A FILTERING THEORY APPROACH TO LOW-INCOME HOUSING POLICY IN CANADA

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ABSTRACT

This thesis investigates the involvement of the public sector in the housing market and its effect on low-income housing. It focuses on what is referred to as the "filtering process"; that is, the mechanism by which the housing market functions to match up a population of families and a stock of housing units. Criteria for the allocation of public funds to the housing sector are delineated and developed into a framework within which a rational housing policy may be formulated.

Specific policy directives implied by the filtering theory are discussed. The extent to which they have been applied by Canadian policy-makers, and where they have, their impact on housing standards, is evaluated. The reliance of policy-makers on the construction of new dwelling units for low-income families--a policy that is inconsistent with the filtering theory--is criticized and an alternative approach is proposed. More specifically, a housing allowance programme is recommended.

ABRÉGÉ

Cette thèse traite de la participation du secteur public dans le domaine de l'habitation de même que de ses repércussions sur le logement à prix modique. Son sujet principal est le "processus de filtration", c'est-à-dire le mécanisme grâce auquel le secteur domiciliaire répartit entre un nombre déterminé de familles une réserve précise de logements.

De facon générale, les critères pour l'allocation de fonds publics au secteur domiciliaire sont tout d'abord déterminés et ensuite incorporés en un plan précis de façon à rendre possible l'élaboration d'une politique de logement raisonnable.

Cette thèse comporte une analyze des directives particulières qui émanent de la théorie de filtration. L'analyze de ces directives comprend une évaluation de leur degré d'application par les promoteurs de politiques de logement au Canada de même qu'une détermination de leur impact sur les standards appliqués au secteur domiciliaire. L'auteur se penche ensuite sur le problème posé par les promoteurs de politiques de logement qui demandent constamment la construction de nouvelles unités résidentielles pour familles à faible revenu. L'auteur souligne que cette approche est incompatible avec la théorie de filtration, et propose un alternative: un programme d'allocation de logements est recommandé.

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INTRODUCTION

> Economics is by its nature a softer and less exact science than, say, conventional physics. Now in a hard, exact science, a practitioner does not really have to know much about methodology. Indeed, even if he is definitely a misguided methodologist, the subject itself has a self-cleaning property which renders harmless his aberrations. By contrast, a scholar in economics who is fundamentally confused concerning the relationship of definition, tautology, logical implication, empirical hypothesis, and factual refutation may spend a lifetime shadow-boxing with reality...[1]

The importance of clarity and precision in a statement of the relationships and concepts involved in the issue at hand is perhaps most crucial in the investigation of economic questions that concern public policy. With such questions, there exists a greater tendency for confusion to arise because of the economic and noneconomic aspects more likely involved. It is the purpose of this thesis to investigate one such question: the involvement of the public sector in the housing market.

To begin with, an understanding of what it is that is being referred to as the "housing market" is in order. A housing market is

> the physical area within which all dwelling units are linked together in a chain of substitutions...In a broad sense, every dwelling unit within a local housing market may be considered a substitute for every other unit. Hence, all dwelling units may be said to form a single market, characterized by interactions of occupancy, prices and rents.[2]

A dwelling unit is more precisely defined, according to Richard Muth's formulation, as that which is made up of a quantity of capital asset, called housing stock, where each unit of housing stock yields an amount of housing service per time period; hence, what is actually being bought and sold is

housing service.[3] In this sense, a homogeneous commodity is being traded: all residential structures, regardless of shape or size or type of construction yield some quantity of housing service. The housing market then can be viewed as groups of dwelling units which yield varying quantities of housing service and which are related to one another in varying degrees with respect to occupancy, sales price and rents; those closely related groups constitute a submarket.

The way in which the housing market functions to match up a population of families and a stock of housing units is of central importance to this thesis, for it is within this framework that the role of the government must be viewed. The "filtering process" describes the way in which the housing market operates to perform this match-up. Paul Samuelson's warnings regarding the need for economists to come to terms with methodological problems are well-directed at those who have contributed to the literature surrounding the filtering theory. A review of the literature will demonstrate that diverging views of the actual definition of filtering imply public policies which are of significant difference; hence, the literature serves as a source of confusion rather than of direction to policy-makers. An attempt will be made to clarify the meaning of the filtering phenomenon, and to state explicitly its implications for policy in the housing market.

Once an understanding of what is meant by filtering is arrived at, I will elaborate on its causes and consequences, with particular reference to its implications for low-income participants in the housing market. I will then go on to present a rationale for government involvement in the housing

sector, along with a framework within which to formulate housing policy. The Canadian experience in the housing sector will be reviewed, from the point of view of the filtering theory, evaluating how the theory has affected policy-makers. The focal point of the analysis will be the impact of policies on housing standards in Canada. The motivating force behind this thesis is a dissatisfaction with the approach which the government has used, in the past, to allocate funds towards the improvement of housing conditions of the poor. Therefore, the thesis will conclude with the recommendation of an alternative approach, one which is consistent with the filtering theory, and which should be used if funds are to continue to be channelled into the provision of housing services for low-income households.

NOTES TO INTRODUCTION

1. Paul A. Samuelson, Foreward to Foundations of Economic Analysis (New York: Atheneum, 1965) p.ix.

2. Chester Rapkin, Louis Fisher and David Blank, Housing Market Analysis quoted in W. Grigsby, Housing Markets and Public Policy (Philadelphia: University of Pennsylvania Press, 1963) p.9-10.

3. Richard Muth, "The Demand for Non-Farm Housing" in A.C. Hargerger, The Demand for Durable Goods (Chicago: University of Chicago Press, 1960) p.48.

CHAPTER I

The filtering process, as the dynamic element in the housing market, was first introduced by Homer Hoyt (1939). Based on an empirical study of residential neighbourhoods in American cities, he put forth the "Sector Theory" in an attempt to explain and predict the location within a city of certain types of residential uses. Essentially, the theory states that as cities grow, the fashionable residential district moves outward from the center, and the obsolete houses left behind by the wealthy become occupied by the poor.[1] Hoyt deliberately chose not to address himself to the policy question implicit in the study; that is, if the purpose of the public policy is to seek to raise housing standards among low-income groups, then perhaps the filtering process could provide the means through which to implement policy. He maintained that "...the purpose of the study was economic, and any appraiser who mixes economic and 'social' factors, or ability to pay and need, will make a hash of both economics and social welfare".[2]

Hoyt's refusal to contend with the policy implications of his theory did not prevent others from responding to what appeared to be an obvious statement against government interference with the housing market. The sector theory elicited a particularly forceful response from Richard U. Ratcliff (1949) who argued a strong case against the adequacy of the filtering process as a means of raising housing standards. Based on a review of housing programs in Europe, Ratcliff concluded that "...no evidence has been adduced...that dependence

can be placed on this procedure [filtering] for a substantial improvement in the housing conditions of the lower-income group. Cures of a more positive nature are demanded".[3]

Ratcliff was the first to define the filtering concept formally, as "the changing of occupancy as the housing that is occupied by one income group becomes available to the next lower income group as a result of a decline in market price, i.e. in sales price or rent value."[4] There are some difficulties with the definition itself: it refers to two distinct elements, changes in occupancy (i.e. income level of occupants) and changes in value, as though the two occur simultaneously. In practice, the rate of change and the direction of the change of the two phenomena may differ. For example, suppose there is a sudden general rise in real incomes induced by an exogenous event; it is possible for a group of dwellings, whose relative value in the distribution of rents has declined, to become occupied by people whose real income is higher than the initial income level of those people who just vacated the dwellings. Hence, the definition does not provide a precise description of what is occurring in the housing market.

Ratcliff acknowledged the "well-recognized phenomenon that housing tends to move down in the quality and value scale as it ages";[5] but he maintained that the needs for additional housing on the part of lower income groups could not be met by the production of an adequate supply of new housing for upper income groups. His reasoning was as follows: the condition precedent to filtering down is a surplus, that is, some excess of housing supply over demand at the level from which filtering is to originate. Yet the market operates in such a way

that the surplus itself will act as a natural check on production, for "if producers of housing are well-informed of the demand situation there will be no overproduction in any grade of housing";[6] therefore, no large surpluses will be created in the market. Ratcliff concluded that "it is apparent that filtering is a totally inadequate remedy for the acute problem of substandard housing. Filtering cannot be forced; it is not a controllable device,"[7] thus annihilating the potentiality of the filtering process as an instrument of housing policy.

There are several flaws in Ratcliff's reasoning which render his conclusions questionable. The first is his failure to recognize the distinction between a surplus in the physical sense, and one in the economic sense.[8] In a situation in which everyone who is willing to pay the market price for a separate dwelling unit is able to obtain one, any addition of dwelling units would create a surplus. Any new construction for a population already housed is necessarily redundant, in the physical sense. This is the scenario which Ratcliff envisages. It rests on the acceptance of the dwelling unit as the unit of quantity in defining a housing surplus; but using a more precise measure of what is being traded as the unit of quantity, that is, the amount of housing service which a dwelling unit yields,[9] our definition is broadened. A housing surplus arises only if the quantity of housing service supplied at the existing market price is greater than the quantity of housing service demanded. In this sense, a shortage of housing service can exist even if everyone who wants to occupy a separate dwelling is doing so, because everyone may want to occupy better housing; that is, they may want to consume a greater quantity of

housing service than they presently occupy at this price. If the quantity available is insufficient to satisfy this demand, the price of housing service will rise; the message transmitted to producers in this situation, through the price mechanism, indicates a shortage of housing service, and they will respond with the construction of new dwelling units. Producers may also respond with increased maintainance, repairs and alterations, which effectively increase the supply of housing service. So Ratcliff's argument that construction of new dwelling units will naturally be checked in a housing market where everyone is already housed does not follow.

Another flaw in the argument stems from Ratcliff's rather restrictive scope: he seems to assume that the choice in achieving an improvement in housing standards is between an unsubsidized market filtering process and a subsidized (public) housing program.[10] His assertion that "filtering cannot be forced" precludes the alternative of a subsidized filtering process which, in fact, can and does stimulate the filtering effect and permits an upgrading of housing standards (e.g. the NHA guaranteed loans program). Perhaps this flaw is a consequence of Ratcliff's initial one, in that, if he understood the house market to operate in such a way that it suppressed the development of those surpluses required to improve housing conditions, then any attempt to manipulate the filtering would be fruitless.

The next major contribution to the literature on the filtering theory represented a reformulation of the definition, dropping from it the change in occupancy condition. Ernest Fisher and Louis Winnick (1951) defined filtering as "a change

over time in the position of a given dwelling unit or group of dwelling units within the distribution of housing prices and rents in the community as a whole."[11] They distinguished between the downward movement of price as the actual filtering process and the changes in occupancy as the effect of the process. This reformulated definition allows for a situation in which a price decline among a group of dwellings is not associated with a complementary change in residency. It also has the advantage of evading the index number problem, inherent in Ratcliff's definition, in deriving a measure of filtering; the difficulty is avoided by making all prices relative to each other. With the focus on the movement of dwelling units, regardless of changes in the absolute value or occupancy, dwelling units can be said to have filtered if they move from one ranking to another in the value system. But it is precisely because it focuses on the relative position of dwelling units that it is of little use in dealing with the question at hand: is the filtering process successful in bringing dwelling units within the reach of lower income groups?; nor does it provide an indication of whether housing conditions are improving or deteriorating. The Fisher-Winnick definition cannot be criticized on any theoretical or technical grounds, but its usefulness is limited. If our interest is in an understanding of how dwelling units move in the housing market--of the varying effects of rising incomes, changing tastes, public improvements, etc. on each of the housing submarkets within a total market area, then the statistical measurement derived from this definition will be useful; but any intention of addressing the

question of whether the private market is able to meet the requirements of households that cannot afford new construction renders the definition of little value. Because this question is of central importance to this thesis, we are required to delve further into the literature to find a workable definition of filtering that is relevant to the policy question.

Ira S. Lowry (1960) introduced a new definition of filtering that excludes the notion of changing occupancy, and measures filtering against a standard that is outside of the housing inventory itself. "Filtering [is] simply a change in the real value (prices in constant dollars) of an existing dwelling unit".[12] The definition is simple and clear: if prices and rents of a particular group of houses and apartment units do not advance as much as prices generally,[13] they have filtered down; if they advance more than prices generally, they have filtered up. It is an all-encompassing definition in that it reflects the fact that the value or rent of a unit may rise over time beyond the general inflationary price movement. Lowry's formulation stipulates nothing about the causes or consequences of filtering: it yields a statistical measure which indicates the movement of the dwelling unit on the value scale in the housing stock, without reference to consequent changes in occupancy or in the position of other dwelling units. It is in the analysis of filtering as a means through which to implement policy that our interest extends into its causes and consequences.

Lowry makes a significant contribution to the literature by drawing a distinction between those causes of filtering which are exogenous and those which are endogenous to the market pro-

cess. He classifies as exogenous, real income, tastes and the supply price of new construction.* Although it is recognized that these variables do indeed influence housing standards, he maintains that the filtering argument must be based on endogenous changes in variables if "filtering" is to serve as a means of implementing housing policy. The main endogenous variable is deterioration or quality decline; it is changes in the relationship between quality and value (or prices) which essentially constitutes the filtering process.

At this point it might be useful to digress briefly, and to express the filtering process as it appeared to Lowry. The quality of a dwelling unit is a function of time, that is, it declines with age. The demand of those households with the highest quality-preferences cannot be satisfied by even the highest quality of the standing stock indefinitely. New construction must necessarily take place for such households to maintain their quality standards. Furthermore, the supply price of new construction in this quality class will be at least proximate to the prices of existing structures; that is, the price of existing structures in this quality class is determined by the supply price of newly constructed units. The decision of these households to move into newly-constructed dwellings leaves vacant their old dwelling units; these serve as a price-depressing surplus which causes a filtering-down of all units in the inventory and a subsequent shift in occupancy as prices decline. The residual of surplus housing will eventually be left, now unoccupied, at the bottom of the quality

*The classification of the supply price of new construction as exogenous necessarily assumes an infinitely elastic supply function where, given the market price, the quantity of newly constructed units to be produced is determined by demand.

scale. It is the quality decline of new units in the early portions of their lives which initiates the value decline of the entire inventory. While this filtering action takes place, a gradual general deterioration of quality is occurring, independently of filtering, so that each unit moves lower on the quality scale.

> The effectiveness of filtering as a means of raising housing standards thus hinges on the speed of value decline relative to quality decline. If the value of the standing stock depreciates so rapidly that even low-income households can afford units which are still above the quality standards of social adequacy, the private market is a satisfactory instrument of public policy.[14]

Lowry, however, did not agree with the proponents of filtering that the process could be relied upon to raise housing standards to a "socially adequate" level: he argued that the essential nature of physical deterioration and its relationship to maintenance was such that, as the dwelling units declined in value--a requisite feature of the process--the owners of the existing stock would respond with a policy of under-maintenance; physical deterioration would be accelerated and hence, the process could not possibly serve to raise housing standards.

The response pattern which Lowry predicts would not follow in a housing market viewed within the framework of the competitive model;* rather, competitive market forces will tend to make it worthwhile for owners to maintain their dwellings, given a strong and stable "second-hand" market for dwellings. It will be argued (once the competitive model is introduced) that a subsidized filtering process creates a demand for decent, although not newly constructed housing which may, in fact,

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*The competitive theory of the housing market will be introduced on page 15.

stimulate increased maintenance.

Lowry's contention that the filtering argument, to have any force, must be restricted to endogenously induced changes is debatable. For analytical purposes, it is useful to distinguish between the exogenous and endogenous forces at work, and to attempt to isolate their respective impacts on the housing market. But it must be emphasized that filtering is the dynamic force of the housing market: as such, I think that an evaluation of the impact of the filtering process on housing standards should regard its impact as those changes which are brought about by a continuous interaction of exogenous and endogenous variables.

William Grigsby (1963) suggested a definition of filtering that provides a contrast to the essentially market-oriented concepts thus far discussed. If our concern is with how the economy is doing in terms of housing the entire population at a reasonable price (or rent), Grigsby feels that a useful definition must incorporate some measurement of improvement in housing conditions.

> Such a definition would hold that filtering (changes in house and price and rent) must be measured while holding income, quality and space per person constant, or in more relaxed form, that filtering occurs only when value declines more rapidly than quality so that families can obtain either higher quality and more space at the same price, or the same quality and space at a lower price than formerly.[15]

The application of such a definition is limited, as Grigsby himself points out: the problem arises in deciding whose income to use as the standard against which to measure price movements of dwelling units, for incomes may rise faster than residential values as a whole, but slower than rents and prices

within specific categories of dwelling units.

By suggesting a definition that is phrased in welfare terms, Grigsby **exemplifies** a confusion which is inherent in the filtering debate.[16] What we would like is a theory that explains the patterns of movement in an unregulated, private market. The underlying assumption is that the market mechanism works to ensure the optimum use of given resources: optimization in the use of a durable good requires shifting it about among different classes of users as its relative usefulness declines and rises. But our interest in understanding the behaviour of the market mechanism in this particular setting stems from our concern with improving housing standards, which necessarily brings the discussion into the realm of welfare economics. There is a close association between patterns of movement in the housing market and changes in housing standards, but the two phenomena are not the same, nor is it useful to define filtering in such terms, as Grigsby has done. A useful definition of filtering is one which allows us to build models that predict the responses to any changes in the conditions of supply and demand in the housing market; for example, in the number or types of households or their incomes, in the physical quality of the stock or any portion of it, or in the construction of particular kinds of new units, where the responses are measured in terms of occupancy of particular houses of neighborhoods by some different classes of households. It is in its capacity to predict responses to changes in conditions that a model can be used to provide direction for public policy aimed at improving the supply or quality of the resources in

the housing sector, and in that way, achieve the welfare objective.

Grigsby's welfare-type definition seems almost incongruous with his further contributions to the literature: he was among the first to examine the workings of the housing market within an analytical framework. He devised a matrix-type model, with a hypothetical community of ten families and dwelling units of varying quality. It demonstrates the shifts that would occur among submarkets as a result of certain changes in market conditions, e.g. the volume of residential construction, the maintenance of residential structures, and residential renewal. Essentially, the model shows that indirect links exist between submarkets so that the entire housing market is seen to be interconnected. The work is significant in the filtering literature for two reasons: firstly, it systematically illustrates how movement of dwelling units among various submarkets--filtering, in other words--can be affected by exogenously induced changes in market conditions; secondly, it sets the stage for the development of fully specified models of the housing market, for use in examining the policy issues with which Grigsby and other housing market analysts are concerned.[17]

In the literature on housing markets, I have found the most complete and most useful paradigm to be the competitive theory of the housing market, originated by Richard Muth (1960). The significant feature of his analysis is the way in which he dichotomizes the housing market into two integrally related markets: there exists a demand for and supply of a consumer good which may be referred to as housing services; there is

also a derived demand for and supply of an investment good which may be referred to as the housing stock. Muth defines one unit of housing service as that quantity of service yielded by one unit of housing stock per unit of time. It is clear that the only input into the production of housing service is housing stock. Transactors in the housing market may participate in various capacities: consumers of rental housing are only in the market for housing services; builders who construct housing for sale are sellers of housing stock but not of housing service; buyers of housing stock are also sellers of housing service. The advantage of this dichotomy, for our purposes, is that we can focus on one market--the market for housing service--to examine filtering.

Acceptance of the competitive theory of the housing market implies acceptance of the assumptions usually made to satisfy the conditions sufficient for a perfectly competitive market.* Among them, the least plausible assumption is the homogeneity of the commodity being traded; after all, residential structures appear to come in all shapes and sizes and types of construction. But if we accept the idea that what is actually being bought and sold is housing service, and that each dwelling unit yields some quantity of housing service,

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*The conventional set of assumptions that will satisfy the conditions for a perfectly competitive market for housing service are the following: (1) both buyers and sellers of housing service are numerous, (2) the sales or purchases of each individual unit are small in relation to the aggregate volume of transactions, (3) neither buyers nor sellers collude, (4) entry into and exit from the market are free for both producers and consumers, (5) both producers and consumers possess perfect knowledge about the prevailing price and current bids, and they

per time period, then the commodity is a homogenous one. We have then a market of dwelling units, each composed of a certain quantity of a capital asset called housing stock, where each unit of housing stock yields an equal amount of housing service per time period. The advantage of setting the housing market within the framework of the competitive model is that we can draw on the wealth of information which has been accumulated about it.[18] Thus, we can state that the working of the market will be such that in long run competitive equilibium, only one price per unit applies to all units of housing stock and another price to all units of housing service regardless of the size of the package in which they come, that is, regardless of the structure or size of the dwelling. The process by which the market ensures that the price per unit of housing service for all dwellings is the same is precisely the focal point of this discussion: filtering.

In order to elucidate: within this framework, owners of housing can change the quantity of housing stock contained in and hence the quantity of housing service derived from the dwelling unit through maintenance, repairs, alterations or additions. What determines whether producers will make adjustments in their maintenance policy is the profit incentive. If bundles of some particular size (say 10, for example) become more profitable than other sizes, then some producers with larger

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take advantage of every opportunity to increase profits and utility respectively, (6) no artificial restrictions are placed on demands for, supplies of, and prices of housing service and the resources used to produce housing service, and (7) housing service is a homogeneous commodity. (Edgar O. Olsen, "A Competitive Theory of the Housing Market" in American Economic Review (Vol. LIX, No.4) p.613.)

bundles of housing service (say 11) will allow their housing units to deteriorate more rapidly, by decreasing their maintenance expenditures; that is, they allow their units to "filter down" to the bundle size which is most profitable. Similarily, some producers of smaller bundles of housing service (say 9) will alter their maintenance policy by increasing expenditures, which results in a "filtering up" of their dwelling units. The impact will be to increase the supply of the most profitable sized bundle, which continues until the price per unit of housing service for bundles of this size decreases. At the same time, the filtering down of size 11 bundles and filtering up of size 9 bundles will create short run shortages and higher prices for those sized bundles. The profit incentive will induce producers of bundles of proximate sizes (i.e. bundle sizes 8 and 12) to allow their units to filter by altering their maintenance policy. The process eventually reaches the bundles of sizes which can be provided by the construction of new dwelling units; new construction will continue as long as there are profits to be made on bundles of any size; that is, until the price per unit of housing service for bundles of all sizes is the same.[19]

The competitive theory of the housing market provides a rigorous definition of the filtering concept:

> A dwelling unit has 'filtered' if, and only if, the quantity of housing stock contained in this unit has changed. A dwelling unit has 'filtered up' if, and only if the quantity of housing stock contained in this unit has increased. A dwelling unit has 'filtered down' if, and only if the quantity of the housing stock contained in this unit has decreased.[20]

This is the clearest definition of filtering which I have found

in the literature;[21] it also clarifies the method for detecting the filtering of dwelling units.[22] More importantly, it highlights the function of filtering in the operation of the housing market:

> it [filtering] is the process by which the quantity of housing service yielded by particular dwelling units is adjusted to conform to the pattern of consumer demand. The profit incentive leads producers to make these adjustments.[23]

What should be emphasized here, as Lowry and Ratcliff and other housing market analysts have pointed out, is the critical nature of the relationship between maintenance policies and the quantity of housing service yielded by a dwelling unit; it is this relationship which allows some degree of elasticity in the supply of housing services in the short run, and it is through this relationship that the adjustment process operates.

The competitive theory of the housing market has significant implications for the issues surrounding government housing policy. They are most clearly and systematically derived in the work of James Ohls (1975), and I will rely on his findings to elaborate on these policy implications.

The analytical model designed by Ohls is a first attempt to model the long run equilibrium conditions of a competitive housing market. The behavioural assumptions made are those consistent with the theory of a competitive market; but the model was not formulated entirely in an ivory tower. It bears resemblance to the real world to the extent that its parameters were chosen to reflect what is plausible in the context of the American urban housing market.[24]

The model is designed to yield insight into how the housing market may be affected by government policies to help

the poor find better housing. Given that the objective is to increase the housing consumption of the poor, two policy simulations are analyzed. The first is a rent allowance type subsidy plan, in which the government gives poor people rent vouchers which must be spent on the purchase of housing in the market of existing houses. The impact is to create a substantial improvement in the housing consumption of the poor. Ohls points out that there are two sources of this increase: Firstly, by increasing the demand for lower quality housing, the subsidy program makes construction of new housing at higher classes more attractive by creating a strong second hand market; hence, construction, though at higher quality classes, is stimulated and increased construction accelerates the rate at which dwelling units filter down to the poor. Secondly, the increased demand for low amenity, but decent housing, stimulates increased maintenance of buildings in those classes, thereby allowing them to stay in the quality of class longer before deteriorating.[25]

The second policy experiment simulates a program which is designed to result in new construction of dwelling units directly for the poor, e.g. a public housing project.

> Programs of this sort take the poor out of the regular housing market, since those who are aided by the programs are no longer living in housing which has filtered down from higher income families.[26]

The results of this experiment indicated that the rate of new construction on the regular market decreased.[27]

Comparing the relative effectiveness of the programs in aiding the poor, the rent allowance plan is found to be considerably more efficient than a new construction program in terms of minimizing costs for a given amount of improvement in poor

people's housing consumption. Intuitively, the reason is because a rent allowance plan makes use of existing units which have already depreciated in value far below the construction cost of comparable units,[28] but in terms of quality, they are not obsolete. The implication for public policy is obvious: "it may be considerably more efficient to make use of subsidy programs which rely on older but still decent housing than to design programs which involve new construction directly for poor people."[29]

It was not until the late 1960's that any attempt was made to measure the effect of filtering **on housing standards -- that is, the adjustment of the quantity of housing stock contained in a dwelling unit.** A pioneering effort was made by John Lansing, C.W. Clifton and James Morgan. (1969); the approach they used was to examine the properties of the sequences of moves which followed the appearance of a new unit in the housing stock. The underlying question to which the researchers addressed themselves was whether the housing market operates such that new construction benefits the poor in general. Selecting a national sample of new dwelling units in metropolitan areas of the United States, they interviewed the first people to live in each new dwelling and those who moved into the units left vacant by the initial move. Each sequence of moves was followed to its logical conclusion, that is, to the point where the dwelling unit was either removed from the housing supply, or became occupied by people who left no vacancy for someone else to fill (e.g. a newly married couple entering the housing market). By observing the sequences of moves occasioned by the initial vacancy, the researchers hoped to gain insight into

how an aging housing stock is reallocated as families move to satisfy their needs for more suitable housing.

Based on the data accumulated in their survey, they found that the average length of the sequences of moves begun by new construction was 3.5 positions; that is, for every 1000 new homes, about 3500 families were able to move. They estimated that about 333 of those households who moved were poor, i.e. approximately 9.4% of the 3500 movers were poor.*[30] It is interesting to note that the survey data confirmed that most people who moved liked their new housing; even if they didn't like the new quarters, they felt better off because of the new location and its proximity to the place of employment.[31] Conventional economic wisdom (i.e. the argument that individuals voluntarily enter into a transaction only if they expect to be better off as a result) is upheld.

The researchers concluded that "the poor are indirectly affected by the construction of new housing even if they do not occupy the new dwellings."[32] This implies that any public policy which increases the total supply of housing will impart benefits on the poor. Furthermore, the researchers found that the length of a sequence was dependent on the value of the new dwelling unit:[33] the average length of a chain doubled as the price of a new house increased from under $15,000 to over $30,000. Hence,

> vacancies in more expensive new houses make more moves to other units in the system before reaching units with price levels low enough to make termination of the vacancy likely.[34]

This suggests that policies directed at increasing the construc-

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* Poverty is defined such that a family whose income was less than $1000. plus $500. per capita for each member of the family (in 1965 income) was poor.

tion rate of middle-income range dwelling units will have a greater impact in terms of improving housing standards.

The policy implications of the above study were given support by W.B. Brueggeman, et.al. (1972) who examined the question of whether filtering occurs on a larger scale if subsidy funds are allocated to those families who contribute more towards rents. The method they used was to compare the series of moves generated by a subsidy directed at moderate-income groups and that generated by a subsidy to low-income groups. They traced the chain of moves begun by each of six types of subsidized housing programs[35] to determine the total number of households that made adjustments in their housing conditions by voluntarily moving. It was found that the number of new units initially provided, the number of total turnovers and the number of low-income households making adjustments in housing conditions was greater in the case of middle-income subsidy programs than in those exclusively designed for low-income families.[36] This suggests that there is probably an optimum income range for subsidy injection if a goal of housing policy is to maximize the multiplier or filtering effect.

The review of the literature on the theory of filtering serves to illustrate the difficulties involved in an attempt to define the dynamic aspect of the housing market. The complications arise because there are several housing market processes subsumed under the concept of filtering: change in occupancy, change in the value of the unit (i.e. price or rent) and change in housing standards. That there are diverging views on which of these processes should be emphasized is reflected in the definitions of filtering which have appeared. None of the def-

initions is incorrect, in that each describes accurately changes that take place during the course of the "filtering process". In an effort to arrive at some precise formulation of that which I will be discussing as the "filtering" phenomenon, it is useful to organize the definitions in the following manner.

For the purpose of my analysis, I will refer to "house-filtering" or H-filtering as a change in the quantity of housing services contained in a dwelling unit. H-filtering occurs with the passage of time as a consequence of the quality decline of a dwelling unit resulting from the natural forces of wear and tear and the maintenance pattern followed by the owner of the dwelling unit. H-filtering implies nothing for housing standards, but refers only to the adjustment process which occurs in the market for housing services as suppliers of housing services respond to the pattern of consumer demand. The "filtering" of a dwelling unit, according to this definition, is determined by the expected return of the supplier of housing services yielded by the unit. "People-filtering" (P-filtering) will refer to the movement of households that occurs as a consequence only of H-filtering. This is essentially the idea that Olsen was getting at in specifying that a dwelling unit has filtered, if and only if, the quantity of housing stock contained in the unit has changed. P-filtering makes no allowance for the effect of changing income levels on housing consumption: as such, it has application only in a zero-growth world, where income levels, in general, are

constant. It should be apparent that P-filtering will not have any impact on housing standards.* All new construction takes place at a quality level equivalent to the already existing highest quality level (in its original state). As the highest income households in the community move into the newly constructed units, the dwellings left vacant have deteriorated to a quality level equivalent to that of the housing occupied by the second highest income class (i.e. when they first moved into it). This effect is transmitted throughout the housing market. Hence, P-filtering can hardly be seen as a source of general improvement in housing standards.

A process distinct from P-filtering is what I will refer to as "income-induced filtering" or PY-filtering. It involves the matching up of a distribution of households, by income level, with a distribution of housing units, by rent level, with the result that housing conditions improve over time. PY-filtering is the consequence of rising incomes: this is what distinguishes it from (Olsen's) P-filtering. In a world characterized by economic growth, incomes are rising: people have more money to spend on goods and services, including housing. Newly constructed dwelling units enter the housing market at quality levels higher than those levels previously augmented; this better quality housing eventually filters down, becoming available to lower-income households, reaching them at a quality level higher than that which they previously occupied. The impact of PY-filtering, then, is an improvement in housing stan-

*In general, housing standards will not be affected: the amount of housing services consumed by some may be increased, but that of others must necessarily be decreased, since the total output of housing services produced remains constant.

dards.

It is with respect to what has been termed the PY-filtering process that public policy plays a role: if improvement in housing conditions is contingent upon rising incomes, then there is a rationalization for policy aimed at increasing growth; more specifically, PY-filtering may be accelerated by housing policy which directs a greater share of the economy's resources into the hands of the purchasers of housing services in the housing market. It is this question of redistribution, that is, the way in which redirected resources should be injected into the housing market, which concerns housing policy-makers, and which is the subject of this thesis.

The new terminology surrounding the filtering phenomenon was introduced in an effort to do two things: (1) to make explicit the distinction which exists between the various formulations which have appeared in the literature; and (2) to make clear what is meant, precisely, by "the filtering process in housing markets", specifically PY-filtering, in the context of this work. Having established this, I will proceed to discuss the causes and consequences of filtering* in the housing market.

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*PY-filtering and filtering will be used interchangeably to refer to what has been discussed as PY-filtering; any reference to what has been designated as H-filtering and P-filtering will be stated explicitly.

NOTES TO CHAPTER I

1. Homer Hoyt, "The Structure and Growth of Residential Neighbourhoods in American Cities" reprinted in Urban Analysis: Readings in Housing and Urban Analysis, ed. by Alfred Page and Warren R. Seyfried (Glenview, Illinois: Scott, Foresman and Co.) p. 56.

2. Homer Hoyt, "Residential Sector Revisited" quoted in Wallace F. Smith, Filtering and Neighbourhood Change (Berkeley: University of California at Berkeley, Center for Real Estate and Urban Economics, 1964) p. 4.

3. This conclusion was arrived at jointly by Ernest M. Fisher and Richard U. Ratcliff after a review of European housing programs, European Housing Policy and Practice (Washington: Federal Housing Administration, 1936) p. 66.

4. Richard U. Ratcliff, Urban Land Economics (New York: McGraw Hill, 1949) p. 321.

5. Ibid., p. 321.

6. Ibid., p. 331.

7. Ibid., p. 333.

8. See W.F. Smith, Filtering and Neighbourhood Change, op. cit.

9. This is an innovation of Richard Muth's in housing market analysis, and is defined more explicitly on page 15 of this work.

10. See also W.F. Smith, op. cit.

11. Ernest Fisher and L. Winnik, "A Reformulation of the 'Filtering' Concept" in Journal of Social Issues, Vol. VII (1951) p. 48.

12. Ira S. Lowry, "Filtering and Housing Standards: a Conceptual Analysis" in Land Economics XXXVI, No. 4, (November, 1960) p. 363.

13. Lowry never states explicitly what he intended to use as a deflator in deriving a measure of filtering. Edgar Olsen has suggested that money values of housing units be deflated by a cost-of-construction (exclusive of land costs) index to arrive at a measure. This is in keeping with his analysis of the housing market within the framework of a perfectly competitive model. We will elaborate on this technique after a review of Olsen's theoretical framework. (See note 22)

14. Lowry, op. cit., p. 341.

15. William Grigsby, Housing Markets and Public Policy (Philadelphia: University of Pennsylvania Press, 1963) p. 196.

16. See W.F. Smith, 'Filtering and Neighbourhood Change', op. cit.

17. Wallace F. Smith (1964) followed Grigsby, advancing one step further in the development of an analytical framework within which filtering could be examined. He formulated an operational model of the matrix type in which the process of matching households to elements of the housing stock could be represented. It involved a hypothetical community of an equal number of households and housing units, where the former differed with respect to ability to pay for housing (i.e. income) while the latter differed with respect to desirability. Smith demonstrates what pattern of occupancy a free market tends to produce; he uses the model to derive patterns of response to changes in market conditions showing how the filtering process works. Its usefulness in examining policy issues is limited however because it is not a fully specified model of the housing market.

18. This is pointed out by Edgar O. Olsen who has articulated many of the concepts used in housing market analysis in the familiar terms of microeconomic theory. See "A Competitive Theory of the Housing Market" in American Economic Review (Vol. LIX, No. 4) p. 613.

19. See Olsen, ibid., p. 612-617.

20. Ibid., p. 615.

21. It should be noted that this is essentially Lowry's definition if he intended to use a cost-of-construction index to deflate money values of dwelling units.

22. We return to the question of an appropriate method of measuring changes in the values of dwelling units. Within the framework of a perfectly competitive model, market forces operate to ensure that the long run equilibrium price per unit of housing stock equals the minimum long run average cost of production; hence, the quantity of housing stock contained in a particular dwelling unit is equal to the market value of this unit divided by the cost of production (Recall that Olsen excludes land costs from the index).

23. Olsen, op. cit., p. 615.

24. In a conversation with James Ohls at the beginning of this research project, he suggested that the differences between the American and Canadian urban housing markets are not likely to be significant enough to render the results of his policy experiments irrelevant in the Canadian context.

25. This conclusion contradicts Lowry's predicted response pattern which would have resulted in a policy of undermaintenance and hence accelerated deterioration of the existing stock.

26. James C. Ohls, "Public Policy Toward Low-Income Housing and Filtering in Housing Markets" in Journal of Urban Economics (1975), p. 160.

27. Ohls notes that the effect of such a policy is felt particularly by middle income families near the border of new construction; the reason is because with the removal of poorer families the market for used housing is weakened, hence more of the costs of constructing buildings must be amortized earlier in their lives through higher prices.

28. Ohls, op. cit., p. 164.

29. Ibid., p. 164.

30. John Lansing, C.W. Clifton and James Morgan, New Homes and Poor People, (Ann Arbor: University of Michigan, Survey Research Centre, Institute for Social Research, 1969) p. 66.

31. Ibid., p. 65.

32. Ibid., p. 67.

33. This finding concurs with the results of a study by Harrison C. White, "Multipliers, Vacancy Chains, and Filtering in Housing" in AIP Journal (March, 1971) at p. 90, who concluded that "subsidized [public] housing will not have as large a multiplier effect as new housing units built for middle and higher income groups", where "multiplier" refers to the average length of a chain, i.e. the total number of moves caused by the initial arrival of a vacancy.

34. Lansing, et.al., op. cit., p. 18.

35. The programs in the study were operative in Columbus, Ohio during 1968-69; included were a below market interest rate program; a rent supplement program for the construction of new high rise apartments for the elderly; a public housing program for the elderly and for the non-elderly; a public housing homeownership-type program; and the lowest new private single family dwelling units, and apartments.

36. W.B. Brueggeman, H.C. Smith and R. Racster, "Multiple Housing Programs and Urban Housing Policy" in AIP Journal (May, 1972) p. 166.

CHAPTER II

A prerequisite to a discussion of housing policy is an understanding of how the housing market works. The filtering theory is an attempt to explain the workings of the housing market: the filtering process functions to match up the population of families, primarily by income level, with a stock of housing units by rent level.

In order to derive a measure of filtering, it is necessary, first, to find a way of measuring the quality level or quantity of housing services contained in existing dwelling units.

The concept of "quality" encompasses several factors for which measurement techniques have been devised:[1] (1) The physical condition of the structure, that is, whether or not it is sound, is probably the most important feature of quality; the classification system used by Central Mortgage and Housing Corporation in the 1974 Survey of Housing Units to determine whether to classify a dwelling as being in poor, fair or good condition considered the presence or absence of characteristics such as sagging roof, poor foundations, loose bricks, poor paint, and others.[2] (2) The adequacy of equipment contained in the dwelling unit is another indicator of "quality"; Statisitics Canada looks for the presence or absence of an itemized list of features (e.g. water supply, bathing and toilet facilities, the type of heating equipment, the type of cooking fuel, etc.) to arrive at a measure of the adequacy of the unit. (3) The crowdedness of a dwelling unit must also be considered: in the

past, the "person-per-room" ratio was used as an indicator of the extent of crowdedness; however, it doesn't account for differences in the size of rooms among various units at one date, nor for changes in the size of rooms over time. There is also an "economies of scale" in the use of rooms which the ratio doesn't pick up, i.e. one kitchen will suffice for a 6 person family as for a 3 person family; so 6 persons living in 6 rooms are probably less crowded than 3 persons living in 3 rooms.[3] (4) The adequacy of design, though more difficult to qualify, is another factor in the assessment of quality; that is, whether a dwelling unit has sufficient light and air, and separation of functions. The number of rooms-per-person ratio might be useful in measuring adequacy, since it gives an indication of the separation of functions; also, the age of the structure might be considered in arriving at a measure of its adequacy. (5) A broader definition of housing quality would attempt to incorporate neighbourhood characteristics, rather than isolating the measure to services rendered by the particular structure. The fact is that people do take into account the attractiveness of the neighbourhood as a place to live and conveniences surrounding it when choosing a house: features such as adequate park and recreational facilities, good schools, transportation services and freedom from crime enter into calculations. The difficulty of incorporating "neighbourhood quality" in a systematic way has precluded it from most analyses of housing standards. It is interesting to note that in the recent Survey of Household Units (1974) the "adjacent land use" concept was introduced, whereby enumerators took note of the use made of land opposite and on either side of the dwelling, classing it as

"consistent" or "non-consistent" with residential land use.[4]

If we were to evaluate a dwelling unit, based on the operational definition of "quality" outlined above, we would arrive at a measure of the level of housing services or quality of the unit; but this is precisely what the market mechanism does in arriving at the "price" of the housing unit (under assumptions of the competitive theory of the housing market à la Olsen). Hence, "price" becomes a "proxy" for the measure of housing stock contained in a dwelling unit. Filtering, then, is the adjustment process by which the quality level of existing units is "adapted" to the pattern of demand expressed in the market for housing services. A change in the quality level, reflected in a change in price, provides a measure of filtering.

The filtering process is initiated by a household's decision to change residences:* housing left vacant by one income class of occupants is adapted, by alterations, to the quality level to meet the needs (and means) of another income class. What motivates people to move in the first place, and more importantly, what induces higher income households to insist on new housing? This is essentially the question at hand in a discussion of the causes of filtering. The answer can be viewed in terms of three forces that interact in the housing market to initiate filtering: (1) a "quality decline" of the existing stock, (2) a dissatisfaction with the existing stock due to changing tastes and incomes, and (3) the availability of a superior product.

Quality decline is a process endogenous to the housing

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*Filtering may also be initiated by the liquidation of a household, which results, for example, from death, leaving a vacancy in the housing market.

market process, caused by forces which operate regularly over time. There are several aspects to quality decline which should be distinguished, each influencing, in a different way, people's decisions to change dwellings.[5] The first may be referred to as design or style obsolescence, that is, the gradual disappearance of that identifiably newness look. Although style obsolescence plays a more important role in other markets for durable goods (e.g. the automobile industry, where a new body style is a desirable attribute), it does have some bearing on the housing market, in that, the housebuilding industry presents a wide range of architectural designs from which to choose; it is particularly renters who are influenced by style in deciding whether to move to other rental quarters or into a home.

Technological obsolescence is another facet of quality decline. Within the housing industry, innovations in heating and lighting systems, in plumbing, in the arrangement of rooms and in the efficient utilization of space have rendered many units in the housing inventory inadequate, where the requirements for adequacy are defined by public policy. Outside of the housing industry, rapid development of modern appliances and furnishings, and the concomitant requirement for space and electrical fittings, has been a further source of this "technological obsolescence".

Physical deterioration is probably the most apparent source of quality decline, consisting of the wear and tear which the elements impose on a dwelling unit with the passage of time. In Chapter I, I referred to the distinction which Muth drew between the housing stock and the housing service which comprise a dwelling unit, where the level of housing

service is dependent upon the amount of the housing stock. Physical deterioration results in a diminution of the housing stock, and a subsequent fall in the yield of housing service. The housing stock component comprises physical inputs which are not all of the same nature: some are subject to rapid deterioration, evident in the frequent occurrence of flaking paint, broken windows, cracked or warped siding, leaky roofs, clogged plumbing or drains, worn-out screens, scuffed floors or linoleum, etc.; a more significant portion of the physical inputs, however, such as the masonry or the foundation display little or no deterioration over time. It follows that adequate maintenance, i.e. a periodic outlay which is small relative to the total value of the unit, may avert or at least deter the quality decline of a dwelling unit associated with physical deterioration.

The desirability of a dwelling unit depends to a large extent upon the site on which it stands: if the site cannot accommodate the changing lifestyle of its residents, the dwelling declines in quality terms and provides an inducement for people to move. An example will elucidate this point: a technological change outside of the housing industry--the invention of the automobile--and its rise in popularity, had a significant impact on the existing housing inventory; within a very short time, a garage or at least a driveway (or off-street parking facilities) became an essential feature of a dwelling unit; those sites which were not able to accommodate the dwellers' needs were subject to site obsolescence. Similarly, the rise in popularity of private swimming pools and the concomitant need for a large backyard, is a source of site

obsolescence and would induce moves among the well-to-do. Locational obsolescence is distinguished from site obsolescence in that it refers to forces emanating from the surroundings of the dwelling unit or site upon which it stands. For example, shifting employment locations in an urban community resulting in an excessive journey to work may induce those who are in a position to afford new housing to move. The encroachment of nonresidential uses, or a shift in the composition of a local population (e.g. the immigration of lower socio-economic groups) have also been cited as sources of locational obsolescence. In the estimation of the inhabitants of dwelling units affected by locational obsolescence, the "quality level" of their units has declined, hence they are inclined to seek other accommodations, usually in the form of newly constructed units in newly developed locations.

It is the decision to move into new dwellings that initiates the filtering process: dwellings left vacant enter the used market, where those unable to afford the supply price of newly constructed units bid for the filtered-down units. A second important question which sould be addressed in this discussion is, "What happens to the dwelling units once they have entered the used market?"; in other words, what determines the quality level at which owners will maintain their dwelling units? Implicit in the question is the notion that owners do have some leverage in altering the level of housing services rendered by a dwelling. Earlier, we referred to the rate of physical deterioration, one aspect of quality decline which is subject to control. More specifically, the quantity of housing services of a unit, given its structural outlay, depends on

two factors: (1) the annual level of operating expenditures incurred by the owner, where higher outlays would take the form of increased expenditures for cleaning and painting, minor repairs or increased security against crime; and (2) the frequency with which deteriorating parts or equipment are replaced. The owner's objective, in making his maintenance expenditures decision, is to operate his building at that quality level which will maximize his profit. With this in mind, he will expand outlays as long as each dollar of additional expense generates a positive net return (i.e. a return in excess of opportunity costs) from rents. With respect to the second factor, the nature of structural parts and equipment is such that they provide less satisfactory service as they grow older: the shorter the period over which elements are replaced, the higher the level of service rendered in the building. But the owner must require a higher rent to cover the higher annual amount of depreciation cost.[6] As long as there are tenants who are willing to pay the higher rent premium, it will be profitable for the owner to replace frequently. There is further leverage in the fact that the owner can actually change the structure of the dwelling, and its quality level, by investment in remodelling. Each of these three factors provides a means through which an owner can "shift" a building within the quality distribution. What motivates him to maintain or upgrade his dwelling unit are the conditions of demand, coupled with his objective to maximize profits: he will adapt the unit to a quality (and rent) level that responds to the demand expressed in the market for housing services.

At this point, it seems appropriate to raise the ques-

tion of the housing standards, and whether the filtering process can be utilized to raise housing standards, i.e. does PY-filtering take place to any significant extent? If the market assesses that the dwelling units being filtered are declining in quality, as reflected in a declining price, then this raises some doubts about the efficiency of filtering as a means of raising housing standards. The question may be resolved in recognizing the distinction between "market quality", which is subject to all of the forces of depreciation discussed earlier, and "physical quality", which is determined primarily by the physical condition (or extent of physical deterioration) of a dwelling. Collectively, we may agree that all citizens should live in housing of at least minimum quality[7], and that public policy should be directed towards achieving this end. But style obsolescence can hardly be considered a criterion in determining whether a dwelling unit is deemed substandard. Rather, the primary concern is with the forces of physical deterioration and technological obsolescence. There is nothing irrational or unjust about having the less wealthy members of the community living in outmoded styles of housing, so long as the dwelling units meet the requirements of social adequacy. The distinction itself suggests that the rate of decline of physical quality is slower than that of market quality (which includes the effect of style and technological obsolescence): it is upon this difference that the filtering argument rests; and it is the magnitude of the difference which determines how good a job the filtering process does in raising housing standards. What we would like is to have the quality decline necessary to induce higher income groups to move into new housing; but to

have it take the form of style or technological obsolescence, rather than significant physical deterioration, in order for filtering to serve as a source of housing for lower-income groups. From this point of view, innovations within and outside of the housing industry should be encouraged, for they succeed in making available housing services of a superior quality: this is a requisite condition for filtering to take place.

There is a further distinction relevant to the question of filtering and housing standards: "physical quality" as we have stated, is determined by a combination of fixed physical features and the variable inputs by the owner. Filtering can affect housing standards--as in the case of a family living in a filtered-down dwelling which represents an improvement over what it could have paid for out of some real income in the past; but the source of the improvement is more in the physical features of design and equipment (e.g. more light and air, better plumbing, fireproof construction, etc.), not in the level of maintenance or operating services.[8] This is so because the latter varies directly with the rent level that the owner is attempting to establish, which must necessarily be lower in order for a lower-income family to be in a position to afford the unit. The distinction between what filtering can do and what it cannot do in terms of housing standards might be elucidated by the following: if we were to compare the improvement in housing conditions in Canada between 1951 and 1971, as indicated by the incidence of poor plumbing facilities, and the improvement as indicated by the number of doubled-up families, we would find that the percentage change in the former exceeds that of the latter. (See Table I) Insofar as quality

is measured in terms of fixed physical characteristics, filtering can raise housing standards substantially more than in terms of over-crowding (a non-structural characteristic). The reason is because low income households--faced with a supply of filtered down housing that is of a certain quality level--may resort to economizing on rents by using space more intensively. The process of filtering, then, may in effect have a detrimental impact on housing standards (i.e. filtered down units enter the "overcrowded" category) if low-income households do not have sufficient income. It seems that improvement in housing standards, via filtering, is conditional upon rising incomes. This implies that policy intended to accelerate the PY-filtering process should be directed at increasing the purchasing power of low-income households.

Before pursuing this policy-related issue surrounding the filtering process, it might be useful to approach the question of public policy, in general, and to outline a framework within which to evaluate housing policy.

TABLE I: Housing Conditions in Canada, 1951 and 1971

	1951	1971	% Change (1951-1971)
Percentage of total households			
without flush or chemical toilets:	29.3%	4. %	-87%
without piped hot and cold water:	43.1	6.5	-84%
without installed bath or shower:	39.2	6.6	-81%
Percentage of total families "doubling up":	10.6	3.5	-66%

SOURCE: Central Mortgage and Housing Corporation, Canadian Housing Statistics, 1974, pages 87 and 113.

NOTES TO CHAPTER II

1. The discussion has benefited from James Heilbrun, Urban Economics and Public Policy (New York: St. Martin's Press, 1974) Chapters 10 and 11.

2. For a more detailed outline of the classification system, see note #7 in Chapter III.

3. Heilbrun, op. cit., p. 242.

4. "For single, attached, semi-detached, duplex and row: non-consistent land use means land use opposite or on either side that is other than low density residential, park or open space. For apartment dwellings: non-consitent land use means land use opposite or on either side that is other than apartment dwellings, low density residential, park or open space. All other land use was termed consistent." (CMHC, 1974 Survey of Housing Units: Background Information and Statistical, p. 7).

5. See Ira S. Lowry, op. cit., p. 342-345.

6. Heilbrun, op. cit., p. 246.

7. A dwelling unit is considered "socially adequate" if it meets the requirements as defined by policy-makers. These requirements are based on the measures of quality outlined above.

8. See Heilbrun, op. cit., p. 253.

CHAPTER III

The purpose of this chapter is to present a justification for public sector involvement in the housing market, and then to provide a list of criteria which should be incorporated into the design of housing policy. In order to be in a position to evaluate alternative policy approaches, in light of the stated criteria, it will be necessary to consider also the responsiveness of actors in the housing market (i.e. the elasticities of demand and supply); this is so because, as will be shown, the effectiveness of policy-delivery mechanisms depends on these parameters.

The economic justification for public expenditure on housing for the poor, that is, a justification based on Pareto-optimality conditions, rests on the notion that potential benefits may accrue to persons or groups other than the tenants who are the direct recipients of the public funds. It stems from the fact that poor housing is a "social bad": it is a good whose consumption by one economic entity imposes costs upon another and separate entity, not party to the activity; the costs are real, but are not included in the calculations of the producer.[1] For example, a structure may be built in such a way that it is particularly susceptible to fire: people will inhabit it only if a lower price or rent is charged in comparison to other (fire-proof) structures. But the risk of fire to the surrounding structures is increased by the fire-prone structure, so that their rental value is also reduced. There is no (economically feasible) way for the owner of the

fire-prone structure to be made to incur the losses which are imposed on these other building owners; without the incentive to take account of these external costs, the property-owner may build a structure which imposes greater losses on others than the gains he receives. Because poor housing produces external effects that are significant, but are not taken into account by private decisionmakers, the market mechanism fails to provide the optimal outcome*. Herein we have the rationale for government involvement. The intervention has taken the form of zoning, building and occupancy codes, established by local governments. The persistence of bad housing, in spite of these regulations, has motivated more direct involvement in the form of housing programs (e.g. the construction of public housing projects to replace demolished slum housing).

Another external cost imposed by poor housing stems from the fact that the expenditure required to supply a given level of municipal services is directly related to the supply of poor quality housing in an area.[2] Continuing with the above example, if the danger of fire to surrounding dwellings increases, local governments are likely to spend more on firemen and fire-fighting equipment to maintain a given level of protection. In the same way, it is alleged that poor housing encourages the incidence of other social disorders (e.g. crime, communicable diseases) hence increasing the cost of providing social services (e.g. hospitals, police protection, etc.) and the attendant taxes to finance the programs. If poor quality housing is in fact the source of these undesirable social effects,[3] the social costs might be minimized if the level of housing consumption of

*The market will account only for the private costs; the price is too low and the good tends to be oversupplied.

poor households was increased; herein lies further justification for government involvement in the housing market.

More direct benefits accrue to higher income families from publicly supported housing, in that they derive satisfaction from seeing that their tax dollar has been used to improve the housing conditions of the poor. Richard Muth suggests that

> The phenomenon may have its origins in a drive to work that makes higher income householders aware of the poor housing lower income families live in but not of the poor food, clothing, and medical care such families receive.[4]

This external effect, though impossible to measure, implies a public preference for direct government involvement in the provision of housing, rather than redistribution through a program of unconstrained transfer of income.

The designation of housing as a "merit good" by policy-makers who supposedly speak for society, provides another justification for public sector involvement in the production and distribution of housing. Richard Musgrave defined merit wants as

> wants with regard to which consumer choice is abandoned and the satisfaction of which is imposed...The assumption that social goods should be supplied in line with individual preferences...may be objected to, because the critic feels that preferences should be imposed with certain limits by a chosen élite, be it because its members are better educated, possess greater innate wisdom, or belong to a particular party or sect.[5]

The belief that housing is better for people than they realize rests on the indirect benefits, of which the consumer is supposedly not aware, i.e. better physical and mental health, higher educational achievement possibilities, less likelihood of family members turning to narcotics, crime and juvenile delinquency. The merit good argument is closely related to the

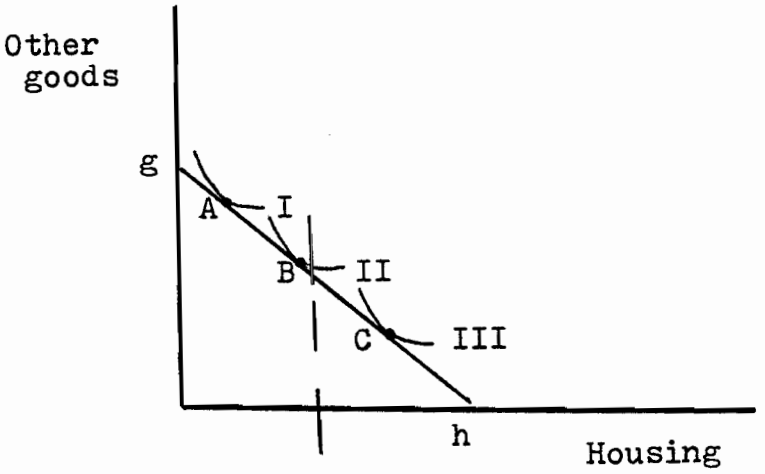
externalities argument: both are rooted in the phenomenon of the indirect effects of housing quality on behaviour.

Together the externalities and merit good arguments lead to a justification of public expenditures to increase the housing consumption of the poor; but implicit in the arguments is a constrained transfer-of-benefits type program. It seems that the more direct or apparent the government involvement, the more satisfaction is achieved by non-recipients. The principle that taxpayers should have some say in how recipients disburse their benefits--"taxpayer sovereignty"--has been upheld, more on the basis of political expediency, than on economic grounds. The difficulty that arises in designing public policies based on this principle, which imposes the donors' preferences on the donees, is rooted in the fact that individuals have different tastes; there exists no omniscient legislator or social planner who has insight with respect to individuals' preferences. The effect of differences in taste may be illustrated using the traditional framework of indifference curve analysis.[6]

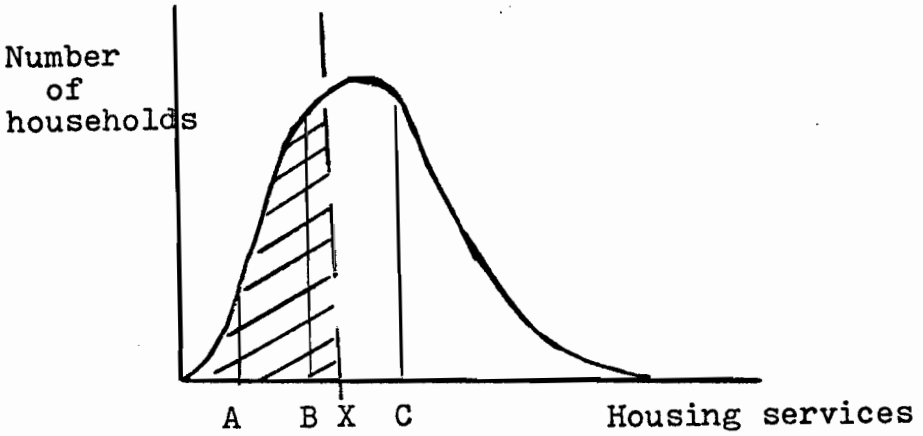
Let us begin by defining the good housing as the flow of services which a particular dwelling unit yields. Suppose there are three individuals with equal incomes, but with different degrees of preference for housing relative to other goods. Figure I illustrates an indifference curve for each individual I, II and III, representing the locus of points of equal satisfaction for varying combinations of housing and all other consumption goods. Since it is at the point of tangency between the budget line (gh) and the indifference curve that satisfaction is maximized, we note that each individual achieves

maximum utility at a different level of housing consumption. If we let point B represent the individual with "typical" tastes, then we can deduce that the individual's taste represented by point A shows a preference for the consumption of non-housing goods, whereas the taste of the individual at point C reflects a strong preference for housing consumption. Figure I (ii) shows an approximation of the distribution of housing services, where the height of the curve at each point represents the segment of the population at that level of housing consumption. Suppose policy-makers set the standards for a "decent" home at consumption level X; then all those consuming housing services below this level, represented by the shaded area under the curve, are living in substandard housing. Among them will be individuals with typical taste, but with income insufficient to afford standard housing while maximizing their satisfaction, such as individual B. At the same time, there will be individuals with higher income levels (shown by budget line g'h' in Figure I (iii)) who will occupy substandard housing while maximizing their satisfaction; this income level is sufficient for an individual B'. But there will be individuals, such as A', at the higher income level who have a weak preference for housing and would rather spend a large share of their income on other goods. Nevertheless, these persons are counted in among those who are in need of better housing. Among those occupying standard housing, there will be dissatisfaction: some are able to enjoy standard housing while expending a normal share of their income for it, such as B'; but others with lower incomes occupy standard housing only because of a willingness to allocate a large proportion of their incomes to

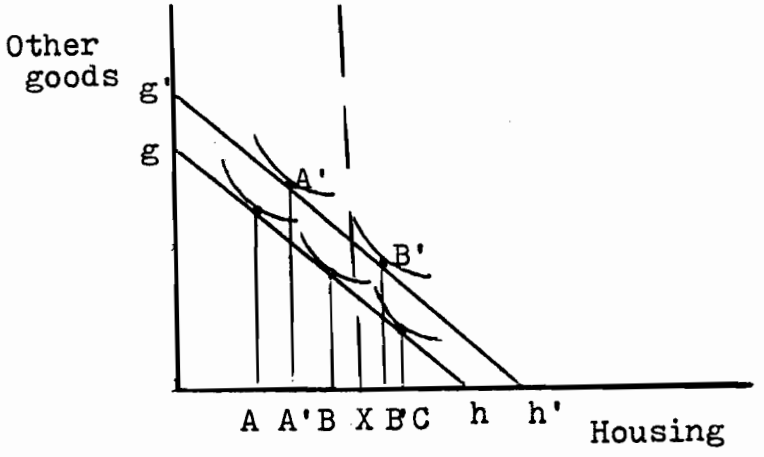
FIGURE I (i)



(ii)



(iii)



housing, such as individual C.* Because people have varying degrees of preference for housing relative to other goods, a constrained transfer of benefits is not likely to be as successful as an unconstrained one in terms of making the recipient better off.

Not only does an earmarked housing assistance program imply a paternalistic attitude on the part of those disbursing the benefits (i.e. the poor are not capable of deciding what is good for them), but the program is inefficient:

> ...housing subsidies by themselves are not the most efficient means of raising standards of living for the poor, unless external benefits from improved housing are present or taxpayers want the poor to be better housed rather than better clothed, entertained, or fed and some weight is accorded to the preferences of donors.[8]

I am in agreement with many economists who maintain that the principle of "consumer sovereignty" should be the basis upon which policies involving the transfer of income be formulated. It is difficult to argue against the idea that the individual consumer, who has more detailed knowledge of his situation and of his set of preferences, is in the best position to make those decisions which will determine his economic welfare. However, as was stated earlier, the existence of "externalities"--the fact that outside parties stand to benefit from a

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*To get an indication of the relative magnitudes of these anomalous segments of the population, I cite the following figures from the 1974 Survey of Housing Units:
Of the dwelling units in poor condition in Montreal, 30.8% were occupied by households with income greater than $5000.
Living in standard housing (i.e. designated as fair and good) were 78% of households with income less than $5000.
For a definition of poor, fair and good housing, see note #7.

Source: 1974 Survey of Housing Units--Survey Area No. 9 (Ottawa: Central Mortgage and Housing Corporation, 1974)

program that improves housing standards--has led policy-makers to favour the "taxpayer sovereignty" principle. As long as an earmarked transfer of resources is politically feasible, whereas an income maintenance program is not, the objective should be to make housing programs as effective as possible.

In meeting this objective, there are several criteria which should be satisfied in the design of a housing program. The science of economics is primarily concerned with efficiency: it is appropriate that public policies whose purpose it is to alter the market determined allocation of resources, do so adhering strictly to the efficiency rule. Within the framework of the housing market, the efficiency criterion may be rendered operational using an analytical tool of Burton Weisbrod: "target efficiency" is a measure of the degree to which the actual distribution of benefits of a housing policy coincides with the desired distribution. Target efficiency has two aspects about it--one having to do with "the accuracy of the program in assisting only the target group", and the other having to do with "the comprehensiveness of the program in assisting all of that group".[9] In order to make the concepts operational, Weisbrod defines "vertical (target) efficiency" as the ratio of benefits received by the intended beneficiaries to total benefits; a ratio of unity indicates that all resources of the program are being devoted to the group for whom the assistance was intended. A difficulty inherent in the structure of government programs is a diversion of benefits to persons who were not intended to be assisted in the first place. The effect of such leakages is apparent: for a given outlay, every dollar worth of benefits that accrues to the nonpoor reduces the actual expenditure on

housing provisions for the poor. "Horizontal (target) efficiency" is a measure of the adequacy of benefits of a program. Weisbrod defines it in terms of two dimensions: (1) it is "the ratio of the number of beneficiaries in the target group to the total number of persons in that group", and (2) "the ratio of the benefits going to the target group over the total benefits needed by that group". The horizontal efficiency of a program is determined to a large extent by its budgetary allotment. Because of budgetary constraints, policy-makers are usually confronted with a tradeoff in the distribution of benefits: benefits can either be spread thinly serving a large proportion of the target group (e.g. a rental allowance program), or they can be spread deeply serving a small proportion of the target group (e.g. a public housing program).[10]

Equity is another concern of economics, and so, inequities which arise in the disbursement of benefits of a housing program must be considered in its evaluation. According to Arthur Solomon, "a disproportionate share of program benefits actually finds its way into the pockets of individuals [who are, ex ante,] above the poverty level, rather than the poor themselves";[11] this constitutes not only a source of inefficiency; it also creates "vertical inequity". The high administrative costs of a program such as public housing, for example, diverts a significant portion of the program funds to those other than the poor. Even more significant, however, is the problem of "horizontal inequity", that is, "the fact that persons in essentially the same circumstances receive widely varying treatment".[12] This feature is inherent in programs designed to spread benefits deeply among a small proportion of the target

group. Richard Muth, evaluating the American experience with the public housing program, comments on the extent of horizontal inequities:

> ...Tenants of public housing consume about four times more housing than other lower income families who are eligible for, but unable to obtain, public housing. It is not at all surprising that waiting lists for admission to public housing developments are almost as long as the lists of occupied public housing units.[13]

A source of further inequity is the discrepancy in the treatment of those families whose incomes fall close to the cutoff point for eligibility.

> Households whose incomes hover just beyond eligibility requirements pay market prices to occupy substandard housing, while other families with only marginally lower incomes are provided new standard housing at below-market rents.[14]

Such inequities are minimized in programs that are designed to spread benefits among a larger proportion of the target group, though the subsidies are not as deep. A rent allowance program, for example, could be designed to assign allowances on a graduated scale, serving more of the needy, and at the same time, avoiding the severe discrepancy in the treatment of those near the margin of eligibility. (See Chapter V)

Another criterion of significance, though often neglected, is based on the notion that "benefits should not be provided in a manner that tends to stigmatize or to destroy self-respect."[15] Certain programs, such as public housing, do very little to satisfy the "nondemeaning" criterion in disbursing benefits. A number of studies have been presented by sociologists, social workers and economists[16] alike in support of the contention that there is a stigma attached to living in public housing, evident in the attitudes of tenants, surrounding neighbours and

program administrators.

The persistence of policy-makers in allocating funds to public housing projects is difficult to justify, given the criticisms to which the program has been subjected. A possible explanation may be found in the "theory of supply of bureaus" developed by William A. Niskanen:[17] it suggests that it is perfectly rational behaviour on the part of a bureaucrat to strive for budget increases during his tenure. In fact, budget maximization provides a proxy for utility maximization of the bureaucrat. This follows from the variables which probably enter a bureaucrat's utility function: e.g. salary, requirements of the office, public reputation, power, patronage, output of the bureau, ease of making changes and ease of managing the bureau. It is apparent from the list that his utility is positively and continuously associated with the level of the budget of his bureau. The "Niskanen effect" provides a rationale for the behaviour of bureaucrats in the housing sector. In part, continuing support of the public housing programme may be explained by the notion that public policies, to a certain extent, are designed to make the rich feel better about poverty. The politician's job is made somewhat easier if he can point to a newly constructed housing project as evidence that he is doing something about the living conditions of the poor with the tax money he collects; at the same time, taxpayers probably do get greater satisfaction if they are able to see--in concrete form (so to speak)--the product of their tax contributions. Unfortunately, appearances in this case are deceiving, for the failure of the public housing program to satisfy most of the above-mentioned criteria, renders it an inefficient and inequitable

means of disbursing housing benefits. It is for this reason that policy-makers should focus on an alternative approach to providing low-income households with the means to increase their housing consumption.

The success of a housing program depends, to a great extent, on the response patterns of the participants in the market--the buyers and sellers of housing services. In terms of the buyer, we are interested in what share of additional income will be devoted to an increase in housing consumption; that is, whether the demand for housing is responsive to income changes. This has been the focal point of many empirical studies: the evidence that exists[18] indicates that the income and price elasticities of rental housing demand are approximately 1.0 and -1.0; the income elasticity of demand for ownership housing has a range from .7 to 1.5. The degree of responsiveness has important implications for housing policy: that consumers do tend to increase their housing consumption with increases in income opens up a new avenue for improving the housing conditions of the poor. It suggests that subsidization of housing consumption, via an income supplementation or housing allowance program may be effective. But the effectiveness depends also on the response of the "sellers" of housing services to this increase in demand. There are two possibilities: owners of existing dwelling units may be stimulated to undertake repairs and upgrade the structural conditions of substandard units, which effectively increases the supply of housing; or they may respond to the increased demand by raising rents. The debate, then, revolves around the elasticity of the housing supply function. At first glance, it may appear that resolution of the debate rests

on an empirical question--it is just a measurement problem. In fact, a number of housing market analysts have studied the question: Richard Muth concluded that "the long-run housing supply schedule [is] quite elastic"; others have estimated that the supply elasticity varies from 0.3 to 0.7, depending on the submarket.[19]

At this point, it is useful to examine how the assumption with respect to the elasticity of housing supply determines the effectiveness of policy-delivery mechanisms. Policy-makers have at their disposal two basic approaches with which to affect the housing consumption of the poor: a demand-oriented strategy focuses on the consumer, and aims to enhance his purchasing power using one of several mechanisms: (1) a cash transfer, as in a general income maintenance program; (2) an earmarked income transfer for housing, as in a housing allowance, rent certificate or rent voucher program. The alternative approach, a supply-oriented strategy, focuses on the production side of the market, subsidizing the cost of new construction of housing units for low- and moderate-income consumers (as in the public housing program). Let us compare the impact of these two approaches on rents in the low-income housing submarket[20] within the framework of the extreme cases: a perfectly inelastic supply function and a perfectly elastic supply function. The assumption of a perfectly inelastic short run supply of housing implies that shift in demand will elicit no response from suppliers: an increase in demand simply leads to an increase in price as Figure II (i) illustrates. A consumer-oriented subsidy program will result in an increase in average rents for the existing stock of units

in this submarket, without any change in the quantity of housing. The incidence of the program falls on low-income families already inhabiting standard quality, low-cost housing stock; hence, the housing allowance program is seen to have an adverse effect on real housing consumption. On the other hand, a production-oriented program, such as public housing, will directly increase the availability of housing units in this submarket, with no inflating effect on rents (illustrated in Figure II (ii)). In fact, by directly increasing the supply of low-income housing, the program should create a depressant effect on prices (rents) in this submarket.

The assumption of a perfectly elastic short run housing supply function yields different results: the main difference is that the equilibrium price of housing is not affected by a housing allowance type program, hence every additional dollar of housing expenditure is channelled into the provision of an additional dollar value of housing service. In this scenario, the response pattern of suppliers to the increased demand for low-income housing differs, such that there is an increase in the quantity over the long run. The increased profitability in this submarket induces owners of smaller amounts of housing services to increase their maintenance expenditures, while owners of larger amounts allow their units to filter down; the "filtering" effect is transmitted throughout the market, eventually eliminating the shortages through new construction of dwellings.* (See Figure II (iii)) The impact of a supply-oriented program under the assumption of an elastic supply function affects only

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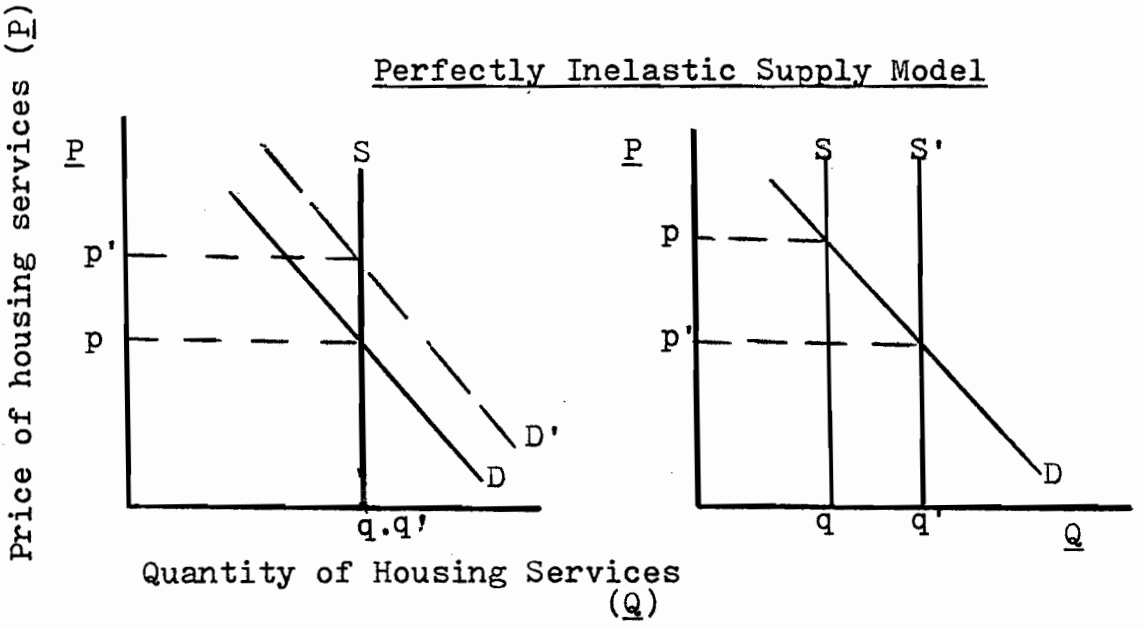
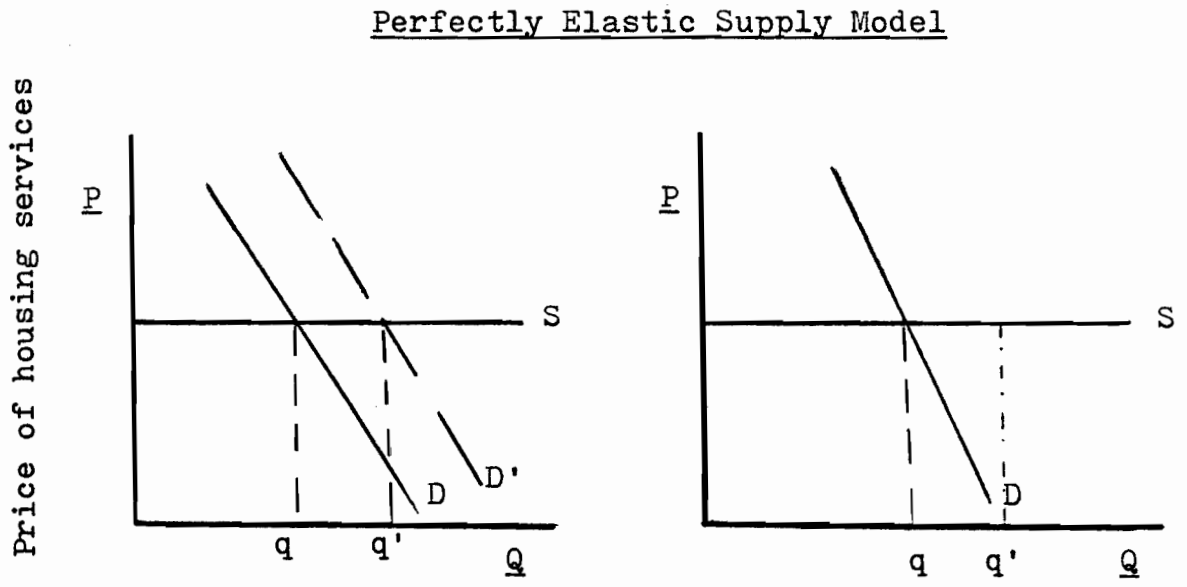
*Recall the description of the process (à la Olsen) in Chapter I.

FIGURE II: The Impact of Elasticity on Policy-Delivery Mechanisms



(i) Housing Allowance Programme (ii) Public Housing Programme



(iii) Housing Allowance Programme (iv) Public Housing Programme

the quantity of housing services, and not the price (See Figure II (iv)). However, the government expenditures are providing dwelling units which the private sector would have responded with, had the proper signals been transmitted. The impact of the public housing program, then, is to displace private sector provision of housing services. In this situation, there is little rationale for a public housing program.

The purpose of this analysis is to show how housing policy and the policy-delivery mechanism depends to a large extent on the elasticity of the housing supply. In the low-cost housing market, where housing is not directly reproducible, and increases in supply depend on the physical conversion of higher quality stock, or the upgrading of lower quality stock, the degree of supply elasticity has been questioned. The challengers point to variations in the conversion costs of different structures and institutional barriers as factors which inhibit the responsiveness of landlords; there is also the claim that the majority of properties in low-income neighbourhoods are owned by several large "slum" landlords. In fact, there are a large number of potential suppliers of housing services to this submarket,[21] and as long as the rents being charged are too high (i.e. excess profits are being realized) owners of dwelling units adjust their maintenance expenditures so as to increase the supply. What must also be considered is that the desire to maintain full occupancy will induce landlords to compete for tenants who are likely to be more reliable in meeting their rental payments and more stable, in terms of occupancy. A housing allowance program provides a pool of such tenants. Over the long run, these competitive forces will lead to an upgrading of the housing stock

through maintenance, filtering and conversions, characterizing even the low-cost housing market with an elastic supply function.

Before concluding this chapter, it might be useful to incorporate the concepts underlying a housing policy design into the filtering process framework. Filtering is a market process which in and of itself may not provide what society deems as adequate housing for all its members. The question at this point is: can policies be formulated within the framework delineated in this chapter, (that is, satisfying the outlined criteria) which are also compatible with, and perhaps even enhance, the process of filtering?; and will they be effective, given the response patterns of actors in the housing market? In an attempt to gain some insight into the answers to these questions, I would like to proceed by looking at the housing market in Canada and the impact that the filtering theory has had on Canadian housing policy, with the focus on its effects on housing consumption of the poor.

NOTES TO CHAPTER III

1. Richard A. Musgrave and Peggy B. Musgrave, Public Finance in Theory and Practice (New York: McGraw Hill Book Co.) p. 77.

2. Richard F. Muth, Public Housing: An economic evaluation (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1973) p. 36.

3. Richard F. Muth has argued that it isn't poor quality housing that causes these undesireable social effects; rather, the latter, as well as poor housing are the result of low income, which in fact, may result from poor health or personal disorders. He suggests that the solution lies in an income maintenance program, rather than in improved housing conditions. op. cit., p. 36.

4. Ibid., p. 38.

5. Richard A. Musgrave, The Theory of Public Finance (New York: McGraw Hill, 1959) chapter 1.

6. The analysis here is benefited from the work of J.R. Silver, Housing and the Poor (Ottawa: Ministry of State for Urban Affairs, 1971) p. 3-6.

7. In the 1974 Survey of Housing Units, dwellings were classed as: "poor" according to the presence of one or more of characteristics 01-04 or three or more of characteristics 05-11, as noted by the enumerator; "fair" where no characteristics 01-04 and where two characteristics 05-11 existed; and "good" where none of characteristics 01-04 and one or none of characteristics 05-11 existed. The code numbers indicate the following characterisitics:

01: sagging roof
02: sloping walls
03: poor foundations (crumbling, cracking cement, open holes)
04: decaying wood
05: shingles missing from the roof in quantity
06: sagging eaves
07: broken windows
08: loose bricks
09: poor porch footings
10: poor paint
11: poor grading
12: none of the above conditions exist

Source: 1974 Survey of Housing Units: Background Information AND Statistical Notes (Ottawa: CMHC, 1974) p. 2.

8. Henry J. Aaron and George von Furstenburg, "The

Inefficiency of Transfers in Kind: the Case of Housing Assistance" in Western Economic Journal, Vol. 9, no. 2 (June, 1971) p. 188.

9. The discussion is benefited from Burton A. Weisbrod, "Collective Action and the Distribution of Income" in R. Haveman and J. Margolis, Public Expenditures and Policy Analysis (Chicago: Markham Publishing Co., 1973) p. 124.

10. See Daniel R. Mandelker, Housing Subsidies in the US and England, (1973) p. 5-7.

11. Arthur P. Solomon, Housing the Urban Poor (Cambridge, Ma.: The MIT Press, 1974) p. 16.

12. Ibid., p. 17.

13. Muth, op. cit., p. 21.

14. Solomon, op. cit., p. 17.

15. Weisbrod, op. cit., p. 129.

16. See M. Dennis and S. Fish, Programs in Search of a Policy (Toronto: Hakkert, 1972) p. 9.

17. William A. Niskanen, Jr., Bureaucracy and Representative Government (Chicago: Aldine, 1971) p. 36-40.

18. See Frank de Leeuw, "The Demand for Housing: A Review of Cross-Section Evidence" in Review of Economics and Statistics (February, 1971); and Richard Muth, "The Demand for Non-Farm Housing" in Arnold C. Harberger, ed., The Demand for Durable Goods (Chicago: University of Chicago Press, 1960).

19. Muth reported that an increase in housing demand resulted in a 90 percent adjustment in the housing stock within six years (in "The Demand for Non-Farm Housing" op. cit., p. 49-52); de Leeuw and Ekanem estimated that the long-run supply elasticities among low-, medium- and high-rent housing across metropolitan areas varied from 0.3 to 0.7 (F. de Leeuw and N.R. Ekanem, "The Supply of Rental Housing" in The American Economic Review, Vol. 61, No. 5 (December, 1971)).

20. The analysis here follows Arthur Solomon, Housing the Urban Poor, p. 61-70.

21. George Sternlieb argues that "the much publicized popular concept of the "slum lord" relies on the supposition that there are a small number of individuals who own the bulk of slum tenements...the degree of concentration of ownership is much overstated." The Tenement Landlord (New Brunswick, N.J.: Urban Studies Centre, Rutgers University, 1966) p. 122. Similarly, Michael Stegman's study of inner-city investment in Baltimore contributes to the erosion of "the belief that the stereotypical slumlord controls core-city housing inventories", in Housing Investment in the Inner City (Cambridge, Massachusetts: Mit Press, 1972) p. 27.

CHAPTER IV

In order to evaluate the impact of the filtering theory on Canadian housing policy, an appropriate starting point might be to recall the policy implications which were suggested by the empirical work on the filtering process. Morgan, Clifton and Lansing concluded that the "poor are indirectly affected by the construction of new housing, even if they do not occupy new dwellings". Furthermore, Brueggeman and his colleagues showed that by injecting subsidies at moderate income levels, an outlay of funds would go further in terms of the number of new units provided initially, the total number of turnovers, and the number of low-income households making adjustments, as compared with a subsidy program directed exclusively at low-income families. (See Chapter I) Proponents of the filtering theory have argued that if we are going to subsidize housing at all, then subsidies should be directed at stimulating construction of moderate (or even upper) income housing because it encourages the filtering process, which ultimately raises standards for lower income groups as well as for those moving into new housing.

Canadian housing policy can be viewed in terms of two distinct phases, with 1970 marking the turning point.[1] Prior to 1970, the attitude of policy-makers with respect to the housing sector reflected an adherence to the filtering theory, in that programs were designed primarily to stimulate the construction of new dwelling units, relying on the market for the provision and distribution of housing services. Of major significance during this period was the Federal Loan Insurance

Programme, instituted in 1935 under the National Housing Act. It functioned essentially to facilitate the borrowing and lending transactions necessary to sustain a desireable level of residential construction. By insuring private lenders against loss on loans made under the National Housing Act provisions, the government guarantee virtually eliminated all risk of capital and interest loss for the lending institutions. By maintaining the right to determine the lending terms on a NHA mortgage, that is, the loan-to-value ratio, the amortization terms and the maximum interest rate that qualified for insurance, the government was able to influence the willingness of borrowers to participate in the housing market.* A more direct form of intervention was initiated when Central Mortgage and Housing Corporation (CMHC) became actively involved in making loans to private borrowers or builders to stimulate construction activity. This direct lending was justified on the basis that it was supposed to be of a "residual" nature, i.e. borrowers had to demonstrate, via rejected loan applications, that they were unable to obtain private financing on NHA terms.[2] The authorization to make direct loans was followed by a major innovation to the NHA in 1949: legislation was passed to provide rental housing for low-income persons, with the federal government providing 75% of the capital costs and operating subsidies, and the prov-

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* The terms of a mortgage determine the participation rate as they affect the downpayment requirements and the carrying charges involved in the purchase of a home. For example, by raising the loan-to-value ratio, lengthening the amortization terms and lowering the interest rates, some families whose savings were insufficient to satisfy downpayment requirements or whose current income, initially, was insufficient to meet monthly payments, could now enter the market.

incial governments, 25 percent. This was the earliest hint of direct government involvement in the provision of low-income housing. Although provisions existed, efforts to develop government-assisted low income housing prior to 1970 were negligible, as Table II indicates. Amendments to the NHA in 1964 authorized CMHC to provide 90 percent loans to the provinces for the cost of public housing projects and for a 50 percent sharing of the resulting operating losses. These amendments gave impetus to public sector involvement; as a result, government assisted low-income housing starts comprised 6.2 percent of all starts in the period 1965-69,[3] with most of the starts occurring in 1968-69 (See Table II).

The overall trend of housing policy in Canada prior to 1970 was one of cooperation between the public and the private sector: decision-making with respect to the demand for and supply of housing services was in the hands of individuals while the function of government was primarily one of facilitating the realization of individuals' desires for housing services. Now, let us look at the performance of the housing market prior to 1970, focusing on the impact of policies on housing standards. Table III gives an indication of the improvement of housing standards in Canada. In terms of basic facilities, in 1971, 95.4% of Canadian dwellings had flush toilets (compared to 68.3% in 1951), 93.5% had piped hot and cold water (56.9% in 1951) and 93.4% had installed bath or shower facilities (60.8% in 1951).[4] In terms of occupancy and crowding, Canada had the lowest occupancy density, with .64 persons per room, an average of 5.4 rooms per dwelling, thus ranking first in terms of access to living space among the countries of the Western world.[5] The

percentage of families not maintaining their own household, i.e. doubled-up, was 3.4% in 1971 (9.6% in 1951). The crowding index shows that only 9.4% of households had more than one person per room (compared with 18.9% in 1951).[6] The affordability of housing is another significant indicator of how well the housing market is doing in providing housing services: overall, the percentage of household income devoted to shelter was 16.9% in 1972, compared with an overall average of 18.6% in 1962.[7] These indicators provide evidence of a significant improvement in housing standards during a period in which the filtering process was operating freely, facilitated by government policies; Canadians were well-housed at affordable prices at the beginning of the seventies.

It has been suggested that 1970 marked a turning point in Canadian housing policy, at which time policy-makers' adherence to the filtering theory wavered. I find it difficult to explain this change, in light of the impressive record which the market, via the filtering process, had achieved. Nevertheless, dissatisfaction with the evidence of what poor housing conditions did exist,[8] and with what appeared to be a lack of low-income housing policy, was expressed.[9] The basis of this dissatisfaction, I think, was to be found not in the inadequacies of the market system, but more so in the changing attitude towards housing--"that housing was no longer a good or service whose consumption should be subject to the usual income or wealth constraints, like any other good, but rather was a fundamental right for all."[10] Acceptance of this outlook implies that decisions concerning the production and distribution of housing cannot be left to the market; this provided the rationale for

more direct government involvement in the housing sector. A further source of dissatisfaction with existing housing policy was what dissenters pointed to as the "uneven income distribution implications of federal housing policy". Observers were disturbed by the fact that government assistance for low income housing prior to 1970 was relatively minor. The composition of housing starts prior to 1970 shows that there was very little in the way of "social" housing, especially prior to 1968. Between 1957-69, only 5.2% of all new construction was to provide low income families with housing; only 22% of CMHC direct lending was to assist in the construction of low income housing.[11] Federal housing subsidies under the NHA for federal-provincial rental housing and public housing (up to 1969) totalled only $5.4 million.[12] Most of the benefit of government housing assistance, it seemed, accrued to middle income families purchasing medium-priced homes.* What these observers failed to recognize is that the income distribution implications of the policies should not have been viewed in isolation; rather, the effectiveness of the policies should have been evaluated assessing their overall impact on the distribution of housing services. Nevertheless, the apparent inequities coupled with the change in attitude toward housing elicited a response on the part of the policy-makers which is represented in this statement by the then Minister of Urban Affairs:

> ...the Federal Government has adopted the basic principle that it is the fundamental right of

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* In 1969, for example, only 5.7% of NHA loans for new housing went to 40.8% of Canadians with incomes below $7,000. while 84.9% of these loans went to 48.6% of families with incomes between $7,000. and $15,000. (CMHC, Canadian Housing Statistics, 1975, p. 14).

> Canadians, regardless of their economic circumstances, to enjoy adequate shelter at reasonable cost.[13]

Before proceeding with a critique of the policies and programs which ensued as a result of this political commitment, it would be useful to return once more to the theory of filtering and reiterate what was stated regarding the impact of policies aimed at accelerating the filtering process. In Chapter II, it was concluded that filtered-down housing can raise standards at the lower end of the rent distribution insofar as permanent structural characteristics of buildings, e.g. plumbing and heating installations, room dimensions and access to light and air, are concerned. These features are not readily subject to change as the unit falls on the value scale. However, other aspects of housing service contained in the unit are "variable", that is, the owner can vary them according to the dwelling's position in the rent distribution. Hence, owners alter their expenditures on cleaning, repairing, maintaining and operating a building, according to the expected returns from those expenditures. It is in fact the rent-paying capacity of tenants which determines the owners' maintenance pattern;[14] thus the success of filtering as a means of improving housing standards seems to depend on rising incomes.

The relationship between income and housing quality is central to the filtering theory, and has been the focal point of several studies of housing market behaviour. Margaret Reid (1963) estimated the income elasticity of demand for housing to be between 1.5 and 2; she found that of this increase in housing expenditure, the consumption of space accounted for only a minor share (i.e., the income elasticity of consumption of rooms per

person measured only about 0.5). The major share of the increase in expenditure went towards an improvement in the quality of space consumed, i.e. towards a rise in the rent paid per room. She observed that

> Housing improves markedly as one goes up the economic hierarchy of consumers--much more than does food and clothing and probably even more than automobiles...with housing, as with food, increase in quality rather than sheer quantity accounts for most of the rise in consumption with normal income.[15]

Richard Muth substantiated the implications of Reid's study with his findings: he estimated the income elasticity of substandard housing averaged -2.5; that is to say, a 1% rise in the level of income would induce a 2.5% decline in the proportion of housing that was substandard; the income elasticity of overcrowding was estimated at -2.5%.[16] A more interesting question examined by Muth was the relationship between a dwelling-unit condition and the level of income of its inhabitants a decade earlier (since there is a considerable lag in the adjustment of income and condition of dwellings to changing circumstances). Is there a causal relationship, and if so, in which direction is the causality? is essentially the question at stake; that is, does the condition of the housing stock adjust to the new, lower income level of its inhabitants, or does the housing quality deteriorate first, and in response, the average income level of an area's inhabitants decline (as the depreciated housing stock becomes available to low-income families). Using a sample of census tracts on Chicago's South Side, Muth found that a significant inverse relationship existed between the proportion of housing classified as substandard in a tract in 1960 and the median income level in that tract in 1950. He concluded that

"this indicates that, if anything, dwelling unit condition adjusts over time to changes in the income level of it inhabitants rather than the reverse."[17]

The results of these studies bring into question the most effective strategy to be used to accelerate the filtering process, particularly if we are concerned with housing conditions at the lower end of the rent distribution. Proponents of the filtering theory, we said, have argued that subsidies for middle-income housing will accelerate the filtering process; it may be the case that a sufficient supply of adequate housing will filter down to lower income households. But without the rent-paying capacity to induce landlords to maintain the housing at a minimum quality level, the efficacy of the filtering process may be undermined. Public policy may be used to accelerate the filtering process, but the point is that its effectiveness may be maximized through a programme that is directed at subsidizing the housing demand of the poor. It is this direct demand side approach to housing policy which should have been considered in Canada in the early 1970's. Instead, policy-makers responded to expressed dissatisfaction with an array of programs which essentially followed a direct supply-side approach and an indirect demand side approach; that is, the public sector became actively involved in the construction or subsidization of new dwellings for low income households, in the provision of rental assistance and cash grants to home buyers, and in the introduction of rent controls.

The policy which I find most difficult to rationalize is the continued allocation of resources to the public housing (or rent-geared-to-income) program, whereby the provincial and

federal governments construct rental dwellings and rent them to low-income tenants at a rental geared to a tenant's income. The rapid acceleration of this program since 1968 provides evidence of the direct supply side approach to low-income housing policy. (See Table IV and Figure III) Ubiquitous references to the inefficiencies and inequities inherent in a program of this sort are evident in this paper: the public housing program does badly in terms of satisfying the consumer sovereignty, horizontal equity and nondemeaning benefits criteria, which were discussed as important features of a housing policy. (See Chapter III) The fact is that "low-cost" housing cannot be newly built, given the state of technology in the construction industry: the government cannot produce new low-cost housing, just as the private sector cannot.[18] Costs involved in the construction of public housing units attest that it is not low-cost housing. Rather, "middle-cost" housing is constructed for occupancy by "low-income" families who are required to pay only a certain portion of their income in rent, the remainder being subsidized. (See Table V) In an attempt to make "new" housing for low-income households politically acceptable, i.e. it hardly makes sense to have poor people living in better housing than higher-income taxpaying households, efforts are made to construct it so that it "appears" less attractive; the effect is to impose real costs on tenants which, though difficult to quantify, probably outweigh the monetary savings. Having visited a public housing project, I was impressed by the poorly finished shelves and cupboards (e.g. missing handles), the paper thin walls and dimly lit rooms (due to the low capacity of electrical fixtures used). Public housing projects are located on marginal,

poorer quality land; this represents another effort to keep costs down. The cheaper site usually means the housing project is located on the fringes of a metropolitan area, distant from commercial and shopping services, employment and recreational facilities, with poor access to public transportation; proximity to expressways, major thoroughfares, railway lines and other unpleasant amenities may also contribute to the lower value of the site.[19] Table VI provides an indication of the difference in the quality of the site of a public housing project and a private market rental, as evaluated by the market.

A variation on the theme of a supply-side approach is the Limited Dividend and Non-profit Housing Programme, in which the federal government, rather than actually being involved in the construction of dwellings, provides 95% of the mortgage financing at a favourable interest rate. In return, the project sponsors must control rents in order to limit profit for a fixed period of time, and rent primarily to low-income tenants. The inefficiencies which arise out of attempts to keep costs within certain limits in order to qualify for subsidization leads to cost-cutting practices resembling those of the public housing programme. There was a substantial increase in the construction of dwelling units under this programme between 1970-76. (See Table VII and Figure III (i)). Recent announcements by the Minister of State for Urban Affairs, André Ouellet, reveal a continuing preference for the "old" (though the package is referred to as "New directions in housing") supply-side approach: the Minister announced the government's commitment to increase the level of output of low-income housing units from the current 19,000 to 30,000 unit-per-year target, the majority of which

(17,500) will be newly constructed housing units.[20] By adhering to this approach, which attempts to bring newly constructed units within the reach of the poor, policy-makers continue to ignore a more efficient and more equitable alternative to improving housing conditions, i.e. the direct demand-side approach.*

Of major significance for the housing market in Canada was the introduction of rent controls: though the policy was officially imposed on all provinces by virtue of the Federal Government's Anti-Inflation Act (1975), initiatives had already been taken at the provincial level for its implementation. (British Columbia and Quebec had already introduced rent control, while Ontario's policy was in the planning stages). Rent control represents blatant interference with the market mechanism: it demonstrates further policy-makers' adoption of the belief that housing is a basic right, not just a commodity. The distortive effects of this policy on the allocation of resources and on the volume of rental construction are relevant to the filtering process:[21] rent control affects the level of expenditures on maintenance and repairs for existing dwellings and therefore affects the potentiality of filtering as a means of improving housing standards. While a thorough discussion of the implications of rent control is beyond the scope of this paper, a comment on its impact on the housing market vis à vis filtering, might be useful. The imposition of rent controls distorts allocative decisions because the quantity and quality of housing that people occupy depends to a large extent on the price or rent that must be paid to occupy it. With the rents on all

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* Arguments in support of the contention that a direct demand-side approach-type programme, such as a rent allowance, is more efficient, will be put forth in Chapter V.

existing units fixed, while income and other prices are generally rising, housing becomes a relative bargain (i.e. rental housing sells at a relatively lower price than it should given the resources required to produce it). Consequently, at this lower price, people will tend to demand more housing services, in effect increasing the perceived shortage. A more serious consequence, in terms of the filtering process, is that owners will not be able to afford the same level of maintenance expenditures which leads to an increased rate of deterioration and demolition; the rental stock essentially begins to shrink. Under normal circumstances, one would expect suppliers to perceive this shortage and to respond with construction of new rental units; but construction is not economically feasible at the controlled prices. Only if the supply price is subsidized to the extent that it approaches the price of existing rental units will suppliers be willing to respond. In fact, this scenario has been borne out in Canada with the ever-increasing popularity* of the Assisted Rental Housing Program (introduced in 1975). Designed to augment the supply of rental accomodation, the program bridges the gap between rentals that builders could actually receive in certain market areas and the amount that they would have to charge to meet their expenses and realize a profit, via subsidies to developers. Richard Heung points out the reprecussions of this scenario: "a short-run policy of temporarily subsidizing the new additions to the housing stock leads ultimately to the permanent subsidization of the whole housing stock."[22] The evi-

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* In 1976, 23,102 units received assistance under the ARP; in 1977, 60,125 units received assistance under ARP. (CMHC, New Directions in Housing (Ottawa: Spring, 1978)).

dence indicates that the Canadian housing market is moving in that direction: in 1977, nearly 50 percent of all housing units started in Canada were financed to some extent by government programmes; 6.4% of all starts were government-owned or specifically designed to assist low-income households, and 25.5% were subsidized AHOP or ARP starts, while the remainder were financed by approved lenders under NHA mortgage insurance arrangements. (See Figure V)

The overall impact of housing policies with respect to the rental market has been to increase the level of direct public ownership and to encourage non-market ownership of rental dwellings. (See Table VIII) Existing policies offer little incentive for private landlords to invest in new rental dwellings or to maintain the existing housing stock:[23] this severely inhibits the workings of the filtering process. The government has had to step in to compensate for the supposed failing of the filtering process with increased public housing, assisted rental housing, and non-profit and limited dividend housing.

With respect to homeownership, the overall thrust of policies in Canada has been to encourage the demand side of the market indirectly, through mortgage subsidies, and directly, through cash grants. Specifically, the Assisted Home Ownership Programme, aimed at encouraging the production of moderately priced housing for sale, provides assistance to purchasers in the form of interest-free second mortgages, and in some cases, an outright grant. The payment of a cash grant of $500. to first time home purchasers of newly constructed dwellings below a specified price by the federal government in 1975 provided an incentive for buyers of housing services; the initiative was backed by the provincial government of Ontario, which provided an additional $1500. grant to first time

purchasers of any dwelling, new or old, irrespective of the income of the purchaser or the price of the house. Because of the short duration of the cash grant programmes--one year--the attempt to generate an increase in the level of construction by stimulating demand was an abortive one. Demand was stimulated by the reduction in cash required for a downpayment, but production time lags, which would have prevented houses from being completed in time, induced few additional starts. Instead, the cash grants programmes exerted an upward pressure on the prices of existing homes, exacerbating an already inflationary situation in the housing market.[24] Looking at the index of new housing prices, one notes the significant increase between 1974 and 1976 in most Canadian cities. (See Table IX) Both of these programmes which direct subsidies to middle income purchasers of housing are in keeping with the policy prescription of the filtering theory: by encouraging the middle-income families to move into new homes, the houses left vacant become available for lower income households. However, the success of filtering, (where success is measured by the improvement in housing conditions) depends critically on the response of suppliers. The fact is that Canadian housing policy in the 1970's has done little to provide corresponding incentives to increase supply. The side-effect of these "one-sided" incentives has been an increase in housing prices of single detached dwellings. (See Table IX) In fact the inconsistency of policies emanating from the various levels of government has served to aggravate the demand-supply discrepancy in the housing market: while federal housing policy has been providing incentives to increase demand, provincial and municipal policy (with respect to the planning and approval process, zoning regulations and servicing policy) have tended to restrict supply.

The supply of housing in Canada is subject to strict and direct government controls, both qualitative and quantitative in nature. Qualitative controls are explicit and take the form of building codes and by-laws; they are justified on the basis of the desire to achieve certain standards of quality in new housing. The quantitative controls are implicit in the land development controls and approval process which provincial and municipal levels of government justify in the name of good planning. There are several aspects of the development approval process which make it essentially restrictive in nature:[25] firstly, the process is lengthy and complex. In a recent conversation with a developer in the Toronto area, the major complaint expressed was that a typical subdivision plan or redevelopment proposal could take from three to five years for final approval and that it might have to pass approval by more than two dozen public agencies.[26] Such a process involves substantial costs in terms of time and money, costs which are eventually reflected in the price of the final product. The uneveness of the approval process is another feature which tends to restrict supply: differences arise in servicing and design standards, in expectations set by the municipalities and in the planning process, sometimes even within the same regional government area.[27] Such discrepancies serve to inhibit the efficiency of the construction industry and its ability to respond to market signals. While it is difficult to establish a causal relationship between the institutional constraints affecting the housing supply process and the increasing supply price, the evidence exists that the cost of land has been the dominant contributor

to costs since 1974 (See Table X); and the cost of land component is to a large extent determined by the planning approval process.

This cursory discussion of the framework within which decisions with respect to the supply of housing are made is somewhat of a digression from our central thesis: but the contention that government "red tape" has contributed to the escalating supply price of housing has serious implications for the filtering process. The point is that as long as the supply of new housing is being restricted by institutional constraints, then there is little chance of an adequate supply of units filtering down into the hands of low-income households. In an attempt to minimize the restrictive effect of the approval process on supply, a specific deadline should be placed on the length of time which municipalities are allowed to review development proposals, with the length of time varying according to the size and complexity of the proposal.[28] This would at least remove the added degree of uncertainty which the present approval process imposes on suppliers. Municipal and provincial government officials should get together and standardize the approval process, and the servicing and design requirements across the province, in order to facilitate the efficient operation of the construction industry.

The purpose of this chapter has been to expound on the policy implications of the filtering theory and to use that as a basis for an evaluation of Canadian housing policy. Prior to 1970, it was evident that policy-makers demonstrated an adherence to the filtering theory; the record of improvement in housing conditions in Canada was an impressive one, indicating

the effectiveness of the filtering process, in spite of market imperfections. In the period 1970-75, housing policy took on a new orientation: the impact may be summarized by a comparison of the composition of housing starts in Canada in the period prior to 1970, and between 1970-75. (See Figure IV) The fact that 15.7% of all housing starts in the latter period (compared with 4.4% prior to 1970) were federally-assisted low-income housing indicates a dramatic change in the nature of the housing market from previous years. What it also indicates is that the public sector had appropriated to itself the responsibility for the provision of housing services for low-income households.

The period 1976-77 seems to indicate a resurgence of confidence in the filtering theory among policy-makers. The emphasis of recent federal policy has been to encourage the demand for middle-income housing by facilitating the purchase of new and existing housing (at this income level). Return to a reliance on the filtering process is reflected in the predominance of the Assisted Rental Programme, under which 25.5% of all housing starts were subsidized in 1977, (See Figure V) and in statements, such as the following made by the President of Central Mortgage and Housing Corporation:

> ...The major concerns of the Corporation's policy development activities [are] to find more effective means of obtaining social housing and, by increasing reliance on private funding for the achievement of housing and related objectives, to reduce the projected growth of public funding for these purposes.[29]

But it is too early to discern whether it is in fact a new trend in Canadian housing policy, or just a temporary phase; policy statements are easily reversed in the political arena.

I think there is a place for low-income housing policy

in Canada, particularily if one is concerned with those participants in the housing market whom filtered down units are not reaching, at least not in time to provide them with adequate housing at a reasonable cost. Throughout this thesis, I have expressed disapproval of the direct supply-side approach normally followed by policy-makers. In an attempt to encourage the adoption of a direct demand-side approach to low-income housing policy, a specific proposal for a housing allowance programme is recommended in the following chapter.

TABLE II: Government Assisted Low Income Housing Programmes[1], Canada

Activity Prior to 1970

Name of Programme	Year: 1946-53	1954-64	1965	1966	1967	1968	1969
	No. of dwelling units						
Loans to Entrepreneurs (Section 15)	6188	30,468	70	-	-	1956	7364
Loans to Non-Profit Corporations (Section 15.1)	-	-	-	-	-	-	9233[2]
Federal-Provincial (public) housing projects[3] (Section 40)	4440	8152	-190	604	1330	1494	1057
Provincially and locally administered public housing projects[4] (Section 43)	-	-	2919	4583	7657	8252	16,027
Student housing (Section 47)	-	-	28	545	1559	1282	1620
Loans to provide accommodation for elderly[5]	526	9901	1420	2225	2813	5274	5838

1. New and existing dwellings. Does not include hostel beds.
2. Programme began in 1964; figure includes dwellings provided 1964-1969 inclusive.
3. Programme began in 1950.
4. Programme began in 1964.
5. Includes activity under the loans to entrepreneurs and loans to non-profit corporations sections of the N.H. A.

SOURCE: C.M.H.C., Canadian Housing Statistics 1977, Tables 54-62.

TABLE III: Housing Conditions in Canada

I. Basic Facilities

	% of Dwelling Units with		
	Piped hot & cold water	Flush Toilets	Bath or Shower facilities installed
1951	56.9	68.3	60.8
1961	80.2	85.9	80.9
1966	88.4	91.4	88.5
1971	93.5	95.4	93.4
1976	97.2	98.1	97.6

Source: C.M.H.C. Canadian Housing Statistics, 1977, p. 90.

II. Crowding Indicators

	% of Households not Maintaining their own Households	% of Crowded* Households	% of Housing Units Occupied by Non-Family Households
1951	9.6	18.9	11.3
1961	5.6	16.5	13.3
1971	3.4	9.4	18.4

* Households having more than one person per room.

Source: Calculated from table of "Households, Housing Stock and Crowding: 1951-1971" in Canadian Housing Statistics 1977, p. 93.

TABLE III: Housing Conditions in Canada (contd)

III. Affordability

% of Household Income Spent on Shelter

	Overall Average	Average for Tenants	Average for Home-owners
1952	18.6	18.3	15.7
1962	16.1	17.9	14.7
1974	15.		

Sources: M. Walker (ed.), Rent Control: A Popular Paradox (1975) p. 29 and Canada Year Book (Ottawa: Minister of Supply and Services, 1977) p. 295.

TABLE IV: The Public Housing Programme

	Number of rental dwelling units* in		
	Total	Federal-Provincial Housing Projects (Section 40)	Provincially & Locally Administered Public Housing Projects (Section 43)
1964	518	518	
1965	2719	190	2919
1966	5187	604	4583
1967	8987	1330	7657
1968	9746	1494	8252
1969	17,084	1057	16,027
1970	19,979	2176	17,803
1971	21,480	2120	19,360
1972	16,484	1875	14,609
1973	13,269	2536	10,733
1974	12,344	2501	9,843
1975	11,895	84	11,811
1976	10,896	46	10,850
1964-76	150,598	16,151	134,447

*New and existing dwelling units. Does not include hostel beds.

Source: C.M.H.C., Canadian Housing Statistics 1977, Tables 56 and 59

TABLE V: Public Housing Costs

CAPITAL COSTS			SUBSIDY (PER UNIT)		
Year of Commitment	Federal-Provincial Housing Projects (N.H.A. Section 40)	Loans for Public Housing Projects (N.H.A. Section 43)	Year	Federal-Provincial Housing Projects (Section 40)	Public Housing Projects (Section 43)
1961	$ 13,247.24	$ 5393.00			
1962	12,551.10	-			
1963	14,326.28	-			
1964	15,149.06	12,608.64			
1965	16,165.13	14,210.73			
1966	16,992.00	14,408.22	1966	$ 250.19	$ 510.60
1967	16,245.15	14,711.84	1967	214.98	530.04
1968	14,941.08	13,974.12	1968	280.07	559.72
1969	15,093.79	14,447.16	1969	358.04	760.69
1970	14,770.76	14,441.62	1970	574.49	917.34
1971	15,932.30	15,674.36	1971	698.17	986.41
1972	16,008.86	17,842.56	1972	716.60	1067.90
1973	17,147.02	19,497.28	1973	744.96	1073.63
1974	18,878.88	23,706.16	1974	852.82	1312.05
1975	23,939.82	27,713.62	1975	999.55	1459.37
1976	26,390.44	30,760.77	1976	1007.47	1827.77
1977	35,310.18	34,838.12			
1978	35,297.27	26,002.69			

SOURCE: Policy Development Division, Central Mortgage and Housing Corporation

TABLE VI: Cost of Land Per Unit - A Comparison of Public Housing Projects and Private Market Rentals

Location	Form	Public Housing Unit	Form	Private Rental
Toronto	Row	$4,975.	Row	$6,322.
	E.A.[1]	3,233.	E.A.	3,812.
Ottawa	Row	1,002.	Row	2,617.
	E.A.	930.	E.A.	1,602.
All Ontario	Row	2,184.	Row	2,906.
Winnipeg	W.U.[2]	898.	W.U.	886.
Edmonton	Row	2,029.	Row	3,316.
Calgary	Row	2,128.	Row	2,596.

1. Elevatored Apartment.
2. Walk-up Apartment.

Source: Appraisal Division, C.M.H.C. (September, 1971) Reprinted in M. Dennis and Susan Fish, Programs in Search of a Policy (Toronto: Hakkert, 1972) p. 183.

TABLE VII: Non-Profit Housing Corporations

	Number of assisted dwelling units
1964-1969	9,233
1970	3,527
1971	3,280
1972	2,040
1973	1,233
1974	5,285
1975	4,476
1976	7,994
	37,068

Source: C.M.H.C., Canadian Housing Statistics 1977, Table 55.

TABLE VIII: Decline in Private Apartment Starts in Canada

	Privately Financed Non-Low Income Apartment Starts as a % of Total Housing Starts	Total Apartment Starts as a % of Total Housing Starts
1963	37.3	40.2
1964	41.8	45.3
1965	43.2	46.8
1966	32.0	38.3
1967	36.4	45.2
1968	46.6	52.5
1969	45.9	52.7
1970	30.2	48.2
1971	34.5	45.4
1972	33.4	41.5
1973	32.4	39.6
1974	26.2	33.3
1975	21.7	30.4

Source: Calculated by L.B. Smith, Anatomy of a Crisis (Vancouver: The Fraser Institute, 1977) p. 36.

TABLE IX: New Housing Price Indexes for Selected Areas, 1971-1977

(1971=100)

Metropolitan Area	1971	1974	1975	1976	1977
Montreal[1]	100.0	177.7	190.3	200.9	211.7
Toronto[2]	100.0	171.6	170.8	180.7	180.2
Ottawa-Hull[2]	100.0	171.2	178.3	192.5	198.1
Winnipeg[1]	100.0	163.5	177.5	199.8	211.8
Calgary[1]	100.0	162.3	195.0	243.1	259.9
Edmonton[1]	100.0	172.8	205.3	245.8	262.8

1. Single-detached houses only.
2. Single-detached, semi-detached and row condominium houses.

Source: C.M.H.C. Canadian Housing Statistics, 1977, Table 112

TABLE X: Indexes of Dwelling Costs[1], 1961-1977 (1971=100)

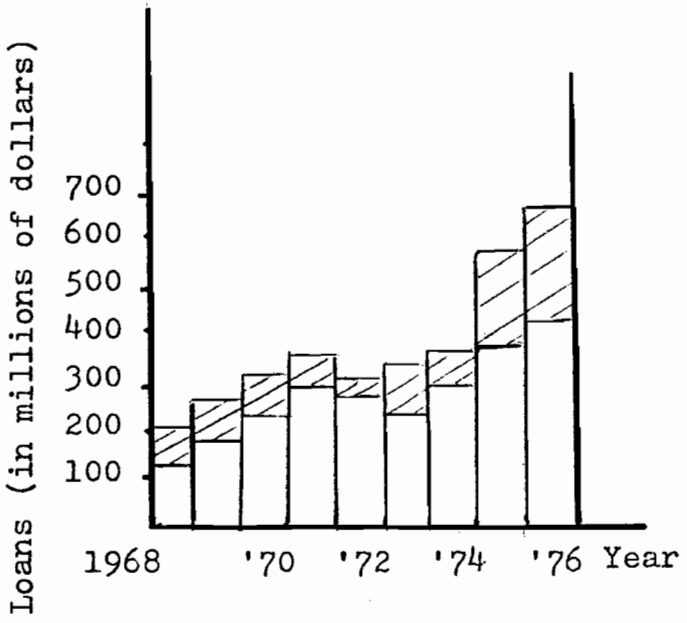
Period	Land Cost	Size of Dwelling	Construction Cost Actual	Total Cost	Total Cost Adjusted for Size Changes[2]
1961	56.7	103.4	70.6	67.4	65.2
1962	60.7	106.5	71.6	68.9	64.7
1963	67.8	107.9	73.0	71.0	65.8
1964	67.2	109.1	76.8	74.6	68.3
1965	67.5	109.9	82.1	78.8	71.7
1966	75.9	112.6	90.7	87.3	77.5
1967	78.0	109.4	91.9	88.8	81.1
1968	81.6	103.8	92.5	90.1	86.8
1969	91.6	105.6	100.9	98.9	93.6
1970	91.3	100.7	98.1	96.6	95.9
1971	100.0	100.0	100.0	100.0	100.0
1972	106.5	99.6	106.2	106.3	106.6
1973	101.9	97.7	119.4	115.5	118.2
1974	106.1	95.6	143.0	134.9	141.1
1975	157.9	96.1	160.5	160.6	167.2
1976	201.1	95.4	172.4	180.5	189.1
1977	223.9	94.9	179.7	190.7	201.0

1. For a single-detached dwelling financed under NHA.
2. Size of dwelling held constant at 1961 level of 1,154 square feet.

Source: C.M.H.C., Canadian Housing Statistics, 1977, Table 110.

FIGURE III:

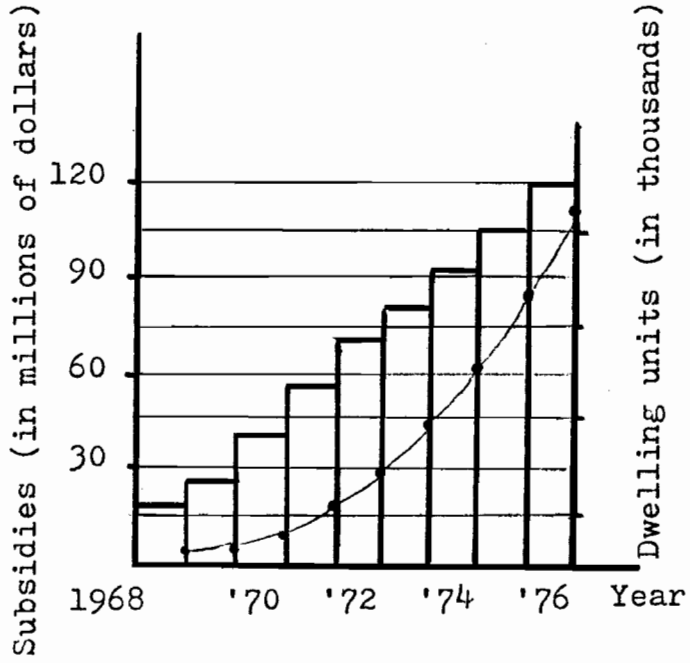
(i) Direct CMHC Lending for Public Housing and Non-Profit Housing 1968-76



Non-profit and co-operative housing projects

Public housing projects

(ii) Subsidized Public Housing Stock and Subsidies, 1968-76

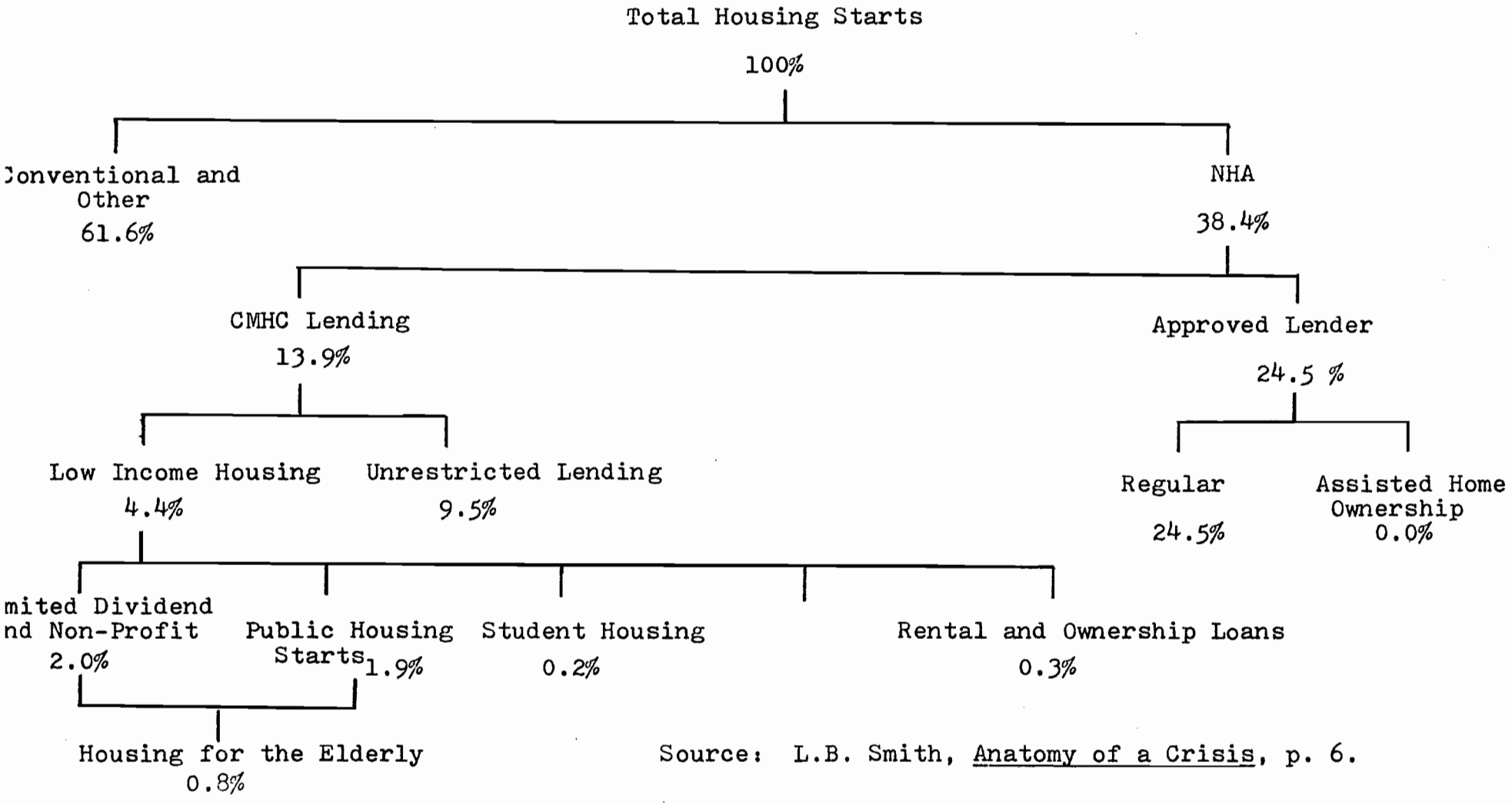


Public Housing Stock (No. of units)

Subsidies (in dollars)

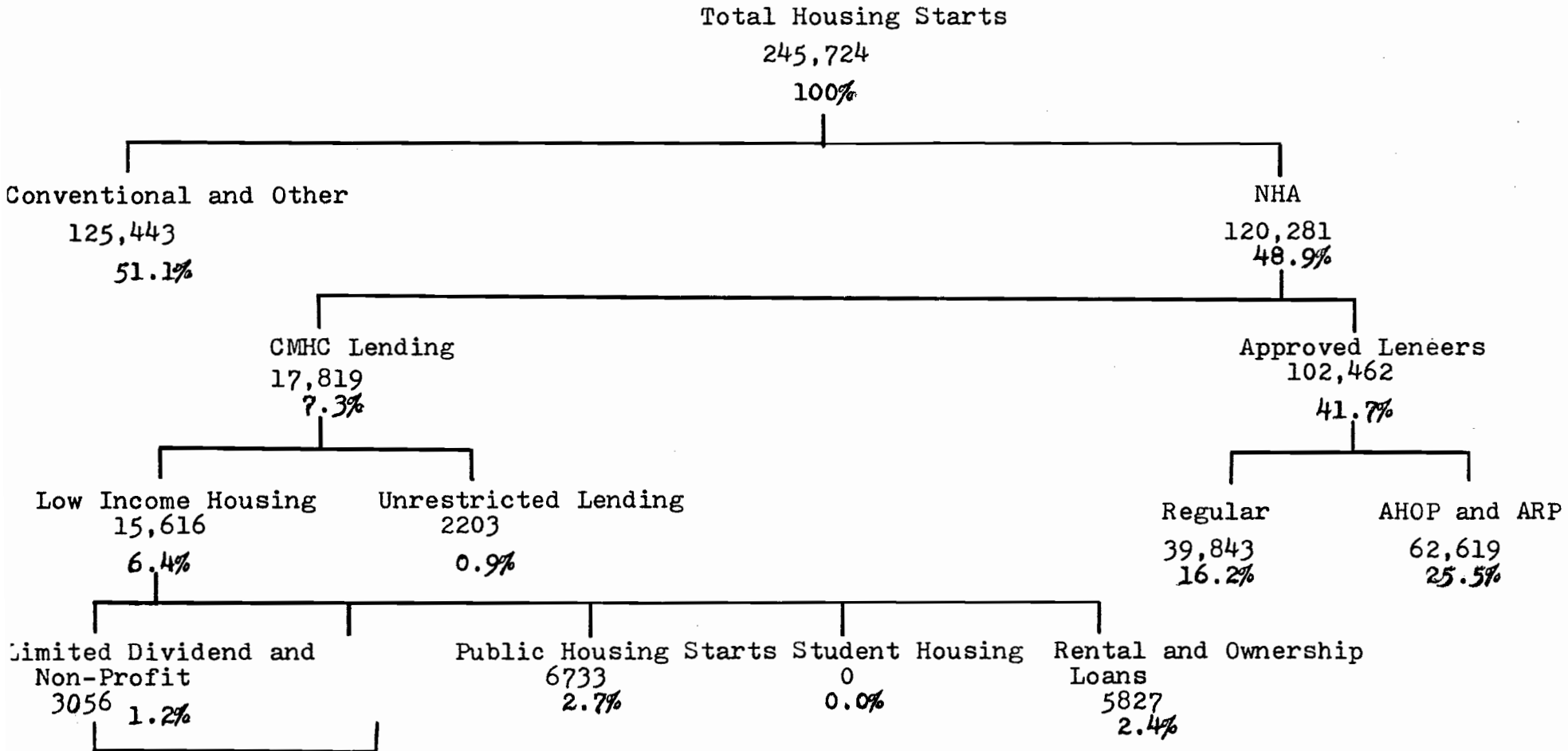
Source: CMHC, Central Mortgage and Housing Corporation Annual Report, 1977 (Ottawa, 1978) p. 22, 23 and p. 84, 85.

FIGURE IV Composition of Housing Starts in Canada, 1946-69



Source: L.B. Smith, Anatomy of a Crisis, p. 6.

FIGURE V Composition of Housing Starts in Canada, 1977



Sources: C.M.H.C., Canadian Housing Statistics,1977, Tables 53-63
C.M.H.C., Annual Report, 1977, p. 9-52.

NOTES TO CHAPTER IV

1. I am in agreement with L.B. Smith on this point as expounded in his Anatomy of a Crisis (Vancouver: The Fraser Institute, 1977).

2. Central Mortgage and Housing Corporation, CMHC and The National Housing Act (Ottawa: CMHC, 1976) p.11.

3. Central Mortgage and Housing Corporation, Canadian Housing Statistics, 1975 (Ottawa: CMHC, 1975) p. 14.

4. Central Mortgage and Housing Corporation, Canadian Housing Statistics, 1977 (Ottawa: CMHC, 1977) p. 90.

5. Economic Council of Canada, Eleventh Annual Review-Economic Targets and Social Indicators (Ottawa: Information Canada, 1974) p. 75 & 76.

6. CMHC, op. cit., 1977, p. 93.

7. Statistics Canada, Family Expenditures in Canada (Ottawa: 1969) Table II and Urban Family Expenditure (Ottawa: 1972) p. 18.

8. Defining substandard housing as housing in "need of major repair", CMHC estimated that about 103,000 occupied dwelling units were substandard in 1971; about 120,000 households were estimated to be doubled up. (CMHC, Canadian Housing Statistics, 1972 p. xviii).

9. See The Report of the Federal Task Force on Housing and Urban Development (Ottawa: The Queen's Printer, 1969); and M. Dennis and Susan Fish, Programmes in Search of a Policy (Toronto: Hakkert, 1972).

10. L.B. Smith, op. cit., p. 3.

11. CMHC, op. cit., 1975, p. 14.

12. Ibid., p. 60.

13. Honourable R. Basford, Hansard, January 11, 1973, p. 186 quoted in L.B. Smith, op. cit., p. 4.

14. This is precisely the point which Lowry was making, that when housing filters down to a lower income class, owners will respond by reducing outlays, thus deliberately moving the building down to a lower quality level. He concluded that filtering accelerates the deterioration of the housing stock, hence is not a reliable means through which to improve the housing conditions of the poor. But he refused to recognize the effect of rising incomes. (I. Lowry, op. cit., p. 344-346)

15. Margaret G. Reid, Housing and Income (Chicago: University of Chicago Press, 1962) p. 377.

16. Richard Muth, Cities and Housing (Chicago: University of Chicago Press, 1969) p. 199-200.

17. Muth used multiple regression analysis in his study, regressing twenty-two variables, including the 1950 median income level of the area, on the dependent variable, the incidence of substandard housing in 1960 in the sample of census tracts; he controlled for the 1960 income level and other changes in circumstances, in order to isolate the effect of the regressor--the 1950 median income level of the area. (Richard Muth, Cities and Housing (Chicago: University of Chicago Press, 1969) p. 262-265.)

18. It is possible to explain public housing programmes on the basis that governments prefer construction in the public sector because of the visible employment creation effects they have. This point was brought to my attention by Antal Deutsch.

19. See M. Dennis and Susan Fish, op. cit., p. 183 for maps depicting the location of public housing and non-profit housing projects.

20. Honourable André Ouellet, Minister of State for Urban Affairs, New Directions in Housing (CMHC: Ottawa, 1978).

21. Well-documented evidence of the distortive effects of a rent control policy is compiled by M. Walker (ed.) Rent Control: A Popular Paradox (Vancouver: The Fraser Institute, 1975)

22. See Raymond Heung, op. cit., p. 71-80 for an elaboration of the argument.

23. See Smith, op. cit.,(1977), for a discussion of federal tax policy and foreign investment policy which further deter private investment in rental dwellings.

24. The argument that housing policies in Canada contributed to the supply-demand imbalance in the mid-seventies housing market has been put forth by several housing market analysts; specifically, Richard Shaffner, Housing Policy in Canada: Learning From Recent Problems (Montreal: C.D. Howe Research Institute, 1976) and See L.S. Bourne, The Housing Supply and Price Debate: Divergent Views and Policy Consequences (Toronto: University of Toronto, Centre for Urban and Community Studies, 1977).

25. See A. Derkowski, "The Toronto Housing Market in the Sixties" in Journal of Real Estate Institute of Canada (Volume 1, No. 4) 1971, p. 1-9.

26. Personal communication, M. Speigel of Bramalea Development Corporation in Toronto, Spring, 1978.

27. For example, the cost of land in some areas includes an amount which the developer pays for servicing of the land

(e.g. water, sewage, etc.) while in other areas, such services are not included in the price of the lot. (M. Dennis and S. Fish, op. cit., p. 80),

28. This is something which has been tried in England with some success. (L.S. Bourne, op. cit., p. 31).

29. Raymond V. Hession, Central Mortgage and Housing Corporation-Annual Report 1977 (Ottawa: C.M.H.C.) p. 13.

CHAPTER V

Rationale for a Housing Allowance Programme

An alternative strategy thus far neglected by policy-makers in Canada in their efforts to have the poor "enjoy adequate shelter at a reasonable cost" is a housing allowance programme. The rationale for this approach should be apparent after consideration of the characteristics which distinguish it from existing programmes: firstly, it offers assistance on equal terms to all eligible families, rather than having a large proportion of the benefits accruing to a select few; secondly, it recognizes the potential of existing housing units, which are older but of decent quality, as a source of supply of housing for poor people, rather than depending on newly-constructed "low-income" housing; thirdly, the housing allowance programme provides direct assistance to low-income families, assigning to them the responsibility of finding suitable housing services; fourthly, the programme creates incentives for the landlord to maintain his dwelling at a standard quality level by providing him with a clientele able to support the costs involved[1]; and finally, the programme creates incentives for poor people to increase their housing consumption.

Before expounding upon and analysing this approach, I will suggest a specific scheme for the housing allowance programme.

The Proposal

It is recommended that the housing allowance programme

be implemented based on the following formula:

$A = R^* - b^*Y$, where A = amount of the housing allowance granted,
for $R^* \geq R$
R^*= average cost of standard housing for the specified household
b^*= a target shelter-to-income ratio,
Y = the disposable income of the specified household before assistance;
R^*/b^*= the target monthly income for the specified household, i.e. the amount of disposable income required to meet the cost of basic accommodation using less than the target proportion to income.
R = rent incurred by the specified household

A hypothetical example will serve to illustrate the application of the formula. Given a family of three living in Montreal East with a total disposable income of $500. per month, its eligibility for a housing allowance will be determined as follows: A two-bedroom apartment, the average cost of which is around $220. per month in the area, is designated as the appropriately sized basic accomodation for this household. The target shelter-to-income ratio assigned by the programme administrators is $b^*=.25$. Suppose the family chooses to occupy standard housing which is appropriately sized. According to these parameters, this family's monthly income falls short of the target monthly income, $R^*/b^* = 220./.25 = \$880./\text{month}$. Hence, it is entitled to a housing allowance of the amount,

$$A = 220. - .25(500)$$
$$= \$95.$$

The family's contribution to shelter costs becomes

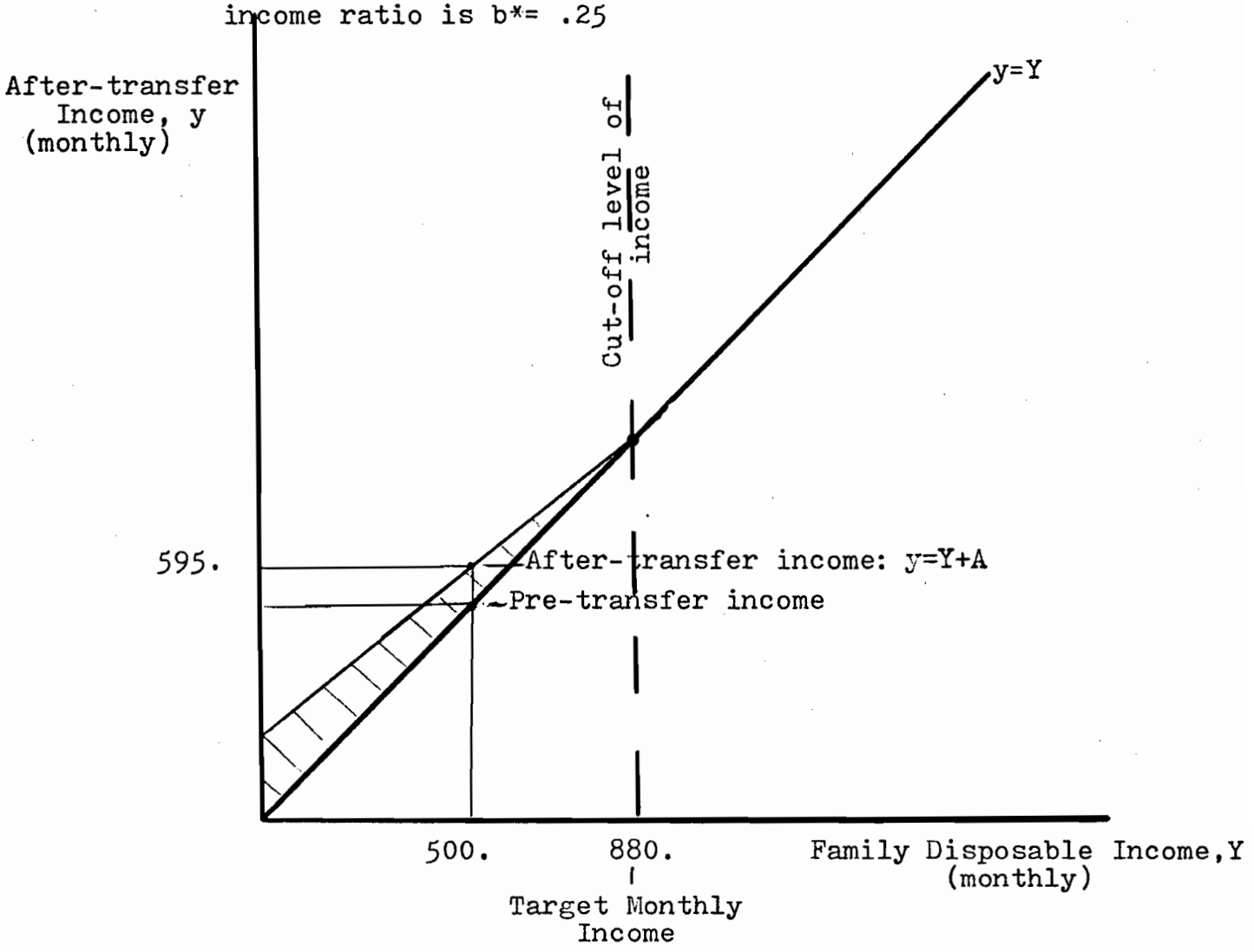
$$R - A = 220 - 95 = 125.$$

which represents 25% (=125/500) of its original income. (See Figure VI)

FIGURE VI: Illustration of the Housing Allowance Formula*

$$A = R^* - b^*Y$$

For a family of 3 in Montreal East, where monthly cost of basic accommodation is $220. and target shelter-to-income ratio is $b^* = .25$



Housing allowance paid to eligible household

* (See TABLE XII, Column 3.)

Implementation

The R* component of the formula would be determined for each community by the provincial housing agency. R* should reflect the rents needed to support the full costs of ownership for a well-maintained* older housing unit of appropriate size for the given household; that is, the actual costs of providing weatherproof shelter, heat and light for a non-crowded accommodation. An appropriate measure of crowding is a household living in a unit in which there is more than one person per room.

The task of determining with precision who is unable to pay the full cost of housing that meets programme standards without undue deprivation may not be an easy one. Target efficiency--that is, "assisting only those in the target group" and the "comprehensiveness of the program in assisting all of the group"--is an important criterion in the design of a housing programme (See Chapter III). Since household income is the central criterion for determining eligibility for assistance, Y should reflect as accurately as possible the position of economic well-being of the unit. As such, it is suggested that the allowance be based on a comprehensive income concept.[2] Y should include the earned income of each member of the household, who normally pool their resources and share the costs involved in day-to-day economic transactions. Transfer payments from all other programmes should also be included in the household's calculation of Y, since those eligible for a housing allowance are likely to be in receipt of other forms of assistance.

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*A well-maintained older housing unit would be one which meets the requirements as outlined, for example, in CMHC's 1974 Survey (See Chapter II for a discussion of measures of Housing quality).

Acceptance of a comprehensive concept of income as the basis for the allowance requires consideration of how wealth is to be treated. The existing welfare system operates on the principle that a welfare recipient exhaust his own assets before turning to the public for help, but the inherent policing problem and its harshness make it an undesirable feature of the programme. The suggestion that assets be ignored completely[3] is appealing in that it removes the pressure on low-income families with assets to dissave. For the most part, households eligible for a housing allowance are not likely to have significant assets.

The treatment of owner-occupants in a housing allowance programme requires special mention. Exclusion of this group would violate the principles of equity, since low-income owner-occupants are in need of assistance too. A housing allowance could be awarded to them, letting mortgage payments plus property tax payments be treated as if they were rent.

The selection of an apprppriate shelter cost-to-income ratio, b, is one aspect of implementation which presents some difficulty. "How much should people be expected to spend for adequate shelter?" is the question with which policy-makers are faced in assigning a value to b*.[4] The decision is complicated by the tradeoff involved between the disincentive effects inherent in too large a subsidy (i.e. people are encouraged to attempt to qualify by lowering their income or declaring a false income) and the objective of reducing the hardship of people at the very bottom of the income scale. "It is generally accepted that somewhere between 20-25 percent of income is a reasonable proportion to devote to shelter."[5] Recent data indicates that Canadians, on average, devote 15% of income to shelter; in

contrast, the poorest income group, whose income falls below $4000. devotes, on average, 30.3%[6]. Based on what is generally considered acceptable and on the fact that recent family expenditure patterns indicate the first income quintile group expends 25% of income on shelter, the suggested value for b^* in the housing allowance formula is $b^* = .25$.

The Mechanics of the Program

A housing allowance programme of this formulation is based on a rent-gap formula whereby rental expenditures of low-income households are subsidized. A household applies to the housing agency providing information regarding household size, household income and proof of rental expenditures. If it meets the eligibility criteria, it receives a dollar-for-dollar reimbursement according to the formula; that is, the difference between the actual rent incurred and 25 percent of its income; an upper limit on the allowance, R*, is determined by the average rent for standard accommodation of appropriate size in the recipient's area. It is possible that the household might incur a rent less than the average cost of standard housing in which case its allowance is reduced (dollar-for-dollar); there is little incentive for spending less than the maximum amount of the allowance on housing.

Analysis of the Housing Allowance Programme

The primary objective of a housing allowance programme is to improve the housing condition of low-income households. As such, the allowance is intended to affect household budget decisions regarding the allocation of income for housing services (as opposed to an unearmarked transfer which does not interfere

with allocation decisions). It offers eligible households an opportunity to increase their purchasing power, but with the requirement that they spend an amount at least equal to the subsidy on housing, and it creates a strong incentive for households to choose housing of standard quality in which to reside. The programme is designed to promote these conditions: firstly, it stipulates that the actual allowance given to a participating household cannot exceed that household's rental expenditure; and secondly, the formula used provides the incentive for households to spend the maximum amount of the allowance on housing, which is an amount sufficient to rent an appropriately sized unit of standard quality. While the formula provides little incentive for spending less than the maximum allowance, the formula does create an incentive for recipients to seek modestly priced standard housing: every dollar of rental expenditure above the designated R* comes out of the recipient's own pocket. In this sense, it has an "efficiency" aspect about it.

The overall impact of a housing allowance programme of this sort on budget allocation decisions deserves some attention. Participating households will be affected differently, depending on their initial income level and their preference for housing consumption. To get an idea of the impact, let us consider the (probable) response of households, with the same characteristics but differing tastes, to a housing allowance and to an unconstrained transfer of income. Consider three households of equal size with equal monthly incomes of $500., living in Montreal, where the average rental for a standard quality, 4 room unit is $220. per month. If we let rental expenditure serve as an indicator of the household's preference for housing consumption, we can look at a household's pre-transfer and after-transfer rental expen-

ditures to compare the programme effects. (See Figure VII and Table XI) Consider Household 1 (H1) with initial rental expenditures (Ro) of $220.: it has a strong preference for housing consumption, devoting 44% of its budget to rent. Under a housing allowance programme, the household would qualify for a rent subsidy of $95. without having to alter its housing consumption; the allowance, then, can be viewed as an unconstrained income supplement. Its impact on H1's consumption behaviour will be identical to that elicited by an income supplement programme which awarded it a similar $95. Now, consider H2 with Ro=$200.; this represents 40% of its budget. Under a housing allowance programme, H2 will be reimbursed $95. if it increases its housing consumption by $20. If we make the assumption, for the sake of the analysis, that households maintain a constant shelter-to-income ratio, then given an unconstrained transfer of $95., H2 would be willing to incur rental expenditures of $238. (=40% of $595.) Hence, the impact of the housing allowance programme on H2 need not be considered constraining. Household 3 has a very low preference for housing consumption, with Ro=$125.; the quality of H3's dwelling is probably below community standards, since it is far below the going market price of $220. H3 will qualify for an allowance of $95. if it raises its rental expenditures by that exact amount, $95. Under an unconstrained transfer of $95., H3 would be willing to devote 25% or $23.75 of the additional income to housing, so there is a considerable difference in H3's response to each of the programmes. What this comparison indicates is the extent to which a housing allowance programme constrains households' consumption decisions: it affects only those households whose desired housing expenditures in the

FIGURE VII: The Impact of A Housing Allowance vs. An Unconstrained Income Transfer on Households' Budget Decisions

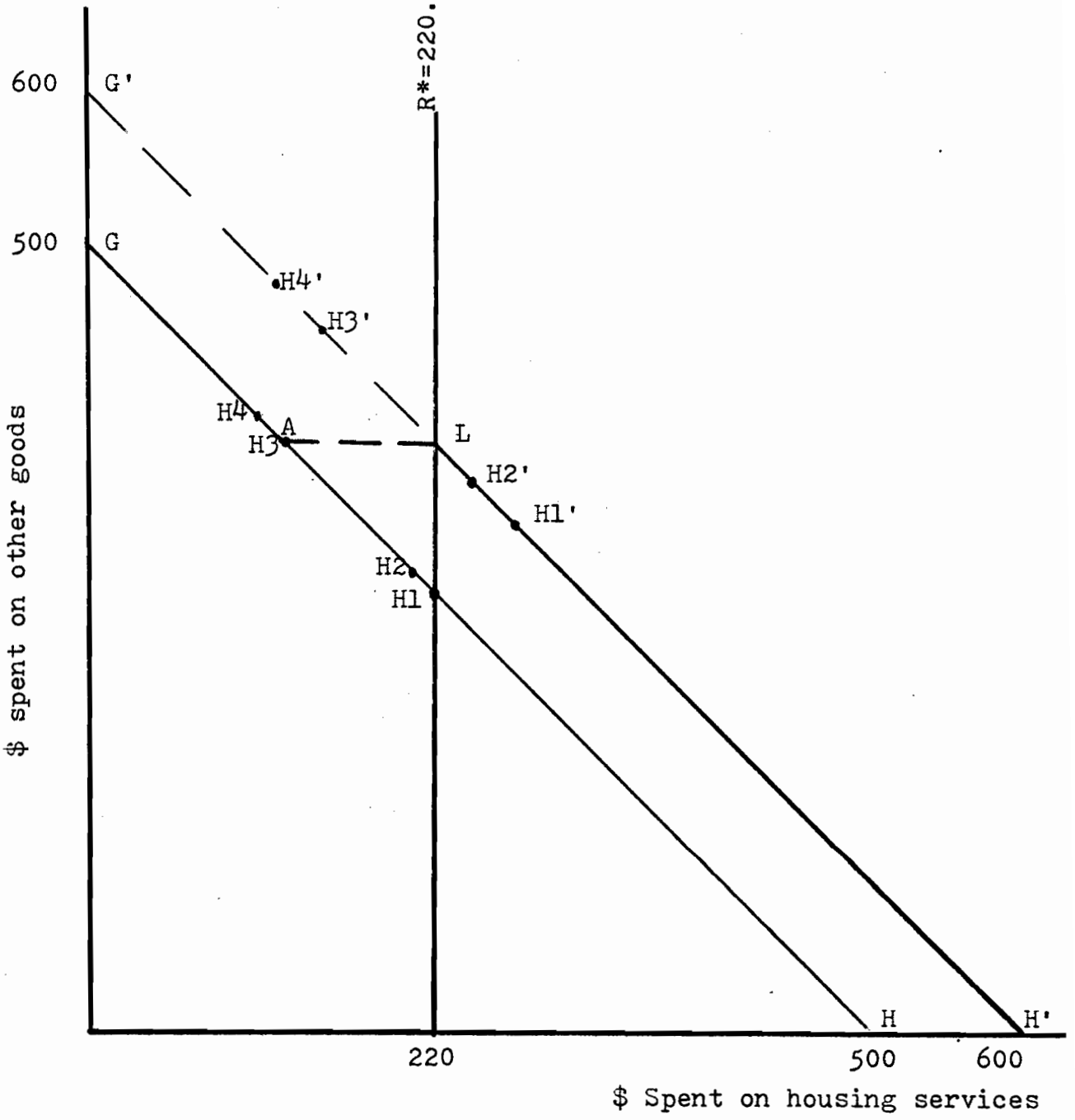

FIGURE VII: (cont'd)

Given a money income of $500:

GH represents the budget line facing Households 1, 2, 3 and 4 whose initial rental expenditure decisions are shown by

H1: Ro=$220.
H2: Ro= 200.
H3: Ro= 125.
H4: Ro= 100.

Given an unconstrained transfer payment of $95.:

G'H' represents the new budget line facing H1, H2, H3 and H4 whose revised rental expenditure decisions (assuming a constant shelter-to-income ratio) are shown by

H1': Rt=$261.80
H2': Rt= 238.00
H3': Rt= 148.75
H4': Rt= 119.00

Given a housing allowance based on the formula A=R*-.25Y where R*=220.

GALH' represents the after-transfer budget line facing H1, H2, H3 and H4; where LH' represents the relevant portion facing those households who choose to participate in the programme. Participation by households such as H4 represents non-optimal behaviour.

TABLE XI: The Impact of A Housing Allowance vs. An Unconstrained Income Transfer

		MONTHLY							Effects of Participation Change in Y=$95.	
		Initial			After-Allowance		After-Transfer			
		Income Yo	Rent Ro	Ro/Yo	Income Ya	Rent Ra	Income Yt	Rent Rt	Yt/Rt	Δ Housing Expenditures	Δ Non-Housing Expenditures
Household	1.	$500.	$220.	.44	$595.	$220.	$595.	$261.80	.44	-	$95.
	2.	500.	200.	.4	595.	220.	595.	238.	.4	20.	75.
	3.	500.	125.	.25	595.	220.	595.	148.75	.25	95.	-
	4*	500.	100.	.2	595.	220.	595.	119.	.2	120.	-25.

*Participation in the housing allowance programme by H4 represents non-optimal behaviour.

absence of constraints, would be less than the maximum amount of their allowance. In the case of each household, H1, H2, and H3, a decision not to participate in the housing allowance programme would be non-optimal: because for each household, the allowance represents an increase in its real income position. H1 is free to devote the total allowance to non-housing consumption, H2 can spend $75. on non-housing consumption, and H3 gets to increase only its housing consumption (by $95.) I have neglected to consider the case of the household (H4) with an extremely low preference for housing: with Ro=100, H4 will qualify for the allowance of $95. only if it increases its rental expenditures by $120., which exceeds the allowance; this implies that H4 must decrease its non-housing consumption by $25. This is clearly not consistent with its expressed preference pattern, so H4's participation in the programme would indicate non-optimal behaviour. By making participation optional, this outcome might be avoided; but it evades the problem at hand, which is households' malconsumption of housing services. H4 was introduced for the sake of completeness of the analysis; there are not likely to be a sufficient number of H4-type households in the real world to challenge the efficacy of a housing allowance programme.

The H4 household raises a problem that is inherent in the program and that is the incentive for a recipient to conspire with his landlord to overstate the rent. The stipulation that benefit payments to households choosing substandard dwellings will be terminated, and the stipulation that a landlord found to be party to such a conspiracy will no longer enjoy the benefits of serving this clientele (i.e. housing allowance recipients),

may serve to minimize the incidence of such "conspiracy" cases. The policing requirements needed to detect conspiratory activity is the most unattractive feature of the programme, but it is not likely to be serious enough to prevent its implementation.

The programme can be criticized on the basis of its uneven impact on households' budget decisions: within the range of eligible families, there is a greater probability among the lowest income households that their desired level of expenditures, in the absence of the constraint, would be less than the maximum allowance. Higher income households are more likely to have housing expenditures that exceed the amount necessary to rent standard housing anyway. So the "constraining" effect on consumption expenditure decisions is not even.

One might see this as a positive aspect of the programme, in that it indicates that the poorest households, who are forced to increase their housing expenditures by a greater proportion, are being made proportionally better off. This implies, of course, that increasing one's housing consumption makes one better off. This is the rationale upon which an earmarked subsidy programme rests. It was argued earlier (See Chapter III) that an unconstrained transfer is preferred because an individual, having the most information about his preferences, is in the best position to make decisions so as to maximize his utility. The recommendation of a housing allowance programme is hardly consistent with the argument in favour of consumer sovereignty. But I feel somewhat constrained by the political realities within which we must operate: Given that a national income supplement programme has not received political acceptance in Canada[7], and given that public funds continue to be directed towards low-

income households (in the form of new construction-type housing programmes), this housing allowance programme is suggested as a (next best) alternative to an unconstrained income transfer programme.

As a consolation to those who are unwilling to accept this justification for an earmarked housing allowance, let me offer this: there may in fact be benefits derived from living in a better neighbourhood which the prospective recipient may not have considered in making his housing expenditure decision. A hypothesis which has come out of an experimental Negative Income Tax programme in New Jersey suggests that increase in income and security provided by the transfer payments allows households to search for better jobs, to participate in job training programmes, or to make other investments in education or training and thus to improve their long-run earning capacities.[8] In the context of a housing allowance programme, this hypothesis is particularly relevant because the allowance provides an additional opportunity for recipients to improve their access to job possibilities. But this is a hypothesis which must be empirically tested in a national programme, before it can be used as a basis upon which to justify the housing allowance programme.

The formula specified in this housing allowance programme is designed so that as household income rises, the allowance paid diminishes, finally disappearing when the family can pay for basic accommodation by spending 25 percent of its income. This permits a family to work its way off assistance without being forced to move. A programme based on this formula, and providing universal coverage (i.e. assistance for all low-income families) scores high points on the equity scale: it approaches (more than

other existing programmes) satisfaction of the rule of horizontal equity, that is, persons in essentially the same circumstances are treated equally. The disappearing benefit formula avoids the "notch" effect (See Chapter III) whereby recipients of the allowance have a higher after-transfer income than some noneligible persons with a higher initial income.[9] It also avoids a difficulty inherent in the administration of the public housing programme--what should be done with a family once its income rises above the level of eligibility?[10]

A potential characteristic of a public assistance programme which relies on the recipient's income is that it creates a disincentive effect on work effort: the extent to which a housing allowance programme affects the work patterns of individual recipients is an important consideration. Conventional economic theory tells us that a housing allowance should result in a labour supply disincentive for recipient households: the "income effect" brought about by the increased income results in more leisure and fewer hours of work. The supply of labour forthcoming is affected by what is an effective "tax" on additional earnings implied in the formula (which requires that the tenant contribute 25% of income toward rent), and by the fact that every dollar of additional earnings reduces the amount of the housing allowance by 25%. However, it would seem that a housing allowance would have less of a disincentive effect than an unconstrained income supplement, since the earmarking may require the household to spend more on housing and less on other consumption goods, including leisure, than it would otherwise spend.[11] An experimental program with housing allowances in Kansas City demonstrated that with respect to work response,

the changes failed to suggest a negative or disincentive effect: "participation rates and employment rates increased marginally over the 15-month period".[12]

The effectiveness of a housing allowance programme may be evaluated in terms of its impact on housing consumption as opposed to housing costs, and ultimately, its impact on housing standards. The uncertainty surrounding the allowance programme's impact on housing consumption as opposed to rents of low-income housing is perhaps the one major hurdle which has prevented implementation of such a scheme. Opponents of a housing allowance programme contend that the additional purchasing power will be lost in the form of higher rents for already existing units; but there is some confusion with this argument. That an increase in rent payments for existing dwelling units results from the programme is not bad, in and of itself. In fact, housing allowances are intended to provide poor people with the rent-paying capacity to support an improvement in the quality level of the building in which they live; if the landlord responds with improved maintenance and services, then rents should be expected to rise. Tenants don't necessarily have to move to achieve improved housing conditions. It is possible that some of the housing allowance will accrue to landlords in the form of higher rents, with little improvement in quality, but the evidence that exists does not support this contention.

The underlying issue in this debate is the question of the elasticity of supply of housing available to low-income households, (See Chapter III) an issue which should be subject to resolution by mere measurement. Evidence exists to support the contention that the supply of housing in the low-income

market is elastic (over the long run) and quality improvements will result from a housing programme. Based on an empirical study of the supply of rental housing in the United States, Frank de Leeuw concluded that small rental increases could be expected to result from the increased demand, in the order of 12% of the allowance, on the basis that 40% of the allowance would go to increased demand and 30% of that increased demand would be lost in higher rents.[13] Dennis Carlton and Joseph Ferreira analysed the market effects of alternative housing payment formulas, using a simulated model of housing market behaviour. They dealt specifically with the issue of the impact of a housing allowance on rents and on increased housing consumption in the low-income housing market. Defining the "market efficiency measure" as a cost standardized measure of housing (consumption) change among the poorest submarkets, they found "The market efficiency measure...was always greater than zero, indicating that an allowance programme can effectively increase housing consumption, and not simply drive up rents".[14] The results of the Kansas City experiment with housing allowances are important with respect to this issue. Recognizing the caveat that the size of the programme, involving 225 households, had a minimal aggregate effect on the housing market, the fact remains that housing allowance recipients were able to upgrade substantially their living conditions, and, for the most part, to find standard quality accommodation with the allowance provided (based on pre-programme rents). The overall improvement in living conditions indicates that suppliers of low-income housing in the Kansas City market area were responsive to demand conditions. It is upon the evidence cited above that the case for a housing allowance pro-

gramme rests.

That the rent subsidy provided by a housing allowance programme may be used to finance consumption of housing that is not of standard quality is a potential source of criticism of the programme. One of the conditions of the programme proposed herein, is that recipients increase their consumption of housing to a level of standard quality: to this end, the formula provides an allowance which, at its maximum, is sufficient to cover the cost of suitable standard quality accommodation for the recipient household. Recipients might be induced to occupy standard quality dwellings by a provision which stipulates termination of benefit payments to households choosing substandard dwellings. Admittedly, there is no administratively simple or costless way of enforcing this condition. Strict enforcement of the existing housing code regulations will to a large extent affect the successfulness of a housing allowance programme.

There is reason to believe that housing standards will be positively affected by a housing allowance programme in the long run: as long as poor people cannot afford to pay for the upkeep of decent, filtered down housing units, the latter will deteriorate to substandard levels. A housing allowance provides the means with which to maintain filtered down housing at a standard quality level. The housing allowance programme can, in fact, be seen as a stimulant to the filtering process, accelerating the rate at which dwelling units filter down to poor people. Firstly, by increasing effective demand for housing at lower quality classes, the programme creates a better second-hand market, making construction of new housing (at higher classes) more attractive. Hence, it is possible to stimulate new construction

with this programme. Secondly, by increasing effective demand for low amenity but decent quality housing units, the allowance programme stimulates increased maintenance of that type of dwelling, so that the buildings remain in that quality class longer before deteriorating to a lower quality class. The recommendation of a housing allowance programme, then, is consistent with the filtering process: though traditionally neglected, it has the potential to facilitate the market process in meeting the housing requirements of all, particularly low income, participants in the market for housing services.

The disbursement of benefits of a housing allowance programme is simple and mechanical once the values are assigned to the parameters and the periodic tables are generated. An applicant need only provide proof of income (i.e. a tax return) and information regarding family size and proof of rental expenditures to the housing agency which automatically determines his eligibility for and amount of allowance using the tables. (See Table XII as an example) In a housing allowance programme of this form, it is the recipient who incurs the costs involved in gathering the relevant information and searching for suitable living accommodations; he also negotiates the rent and terms of occupancy with the landlord, and grievances are settled by the two parties involved. This eliminates the administrative costs which are generated by alternative programmes in which the public agency contracts with landlords for housing to be offered for eligible families, monitors tenant selection and operating procedures and audits books. This dispersion of responsibility characteristic of the programme has another advantage: the beneficiary, who has the most information regarding his needs and taste for housing

will choose accommodations which better reflect his preference pattern, than if the housing authorities were responsible; one would expect that greater satisfaction is derived for every dollar spent to increase low-income housing consumption. If wrong choices are made, the consequences are not permanent or of a long duration. Intuitively, it would seem that such a plan would minimize wrong decisions by virtue of the fact that the decision-makers are well-informed with respect to what they desire, and are directly responsible for the outcome of the decisions.

TABLE XII: Sample of a Housing Allowance Table

City: Montreal Year: 1978

MONTHLY ALLOWANCE* by household size and annual cost of basic accommodation

Annual Disposable Family Income (1977)	Annual Rental Expenditure	Household Size (1)	(2)	(3)	(4)	(5)
		1800.	2280.	2640.	3120.	3600.
1200		125.	165.	195.	235.	275.
2400		100.	140.	170.	210.	250.
3600		75.	115.	145.	185.	225.
4800		50.	90.	120.	160.	200.
6000		25.	65.	95.	135.	175.
7200		____	40.	70.	110.	150.
8400		____	15.	45.	85.	125.
9600		_____		20.	60.	100.
10,800		_____		_____	35.	75.
12,000		_____		_____	10.	50.
13,200		_____		_____	_____	25.
14,400		_____		_____	_____	_____

*Calculated using the formula $A=R^*-b^*Y$, where $b^*=.25$ for $R^* \geq R$.

$R^* = 150$/mon for (1)
$R^* = 190$/mon for (2)
$R^* = 220$/mon for (3)
$R^* = 260$/mon for (4)
$R^* = 300$/mon for (5)

NOTES TO CHAPTER V

1. Having studied the increasing incidence of housing deterioration in large cities in the United States, Ira Lowry concluded:

> "the costs of operating and maintaining rental housing increased more rapidly than the rents that the available tenants in a large part of the stock were willing or able to pay. Landlords, unable to earn a competent rate of return on their investments, simply disinvested by undermaintenance."

"Housing Assistance for Low-Income Urban Families: A Fresh Approach", Papers submitted to the Subcommittee on Housing, Part 2, U.S. Congress, House Committee on Banking and Currency, June 1971, p. 496.

2. See Frank de Leeuw, "The Housing Allowance Approach", Paper submitted to the Subcommittee on Housing of the Committee of Banking and Currency, U.S. House of Representatives, p. 550.

3. This suggestion was made with respect to a negative income tax plan by Charles W. Meyer, A Base For the Negative Income Tax (Wisconsin: University of Wisconsin, Institute for Research on Poverty, 1969) p. 15.

4. There is some basis for suggesting that b should vary with Y; for example, a family's income may be so low that it must devote 95% of its income for food alone in order to survive. But one would hope that given the array of welfare programmes, the household would be in receipt of other forms of assistance.

5. M. Walker, Rent Control: A Popular Paradox (Vancouver: The Fraser Institute, 1975) p. 17.

6. In 1974, the latter group comprised 6.3% of all Canadians; compared with 13.3% in 1972 and 16.9% in 1969; hence, the number of people who actually devote such a large proportion of their income to shelter expenses is falling. (Canada Year Book 1976-77 (Ottawa: Minister of Supply and Services, 1977) p. 295).

7. Recent statements by the Minister of Health and Welfare, Monique Begin, hinted at the possibility of a universal Guaranteed Annual Income Programme for Canada; but it has been in the proposal stages since the Special Senate Committee Report, Poverty in Canada (1971) and has yet to be accepted. Perhaps if Niskanen's theory on the bureaucrat's maximand is borne out, we may be on our way to a NIT plan.

8. See Joseph A. Pechman and R. Michael Timpane, Work Incentives and Income Guarantees: The New Jersey Negative Income Tax Experiment (Washington: The Brookings Institute, 1975).

9. Dennis Carlton and Joseph Ferreira, Jr. pointed out this charateristic in a similar housing allowance formula in "Selecting Subsidy Strategies for Housing Allowance Programs" in Journal of Urban Economics 4 (1977) p. 223.

10. The question is problematic in that expulsion of the family seems too harsh, along with preventing achievement of a balanced tenantry; but allowing the family to stay on, while poor families are on waiting lists, seems inequitable.

11. A. Solomon and C. Fention, "The Nation's First Experience with Housing Allowances: The Kansas City Demonstration" in Land Economics (August, 1974) p. 221.

12. Ibid., p. 222.

13. F. de Leeuw and N.R. Ekanem, "The Supply of Rental Housing" in American Economic Review, Vol. 61, No. 5 (December 1971) p. 549.

14. Carlton and Ferreira, op. cit., p. 223.

15. Ohls' simulated experiments showed it to be the case that construction was greater in a market with rent vouchers, than in one without and this increased construction accelerates the filtering process.

CHAPTER VI

The purpose of Chapter V was to present the arguments in support of the recommendation that a housing allowance programme be implemented in Canada. That this recommendation should evolve from a study of the housing market phenomenon referred to as the filtering process should not be surprising. The essence of the filtering theory is that the market, recognizing housing as an expensive capital good with a long life, functions to shift the good around among different classes of users as its relative usefulness declines. The filtering process ensures optimal use of the resources which have been allocated to the housing market; but society may choose to alter that allocation, based on economic considerations, of which the market mechanism fails to take account (e.g. external costs), or on social considerations, with which the market mechanism is not equipped to deal. Once the decision to interfere with the market process has been made (and approved via the political process), the critical issue becomes how best to inject the increased allotment of resources. What is meant by "best" must first be specified: principles and criteria arrived at by political consensus may be looked to as guidelines for achievement of the best method. (Such a guide is provided in the framework delineated in Chapter III). Based on this framework, and on a confidence in the market mechanism as the most efficient means of allocating resources, it follows that housing policy should be designed so as to accelerate the filtering process. The traditional policy prescription evolving from this line of reasoning is to

design programmes to facilitate the construction of new housing units; hence, resources should be directed at middle-income households (who can afford new housing).

Policy-makers in Canada, until the late sixties, demonstrated an adherence to the filtering theory, implementing programmes to stimulate new construction (i.e. middle income housing). The change in housing conditions of the population provides a prima facia indicator of the success of the theory: the record indicated a marked improvement. The period, 1970-75, demonstrated a shift away from reliance on the filtering process: the shift may be explained as the response of policy-makers to the expressed concern for those participants in the housing market whom the filtered down housing units were not reaching, at least not in time to provide them with "adequate shelter at reasonable cost". The shift was manifested in policies not consistent with the filtering theory. In fact, programmes such as public housing actually serve to deter the filtering process: the programme removes a portion of the low-income population from the regular housing market, weakening the market for used housing and hence discouraging new construction (at higher quality levels). But this effect is trivial (given the size of budgetary appropriations to the programme) in comparison with the gross inefficiencies and inequities inherent in the public housing programme, which I find unacceptable.

There are those who, fully recognizing the shortcomings of public housing, are willing to accept the new construction approach to low-income housing policy. They argue that the programme does increase the supply of "standard" housing available to low income households and thus provides direct relief for the

poor. As a firm believer in the effectiveness of the filtering process, I cannot agree; that is not to say that I am not concerned with the treatment of low-income households in the housing market. Rather, I maintain that public policy in the housing market must be designed to accelerate the filtering process. It is in this spirit that I recommend that public housing programmes designed to provide new housing for the poor be abandoned in Canada, and that a housing allowance programme, of the variety proposed herein, be considered as a replacement.

SELECTED BIBLIOGRAPHY

I BOOKS AND ARTICLES

Aaron, Henry J., Shelter and Subsidies: Who Benefits from Federal Housing Policies? Washington, D.C.: The Brookings Institute, 1972.

Aaron, Henry J. and George von Furstenburg, "The Inefficiency of Transfers in Kind: the Case of Housing Assistance". Western Economic Journal. Vol. 9, No. 2 (June, 1971): 184-91.

Bourne, L.S., The Housing Supply and Price Debate: Divergent Views and Policy Consequences. Toronto: Centre for Urban and Community Studies, University of Toronto, 1977.

Brueggeman, W.B.; Smith, H.C.; and Racster, R., "Multiple Housing Programs and Urban Housing Policy". American Institute of Planners Journal (May, 1972): 161-167.

Carlton, Dennis W. and Joseph Ferreira, Jr., "Selecting Subsidy Strategies for Housing Allowance Programs". Journal of Urban Economics, 4 (1977): 221-247.

de Leeuw, Frank, "The Demand for Housing: A Review of Cross-Section Evidence". Review of Economics and Statistics (February, 1971): 1-10.

_____. The Distribution of Housing Services. Paper No. 208-6. Washington, D.C.: The Urban Institute, 1974.

_____ et al. The Market Effects of Housing Policies. Paper No. 208-23. Washington, D.C.: The Urban Institute, 1974.

de Leeuw, Frank and N.R. Ekanem, "The Supply of Rental Housing". The American Economic Review Vol. 61, No. 5 (December, 1971): 806-17.

de Leeuw, Frank; Leaman, Sam H.; and Blank, Helen, "The Design of a Housing Allowance". Paper No. 112-25. Washington, D.C.: The Urban Institute, 1970 (Xeroxed)

Dennis, Michael and Susan Fish, Programs in Search of a Policy: Low Income Housing in Canada. Toronto: Hakkert, 1972.

Derkowski, A., "The Toronto Housing Market in the Sixties". Journal of Real Estate Institute of Canada. Volume I, No. 4 (1971): 117-124.

Downs, Anthony, "Are Subsidies the Best Answer for Housing Low and Moderate Income Households?" The Urban Lawyer

Vol. 4. (1972): 405-424.

Fisher, Earnest and Louis Winnick, "A Reformation of the 'Filtering' Concept". Journal of Social Issues. Vol. VII (1951): 47-58.

Grebler, Leo, "Criteria for Appraising Governmental Housing Programs". American Economic Review (May, 1960): 321-332.

Green, Christopher, "Some Thoughts on the Low-Income Housing Dilemma". Montreal: McGill University. (Mimeographed)

Grigsby, William, Housing Markets and Public Policy. Philadelphia: University of Pennsylvania Press, 1963.

Harberger, Arnold C., ed. The Demand for Durable Goods. Chicago: University of Chicago Press, 1960.

Haveman, R. and J. Margolis, Public Expenditures and Policy Analysis. Chicago: Markham Publishing Co., 1973.

Heilbrun, James, Urban Economics and Public Policy. New York: St. Martin's Press, 1974.

Heung, Raymond, The Do's and Don'ts of Housing Policy: The Case of B.C. Vancouver, B.C.: The Fraser Institute, 1976.

Huttman Elizabeth and John Huttman, "Rent Allowances". Housing and People. Vol. 4: 15-17.

Lansing, John; Clifton, C.W.; and Morgan, James, New Homes and Poor People. Ann Arbor: University of Michigan Survey Research Centre, Institute for Social Research, 1969.

Lowry, Ira S., "Filtering and Housing Standards: A Conceptual Analysis". Journal of Land Economics XXXVI, No. 4 (November, 1960): 362-370.

Lozano, Eduardo E., "Housing Costs and Alternative Cost Reducing Policies". American Institute of Planners Journals (May, 1972): 176-181.

MacMillan, James A. and Edith Nickel, "An Economic Appraisal of Urban Housing Assistance: Rental Supplements versus Public Housing". Canadian Public Administration. Vol. 17, No. 3 (1974): 443-460.

Mandelker, Daniel R., Housing Subsidies in the United States and England. Indianapolis: Bobbs-Merrill, 1973.

Meyer, Charles W., A Base for the Negative Income Tax. Wisconsin: University of Wisconsin, Institute for Research on Poverty, 1969.

Musgrave, Richard A., The Theory of Public Finance. New York: McGraw, 1959.

Muth, Richard F., Cities and Housing. Chicago: University of Chicago Press, 1969.

_____. Public Housing: An Economic Evaluation. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1973.

Niskanen, William A., Jr., Bureaucracy and Representative Government. Chicago: Aldine, 1971.

Nourse, Hugh O., The Effect of Public Policy on Housing Markets. Lexington, Ma.: D.C. Heath and Company, 1973.

Ohls, James C., "Public Policy Toward Low-Income Housing and Filtering in Housing Markets." Journal of Urban Economics (1975): 144-171.

Olsen, Edgar O., "A Competitive Theory of the Housing Market" American Economic Review Vol. LIX, No. 4 (September, 1969): 612-622.

_____. "A Welfare Economic Evaluation of Public Housing". Ph.D. dissertation, Rice University, 1968. (Mimeographed)

Onibokun, Adepoju A., "Public Housing in Canada: A Synthesis of Research Efforts". Urban Renewal and Low Income Housing Vol. 8, No. 3 (1972).

Page, Alfred N. and Warren R. Seyfried, (eds.) Urban Analysis: Readings in Housing and Urban Analysis. Glenview, Illinois: Scott, Foresman and Company, 1970.

Pechman, Joseph A. and R. Michael Timpane, Work Incentives and Income Guarantees: The New Jersey Negative Income Tax Experiment. Washington: The Brookings Institute, 1975.

Ratcliff, Richard U., Urban Land Economics. New York: McGraw Hill, 1949.

Reid, Margaret G., Housing and Income. Chicago: University of Chicago Press, 1962.

Shaffner, Richard, Housing Policy in Canada: Learning from Recent Problems. Montreal: C.D. Howe Research Institute, 1975.

Smith, L.B., Anatomy of a Crisis. Vancouver: The Fraser Institute, 1977.

_____. "Postwar Canadian Housing Policy in Theory and Practice". Journal of Land Economics. Vol. XLIV (1968): 339-349.

Smith, Wallace F., Filtering and Neighbourhood Change. Berkeley: University of California, The Center for Real Estate and Urban Economics, 1964.

Smolensky, Eugene, "Public Housing or Income Supplements". American Institute of Planners Journal (1968): 94-101.

Solomon, Arthur P., "Housing and Public Policy Analysis". Public Policy Vol. XX (1972): 443-471.

_____. Housing the Urban Poor. Cambridge, Ma.: The MIT Press, 1974.

Solomon, A. and C. Fenton, "The Nation's First Experience with Housing Allowances: The Kansas City Demonstration". Journal of Land Economics (August, 1974): 213-223.

Stegman, Michael, Housing and Economics. Cambridge, Ma.: The MIT Press, 1970.

_____. Housing Investment in the Inner City: The Dynamics of Decline. Cambridge, Ma.: The MIT Press, 1972.

Sternlieb, George, The Tenement Landlord. New Brunswick, N.J.: Urban Studies Center, Rutgers University, 1966.

Taggart, Robert, Low Income Housing: A Critique of Federal Aid. Baltimore: The Johns Hopkins Press, 1970.

Walker, Michael, (ed.) Rent Control: A Popular Paradox. Vancouver: The Fraser Institute, 1975.

Wheaton, William L.C.; Milgram, G.; and Meyerson, M.E., Urban Housing. New York: The Free Press, 1966.

White, Harrison C., "Multipliers, Vacancy Chains and Filtering in Housing". American Institute of Planners Journal (March, 1971): 88-94.

II GOVERNMENT PUBLICATIONS

Canada Year Book 1977. Ottawa: Minister of Supply and Services, 1977.

Central Mortgage and Housing Corporation. Annual Report 1977. Ottawa, 1978.

_____, Canadian Housing Statistics 1975. Ottawa, 1975.

_____, Canadian Housing Statistics 1977. Ottawa, 1977.

_____, Federal Housing Programs. Ottawa, 1978.

_____, CMHC and The National Housing Act. Ottawa, 1976.

_____, 1974 Survey of Housing Units: Survey Area No. 9-MONTREAL. Ottawa, 1974.

_____, 1974 Survey of Housing Units: Background Information and Statistical Notes. Ottawa, 1974.

Deutsch, Antal and Christopher Green, "Selected Methods for Subsidizing Low-Income Housing". A Report prepared for the Task Force on Low Income Housing, 1971. (Mimeographed)

Economic Council of Canada, Eleventh Annual Report: Economic Targets and Social Indicators. Ottawa: Queen's Printer, 1974.

Government of Canada, New Directions in Housing. A policy statement by the Minister of State for Urban Affairs. Ottawa, June 1978.

Powell, M. and A. Black, "A Low Income Housing policy for 1971". Background Paper: The Evolution of Low-Income Housing Policy in Canada. Ottawa: C.M.H.C., Policy Planning Division, 1970. (Mimeographed)

Silver, J.R., Housing and the Poor. Ottawa: Ministry of State for Urban Affairs, 1971.

Smith, L.B., Housing in Canada: Market Structure and Policy Performance. Research Monograph #2: Urban Problems and Prospects. Ottawa: C.M.H.C., 1971.

Statistics Canada, Family Expenditures in Canada. Ottawa, 1969.

_____, Urban Family Expenditures. Ottawa, 1972.

Task Force on Housing and Urban Development, Hellyer Report. Ottawa: The Queen's Printer, 1969.

U.S. Congress, House of Representatives. Committee of Banking and Currency. The Housing Allowance Approach by Frank de Leeuw. Paper submitted to the Subcommittee on Housing of the Committee of Banking and Currency, 1971.

U.S. Congress, House of Representatives. Committee of Banking and Currency. Housing Assistance for Low-Income Urban Families: A Fresh Approach by Ira S. Lowry. Paper submitted to the Subcommittee of Banking and Currency, 1971.

III INTERVIEWS

Ohls, James C., Mathematica Policy Research, Inc., Princeton, N.J. Telephone Interview. October, 1977.

Speigel, M., Bramalea Development Corporation, Toronto. Interview. May, 1978.