999 18,000 - 20,999 - 18,000 - 20,999 - 18,000 - 20,999 - 18,000 - 20,999 - 18,000 - 20,999 - 18,000 - 20,999 - 18,000 - 3,999 - 1974 Family Income Group: \$1,999 or less 2,000 - 3,999 4,000 - 5,999 6,000 - 7,999 8,000 - 9,999 10,000 - 11,999 12,000 - 13,999	11 Non Farm amily Units %	All Non-Farm Households %	1974 AHOP Target Group %	Target Group as Z of all Family Units
1974 Family 1974 Family 1ncome Group: \$1,999 or less 2,000 = 3,999 4,000 = 5,999 6,000 = 7,999 8,000 = 9,999 10,000 = 11,999 12,000 = 13,999	1.7 6.2 8.8 9.4 11.8 12.9 12.0 10.2 7.8 8.0 11.2	5.0 10.8 10.2 11.3 11.5 10.2 8.5 6.5 6.5 9.2 $5.992 - 120$		- 0.2 9.4 21.1 19.3 7.2 3.3 - - - 7.1
14,000 - 15,999 16,000 - 17,999 18,000 - 20,999 21,000 & over	$ \begin{array}{r} 1.3\\ 4.5\\ 7.4\\ 9.1\\ 10.7\\ 11.0\\ 10.4\\ 9.0\\ 10.4\\ 18.9\\ 4.767,790\\ \end{array} $	4.1 9.4 9.1 8.3 9.4 9.9 9.6 8.7 7.5 8.5 15.4 5.992.120	- 0.0 2.1 21.9 33.8 27.0 10.3 4.8 0.1 - 338,320	- 0.0 2.0 17.2 22.5 17.4 7.0 3.8 0.1 - 7.1

Estimates of the AUOP Target Group, 1973: Distribution by Selected Family Characteristics

Family Characteristic:	1973 A Target (dioP Group	All Family Units	AHOP Eligible Families as Z
	;		7.	of all Family Units
Age Groups:		1		
19 & under	1,930	0.6	0.3	14.4
20 - 24	40,100	11.9	6.0	14.0
25 - 29	86,590	25.6	12.2	14.8
30 - 34	(19,93()	20.7	11.9	12.3
35 - 39	46,410	13.7	11.3	8.6
40 - 44	28 360	10.1	11.5	5.6
50 - 54	17 820	5.3	9.6	3.9
55 & over	12,660	3.7	26.6	1.0
Province & Region:	!	· · · · · · · · · · · · · · · · · · ·		
Nfld.	4,600	1.4	2.2	4.4
P.E.F.	700	0.2	().4	3.7
N.S.	8,280	2.5	3./	4.7
N.D. Atlantic	22 540	2.7	2.8	5.1
Quebec	130,410	38.6	27.2	10.0
Ontario	129,520	38.3	38.0	7.1
Man.	7,850	2.3	4.3	3.8
Sask.	5,570	1.6	3.3	3, 5
Alta.	19,820	5.9	6.9	6.0
B.C.	33,240	9.8 6.6	14.6 11.1	4.8
Urban Size Groups:				
100 000 & over	212 800	63.0	53 2	8.4
30.000 - 99.999	35,440	10.5	10.6	7.0
15,000 - 29,999	35,180	10.4	7.5	9.9
1,000 - 14,999	31,090	9.2	12.3	5.3
Rural	23,380	6.9	16.5	3.0
Family Size:	a * 1			
Two	10,210	3.0	32.4	0.7
Three	118,290	35.0	20.2	12.3
Four	117,910	34.9	22.2	11.1
F1VC Six	23.940	10.•1 7 1	13.4	8.0
Seven & over	16,400	4.9	5.4	6.4
Rent/Income Ratio (%):				
Adjusted:				
10% or less	86,680	25.7	30.9	19.1
10.1 - 15.0	126,410	37.4	28.3	30.4
15.1 - 20.0	84,360	25.0		33.7
20.1 - 25.0 25 1 - 30 0	24,790 0 700	/. 5 7. Q	8.3 4 1	20.5
30.1 - 35.0	4.320	1.3	3.3	8.9
35.1 - 40.0	1,510	().4	1.8	5.8
40.1 & over	330	0.1	6.3	0.4

Family Characteristic:	1973 AHOP Target Group		All Family Units	AHOP Eligib Families as	
		2	Χ	of all Fami Units	
Unadjusted:					
10% or less	63,890	18.9	30.0	14.5	
10.1 - 15.0	117,230	34.7	22.1	36.0	
15.1 - 20.0	93,070	27.5	18.4	34.4	
20.1 - 25.0	41,410	12.3	10.0	28.2	
25.1 - 30.0	13,370	4.0	5.4	17.0	
30.1 - 35.0	7,080	2.1	3.5	14.0	
35.1 - 40.0	1,350	0.4	2.6	3.5	
40.1 & over	490	0.1	8.0	0.4	
All Tenant Families			1,466,810		
Revised Income Cut-off:					
Above	-	100.0	87.9	8.1	
Below		_	12.1	0.0	

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TABLE 23

Estimates of AHOP Participation Rates According to Selected Family Characteristics

	1973		1974	
Pamily Gnaraeteristic	Participation Rate	Index	Participation_Rate	Index
	7.		%	
Family Income Group:				
1,999 or less		· _ ·	_	-
2,000 - 3,999	7.	-	*	-
4,000 - 5,999	17.22	1,722	2,4	-
8,000 - 7,999	1.79	179	37.74	515
10,000 - 11,999	0.38	100	7.33	100
12,000 - 13,999	0.20	20	0.95	41
14,000 - 15,999	0.04	4	0.53	7
16,000 - 17,999	-	-	0.26	4
18,000 - 20,999	*	-	3.33	45
21,000 & over	*	· _	*	
Number of Clients	2,637		13,060	
Age Group:				
19 & under	0.52	69	3.99	91
20 - 24	0.70	93	4.67	106
25 - 29	0.85	113 -	5.45	124
30 - 34	0.75	100	4.40	100
35 - 39	0.63	84	1.94	44
40 - 44	0.46	01	1.26	29
49 - 49	0.19	25	0.58	13
55 8 over,	0.18	24	0.79	18
Urban Size Group				
100,000 & over	0 - 75	100	3.46	100
30,000 - 99,999	0.73	97	4.65	134
15,000 - 29,999	1.19	159	5.84	169
1,000 - 14,999	0.76	101	4.20	121
Rural	0.63	84	3.38	98
Province:			. • .	
Nfld.	1.61	155	10.97	218
Р.Е.І.	2.29	220	12.96	258
N.S.	0.58	56	5.58	111
N.B.	1.04	100 71	5.03	100 71
Quebec	0.74	23	3. JY 2. 18	/ L 4 3
Man.	1.18	113	2.10	168
Sask.	5.89	566	14.15	281
Alta.	0.80	77	5.17	103
В.С.	2.23	214	7.65	152
Rent/Income Ratio, Unadjusted				
10.0% or loss	0.24	2.2		
10.1 - 15.0	0.56	52		
15.1 - 20.0	0.89	8.2		
20.1 - 25.0	1.08	100		
25.1 - 30.0	1.05	97		
30.1 - 35.0	().62	57.		
40.1.8 over	(1, 3)	34		
40.1 & OVCF	3.0/	540		

* In these cases the number of AHOP clients exceeded our estimate of those eligible for the program.

Incidence of Homeownership Among Canadian Households and Families, 1961 to 1974

Year	Percentage	of Homeowners
	Households	Family Units
1961	66.7	67.0
1962	67.6	
1963	67.9	
1964	68.5	
1965	67.2	
1966	66.2	66.7
1967	65.2	
1968	64.9	67.6
1969	64.7	
1970	64.5	65.2
1971	63.6	65.2
1972	61.1	67.5
1973	58.0	69.7
1974	62.4	70.1

Sources: Statistics Canada, Household Facilities and Equipment, various years. 1961 Census of Canada, Volume II, Part 1, Table 7 1966 Census of Canada, Volume II, Table 28 1971 Census of Canada, Volume II, Part 1, Table 7 Household facilities by income and other characteristics, 1968, 1972, 1974. Income distribution by size in Canada, 1972. TABLE 25A

Rates of Change of Income and Assets for Age Cohorts 1964 - 1970: Canadian Families*

Age Cohort: (1964)	Per Cent Change in Average Income (Current dollars)	Per Cent Change in Total Assets (Current dollars)
Under 24 vrs.	89-3	251 0
25-34	74.4	124.0
35-44	61.1	105.2
45-54	51.6	74.3
55-64	16.3	47.6
65 and over	10.2	19.3

TABLE 25B

Incidence of Homeownership by Age Cohorts 1964 -1970**

	Per Cent	Homeowners	Per Cent Change in Rate of Homeownership
Age Cohort (1964)	1964	1970	
Under 24 yrs.	14.1	28.9	105.0
35-44	64.8	76.3	17.7
45-54	70.3	76.8	9.2
55-64	7.7.0	77.7	0.9
65 and over	75.3 -	77.4	2.8
All Fámilies	62.3	65.3	4.8

* Source: Statistics Canada, "Survey of Consumer Finances Volume 1, Selected Reports", 1970 Part 1 pp. 7-71

** Source: Abid. Table 10, p. 64

1. The tables contain a grouping of families according to the age of family head in 1964. The corresponding age groups in 1970 were as follows:

1964	1970					
Under 24 vrs 25-34	Under 30 yrs. 31-40					
35-44	41-50					
	61-70					
65 and over	/L and over					

TABLE	26
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Incidence of Home Ownership Among Canadian Family Units According to Income and Age Groups, 1974*

				· · · · · · · · · · · · · · · · · · ·	Age Group			· · · · · · · · · · · · · · · · · · ·	
Family Income Group:	< 20	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	> 51
Under § 2,000	-	9.2	23.8	54.5	56.2	63.1	72.8	76.0	76.7
2,000 - 3,999	15.7	5.5	13.1	40.4	40.3	49.9	44.0	69.4	78.0
4,000 - 5,999	-	23.9	33.5	42.6	47.8	50.1	61.9	68.7	76.4
6,000 - 7,999	26.6	21.8	29.2	54.4	61.0	73.1	69.6	66.4	78.2
8,000 - 9,999	23.1	23.9	41.1	57.0	65.4	68.7	75.9	67.6	78.1
10,000 - 11,999	11.3	22.4	43.0	56.4	71.8	73.8	74.2	75.6	77.2
12,000 - 13,999	-	26.7	54.8	64.6	78.7	83.8	79.3	84.7	79.6
14,000 - 11,999	-	29.3	54.1	72.4	82.6	83.0	83.4	79.6	77.8
16,000 - 17,999	-	41.9	51.3	69.7	83.5	86.5	84.5	86.0	82.0
18,000 - 20,999	-	45.6	62.5	74.8	88.6	88.1	90.6	85.6	80.4
21,000 - 24,999	_	45.9	68.0	90.3	85.1	85.8	90.3	83.9	89.7
25,000 and over	-	83.6	74.9	82.7	79.8	96.8	91.8	90.0	90.0
All Families	12.0	24.1	45.5	63.6	73.5	79.2	80.2	79.5	79.4

* Source: 1974 HIFE Micro data file

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TABLE 27A

Rates	of Homeov	vnership	Among	Canadian	Households	and	Families
	and by	Selected	House	ehold Cha	racteristic	s. 19)74 [*] *

	A11 I	louscholds	Family Units			
Region:	% Owner's	Mean Income ^r Of Owners	% Owners	Mean Income of Owners		
Atlantic	74.8	\$ 9,733	78.4	\$10,355		
Quebec	49.1	12,985	56.2	13,407		
Ontario	64.9	14,210	72.0	15,091		
Prairie	67.4	11,751	72.7	12,959		
В.С.	68.6	13,971	79.7	14,603		
Canada	62.4	13,042	69.2	13,841		
Urban Size:				• • • • • • • • •		
100,000 & over	52 /	15 160	62.5	15,985		
30,000 - 99,999	JJ•4		68.7	13,897		
15,000 - 29,999	61.6	12,769	67.4	13,266		
1,000 - 14,999	71.8	10,746	76.0	11,683		
Rural	86.4	9,995	87.1	10,457		
				· · ·		

TABLE 27B

Rates of Homeownership Among Canadian Households by Household Income Group and Area of Residence, 1974*

1973 Income Group	Population 30,000 and Over	Population Under 30,000
	24 2	70.0
Under \$ 2,000		72.3
2,000 - 3,099	32.0	/4.9
4,000 - 5,099	34.3	75.4
6,000 - 7,999	34.6	75.8
8,000 - 9,999	43.0	74.2
10,000 -11,999	48.7	75.3
12,000 -14,999	62.7	79.9
15,000 -24,999	73.1	85.9
25,0 90 and over	84.7	92.8
A11 Households	53.4	77.9

Explanatory Variables	All Fami	ly Units	Recent Mo	vers
	Equation A	Equation B	Equation A	Equation B
Age of Head	0.038 (30.1)	0.030 (22.5)	0.031. (6.4)	0.015 (2.8)
Age Squared	- 0.0003 (23.7)	- 0.0002 (15.9)	- 0.0004 (6.3)	- 0.0002 (2.6)
Family Income	0.018 (19.9)	0.018 (18.8)	0.020 (4.2)	0.022 (4.6)
Income Squared	-0.0002 (9.4)	-0.0002 (9.3)	- 0.0003 (2.3)	- 0.0004 (2.8)
Natural Log. of Family		0.109		0.184
Dummy Variables**		(13.7)		(6.1)
Atlantic Region	0.033 (2.9)	-0.046 (4.1)	0.017 (0.4)	0.014 (0.4)
Quebec	- 0.170 (16.8)	- 0.192 (17.5)	- 0.111 (3.2)	- 0.106 (3.0)
Ontario	-0.049 (4.6)	-0.048 (4.6)	- 0.071 (2.2)	- 0.060 (1.9)
Prairie region	- 0.035 (2.9)	- 0.036 (2.9)	- 0.098 (2.6)	- 0.091 (2.4)
Urban Population	- 0.287 (35.6)	- 0.274 (34.0)	-0.387 (14.4)	- 0.374 (14.1)
Urban Pop. 30,000- 100,000	- 0.232 (20.2)	- 0.224 (19.7)	- 0.303 (6.9)	- 0.298 (6.9)
Urban Pop. 30,000	- 0.168 (20.3)	- 0.164 (19.9)	- 0.224 (8.5)	- 0.221 (8.4)
Spouse Works past-time		0.021 (2.2)		0.026 (0.8)
Spouse Works full-time		- 0.039 (5.3)		- 0.003 (0.0)
Constant	0.223	- 0.189	0.196	0.251
R^2	0.22	0.23	0.22	0.24
SEE	0.394	0.391	0.384	0.380

Regression Analysis of Tenure Choice by Family Units*

*Dependent variable is a dummy variable taking the value of 1 if the family is a homeowner. OLS regression was employed to estimate each equation. t values are in parentheses.

**The reference group which was omitted for each set of dummy variables is, respectively, B.C., rural area, and spouse not working.

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The Probability of Homeownership of AHOP Clientele by Income and Age Groups

Family Income Group	Age of Head										
	19 & under	20-24	25-29	30-34	35-39	40-44	45-49	50-54	54 & over	- All Families	
5 2,000 - 3,999	0.169*	0:348	0.442	0.551	0.644	0.810*	0.738	0.743	0.706*	0.56	
-,000 - 5,999	0.266	0.351	0.448	0.545	0.633	0.708	0.768	0.792	0.816	0.54	
6,000 - 7,999	0.272	0.347	0.427	0.519	0.611	0.608	0.724	0.769	0.795	0.49	
5,000 - 9,999	0.314	0.363	0.422	0.505	0.601	0.663	0.711	0.781	0.789	0,48	
10,000 - 11,999	0.348	0.385	0.431	0.517	0.614	0.687	0.731	0.770	0.329	0.50	
12,000 - 13,999	0.332	0.409	0.461	0.539	0.635	0.708	0.742	0.779	0.847	0.53	ţ
14,000 - 15,999	0.321*	0.422	0.488	0.579	0.677	0.708	0.776	0.820	0.799	0.58	, , , ,
16,000 - 17,999	-	0.457	0.510	0.602	0.690	0.767	0.778	0.314	0.910*	0.61	ł
18,000 - 20,999	0.348*	0.475	0.526	0.633	0.742	0.718	0.871	0.938*		0.63	
21,000 & Over	-	0.520*	0.424*	0.694	0.764*	0.829*	-	-	-	0.66	
All Families	0.311	0.371	0.435	0.521	0.618	0.687	0.730	0.778	0.806	0.50	

* These values are based on six or less observations.

Changes in the Probability of Homeownership for AHOP Clientele: The Effect of Aging

Age Group		Change in t	he Probability of Homeown	ership	
		In 1st 5 yr. Period	In 2nd 5 yr. Period	After 10 Years	
•	19 & under	0.103	0.091	0.194	
•	20 - 24	0.094	0.082	0.176	
	25 - 29	0.084	0.073	0.157	
	30 - 34	0.073	0.062	0.135	
	35 - 39	0.062	0.050	0.112	
	40 - 44	0.050	0.039	0.089	
	45 - 49	0.039	0.027	0.066	
	50 - 54	0.027	0.016	0.043	
· .	55 & over	0.012	0.001	0.013	
•	All Families	0.075	0.064	0.139	

Age Group*	Predicted	Change in Real Income					
	After 5 years	After 10 years					
19 & under	\$ 2,182	\$.3,941					
20 - 24	1,853	3,284					
25 - 29	1,490	2,557					
30 - 34	1,090	1,758					
35 - 39	668	914					
40 - 44	248	73					
45 - 49	- 173	- 768					
50 - 54	- 600	- 1,622					
55 & over	- 1,158	- 2,745					
All Families	1,167	1,911					
Age Group*	Change in Probability of Homeownership						
	After 5 year	After 10 years					
19 & under	0.031	0.054					
20 - 24	0.026	0.045					
25 - 29	0.021	0.035					
30 - 34	0.015	0.024					
35 - 39	0.009	0.013					
40 - 44	0.003	0.001					
45 - 49	- 0.003	- 0.011					
50 - 54	- 0.009	- 0.024					
55 & over	- 0.017	- 0.042					
All Families	0.016	0.026					

Changes in the Probability of Homeownership of AHOP Clientele: The Effect of Changes in Real Income

*The age grouping in the table refer to the age of the family head at the time of making application for the mortgage.

Family Income			· · ·	Age of App	olicant at Tir	ne of Mortgag	ge Approval			
(1011) G1(12)	Under 20 years	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 & over	All Families
s1.000 - 3,099	0.256*	0.227	0.197	0.163	0.127	0.086*	0.048	0.010	-0.033*	0.139
1,000 - 5,999	0.253	0.230	0.197	0.161	0.124	0.087	0.053	0.014	-0.049	0.151
6,000 - 7,999	0.252	0.225	0.195	0.161	0.125	0.090	0.054	0.017	0.035	0.165
18,000 - 9,999	0.248	0.222	0.192	0.160	0.125	0.090	0.055	0.020	0.024	0.170
10,000 - 11,999	0.245	0.219	0.190	0.159	0.124	0.090	0.056	0.021	0.025	0.164
12,000 = 13,999	0.241	0.215	0.188	0.157	0.123	0.090	0.056	0.022	0.016	0.161
14,000 - 15,999	0.238*	0.213	0.185	0.154	0.123	0.090	0.043	0.024	-0.016	0.148
16,000 - 17,999	· · · · ·	0.212	0.184	0.154	0.123	0.090	0.056	0.024	-0.004*	0.146
13,000 - 20,999	0.232*	0.208	0.182	0.152	0.122	0.094	0.062	0.027*	-0.009×	0.146
21,000 & over	· _ · ·	0.198*	0.181*	0.150	0.116*	0.086*	-		· -	0.144

Changes in the Probability of Homeownership for AHOP Clientele Following Elapse of Ten Years, by Income and Age Groups

Note: Where an entry in the table is marked with an asterisk, this indicates that this value was calculated from the individual values of six or less families.

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Percentage Change in the Probability of Being a Tenant for AHOP Clientele Following Elapse of Ten Years, by Income and Age Groups¹

Fittily Income Group	Age of Applicant at Time of Mortgage Approval									
	Under 20 years	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 & over	All Families
52,000 - 3,999	0.308*	0.348	0.343	0.363	0.357	0.453*	0.183	0.039	+0.112*	0.316
100 - 5,999	0.344	0.354	0.357	0.354	0.338	0.298	0.228	0.067	+0.266	0.328
8,000 - 7,999	0.346	0.345	0.340	0.335	0.321	0.281	0.196	0.074	0.171	0.324
E,000 - 9,999	0.361	0.348	0.332	0.323	0.313	0.271	0.190	0.091	0.114	0.327
10,000 - 11,999	0.376	0.356	0.334	0.329	0.321	0.287	0.208	0.091	0.146	0.328
	0.390	0.364	0.349	0.340	0.337	0.308	0.217	0.100	0.105	0.343
14,000 - 15,999	0.351*	0.368	0.361	0.366	0.381	0.308	0.192	0.133	+0.080	0.352
16,000 - 17,999	-	0.390	0.376	0.387	0.397	0.386	0.252	0.129	+0.044*	0.374
13,000 - 20,999	0.356*	0.396	0.384	0.414	0.473	0.333	0.481	0.435*	0.000*	0.395
21,000 & over	-	0.412*	0.314*	0.490	0.491*	0.503*	-			0.424

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1 The entries in this table are all negative values unless otherwise indicated. Values marked by an asterisk indicate that its calculation is based on the individual values of six or less families.

Appendix B

Data Sources

A vital prerequisite to any detailed study of the distributional implications of a government program is a comprehensive description of the individual beneficiaries of that program. In the absence of this information, the analysis of a program's distributional characteristics is limited to reasoned inferences derived from knowledge of the eligibility criteria and administrative guidelines underlying the program. Fortunately, for purposes of the present study a micro data file was available - a file containing fairly comprehensive descriptions of 37,001 AHOP clients. This data file was assembled and supplied by CMHC and constitutes the complete inventory of AHOP clientele from the commencement of the program up until the first quarter of 1976.

The information contained in this data set is collected during the routine administration of the program; each AHOP applicant, in completing a typical mortgage application form, reports his age, family characteristics, family income and assets and liabilities in addition to details pertinent to the mortgage loan such as the location of the property, its total cost, the downpayment, property taxes and the required mortgage. If the mortgage application is approved by the local office of CMHC, the mortgage approval form will describe the actual loan approved, the mortgage insurance fee, and the amount and type of assistance which will be provided under the provisions of AHOP. By combining the information contained in the administrative instruments, one derives a description of each AHOP client as well as how he interacts with the program.

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The source and nature of the data should be kept in mind in reviewing the results reported in subsequent sections of this paper. This method of data collection makes this an unusual cross-sectional data set. Rather then consisting of a set of observations across different families taken at an identical point in calender time, the AHOP data set contains observations across families taken at the point of initial interaction between the family and the program. The latter becomes the common reference point which allows one to view the data, for some purposes, as a conventional cross-sectional data set despite the fact that the observations are scattered over a period of about thirty months. Óf course, this consideration does not remove the need for some adjustment of the data in order to recognize the impact of the changing calender period; income comparisons, for example, requires a preliminary adjustment to derive real (constant dollar) incomes.

As further guidance in the interpretation of the results which follow, one should note that the source of the data precludes any inferences as to the nature of the clientele actively participating in the program at any point in time. For example, we are unable to describe only the families who are still receiving AHOP assistance in 1976. The available data describe the 37,001 families who purchased a house under the program at some point between the fall of 1973 and March 1976. However due to attrition, the active clientele at any particular point in time will be considerably smaller. Although our inability to identify this latter group restricts the analysis of some interesting guestions, the present data set remains the appropriate information base with which to explore the distributional implications of the program.

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Preliminary inspection of the data contained in the AHOP file revealed missing information as well as numerous errors and anomalies, particularly with respect to family characteristics, a result not unexpected in that the data are assembled primarily for administrative purposes. To refine the data, prior to our own analysis, we examined the data in detail in order to determine the nature of the errors and extent of the missing information, and on this basis made the appropriate adjustments or corrections.

Cases of missing information were treated in two ways, 1457 records were found to be missing several of the most relevant pieces of information. As a consequence, these families had to be arbitrarily excluded from much of our analysis since the reliability of the remaining information was also in doubt. On the other hand, if a record failed to contain a particular piece of information or if certain data were obviously erroneous but the correction not apparent, and if all other information appeared reliable, this record was only excluded from tabulations or calculations explicitly involving the missing data.

As a consequence of these adjustments, the results which appear in subsequent sections will rarely be based on the complete data set. Moreover, to the extent that the exclusion of records with missing information imparts any systematic bias, our results would also have to be qualified. Unfortunately the very nature of the problem obviates testing for the presence of such bias.

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One other data source was employed in the derivation of our results - the Public Use micro data file compiled and disseminated by Statistics Canada. This data set is derived from the linkage of two independent household surveys administered by Statistics Canada: the 1974 Survey of Consumer Finances and the 1974 Survey of Household Equipment and Facilities. The file contains approximately 24,600 household records with each record containing a fairly comprehensive social, demographic and economic description of the household. Since these data are collected on the basis of a statistical sampling methodology, the application of the appropriate population weights enables one to derive estimates which provide a reliable description of the overall Canadian population. This latter feature permitted us to undertake some comparative analysis in order to view the AHOP clientele from the perspective of the total population.

Appendix C

Summary of Methodology

This study is composed of three largely independent empirical studies, each of which provides a distinctive perspective on the operation and performance of the Assisted Home Ownership Program. In addition each of these studies employs a different method of examining and analyzing the data.

The profile of the AHOP clientele was derived by means of simple one-way frequency distributions for selected characteristics of the AHOP recipients. A more intensive analysis of selected dimensions of this profile was pursued by means of two-way and three-way cross tabulations.

The simulation of the AHOP target population of Canadian families was carried out in the context of the 1974 HIFE data set by defining sorting rules based on AHOP program parameters and guidelines. The AHOP clientele profile was then compared with the profile of eligible families in order to derive rates of participation.

The probability model of tenure choice and the model of the age-income relationship were each separately specified as a regression model and estimated by ordinary least squares regression, utilizing the 1974 HIFE data set. The estimated regression equation for the probability model was then used as a forecasting equation to predict the probability of ownership for each record in the AHOP clientele data set. Finally, the partial derivatives with respect to age, taken from both regression equations, were used to perform the calculations underlying the comparative static exercise.

Appendix D

Chronological History of AHOP

June, 1973:

Legislation creating AHOP via the addition of Sections 34.15 and 34.16 to the National Housing Act.

August, 1973 - July, 1974:

AHOP operational; CMHC financing available to both new and existing housing. Price Benchmark - Basic House Price Index (BHPI) Mortgage Rate - $9\frac{1}{2}$ % Maximum Grant Assistance Set at \$300 per annum in August, 1973 and increased to \$600 in June 1974.

August, 1974 - February, 1975:

Price Benchmark: BHPI Mortgage Rate: August - December - 1148 January - 1038 February - 108

Maximum Grant Assistance: \$600 per annum AHOP Restricted to New Housing, January, 1975.

March 1975 - July 1975:

Legislative Amendment to the NHA to Introduce AHOP Private, in March. Price Benchmark - BHPI replaced by the Maximum House Price (MHP). Mortgage Rate: March - June 10% July - 11% Maximum Grant Assistance - AHOP Direct - \$600 - AHOP Private - \$600

Aúgust, 1975 - December, 1975:

Price Benchmark - MHP Mortgage Rate - August - November 11% December 11³% Maximum Grant Assistance - AHOP Direct - \$600 AHOP Private - Increased

in October to \$1200; AHOP Private becomes operational Legislative amendments to the NHA in December to modify AHOP.

January, 1976 - To Date:

Price Benchmark: MHP, Revised Mortgage Rate - 1143 Interest Reduction Loan replaces the interest rate assistance formerly available under AHOP direct. Maximum Grant Assistance - \$750 Modified program becomes operational on April, 1976.