RESEARCH REPORT
External Research Program

Non-Profit Housing, Housing Allowances
or Income Assistance: A Choice Among
Policy Instruments

Canada

CMHC—HOME TO CANADIANS

Canada Mortgage and Housing Corporation (CMHC) has been Canada's national housing agency for more than 60 years.

Together with other housing stakeholders, we help ensure that Canada maintains one of the best housing systems in the world. We are committed to helping Canadians access a wide choice of quality, affordable homes, while making vibrant, healthy communities and cities a reality across the country.

For more information, visit our website at **www.cmhc.ca**

You can also reach us by phone at 1-800-668-2642 or by fax at 1-800-245-9274.

Outside Canada call 613-748-2003 or fax to 613-748-2016.

Canada Mortgage and Housing Corporation supports the Government of Canada policy on access to information for people with disabilities. If you wish to obtain this publication in alternative formats, call 1-800-668-2642.

NON-PROFIT HOUSING, HOUSING

ALLOWANCES OR INCOME

ASSISTANCE: A CHOICE

AMONG POLICY INSTRUMENTS

By George Fallis

Department of Economics and Division of Social Science
York University
4700 Keele Street, North York, Ontario
Canada   M3J 1P3

ABSTRACT

This study examines a social policy choice between three policy instruments: non-profit housing, housing allowances and income assistance. The study emphasizes that housing programmes contribute to income assistance objectives and that income assistance contributes to housing objectives, and therefore that a choice between instruments requires a common analytic framework to examine how each instrument influences all objectives. Much existing policy analysis treats housing assistance and income assistance independently. The economist's model of household decisionmaking is used to examine the effects of the three instruments on housing consumption, income distribution and labour supply. The study synthesizes the separate literatures on the three policy instruments.

BIOGRAPHY

George Fallis is currently Chair of the Department of Economics, York University and an associate of the Institute for Policy Analysis, University of Toronto. He has written a number of books on housing economics and policy, including <u>Housing Economics</u> and <u>Housing the Homeless and Poor</u> (with Alex Murray), and published many articles in academic journals. He has been a consultant to national, provincial and local governments in Canada and to various international organizations regarding housing economics, policy and finance, as well as urban development issues. He has also written on the economics of constitutional change.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Canadians and their governments seek to ensure that everyone has adequate, suitable housing. Two policy instruments designed to improve the housing of people are non-profit housing and housing allowances. Also, Canadians and their governments seek to ensure that everyone has adequate income. One policy instrument used in pursuit of this objective is income assistance.

It is increasingly recognized that housing assistance programmes contribute to the fulfilment of income assistance objectives and that income assistance programmes contribute to the fulfilment of housing objectives. The Macdonald Commission, published in 1985, examined Canada's income security system and concluded that it was badly flawed. The Commission recommended comprehensive reform: a Universal Income Security Programme, much like a guaranteed annual income, would replace many existing cash payments and tax arrangements and also would replace housing assistance programmes.

This monograph examines the policy choice between three alternative instruments: non-profit housing, a housing allowance and income assistance. Although much housing assistance and income assistance have gone, and continue to go, to modest-income households, this monograph deals with problems of how to assist those with serious housing problems and/or those with low incomes. And because of this focus on the neediest households, it deals with rental housing assistance.

There has been an enormous amount of research published regarding these three alternatives. However, researchers have tended to focus on one policy instrument and not to systematically compare the alternatives; and they have tended to focus on the special issues which surround one policy instrument. For example, housing research has tended to ignore the labour supply effects of

housing assistance and income security research has tended to ignore how cash assistance increases the housing consumption of recipients. This monograph seeks to synthesize the work on the three policy instruments. A central theme is that each of the instruments is an alternative way to pursue the same list of both housing and income assistance objectives. A main purpose of the synthesis is to set out an explicit analytic framework that incorporates the critical issues and that is applied to each of the instruments. The monograph is written for anyone interested in policy choice, but it uses the language and analytical framework of economics.

The monograph focusses on three effects of the policy instruments: how much does the instrument increase the housing consumption of the household; how much does the instrument increase the income (utility level) of the household; and how much does the instrument change the labour supply of the household?

There are numerous ways to provide housing assistance and income assistance. Three clearly different instruments are analyzed; they are inevitably stylized, but they are isolated to capture three basic approaches.

The defining features of non-profit housing are that the building is not owned by a private sector (profit-motivated) landlord, that rents are not set by market forces but are set at a percentage of household income and that applicants from a waiting list are offered one unit that he/she can accept or reject.

The defining characteristics of a housing allowance are that participants are provided with a cash allowance equal to a percentage of their actual rent and that participants secure their housing in the private rental market, free to choose any unit that they wish.

The essential element of the income assistance programme is that cash assistance is provided which is reduced as earned income increases. Assistance is calculated as a lump sum minus a fraction of earned income. The rate at which

benefits are reduced as income increases is called the tax-back or benefit-reduction rate.

In order to systematically compare the three policy instruments, it is necessary to analyze each with the same analytical framework. The economics model of household decisionmaking provides such a framework. It has been used in a modified form in the literature to analyze separately housing assistance and income assistance. Here the model is generalized to allow analysis of both.

A household is assumed to make decisions in order to maximize utility, subject to a budget constraint. Utility is a function of leisure, consumption of housing, and consumption of a composite good. Non-profit housing offers the household a single choice beyond the budget constraint - the household can consume more housing (at a reduced price) and more of the composite good. A housing allowance offers the household a new budget constraint with a reduced price of housing. Income assistance offers the household a new budget constraint with a lower wage rate and a higher level of non-wage income. The economics model of household decisionmaking can be used to predict how a recipient's housing consumption and labour supply would change it if were to participate in a non-profit programme or receive a housing allowance or receive income assistance. The model can also be used to calculate how large an increase in income would be required to make the household just as well off as it was with housing assistance.

A housing allowance can be regarded as pure housing assistance because it only alters the price of housing. Income assistence is pure income assistance because it only alters the wage rate and non-wage income. Neither has a constraint on household choices. Non-profit housing can be regarded as a mixed policy instrument because it implicitly changes both the price of housing and income parameters. As well, it contains a constraint on household choice.

The policy instruments could induce, in principle, almost any increase in housing consumption; but in order to compare sensibly the policy instruments, "realistic" versions of the instruments are compared using examples from Canada and the United States. Non-profit housing results in the largest increase in housing consumption, followed by a housing allowance followed by income assistance. Typically however, the value of non-profit housing assistance is greater. The economics model of household decisionmaking can be used to show that for equal-cost programmes, this ordering of the effect of policy instruments on housing consumption continues to hold.

The three policy instruments can also be used as instruments of income redistribution. In order to compare housing programmes and income programmes, the "gain in income" from receiving housing assistance must be measured. This is calculated as the minimum cash payment the household would accept in lieu of the housing assistance. This cash-equivalent value of housing assistance will always be less than the cost to government of providing the assistance because the household would accept less in return for flexibility in how their money is spent. This analysis is implicitly a comparison of housing assistance versus income assistance as an instrument of income redistribution, and housing assistance is a less efficient form of income assistance. The previous ranking (according to housing consumption) is reversed. Here, when instruments are ranked according to how much it costs to raise the household's utility to a given level, income assistance is most effective, then housing allowances and finally non-profit housing.

There has always been a great concern about the effects on labour supply of an income assistance programme. However, the housing assistance literature pays almost no attention to labour supply responses. Thus, on this dimension, comparative analysis of the policy instruments must be more tentative. The

available evidence suggests that housing assistance, especially non-profit housing assistance, could cause a greater reduction in the labour supply of a one-earner household than an equivalent cash grant. It seems likely, although here the research is only just beginning, that housing assistance, especially non-profit housing, will have a greater effect on female labour force participation in two-earner households than will income assistance.

This systematic comparison of three policy instruments illustrates how each affect housing consumption, income (utility) and labour supply. Each influences both housing assistance and income assistance objectives and the choice of the best instrument will depend upon the weights given to the different objectives.

There are, of course, other issues to consider in choosing between policy instruments including their ability to mix people of different incomes in neighbourhoods and within buildings, the costs of administering the various instruments, and the relative efficiency of non-profit versus for-profit housing producers and managers.

In much housing policy discussion, the problem of housing affordability arises (spending more than 30 percent of income on housing). The monograph argues that the housing affordability problem is an indirect way of incorporating into the housing policy debate the fact that the government cares both about housing consumption and income distribution. The monograph eschewed the indirect analysis of this dual concern in favour of a direct analysis of both.

The monograph did not seek to conclude which is the best policy instrument. Rather, it developed a framework for the rigorous analyses of the choice. Each instrument can be judged against each objective, and all instruments are analyzed with the same framework.

National Office   Bureau national

700 Montreal Road   700 chemin de Montréal
Ottawa ON K I A 0P7   Ottawa ON K I A 0P7
Telephone: (613) 748-2000   Téléphone : (613) 748-2000

Puisqu'on prévoit une demande restreinte pour ce document de recherche, seul le résumé a été traduit.

La SCHL fera traduire le document si la demande le justifie.

Pour nous aider à déterminer si la demande justifie que ce rapport soit traduit en français, veuillez remplir la partie ci-dessous et la retourner à l'adresse suivante :

Centre canadien de documentation sur l'habitation
Société canadienne d'hypothèques et de logement
700, chemin Montréal, bureau C1-200
Ottawa (Ontario)
K I A 0P7

Titre du rapport: _____

_____

Je préférerais que ce rapport soit disponible en français.

NOM _____

ADRESSE_____
rue   App.

_____
ville   province   Code postal

No de téléphone ( ) _____

Logement sans but lucratif, allocation-logement ou aide au revenu :
un choix parmi les outils d'intervention

SOMMAIRE

Les Canadiens et leurs gouvernements cherchent à s'assurer que tous
ont un logement de taille et de qualité convenables. Le logement sans but
lucratif et l'allocation-logement sont deux outils d'intervention conçus
pour aider les gens à mieux se loger. Les Canadiens et leurs gouvernements
cherchent aussi à faire en sorte que tous aient un revenu suffisant. L'aide
au revenu est un outil d'intervention utilisé en vue d'atteindre cet
objectif.

Il est de plus en plus reconnu que les programmes d'aide au logement
contribuent à l'atteinte des objectifs de l'aide au revenu et que les
programmes d'aide au revenu font de même avec les objectifs de logement. La
Commission Macdonald, dont le rapport a été publié en 1985, a conclu que le
système canadien de sécurité du revenu était loin d'être parfait. La
Commission a recommandé une réforme globale de ce système : un Régime
universel de sécurité du revenu, tout comme un revenu annuel garanti,
remplacerait de nombreux paiements en espèces, certaines dispositions
fiscales, ainsi que les programmes d'aide au logement.

La présente monographie examine le choix politique entre trois outils
de rechange : le logement sans but lucratif, l'allocation-logement et
l'aide au revenu. Bien qu'une bonne partie de l'aide au logement et au
revenu ait été, et continue d'être, accordée à des ménages ayant un revenu
modeste, on traite ici des difficultés de venir en aide à ceux qui ont de
graves problèmes de logement ou un faible revenu, ou les deux. On se penche
sur les ménages les plus nécessiteux et, par conséquent, sur l'aide au
logement locatif.

Un très grand nombre de rapports de recherche ont été publiés sur ces
trois sujets. Les chercheurs ont toutefois eu tendance à se concentrer sur
un seul outil d'intervention, sans le comparer systématiquement aux autres
et, souvent, sur des points particuliers reliés à un outil. Par exemple,
les recherches sur le logement ne tiennent habituellement pas compte des
effets de l'aide au logement sur la main-d'oeuvre disponible, et les
recherches sur la sécurité du revenu ne traitent généralement pas de la
mesure dans laquelle l'aide pécuniaire augmente la consommation des
bénéficiaires au niveau du logement. Cette monographie, où l'on cherche à
faire une synthèse des travaux réalisés sur les trois outils
d'intervention, a comme thème central le fait que chacun de ces outils
constitue une façon distincte d'atteindre la même liste d'objectifs, tant
de l'aide au logement que de l'aide au revenu. La synthèse a pour principal
but d'exposer un cadre d'analyse précis couvrant les points essentiels et
s'appliquant à chacun des trois outils. Cette monographie a été rédigée à
l'intention des gens qui s'intéressent aux choix politiques, mais utilise
un langage et un cadre d'analyse propres à l'économie.

La monographie se concentre sur trois effets des outils
d'intervention : la mesure dans laquelle l'outil augmente la consommation

du ménage au niveau du logement, il augmente le revenu (niveau d'utilité) du ménage et il modifie la main-d'oeuvre disponible du ménage.

On peut fournir de l'aide au logement et de l'aide au revenu de multiples façons. Le présent document analyse trois outils qui sont clairement différents; ils sont inévitablement stylisés, mais bien isolés pour permettre de saisir trois approches fondamentales.

Les particularités du logement sans but lucratif sont les suivantes : l'immeuble n'appartient pas à un propriétaire du secteur privé (cherchant à faire un profit), les loyers ne sont pas fixés selon les loyers du marché mais plutôt proportionnés au revenu du ménage et on offre aux demandeurs inscrits sur une liste d'attente un logement que ceux-ci peuvent accepter ou refuser.

Voici les caractéristiques qui définissent l'allocation-logement : on donne aux participants une allocation pécuniaire égale à un pourcentage de leur loyer réel et ils sont libres de choisir le logement qu'ils désirent sur le marché locatif.

Le programme d'aide au revenu comporte cet élément essentiel : on fournit une aide pécuniaire que l'on réduit à mesure que le revenu gagné augmente. Le montant de l'aide est calculé en fonction d'une somme globale moins une proportion du revenu gagné. Le taux auquel les prestations sont réduites à mesure que le revenu augmente s'appelle le taux de récupération fiscale ou le taux de réduction des prestations.

Afin de comparer systématiquement les trois outils d'intervention, il faut tous les étudier à l'aide du même cadre d'analyse. Le modèle économique de prise de décisions des ménages fournit un tel cadre. Une forme modifiée de ce cadre a déjà été utilisée dans certains ouvrages pour analyser séparément l'aide au logement et l'aide au revenu. Une généralisation du modèle permet d'analyser ces deux outils.

On suppose qu'un ménage prend des décisions qui maximisent l'utilité, sous réserve de restrictions budgétaires. L'utilité est fonction du loisir, de la consommation reliée au logement et de la consommation d'un bien composé. Le logement sans but lucratif offre au ménage un seul choix au-delà des restrictions budgétaires : il peut consommer davantage pour ce qui est de se loger (à un prix réduit) et consommer davantage du bien composé. Une allocation-logement donne au ménage une nouvelle restriction budgétaire avec un logement à prix réduit, tandis qu'une aide au revenu lui donne une nouvelle restriction budgétaire avec un taux salarial plus faible et un revenu non salarial plus élevé. Le modèle économique de prise de décisions des ménages peut servir à prévoir les effets sur la consommation de logement et la main-d'oeuvre disponible d'un ménage qui participe à un programme de logement sans but lucratif, qui reçoit une allocation-logement ou qui reçoit une aide au revenu. Le modèle peut également servir à calculer le montant qu'il faudrait ajouter au revenu du ménage pour que celui-ci soit tout aussi à l'aise que lorsqu'il bénéficiait d'une aide au logement.

Une allocation-logement peut être considérée comme une allocation visant uniquement le logement car elle ne change que le prix de celui-ci.

De même, l'aide au revenu ne vise que le revenu puisqu'elle ne modifie que le taux salarial et le revenu non salarial. Ni l'un ni l'autre de ces deux outils d'intervention ne limite les choix du ménage. Par contre, le logement sans but lucratif peut être vu comme un outil mixte, car il change implicitement à la fois le prix du logement et les paramètres liés au revenu. Cet outil comporte en outre une restriction sur les choix du ménage.

Ces outils d'intervention pourraient, en principe, faire augmenter dans à peu près n'importe quelle mesure la consommation reliée au logement. Mais pour en faire une évaluation sensée, on a comparé des versions «réalistes» des outils à l'aide d'exemples canadiens et américains. Le logement sans but lucratif provoque la hausse la plus marquée de la consommation reliée au logement, suivi de l'allocation-logement, puis de l'aide au revenu. La valeur de l'aide au logement sans but lucratif est généralement plus élevée; toutefois, à l'aide du modèle économique de prise de décisions des ménages, on peut voir que cet ordre demeure le même lorsqu'il s'agit de programmes à coûts égaux.

Les trois outils d'intervention peuvent aussi servir d'outils de réaffectation de revenu. Afin de comparer les programmes de logement aux programmes de revenu, il faut mesurer la hausse du revenu découlant de l'aide au logement. Il s'agit là du paiement minimal en espèces que le ménage accepterait au lieu de l'aide au logement. La valeur en espèces de cet équivalent de l'aide au logement sera toujours inférieure à ce qu'il en coûtera au gouvernement pour accorder cette aide, car le ménage sera disposé à accepter un montant moins élevé en échange d'une plus grande latitude dans sa façon de dépenser son argent. Cette analyse est une comparaison implicite de l'aide au logement et de l'aide au revenu en tant que mécanismes de réaffectation du revenu, et il en résulte que l'aide au logement est une forme d'aide au revenu moins efficace. L'ordre antérieur (en ce qui concerne la consommation reliée au logement) est inversé; ici, lorsqu'on classe les outils selon ce qu'il en coûte pour augmenter l'utilité du ménage jusqu'à un niveau donné, l'aide au logement se place au premier rang, l'allocation-logement au deuxième, puis le logement sans but lucratif au troisième.

On s'est toujours intéressé vivement aux effets d'un programme d'aide au revenu sur la main-d'oeuvre disponible. Cependant, les ouvrages sur l'aide au logement ne traitent presque pas des répercussions sur la main-d'oeuvre disponible. Ainsi, l'analyse comparative des outils d'intervention sur ce plan doit être plus expérimentale. Les données disponibles portent à croire que l'aide au logement, particulièrement au logement sans but lucratif, pourrait réduire davantage la main-d'oeuvre disponible d'un ménage à un seul revenu qu'un octroi en espèces équivalent. Bien que très peu de recherches aient été effectuées sur ce sujet, il semble probable que l'aide au logement, surtout au logement sans but lucratif, aurait une plus grande incidence que l'aide au revenu sur la participation des femmes à la population active dans un ménage à deux revenus.

Cette comparaison systématique de trois outils d'intervention illustre la façon dont chacun d'entre eux touche la consommation reliée au logement, le revenu (l'utilité) et la main-d'oeuvre disponible. Chaque outil influe

tant sur les objectifs de l'aide au logement que sur ceux de l'aide au revenu, et le choix du meilleur outil dépendra de l'importance accordée aux différents objectifs.

Bien sûr, d'autres facteurs entrent en jeu dans le choix d'un outil d'intervention plutôt qu'un autre, notamment, la mesure dans laquelle ces outils permettent d'avoir des gens à revenus divers dans un même quartier ou dans un même immeuble, les coûts d'administration des différents outils et l'efficacité relative du logement sans but lucratif par rapport au logement à but lucratif pour les producteurs et les entreprises de gestion.

Il est également souvent question du problème d'abordabilité des logements (le fait de dépenser plus de 30 p. 100 de son revenu pour se loger). Dans la présente monographie, on soutient qu'il s'agit d'une façon indirecte d'intégrer dans les débats sur la politique du logement le fait que le gouvernement se préoccupe aussi bien de la consommation reliée au logement que de la répartition du revenu. On laisse donc tomber l'analyse indirecte de cette double préoccupation en faveur d'une analyse directe des deux.

Enfin, on n'a pas cherché à tirer des conclusions sur le meilleur outil d'intervention. On a plutôt élaboré un cadre d'analyse rigoureux visant le choix parmi ces outils. Chacun d'eux peut être jugé par rapport à chaque objectif, et tous les outils sont analysés à l'aide du même cadre.

I   INTRODUCTION

This monograph examines a social policy choice confronted by the federal and provincial governments in Canada. The choice is between three alternative policy instruments: non-profit housing, a housing allowance and income assistance. This policy choice is confronted in many other countries as well.

Although much housing assistance and income assistance have and continue to go to modest-income households, this monograph deals with the problem of how to assist those with serious housing problems and/or those with low incomes. And because of this focus on the neediest households, it deals with rental housing assistance.

This social policy choice arises, in Canada and elsewhere, in the context of a general reconsideration of the welfare state and in a political climate emphasizing restraint of government expenditure. Historically, government housing assistance and income assistance have been designed relatively independently, but this general rethinking has highlighted that the two could be substitutes for one another and that the two forms of assistance might be more closely integrated. It is hoped that this monograph can contribute to the on-going debate about non-profit housing, housing allowances and income assistance in the welfare state.

There has been an enormous amount of research published regarding these three alternatives. This monograph seeks to synthesize this work; but for a number of reasons, the monograph is not a literature review.

Researchers have tended to focus on one policy instrument and not to systematically compare the alternatives; and they have tended to focus on the special issues which surround one policy instrument. But a separate set of issues has surrounded each alternative. The first steps in a synthesis are to identify government objectives for housing assistance and for income assistance,

and to recognize that housing programmes contribute to the fulfilment of income assistance objectives and that income assistance programmes contribute to the fulfilment of housing objectives. The synthesis requires a comprehensive list of objectives and a comprehensive list of alternative programmes for achieving them. However, there is a real danger, when bringing together three relatively separate bodies of literature, of becoming overwhelmed by detail. The main purpose of this synthesis is to extract from this detail the essential issues and to set out an explicit analytical framework for policy analysis.

The monograph is written so that it may be read alone, without reference to the literature. Indeed, the references have been kept to a minimum. Those references selected are often surveys themselves with extensive citations to the literature. Although the same policy choice is confronted by most countries, the references are drawn almost entirely from the North American literature and the housing policy of Canada (and to some extent the United States). But the monograph will be useful to readers outside these countries.

It is impossible for one monograph to deal with all the issues which are relevant in choosing between policy alternatives. Three criteria governed the selection of issues to receive attention in this monograph. The first criterion was to select issues which emphasized how the three policy instruments were alternative ways of pursuing the same set of goals. The second was to focus on critical issues that could be incorporated in the same analytical framework. The third criterion was to select issues where economic analysis could make a contribution to understanding. The monograph is written for anyone interested in the policy choice; but it uses the language and analytic framework of economics.

Background

Since the 1970s, there has been an ongoing reconsideration of the welfare state in western European countries and in North America. Prior to this time, a broad consensus had supported Keynesian macroeconomic policy to secure full employment coupled with publicly provided education and health care, an income security system (including unemployment insurance, welfare, and old age pensions), and a vast array of programmes offering assistance for housing, job training, day care, dental care and so on. The welfare state was seen as a complement to the capitalist economy, making it more efficient, stable and just. However, the welfare state in the 1980s came to be regarded by many as an expensive, bureaucratic drag on the economy. Mishra (1984) discusses the development of the postwar consensus, the reasons for its collapse, and how various countries have responded. There are several reasons why the consensus broke down. Keynesian economics seemed unable to explain the simultaneous high unemployment and high inflation which plagued western economies, and the contending new theories - from monetarism to supply side economics to new classical macroeconomics - all recommended less government intervention in the economy. There was a loss of faith in social engineering both because many of our social problems seemed resistant to government cures and because the large welfare state seemed increasingly heavy-handed, intrusive and sclerotic, as likely to enslave us as to free us. Some have argued that voters became more selfish, less willing to pay for redistributive programmes.

The historical development of the welfare state differed between western Europe and North America, and the options considered were different, but both have seen a fundamental reconsideration recently of the role of government. Canada is no exception. In Canada, the neo-conservative critique has been

accepted, in the main. The deficit must be reduced and the growth of government expenditure restrained. There would be increased reliance on the private sector to create jobs. The individual would have more responsibility for their situation. But, in contrast to some countries, there would be no large scale roll-back of the state. The debate focuses more on targeting the assistance and the mechanism of assistance, rather than whether government has a role at all.

Within this debate about the welfare state, there has been reconsideration and debate about housing policy in Canada, as in other countries. The housing debate proceeded in much the same way and involved many of the same issues. The reconsideration of government housing policy has led to some retrenchment but not a major roll-back in the activities of the state. It has led, however, to greater emphasis on two issues: the targeting of housing assistance and the best policy instrument for delivering the housing assistance. Both major examinations in the 1980s of federal housing policy called for the available assistance to be more directed toward the neediest (Canada, 1985a; Study Team, 1986). In the main, Canadian housing programmes provide rental housing to needy households.[1]

Historically, in Canada, there have been two basic approaches to providing rental housing assistance: a supply-side approach and a demand-side approach. Supply-side programmes led to the construction of new buildings, owned by the public sector, non-profit groups or co-operatives, in which low-income tenants were charged a rent geared to their income. Since the mid 1970s almost all buildings under supply-side programmes also offered units to moderate-income tenants at rents which were not geared to income but which included a moderate subsidy. The proportion of rent-geared-to-income tenants and moderate-subsidy tenants has varied over the years; recently the proportion of rent-geared-to-income tenants has risen because of a policy choice to target assistance at the

neediest households. The various types of supply-side housing can be grouped under the heading of non-profit housing. This would include what is usually called public housing, as well as housing owned and managed by non-profit groups outside the government sector. In Canada, these groups outside government are known as the third sector.

The demand-side approach has been used less extensively in Canada, especially at the federal level. The federal demand-side programme is called the Rent Supplement Program. Under the programme, the government and a private sector landlord[2] enter an agreement to make units available to needy households; tenants pay a rent geared to their income and the government pays the difference between the market rent and the rent paid by the tenant. Several provinces have more portable demand-side programmes under which tenants rent housing in the private market at market rents and then receive a cash payment from the government which is a function of actual rent paid. The various types of demand-side programmes can be grouped under the general heading of housing allowances.

However, there is another alternative which is always implicitly, and often explicitly, part of the choice: unrestricted income assistance. Many have argued, especially economists, that housing assistance to needy households should be replaced by income assistance. During the 1960s and 1970s, many countries including Canada considered implementing some form of guaranteed annual income as a replacement for the vast patchwork of welfare programmes and in-kind subsidies, including housing subsidies. The stagflation of the late 1970s and the recession of the early 1980s pushed these considerations aside. They reappeared in Canada with the publication of the Macdonald Commission's report (Canada, 1985b).

The Commission examined Canada's income security system and concluded that it was badly flawed. It was felt to be ineffective because many Canadians were still in poverty; it was too complex; it created work aisincentives, with marginal tax rates sometimes over 100 percent; and it was inequitable because many benefits went to middle- and upper-income households. The Commission recommended comprehensive reform: a Universal Income Security Program, much like a guaranteed annual income, would replace many existing cash payments and tax arrangements and, significantly for this monograph, would also replace federal social housing programmes (Canada, 1985b, 795).

The option of a guaranteed annual income is not under active consideration in Canada at present. However, because of the prestige of the Macdonald Commission and the general mood to reconsider the welfare state, it may move to the top of the political agenda at any time. Furthermore, a choice between housing assistance and income assistance is always being made, although this is often not recognized. Canada has both income assistance programmes and housing programmes, and there are both non-profit programmes and housing allowances. Whenever a decision is made to expand (or contract) one of these, the government foregoes the option of expanding or contracting one of the alternatives. For example, instead of raising welfare payments the government could provide more non-profit housing units or establish a housing allowance.

In Canada, more people improve their housing conditions because of income assistance than because of explicit housing programmes. The Macdonald Commission found federal and provincial government cash payments plus valuations of income tax deductions for social security were $60 billion in 1984-85 (Canada, 1985b, 772). Federal and provincial subsidies for social housing were $2.7 billion in 1985, assuming provincial payments equalled federal payments (CMHC, 1985). The

housing policy community sometimes forgets this: income assistance can be used to pursue housing goals. The reverse is also true: housing assistance can be used to pursue income security goals. This is more often recognized. Indeed economists often assume that the sole purpose of a housing programme is to redistribute income (and conclude that direct income assistance is a better instrument than housing assistance in pursuit of this goal).

In Europe, the government has played a much larger role in housing than in Canada, especially in the rental housing sector. In Canada, government-owned or government-assisted rental housing is only about 6 percent of the housing stock or 18 percent of the rental stock (about 63 percent of the stock is owner-occupied). In some European countries, non-profit housing has been almost the entire rental sector. The broad forces at work in housing policy in Canada and Europe are similar. In Europe, the debate is often caste as one of shifting the balance between state and market in rental housing[3]; but this same debate can also be seen as choosing the balance of non-profit housing, housing allowances and income assistance.

It is against this background that this monograph is presented. Governments are targeting available assistance at the neediest households and are seeking the best instrument for delivering the assistance. The two basic instruments for delivering rental housing assistance are non-profit housing and housing allowances. A third instrument, income assistance, is used simultaneously and can be viewed a substitute for (or a complement to) housing assistance. The purpose of this monograph is to present an analytical framework and systematically compare these three policy instruments.[4]

Objectives of Housing Assistance[5]

During the postwar period, the primary objective of housing assistance programmes has been to increase the quantity and quality of the housing consumed by low-income tenants. In Canada, the objective of housing assistance was to ensure all Canadians enjoyed "adequate shelter" (Hansard, 1973). The American goal, as stated in the U.S. Housing Act of 1949, was "to provide a decent, safe and sanitary living environment ... for every American." (Friedman and Weinberg, 1982). In both countries the objective was decent, adequate housing for those who did not have it; and those who did not have it were primarily low-income households.

This primary objective was more specifically defined and quantified, at least implicitly, in the literature on housing conditions and the housing problem. This literature sought to document housing conditions and to measure the extent of the housing problem. By selecting the domain and measures of housing conditions, this work is implicitly defining the objective of adequate shelter; because we seek to measure how many people are inadequately housed. By identifying certain housing conditions as a "problem", this work is implicitly defining the norms of housing policy and quantifying the objectives.

The Canadian literature on housing conditions and housing problems looked at whether the housing was inadequate and/or crowded. Inadequate housing was defined as housing lacking major heating or plumbing (central or electric heating, piped hot and cold water, exclusive use of a flush toilet) or as housing in need of major repair. At the bottom end of the continuum of inadequate housing would be the homeless: those without a roof over their heads or living in temporary hostels or shelters. The emerging literature on homelessness is not yet well-integrated into the literature on housing conditions.

Households were defined as living in crowded housing if there was more than one person per room or if a family had to double up, unable to maintain their own dwelling unit. The objective of housing policy was to ensure all households had adequate, uncrowded housing. Recently, in Canada, the concept of crowded housing has been replaced by the concept of suitable housing (CMHC, 1991). A National Occupancy Standard (NOS) has been developed which specifies the suitable dwelling, in terms of the number of bedrooms, for households of different sizes. The NOS states that a suitable dwelling can accommodate a household according to the prescription: a maximum of two and a minimum of one person per bedroom, where (i) parents are eligible for a bedroom separate from their children, (ii) household members aged 18 years or more are eligible for a separate bedroom unless married or otherwise cohabiting as spouses and (iii) dependents aged five or more of different sex do not share a bedroom.

The measurement of housing problems in Canada has been further refined using the concept of core need (CMHC, 1991). Perhaps a household is living in inadequate or unsuitable housing by choice - they could have occupied adequate, suitable housing but chose not to. In a sense, they are voluntarily underconsuming housing; they could solve their housing problems without government assistance. In measuring housing problems in the context of housing policy, these households should be deleted. This is accomplished in a two-step process. The first step identifies all households with adequacy or suitability problems. The second step removes those who could solve their problems themselves. For each household, this is done by calculating the average rent on suitable dwelling units (i.e., the NOS suitable number of bedrooms) in communities of the size in which they live. For example, suppose the suitable dwelling for the household is a two-bedroom unit according to the NOS, and the

household lives in a community of 500,000. The average rent on adequate dwellings (i.e., with all major plumbing facilities and not in need of major repair) in communities of 500,000 is calculated. If the household, that in the first step was found to have an adequacy and/or suitability problem, could pay this average rent and not pay more than 30 percent of their income, then the household does not have a housing problem. They are not in core need.

A recent estimate of housing problems in Canada, CMHC (1988), is reported in Table 1-1. The data set permitted 8.75 million households to be examined. In the first step, 1.17 million households had adequacy problems and 597,000 had suitability problems. In the second step, many households were removed, leaving 323,000 with adequacy problems and 253,000 with suitability problems. This meant 3.7 percent of all households had adequacy problems and 1.7 percent of all households had suitability problems (Table 1-1). Clearly by the mid-1980s, the vast majority of Canadian households had adequate, suitable housing (or could obtain it without spending more than 30 percent of their income).

The housing conditions and housing problems literature also deals with a third housing problem: housing affordability. A household is defined as having an affordability problem if they spend more than 30 percent of their gross income on housing. This definition is problematic for some policy analysts, especially economists. It is unclear why spending less than 30 percent of income on housing should be a fundamental norm in our society. Does this concept of housing affordability really identify another sort of problem beyond inadequate and unsuitable housing, and beyond the other basic problem of low income?

It can be argued that the concept of housing affordability emerged as a way of incorporating questions of income distribution into the housing policy literature. Originally, housing policy focused on the problems of inadequate and

crowded/unsuitable housing. The emphasis was on getting people into decent housing. However, during the 1960s and 1970s these problems waned, until their incidence was less than five percent; and, yet, there remained a conviction that people who had adequate, suitable housing still had problems. <u>If the household had low income</u>, and was spending more than 30 percent of income on housing, <u>then the household would not have enough money left over to obtain adequate amounts of other necessities such as food and clothing</u>. When phrased in this more complete way, the 30 percent norm has more justification. But the housing affordability problem can be seen as a proxy for the fact that the household consumes less than adequate amounts of other necessities; or as a proxy for low income. The fundamental social norm is the adequate consumption of all necessities or an adequate income, not the allocation of less than 30 percent of income to housing.

The housing literature in Canada has clearly accepted housing affordability as a separate, distinct problem. In CMHC (1988), 1.676 million households were found to have affordability problems (to spend more than 30 percent of income on housing). This was just over 19 percent of all households. Again, however, the question arises of whether the household chooses to spend more than 30 percent. Perhaps they could have obtained the average quality of adequate, suitable housing but chose not to. They voluntarily 'overconsume' housing. The same two step approach can again be applied to find those in core need. After the second step, it was found that 1.048 million households (12 percent) had affordability problems and therefore were in core need. Three quarters of these households had neither adequacy nor suitability problems. Overall, 15 percent of households had core need housing problems. Affordability was the dominant housing problem of those Canadians in core need during the 1980s, and remains so.

Table 1-1

Number of Households with Housing Problems in Canada, 1985
(thousands)

| | All Households | | | Households in Core Need | | |
	Owners	Renters	Total	Owners	Renters	Total
Adequacy	786 $(14.1)^1$	384 $(12.1)^2$	1,170 $(13.4)^3$	173 $(3.1)^1$	150 $(4.7)^2$	323 $(3.7)^3$
Suitability	135 $(2.4)^1$	462 $(14.5)^2$	597 $(6.8)^3$	25 $(0.4)^1$	228 $(7.2)^2$	253 $(1.7)^3$
Affordability	847 $(15.2)^1$	829 $(26.1)^2$	1,676 $(19.2)^3$	333 $(6.0)^1$	715 $(22.5)^2$	1,048 $(12.0)^3$
Total Problems (at least one)	1,564 $(28.1)^1$	1,396 $(44.0)^2$	2,960 $(33.8)^3$	437 $(7.8)^1$	857 $(27.0)^2$	1,294 $(14.8)^3$

[1] Incidence among 5.57 million owner households

[2] Incidence among 3.18 million renter households

[3] Incidence among all 8.75 million households

Source: CMHC (1988).

To this point, the objectives of government housing assistance have been identified as ensuring that all households have adequate, suitable and affordable housing. There are several other objectives as well.

A further objective implicit in many housing assistance programmes is that communities have social mix. In Canada, the emphasis has been mainly on ensuring that households with a range of incomes occupy a government-assisted building or government-assisted neighbourhood. There should not just be low-income households but a range of incomes. Occasionally, there was a desire to see a mix of household types, including singles, couples and families, and a mix of age groups. There has been little emphasis on securing a mixture of ethnic, or religious groups or of races. In some countries, most evidently the United States, the idea of racial integration has always been closely tied to housing policy.

There are still other objectives of housing assistance that can be discovered in reading government descriptions of housing programmes. For example some programmes seek to increase tenants' security of tenure; other programmes promote tenant management of buildings. But the major objectives have been identified. In the past, many Canadian housing programmes directly assisted households to become home owners, and the income tax laws provide much indirect assistance because in Canada the imputed income on home equity is not taxed and realized capital gains on a principal residence are not taxed. Most of the benefits of these programmes and tax provisions flow to middle- and upper-income households. Many European countries have these special tax provisions and as well allow deduction of mortgage interest in computing taxable income and provide preferential treatment of savings toward home ownership (Wood, 1990). However, the focus of this monograph is on housing assistance to those who do not have

adequate, suitable, affordable housing (most of who are low-income) and therefore the role of government in assisting home owners is ignored.

This list of the four major goals of Canadian housing policy is similar to the list in the United States. Aaron (1981) lists the first four goals of American housing policy as: to reduce the amount of physically inadequate housing; to reduce crowding; to reduce the financial burden of housing; and to promote economic and racial integration.

Objectives of Income Assistance

The objective of income assistance, in a tautological but nonetheless fundamental sense, is to raise the income of the recipient. This income redistribution can be seen as intended to achieve a fairer distribution of income within a community, the standard of fairness generated somehow by the political process of the community. Or the income redistribution can be seen as a form of social insurance: people pay taxes (premia) in order that they can receive benefits if their income should ever fall below a certain threshold. Or the income redistribution can be seen as a recognition that people's low incomes are caused, at least partly, by broad social forces beyond their control and that others who benefit from the social and economic system should assist those who have been hurt. But whatever the underlying motivation, the objective is to increase the income of the recipient. Of course, increased income is not the final end; the income is used to acquire goods and services for consumption and so raise the well-being of the recipient.

There is a literature on poverty problems which shares much with the literature on housing problems. Great political significance is attached to evidence of how widespread is poverty, who is poor and how the extent and

composition are changing over time. Poverty is an imprecise and encompassing idea. It implies people do not have enough resources to meet their needs; needs which of course are defined relative to the general wealth and expectations of society. The needs can be not only for food, clothing and shelter; but also for access to education, employment, personal safety and clean air; and even psychological needs such as for a sense of belonging and self-worth. Despite recognition of the multiple dimensions of poverty, most empirical work utilizes a lack of income as the measure of poverty. Statistics Canada, the major data collection agency of the federal government, uses the concept of a low-income cutoff. These cutoffs are employed to classify families and unattached individuals as "low-income". The income cutoffs rise with the size of the family unit and rise with the size of the area of residence. A rough definition is that families with incomes below the cutoff usually spend 58.5 percent or more of their income on food, shelter and clothing. This percentage is chosen to be 20 percentage points above what the average household spends. Many users of the data use the terms low-income cutoff and poverty line interchangeably (Canada, 1988). Thus the Statistics Canada cutoffs are used to determine the extent and incidence of poverty in Canada. This literature is implicitly quantifying the objective of government income assistance: the objective is to reduce the incidence of poverty. In an analogous way, the literature on housing problems quantified housing norms.

Table 1-2 presents data on poverty in Canada. In 1986, 12.3 percent of economic families were poor and 34.3 percent of unattached individuals were poor. Together, 1,833 thousand families and unattached individuals were poor. There were 550 thousand poor owners and 1,283 thousand poor renters.

There are other methods of establishing poverty lines or low-income cutoffs

(Wolfson and Evans, 1990). The family budget guide approach is used in Canada by many social planning councils at the municipal level. The social planning council selects a basket of goods and services considered to be "basic needs". Using the advice of social workers and programme administrators, the councils decide on the amount and quality of these goods and services needed by families of different sizes and in communities of different sizes. Then a budget is drawn up which shows how much income would be needed to acquire this basket of basic needs. These budgets are city-specific and will not be used in this monograph. But it is worth noting that the poverty literature does address the issue of how much a household needs of each of life's necessities. The family budget approach contains within it an idea of suitable, adequate housing.

Whenever new income assistance programmes are contemplated, an enormous amount of research and discussion centres on the effect of the income assistance on labour supply. Does the income assistance reduce the labour supply of the recipient? And, if so, by how much? This emphasis arises partly because the labour supply response is an important effect of the programme. The cost to the government of raising a household to a certain level of income or well-being, will depend upon their labour supply response. The more that labour supply is reduced, the more expensive will be the assistance programme. But this emphasis also arises from a deeper issue: the issue of individual responsibility. In all countries, albeit to a varying degree, there is a belief that individuals are primarily responsible for their own well-being. Individuals should work to provide for themselves; if after working, they still have low income then the state can assist them. If the income assistance programme reduces the individual's incentive to work, perhaps leads them to stop working altogether, then this is a disadvantage of the income assistance programme. The objective

Table 1-2

Poverty Rates in Canada, 1986

	Poverty Rate	Numbers (,000)
Families	12.3	851
Unattached Individuals	34.3	982
All Persons	14.9	3,689
Families		
Owners	7.3	362
Renters	25.6	489
Unattached Individuals		
Owners	24.4	188
Renters	38.0	794

Source: Canada (1988), Tables A, AK, AL.

of income assistance, therefore, is to raise the income of the recipient with the least reduction in labour supply. This objective is exemplified by the fact that, in most countries, income assistance for able-bodied workers is on different terms and usually less generous than the income assistance for people we do not expect to work, such as the elderly, disabled or single parents with young children.

The literature on the design and evaluation of income assistance programmes also helps to refine our understanding of the objectives of income assistance. Cash transfers are motivated by ideas of fairness, of equity. An equitable programme has two dimensions: it is horizontally equitable and it is vertically equitable.

The principle of horizontal equity states that those who are in all relevant aspects the same should receive the same level of assistance. Similar people should be treated similarly. Income assistance programmes are usually horizontally equitable in the basic sense that they are open-ended programmes. The government announces the terms of the programme; and all who are eligible and choose to participate will receive income assistance. In contrast, many types of government assistance are not horizontally equitable because they are closed-ended. The government announces the terms of the programme and the eligibility requirements; but there are limited funds available. Equally needy people will not receive equal assistance; some will have to do without because there is a limited amount of money available. For example, non-profit housing programmes in Canada are horizontally inequitable for this reason.

Income assistance programmes often do distinguish between those who have the same income, which might appear to be a horizontal inequity. As pointed out above, there is often greater assistance to a person who cannot work than to a

person who can work, although the two have the same income before assistance.
There are greater payments to a large family than a small family; and greater
payments to a family living in a large city than to a family of similar size and
similar income living in a small town. But these differences are not seen as a
violation of the principle of horizontal equity because the people are not the
same "in all relevant aspects". Differences in ability to work, or family size
or area of residence are relevant; despite similar incomes, people are different
and payment levels can differ.

The principle of vertical equity deals with the dissimilar treatment of
dissimilar people. The allowed differences just discussed could be examined as
issues of vertical equity. What is the appropriate difference for family size,
or the appropriate difference for city size? But the central idea of vertical
equity is to offer greater amounts to those with greater need. The largest
payment should go to the poorest person and then payments diminish as income
increases. This is analogous to the ability-to-pay approach used in taxation
analysis. However, the exact relationship between payments and income is more
problematic. For example, suppose there is a given amount of money available for
an income transfer programme. If the poorest is given a large amount, payments
will have to decline rapidly with income because large payments to people at the
lowest end of the income distribution will quickly use up available funds. This
strategy will make the post-transfer distribution of income very equal among
households at the low-end; but only a limited number of persons can be helped,
given the available money. And this income assistance programme will greatly
reduce the incentive to work because as income rises (a household works more)
payments decline rapidly. An alternative income transfer programme could reduce
this work disincentive and help more people; payments would decline slowly with

income. But then the poorest would have to get a much lower payment and the post-transfer income distribution would be much more unequal at the lower end. The best-designed programme will be based on a complex trade-off between what is the desired distribution of income and the labour supply responses.

Most governments have an array of housing programmes comprising a housing policy and an array of income assistance programmes comprising an income security policy. It is generally recognized that housing assistance permits needy households to increase their consumption of other goods and services, just as income assistance does. Also it is generally recognized that income assistance permits needy households to get better housing, just as housing assistance does. Studies of the welfare state often recommend that housing assistance programmes be curtailed and the money used to fund a guaranteed annual income. Yet, despite the recognition of the complementarity or perhaps even substitutability of these two policy fields, it is remarkable how little integrated is work in the two fields and especially how little the housing literature has been penetrated by the concerns raised in the income assistance literature. For example, the definitions of needy households in the two fields -households in core housing need and households in poverty - are not explicitly consistent. The intent of this monograph is to begin the integration of work in the two fields.

ENDNOTES

1. For a more extensive discussion of Canadian housing policy, see Rose (1980), Fallis (1990a).

2. Rent supplements are also available to non-profit and co-op landlords. These are included in the supply-side approach.

3. For a discussion of the debate in Britain see Kemp (1990); a more comprehensive European perspective is available in a special issue of the journal Urban Studies, December 1990.

4. The policy literature sometimes, though infrequently, directly addresses this choice among these three policy instruments. An example is Chapter Seven in Friedman and Weinberg (1982).

5. It may seem surprising that a monograph using the "language and analytic framework of economics" does not begin from the welfare economics of housing: what is the appropriate role of government in housing and what can be optimally left to the market? The objectives of housing policy then become, for example "to remedy the negative externalities of slum housing" or "to redistribute income in accordance with interdependent utility functions." Examples of this approach are Aaron (1972), Fallis (1985) and Barr (1987). This approach was not selected for several reasons. Too often it simply results in a recommendation that income assistance replace all housing assistance. Policy makers are seldom familiar or comfortable with this approach. The monograph begins from a policy analyst's perspective, examining government documents and statements to discover the objectives of policy. Welfare economics is implicit in much of the analysis of the monograph and is taken up in Chapter VII more explicitly.

II   THREE POLICY INSTRUMENTS

There are numerous ways in which the public sector can provide housing assistance and income assistance. This chapter sets out some of the dimensions of diversity. However, in order to systematically compare different options against the list of objectives, three clear alternative instruments are set out. These alternatives are inevitably stylized; in reality there are hundreds of variants. But the three were isolated as capturing the three basic approaches: non-profit housing, housing allowances and income assistance. As noted in the previous chapter, the focus is exclusively on rental housing for low-income households.

Non-Profit Housing

In Canada and in most western countries, the dominant form of housing assistance for needy households is non-profit housing. The two essential features of this approach are that the building is not owned by a private sector (profit-motivated) landlord and that rents are not set by market forces.

If the public sector owns the building, the programme is called public housing (or public non-profit housing) in Canada and the United States; in the United Kingdom it is called council housing. The owner can be the federal, provincial or local government; and often a special housing department is created to own and manage the buildings. Sometimes ownership is shared by levels of government and there are complex financial structures to cover the capital costs of the projects. The housing can also be owned by non-profit agencies outside government. These are collectively known as non-government organizations (NGOs), in the terminology of the United Nations. In Canada, they are referred to as the third sector, after the private and public sectors. The third sector agencies can be labour unions, ethnic organizations, churches, charitable organizations

or special purpose housing bodies. There is emerging in the United States a large number of neighbourhood-based organizations called Community Development Corporations (CDCs), which own and manage assisted housing.[1] In the United Kingdom, the third sector is mainly housing associations.

The second essential feature of the non-profit approach is that rents are not set by market forces; rather they are established by the terms of the government's housing assistance programme. Rents do not reflect the costs of the resources used to construct and provide the housing. There is a gap between the true costs and the rent paid by tenants, and this gap is bridged by government subsidy. Sometimes the gap is partially (even entirely) bridged by capital assistance provided at the outset. For example, land may be provided at less than market price, even free of charge. Mortgage loans may be provided at less than market interest rates. Construction grants may be provided. Planning, architectural and consulting services can be provided free. The building might be exempted from certain municipal regulations, for example, regarding provision of parking spaces or density. The non-profit owner, therefore, faces lower capital costs and concomitantly lower carrying costs. Because the assistance which permits these lower costs often does not appear as an explicit government expenditure, the assistance is often ignored. However, careful and proper measurement of the gap between true resource costs and tenant rents is essential for a comparison between non-profit housing and housing allowances. Even after capital assistance, tenant rents usually do not cover the capital carrying costs plus the operating costs such as heat, light, insurance, taxes, maintenance and building management. An explicit operating subsidy is required from government, often shared between levels of government. Tenant rents can be set by a number of different formulae. In Canada, tenants are charged according to their ability

to pay - usually from 25 to 30 percent of income. These are called rents geared to income or RGI rents. If the tenant is on welfare, sometimes a predetermined portion of the cheque goes to the rent. In other countries there are alternative rent determination formulae; sometimes the rents are subject to the same regulation as private market rents, sometimes they are exempted.

It will always be assumed that the tenant in non-profit housing cannot and does not sublet their unit, which would permit the original tenant to convert its housing assistance into cash.

Non-profit housing is rental housing, owned by a non-profit agency. The non-profit, co-operative form of tenure can be mentioned here, for completeness. The building is "owned" by the tenant members of the co-operative; but they can realize no gains from their equity ownership (except living in the building). Co-op rents are set to cover capital and operating costs; often the members provide much of the maintenance and management themselves. If government capital and operating assistance is provided to allow rents to be set according to ability to pay, co-op housing can be used to provide housing for low-income tenants. The principal difference between non-profit and co-op housing is that in the latter the tenants manage the building.

Non-profit housing programmes can be used to acquire existing housing, perhaps renovating it, and then renting it. Many CDCs in the United States are engaged in renovation, often of abandoned buildings. In Canada, most non-profit housing programmes are intended to build new housing units; these units remain in the non-profit sector in perpetuity. In this monograph, it will be assumed that non-profit takes this form. It is therefore a supply-side programme providing new housing, at the outset. A limited number of new units are built each year. A tenant on the waiting list is offered one unit, which he/she may

accept or reject.

Housing Allowances

Housing allowances have been an often-recommended reform to housing policy in many countries; and Canada is no exception. Canada does not have a national housing allowance, but several provinces have implemented them. In the United States, the adoption of a housing allowance became sufficiently likely that an enormous social experiment was undertaken to examine the effects of a housing allowance. As with any type of programme, a housing allowance can take many forms.[2]

The Experimental Housing Allowance Program (EHAP) in the United States tested two basic types of housing allowance. The first housing allowance type, called a percent-of-rent allowance, provided participants with a cash allowance equal to a percentage of their actual rent. Tenants secured their housing in the private rental market and were free to choose any unit that they wished. All participants were income-tested, in the sense that they had to have incomes below a certain level in order to participate. Many minor variants on a percent-of-rent approach are possible. The programme can be extended to low-income owners, with an appropriate definition of the housing costs of owners. There can be a maximum payment, perhaps set equal to the allowance which would be due if the tenant occupied an average quality unit or a unit of some threshold quality level. The allowance can be made contingent on the tenant occupying a unit of above some minimally acceptable quality level. Some variants of these allowances do not provide assistance directly to the tenant. Rather the government makes an agreement with a private landlord to make certain units available to the programme. The government pays the landlord the market rent and then collects

from the tenant a rent equal to some fraction of the market rent. Or the
tenant's rent can be set according to ability to pay.

The second type of housing allowance tested in the EHAP was called a
housing gap allowance; the allowance covered the gap between the rent on a modest
but adequate dwelling unit and the fraction of household income that it is
expected the household should pay toward housing. The gap allowance usually was
accompanied by a constraint. In one type, the household had to occupy a unit of
at least a certain quality; in another type the household had to occupy a unit
which rented for more than an established minimum amount.

The EHAP also tested a gap allowance without any constraints. It was
clearly recognized that such a housing allowance was equivalent to an
unrestricted cash transfer system. In form, it was similar to a negative income
tax. This allowance was included in the EHAP precisely to permit a comparison
between housing assistance and income assistance.

In this monograph, the housing allowance will be assumed to be a percent-
of-rent allowance. The allowance is equal to some fraction of a recipient's
rent, and has the same effect as a reduction in the price of housing services.
Rents are established by market forces. The recipient secures housing in the
private rental market and is free to select any unit. There are no minimum
consumption constraints which must be met to receive assistance. The programme
is universal, so that all eligible households are entitled to benefits.
Eligibility is determined by income; all households below a set income level,
adjusted for family size and community size, are eligible to participate. (In
practice, not all eligible households participate in a universal housing
allowance and therefore the issue of the participation rate arises.) It will be
assumed that benefit levels and eligible incomes are such that tenants live in

older, existing housing. This is a realistic assumption and draws out a contrast with non-profit housing under which tenants occupy new buildings at the outset.

The sorts of housing allowances discussed in this section require a private sector, rental market. Although some European countries do not have a significant private rental sector, many in both eastern and western Europe are actively considering the encouragement of a private rental housing market. Therefore, housing allowances will be an increasingly important programme alternative.

Income Assistance

The range of designs of policy instruments for providing income assistance is just as great as the range of housing policy instruments. The essential element of an income assistance programme is that it is designed to ameliorate low income: the programme provides assistance in cash and the assistance level is a function of a recipient's income. Assistance is reduced as income increases.

The simplest form of income assistance, and the form which will be studied in this monograph, is a lump sum payment minus an amount which is increased as earned income increases. The rate at which benefits are reduced as income increases is sometimes called the tax-back rate (or benefit-reduction rate). If a one dollar increase in income reduces income assistance by 20 cents, the tax-back rate is 0.2. The simplest form of assistance has a constant tax-back rate for all income levels. This was the form used in EHAP, and is the form usually used in a negative income tax. But, there is no necessity that an income assistance payment formula be linear. The principal design considerations for the linear form are how to set the lump sum and tax-back rates. With a higher

lump sum, more households at higher income levels benefit under the programme (with appropriately higher total government budget costs). Higher tax-back rates increase work disincentives, and reduce the coverage of the programme.

The selection of lump sum and tax-back rates depends very much on the idea of vertical equity. Obviously, the purpose of the programme is to give more money to a poorer household; but how much more? The answer depends on the norms of vertical equity.

The design of income assistance programmes often pays special attention to the interaction of the income assistance programme and the tax system, particularly the income tax system. The tax-back rate of the income assistance programme is analogous to the marginal tax rate of the income tax system. It is often noted that income assistance programmes can impose higher tax-back rates than are imposed in even the highest income tax bracket. The concern about marginal rates is, of course, linked to the concern about the labour supply response to income assistance. Examples are sometimes cited of how the combined tax-back rates of various assistance programmes in which a household participates imply that if a household earns an extra dollar of income, their benefits decline by more than a dollar. Or, the household can be better off not working than working. Problems arise even without these extremes. In most negative income tax schemes, the tax-back rate is higher than the marginal tax rate in the lowest income bracket. Concerns about these interactions have led many to conclude that a credit income tax, which fully integrates the tax-transfer system, is superior to the combination of a negative income tax and the personal income tax.[3] These marginal tax rate issues and the interaction with the income tax system receive little attention in the housing literature.

The income assistance literature also considers the question of how to

define the benefit-receiving (tax paying) unit and then how the assistance will influence household formation. For example, should benefits be based on individual income or household income? In Canada, the tax system is based on individual income, but most benefit programmes use household income. If benefits are based on individual income, will this provide an incentive for couples to separate, or for young people to leave their parents' home, or for elderly persons to remain living alone rather than moving in with their children? There remains considerable controversy about whether income assistance has led to increased marriage breakup among recipients.[4]

A final issue of importance in designing an income assistance system is the definition of income used in calculating the amount of payment. Most income assistance programmes include all cash income whether wages, interest income or other government transfer payments. The receipts of gifts or inheritances are generally not included. The benefits in kind of other government transfer payments, for example, free prescription drugs or free transportation are generally not included. The imputed income from home equity is usually not included.

Many of the issues which have dominated the income assistance literature: labour supply effects (and tax-back rates), the definition of the benefit-receiving unit, the effects on household formation and the definition of income, have received scant attention in the housing assistance literature. A comprehensive comparison of housing assistance and income assistance as alternative policy instruments would have to redress this. In this monograph, only labour supply effects are systematically compared under the alternative instruments.

Mixed Policy Instruments

This chapter has set out three basic policy instruments: non-profit housing under which a household is offered one dwelling unit, owned by a non-profit landlord, at a reduced rent geared to their income; a housing allowance under which a household finds its housing in the private rental market and receives a payment equal to a fraction of its rent payment; and income assistance under which a household receives a cash payment calculated as a lump sum minus some fraction of income. These particular instruments were chosen from the multitude of possible designs in order to emphasize three fundamental approaches. The choices were intended to identify the archetype of each approach. To conclude this chapter, it is worthwhile to review some of the dimensions of diversity and to identify the essential aspects of the fundamental approaches. It is, of course, possible to develop mixed policy instruments which combine aspects of the three fundamental approaches; indeed many actual government housing programmes are mixed policy instruments.

The dimensions of difference among the three selected policy instruments are summarized in Table 2-1. The details of some of these will be explained and explored in greater depth throughout the monograph.

The first three rows of Table 2-1 represent the effect of the policy instrument on the recipient household. Non-profit housing and housing allowances have the effect of reducing the price of housing faced by the household; while income assistance gives the household a lump sum payment and has the effect of reducing its wage rate (because of the tax-back rate; see Chapter III). The non-profit programme constrains the household to consume a certain quantity of housing (because only one choice of dwelling unit is offered); neither the housing allowance nor income assistance have any constraints on how much housing

Table 2-1

Characteristics of the Three Policy Instruments

Non-Profit Housing	Housing Allowances	Income Assistance
Reduces price of housing to participant	Reduces price of housing to participant	Lump sum and reduces wage of participant
Constraint on housing consumption	No housing consumption constraint	No housing consumption constraint
Benefits fall as income rises	Benefits rise as income rises	Benefits fall as income rises
Non-profit owned and managed housing	For-profit owned and managed housing	For-profit owned and managed housing
Supply Side	Demand Side	Demand Side
Annual new units limited/rationed entry	Open-ended budget/ universal	Open-ended budget/ universal
High benefit per household/ few households	Low benefit per household/many households	Low benefit per household/ many households

is consumed. Under non-profit housing, rent is geared to income; therefore, as income rises the value of participating in the programme declines because the rent you must pay rises. Under a housing allowance, the value of participating in the programme rises as income rises, because a household normally will spend more on rent as income rises and therefore the percent-of-rent allowance rises. Under an income assistance programme, the value declines as income rises, according to the tax-back rate.

The first three rows allow discussion of the fundamental aspects of housing assistance and income assistance. An income assistance programme provides cash assistance, with no constraint on how the money is spent, and the cash payment is a function of earned income so that payments decline as income rises (column three in the table). There is no mention of housing in the formula. It can be argued that a pure housing programme deals only with housing matters and not with income. The housing allowance is a pure housing assistance programme because it changes the price of housing and there is no mention of income in the formula. It would remain a housing programme if a minimum housing consumption constraint were added. (Most of the variants of the percent-of-rent housing allowance tested in the EHAP contained constraints.)

If governments were concerned only with housing matters, a housing allowance, with or without constraint, might be selected. However, under this formula, benefits rise as income rises; and, if governments are concerned not just about housing consumption but also about income distribution, this is an undesirable result. Higher income households would receive larger benefits. Because governments care both about housing consumption and income distribution, they often use mixed policy instruments. For example, a housing consumption constraint could be added to an income assistance formula. The household would receive income assistance only if it increased its housing consumption above a certain level. This mixed instrument was tested in the

EHAP. The non-profit programme of this monograph can also be thought of as a mixed policy instrument. It is a housing programme because it reduces the price of housing; and implicitly contains a housing consumption constraint because it only offers one dwelling unit. But it also considers income issues because rent is a function of income; benefits decline as income increases. Many actual housing allowances are also mixed policy instruments, combining housing and income in the formulae. For example, certain Canadian allowances offer a payment equal to 75 percent of the difference between the recipient's rent and 30 percent of income. This formula is like a percent-of-rent allowance, with a tax-back rate of 0.225 (0.75 times 0.30). Steele (1985) calls this an income-conditioned percent-of-rent (ICPOR) allowance.

The three policy instruments of this monograph, therefore, represent three fundamental approaches: housing assistance, income assistance, and a mixed policy instrument. However, a basic theme of the monograph is that all three instruments influence housing consumption and income distribution and therefore all influence the objectives of government. Succeeding chapters will examine the main issues which have arisen in the housing assistance and income assistance literatures in order that the three can be systematically evaluated.

ENDNOTES

1. The role of non-profit Community Development Corporations in American housing policy is discussed in Stegman and Holden (1987).

2. The Canadian experience with housing allowances is discussed in Steele (1985); the American experience, especially the Experimental Housing Allowance Programme, in Bradbury and Downs (1981); and the international experience is reported in Howenstine (1986).

3. For a discussion of a credit income tax, see Kesselman (1982).

4. For a discussion of the effect of income assistance on family composition, and other incentive effects, see Burtless (1990).

III   A FRAMEWORK FOR ANALYSIS

This monograph seeks to draw together diverse academic literatures to confront an important policy problem. It does not attempt to conclude what is the best policy instrument but to develop a framework for analysing policy choices. The central framework is that of economics, but used with sufficient flexibility and care it can contribute to policy analysis in other social sciences. A critical component of the economics framework is a model of household decisionmaking. This is the model used in most of the economics literature on housing allowances, on income assistance and on labour supply. For example, this is the household decision model used by Friedman and Weinberg (1982) and Steele (1985) to study housing allowances; by Fallis (1980) and Murray (1980a) to study non-profit housing; by Kesselman (1982) to study income assistance; and by Killingsworth (1983) in his survey of the labour supply literature. This chapter sets out the model of household decisionmaking, shows how it can be used to explain housing consumption and labour supply, and then shows how it can be used to represent the three policy instruments.

A General Model of Household Decisionmaking

A household is assumed to make its decisions in order to maximize its utility, subject to a budget constraint. The household has a given set of tastes or preferences which can be represented by the utility function (3-1). In this simple representation, household utility (or well-being) depends upon the amount of leisure time it has, x_1 ; upon the amount of housing it consumes, x_2 ; and upon the amount of a composite good it consumes, x_3 .[1]

$$U = U(x_1, x_2, x_3) \qquad\qquad (3\text{-}1)$$

It is assumed that tastes are given and unchanging. In this chapter, it is assumed that the tastes of all members of a household (if there is more than one member) can somehow be aggregated into a single utility function. This assumption is removed in Chapter VI on labour supply where the tastes and behaviour of separate members of a household are considered. It is assumed each household occupies one dwelling unit and that the complex bundle of characteristics which are part of a dwelling unit, such as floor space, layout, age, quality and so on can be measured using a single unobservable construct called a unit of housing service. The number of units of housing service consumed is x_2. A slum dwelling unit provides few units of housing service, and a new dwelling unit provides many units of housing service. The amount of all other goods and services consumed is measured in units of composite good consumed, x_3.

The household can purchase the composite good at price p_3, and a unit of housing service at price p_2. The household has a given wage rate of w, and can divide its available time, T, between working, h, and leisure, x_1, so that $T=h+x_1$. The household has non-wage income of I, perhaps interest earnings on past savings. Assuming that this is a one-period model and the household does not save (or dissave), the household faces the budget constraint (3-2): expenditure on the composite good and housing equals income. For simplicity, the income tax system is removed from the analysis.

$$p_2x_2 + p_3x_3 = (T-x_1)w + I \qquad\qquad (3-2)$$

The budget constraint can be rewritten as (3-3), again expenditure equals income. The household 'buys' leisure at price w , and composite goods and housing services. These expenditures equal full or potential income, Tw + I.

$$wx_1 + p_2x_2 + p_3x_3 = Tw + I \qquad\qquad (3\text{-}3)$$

The household chooses how much to work (how much leisure to consume) and how much housing and composite goods to consume in order to maximize utility (3-1) subject to the budget constraint (3-3).

Because the model has three choice variables, it can only be represented graphically in three dimensions. However, with certain simplifying assumptions, it can be represented in two dimensions.[2]

The Model Modified for Housing Analysis

In almost all housing analysis, it is assumed that income, and therefore labour supply, is fixed and the household chooses how to divide its fixed income between housing and other goods. The utility function becomes $U(x_2, x_3)$. This model can be represented in two dimensions graphically, as in Figure 3-1(a). Household preferences are represented by a family of non-intersecting, convex-to-the-origin indifference curves, U_1, U_2, U_3 ... . The budget constraint is AB . The intercept A is $(\overline{h}w+I)/p_3$, where $\overline{h}$ is the fixed hours of work; and the intercept B is $(\overline{h}w+I)/p_2$. The slope of the budget line is $-p_2/p_3$, the relative price ratio. The household maximizes utility at point M , choosing to consume (x_2, x_3).
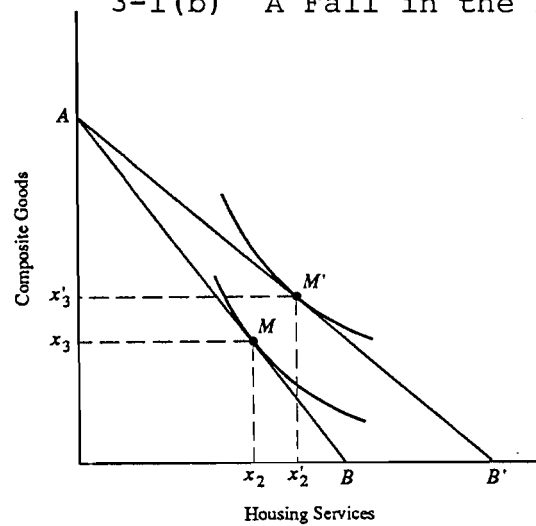
FIGURE 3-1

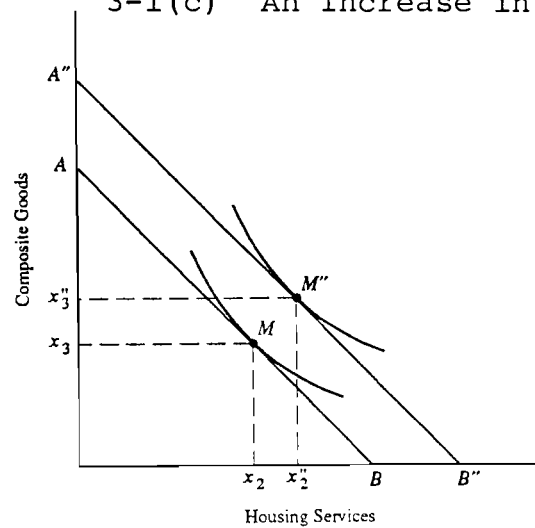Household Decisionmaking in Housing Analysis

3-1(a)   Original Decision
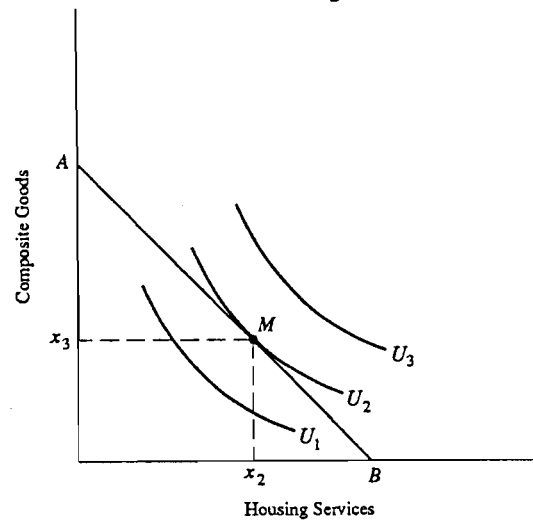
3-1(b)   A Fall in the Price of Housing

3-1(c)   An Increase in Income

If the price of housing services were to fall to p_2' , the budget line would become AB' , and the maximum utility is achieved at M' , as in Figure 3-1(b). The household consumes (x_2', x_3'). With the fall in the price of housing services, the household consumes more housing services; and, as diagrammed here, it also consumes more of the composite good as well. The sensitivity of housing consumption to changes in the price of housing services is measured by the price elasticity of demand, η_{p2} , which is defined as the percentage change in the quantity of housing services demanded, divided by the percentage change in the price of housing services. For a discrete change, the elasticity is (3-4). For an infinitely small change, the elasticity is (3-5).[3]

$$\eta_{p2} = \frac{\dfrac{x_2' - x_2}{\dfrac{(x_2' + x_2)}{2}}}{\dfrac{p_2' - p_2}{\dfrac{(p_2' + p_2)}{2}}} \tag{3-4}$$

$$\eta_{p2} = \frac{\partial x_2}{\partial p_2} \cdot \frac{p_2}{x_2} \tag{3-5}$$

If the household were to receive an increase in income, for example from a lump sum gift, the budget line would shift outward to A"B" , which is parallel to AB , as in Figure 3-1(c). As diagrammed, the household chooses to consume more housing and more of the composite good at M" , represented as the pair $(x_2", x_3")$. The sensitivity of housing consumption to changes in income is measured by the income elasticity of demand η_y , which is defined as the percentage change in housing consumption divided by the percentage change in income. Let the original income be y and the new income be y" . For a

discrete change the elasticity is (3-6) and for a small continuous change is (3-7).[4]

$$\eta_y = \frac{\dfrac{x_2" - x_2}{\dfrac{(x_2" + x_2)}{2}}}{\dfrac{y" - y}{\dfrac{(y" + y)}{2}}} \qquad (3\text{-}6)$$

$$\eta_y = \frac{\partial x_2}{\partial y} \cdot \frac{y}{x_2} \qquad (3\text{-}7)$$

The Model Modified for Labour Supply Analysis

Most of the labour supply literature makes a different simplifying assumption in order to represent the general model of household decisionmaking in two dimensions. The composite good and housing are aggregated into a single composite good called consumption, x . The household chooses between consumption and leisure, subject to a budget constraint. The utility function becomes $U(x_1, x)$. The price of consumption, p , is given; as are the wage rate and non-wage income.[5] The household choice model can be represented as in Figure 3-2(a). Again, household tastes are represented by a family of indifference curves. The budget constraint is ABC . The intercept A is (wT+I)/p; if the household had no leisure and spent all its available time working, it could consume OA units of consumption. The intercept C is T , the amount of available time. If the household did not work at all, as at T , it could still consume I/p . Thus the length BC is I/p. The line AB represents the consumption and leisure pairs available to the household (with corresponding hours of work $h=T-x_1$). The slope of the line AB is w/p , which is termed the real wage. In Figure 3-2(a) the

FIGURE 3-2

Household Decisionmaking in Labour Supply Analysis

3-2(a)   Original Decision

3-2(b)   A Fall in the Wage Rate

3-2(c)   An Increase in Non-Wage Income
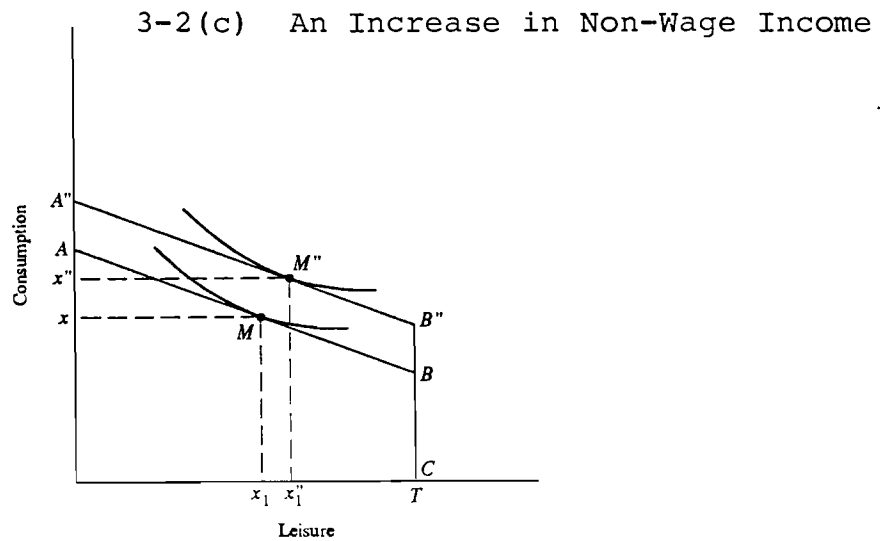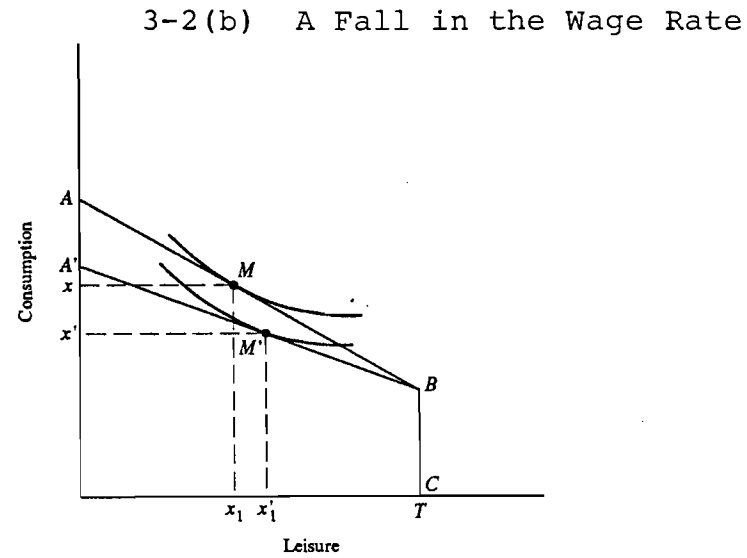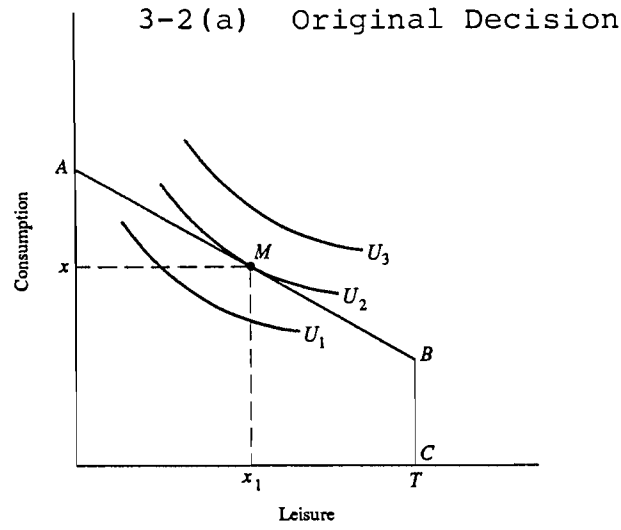
utility maximum is shown at M and the household consumes x and has leisure x_1 (and works $T-x_1$ hours).

This model of labour supply illustrates the simultaneous decisions of whether to participate in the labour force and of how many hours to work. This is important because many recipients of housing assistance and of income assistance do not work, and are always considering whether to take a job. In Figure 3-2(a), the preferences, wage rate and non-wage income are such that the household chooses to work and to supply $h=T-x_1$ hours. With different preferences, or a different wage rate or non-wage income, the utility maximum could be at B , in which case the household chooses not to work.

If the nominal wage rate were to fall to w' and prices were constant, the real wage would fall. The budget line would become A'BC , and the new household utility maximum would be M' , working $h'=T-x_1'$ hours. Figure 3-2(b) shows the household consuming less and enjoying more leisure (working less). It is possible, however, that as wages fall, the household works more - this is a backward bending labour supply curve. If the household's original utility maximum were at B and therefore the household was not working, a fall in the wage rate would have no effect on labour supply because as the budget line shifted to A'BC , the utility maximum would remain at B .

The sensitivity of labour supply to changes in real wages is measured by the wage elasticity of labour supply. Let W be defined as the real wage. For a discrete change, the elasticity is (3-8), for a continuous change it is (3-9)

$$\eta_W = \frac{\dfrac{h' - h}{\dfrac{(h' + h)}{2}}}{\dfrac{W' - W}{\dfrac{(W' + W)}{2}}} \tag{3-8}$$

$$\eta_W = \frac{\partial h}{\partial W} \cdot \frac{W}{h} \tag{3-9}$$

If the household were to receive an increase in non-wage income, for example, from a lump sum gift, the budget line would shift to A"B"C as in Figure 3-2(c). The new maximum is shown as M" with the household enjoying more consumption and more leisure (working fewer hours) at the pair (x_1", x"). If the household did not work originally, it is likely that the lump sum gift would induce no change in labour supply. The sensitivity of labour supply to non-wage income changes, sometimes called property income changes, is measured by the non-wage income elasticity of labour supply. For discrete changes, it is calculated as (3-10) and for continuous changes as (3-11).[6]

$$\eta_I = \frac{\dfrac{h'' - h}{\dfrac{(h'' + h)}{2}}}{\dfrac{I'' - I}{\dfrac{(I'' + I)}{2}}} \tag{3-10}$$

$$\eta_I = \frac{\partial h}{\partial I} \cdot \frac{I}{h} \tag{3-11}$$

Representation of Three Policy Instruments

The previous chapter set out three policy instruments: non-profit housing,

housing allowances and income assistance and discussed the diversity of programme

designs possible within each approach. The chapter emphasized that an archetype

of each instrument was needed to facilitate analysis and comparison. The above

model of household decisionmaking can be used to represent these archetypes and

to reveal the essential elements of each instrument. The instruments will first

be described within the limiting assumptions of the housing and labour supply

literatures, because this is how each instrument is usually represented and it

permits graphical representation. Then the instruments will be described using

the more general model.

First, assume that the household is choosing between a composite good

and housing, with a fixed income. This is the model of household choice in the

housing literature, and is represented in Figure 3-1(a). Under a non-profit

housing programme, a household is offered one dwelling unit at a reduced rent.

The rent is determined by the terms of the programme. This programme can be

represented as in Figure 3-3. The household is offered a quantity of housing

services $\bar{x}_2$, at a price $\bar{p}_2$ which is below the market price p_2 ; and

therefore the rent on the unit $\bar{p}_2\bar{x}_2$ is below the rent it would command in the

private market $p_2\bar{x}_2$. In this monograph, a non-profit programme charges a rent

geared to income. As income increases, rent on the same unit increases.

However, with the fixed income assumption, the rent is simply represented as

$\bar{p}_2\bar{x}_2$. If the household does not participate in the programme it can consume all

the pairs of composite good and housing which lie along the line AB . This

budget line is (3-12), where y is the fixed income. If the household

participates in the programme, it can consume housing at level $\bar{x}_2$, and the

$$p_2x_2 + p_3x_3 = y \qquad\qquad (3\text{-}12)$$

composite good at level $(y\text{-}\bar{p}_2\bar{x}_2)/p_3$, i.e. its income remaining after paying rent can be spent on composite goods. This is point P in Figure 3-3. The household compares the maximum utility it could achieve without the programme, at M on U_1 in Figure 3-3, with the utility it could achieve at point P , on U_2 in Figure 3-3. The preferences in the illustration show the household better off at P , and so it would participate, and consume more housing and more composite good at P than at M .

The design of the programme determines where P is located. The designers of the programme can decide $\bar{x}_2$; they decide how much housing to embody in the non-profit housing unit. A large high-quality unit will have a large $\bar{x}_2$, and a small, lower-quality unit will have a smaller $\bar{x}_2$. It is possible that a non-profit programme could buy existing older units in which case $\bar{x}_2$ could be relatively low. In this monograph, it is assumed non-profit programmes are supply-side programmes and build new housing. Thus $\bar{x}_2$ is relatively large and well above the x_2 which the household consumed in the absence of the programme. The designers can set the rent, by setting the rent-geared-to-income formula, and therefore the implicit price of housing services $\bar{p}_2$ on the non-profit unit. The point P could lie anywhere along the vertical line above $\bar{x}_2$. Most non-profit housing programmes set $\bar{p}_2$ so that the household is paying less rent than in the absence of the programme and therefore the household can consume more composite good as well.
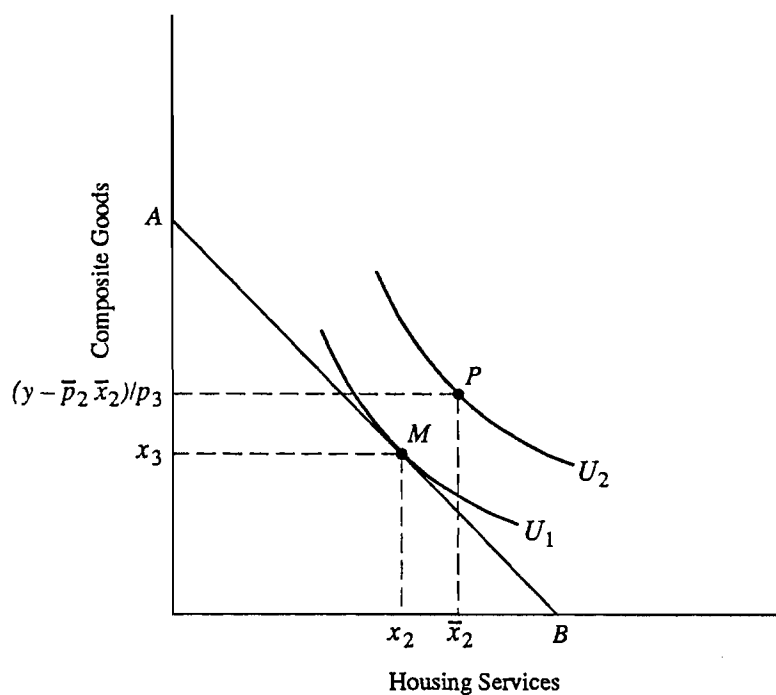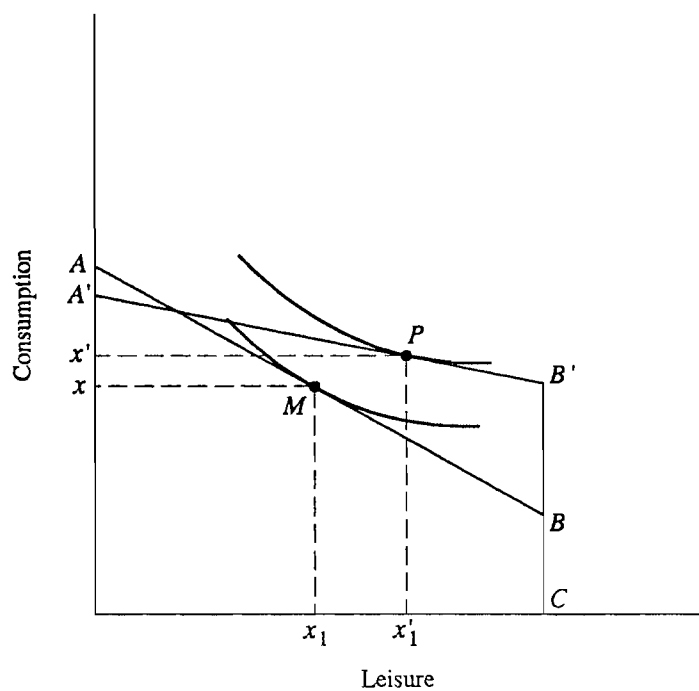
FIGURE 3-3

Non-Profit Housing

FIGURE 3-4

Income Assistance

A percent-of-rent housing allowance may be represented as in (3-13); the household receives an allowance equal to $b \cdot 100$ percent of rent. This allowance is added to income so that the budget constraint becomes (3-14). Re-writing the

$$A = b \; p_2 x_2 \qquad\qquad (3\text{-}13)$$

$$p_2 x_2 + p_3 x_3 = y + b \; p_2 x_2 \qquad\qquad (3\text{-}14)$$

$$(1\text{-}b) p_2 x_2 + p_3 x_3 = y \qquad\qquad (3\text{-}15)$$

budget constraint as (3-15) illustrates that the housing allowance is perceived as a decrease in the price of housing services. The housing allowance offers the household a budget line AB' , in Figure 3-1(b). The household is always better off participating in the programme than not.

The household will buy more housing services with the reduced price; and may or may not consume more of the composite good, depending on how responsive the household is to changes in the price of housing services. This responsiveness is measured by the price elasticity of demand, (3-4) or (3-5). If the price elasticity is minus one, expenditure on housing is unchanged for any change in price and therefore expenditure on the composite good is unchanged. If the price elasticity is between minus one and zero (most empirical work suggests it is in this range), the expenditure on housing declines as the price falls, and expenditure on the composite good increases.

The designers of a housing allowance can select the b parameter of the allowance formula. If the price elasticity of demand is known, the designer can predict the response of the household to a housing allowance. (See Chapter IV.)

The housing model could also be used to illustrate an income assistance programme, assuming constant labour supply. The income assistance programme raises the income of the household and shifts the budget constraint to A'B' as in Figure 3-1(c). The housing response depends upon the income elasticity of housing demand, (3-6) or (3-7). If the elasticity is one, housing expenditure rises just as fast as income, and composite good expenditure rises the same percentage. If the elasticity is less than one (as most evidence suggests), then housing expenditure expands less rapidly than income, and composite good expenditure rises by a greater percentage.

However, this would be an inadequate representation of income assistance programmes. These programmes are not lump sum payments; in their simplest form, they are as in (3-16), or more specifically as in (3-17). To adequately

$$A = c - d \, y \qquad\qquad (3\text{-}16)$$

$$A = c - d(T-x_1)w \qquad\qquad (3\text{-}17)$$

represent the labour supply effects of the income assistance requires the model of household choice used in the labour supply literature. The household budget constraint without assistance is (3-18), which can be rewritten as (3-19). The constraint with assistance is (3-20), which can be rewritten as (3-21). The income assistance programme changes the price of leisure and changes full income. The graphical representation of the assistance is Figure 3-4. The budget constraint without assistance is ABC , and with assistance is A'B'C . The Figure shows the household consuming more leisure and having more consumption.

$$px = (T - x_1)w + I \qquad\qquad (3\text{-}18)$$

$$wx_1 + px = Tw + I \qquad\qquad (3\text{-}19)$$

$$px = (T - x_1)w + I + [c - d(T - x_1)w] \qquad\qquad (3\text{-}20)$$

$$(1 - d)wx_1 + px = T(1 - d)w + I + c \qquad\qquad (3\text{-}21)$$

The designer of the income assistance programme can alter the c and d parameters. The effect on labour supply of the programme and hence the actual payment received by the household can be determined using knowledge of the real wage elasticity and non-wage income elasticity of labour supply. (See Chapter VI.)

These representations of the three policy instruments suggest one reason why the housing assistance literature has not been integrated into the income assistance literature; and, similarly, why income assistance policy has largely ignored housing policy. The housing model of household choice does not allow representation of income assistance because it cannot represent changes in the wage rate. The labour supply model of household choice does not allow representation of housing assistance because it cannot represent changes in the price of housing services. Both of these models have the great benefit of being representable in a two-dimensional figure. The model needed to integrate and compare the two approaches is the general model which began this chapter. The price of housing, the wage rate, and non-wage income are explicitly represented. Unfortunately, this model of household choice cannot be depicted in two

dimensions.

The budget constraint of a recipient household, in the general model can be used to represent the three policy instruments. These representations demonstrate formally the essential differences between the three instruments discussed in Chapter II. The budget constraint of the household in the absence of assistance is (3-3); rewritten here as (3-22). Household expenditures on leisure, housing and the composite good are equal to full income.

$$wx_1 + p_2x_2 + p_3x_3 = Tw + I \qquad\qquad (3\text{-}22)$$

The budget constraint with a housing allowance is (3-23). The housing

$$wx_1 + (1\text{-}b)p_2x_2 + p_3x_3 = Tw + I \qquad\qquad (3\text{-}23)$$

allowance is a pure housing assistance programme; it changes the price of housing services and there is no change in the wage rate (price of leisure) or full income.[7]

The budget constraint with income assistance is (3-24). The income

$$(1\text{-}d)wx_1 + p_2x_2 + p_3x_3 = T(1\text{-}d)w + I + c \qquad\qquad (3\text{-}24)$$

assistance programme alters the price of leisure (wage rate) and full income, but has no effect on the prices of the goods and services consumed by the household (housing and the composite good). This is pure income assistance; there is no constraint on how the money is spent or any change in the prices of composite

consumption goods or housing.

The budget constraint with a non-profit programme is (3-25). The dwelling unit offered to the household provides $\bar{x}_2$ units of housing services. The rent charged is geared to income; it is set at $e \cdot 100$ percent of earned income. This

$$\frac{e(T-x_1)w}{\bar{x}_2} \cdot \bar{x}_2 + p_3 x_3 = (T-x_1)w + I \qquad (3-25)$$

implicitly sets the price of housing services as in (3-25). The constraint can be re-expressed as equations (3-26). Because rents are geared to income and

$$(1-e)wx_1 + p_3 x_3 = T(1-e)w + I$$
$$x_2 = \bar{x}_2 \qquad (3-26)$$

because tenants make labour supply choices which cause income to change, the non-profit programme can be seen to alter the wage rate as in (3-26). The non-profit programme is a mixed policy instrument: it alters the wage rate and imposes a housing consumption constraint.[8]

Effects on Housing and Labour Markets

The framework developed thus far has represented an individual household and illustrated the effects of the three policy instruments on the individual household. The entire labour market or housing market has not yet been represented. In the general model of household choice, the household chooses its labour supply (leisure), housing and composite good consumption to maximize utility (3-1), subject to the budget constraint (3-2). The household takes the prices of leisure, of the composite good and of housing as given. Non-wage

income is also given exogenously. If any of these were to change, the household would change its choices. The solution of the maximization problem yields the household's demand function for housing and the household's labour supply function and also a composite goods demand function.

The demand curves of all households in the housing market may be horizontally added to obtain the market demand curve, DD , in Figure 3-5. (It is assumed that the number of households is given and therefore that the price of housing does not influence the number of households.) Of course, households must choose between owning and renting housing and there are two housing markets-- the rental market and the ownership market. Because the policy instruments under study are directed at low-income households, most of whom rent housing, it will be assumed that the demand curve DD is for rental housing, and households always remain renters. This assumption escapes the complexity of making tenure choice endogenous in the model.

The appropriate supply curve of rental housing depends upon the time period under consideration. It is assumed there are no rent controls. In the very short run, the supply of rental housing cannot be altered in response to a price increase (or decrease), the supply curve is vertical, S_sS_s in Figure 3-5. In the medium run, the supply of rental housing can be altered in response to price change; home owners can rent portions of their houses, construction of new buildings can be speeded up; buildings can be converted from non-residential to residential use. The supply curve, S_mS_m , is steep but positively sloped. In the long run, developers can make decisions about whether to build new rental housing and the greatest response to price change is possible. Zoning, sewer and water infrastructure and transportation systems can be changed in the long run. The long run supply curve is the almost flat line, S_LS_L .

FIGURE 3-5

Rental Market with a Housing Allowance
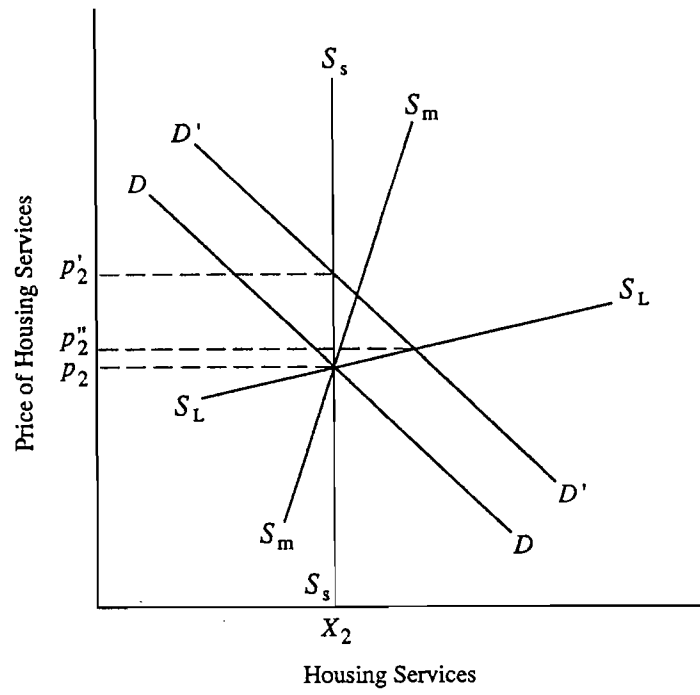
Housing Services

In long run equilibrium, the rental housing market establishes a rent of p_2 , and X_2 of housing services are exchanged (supplied by landlords and consumed by households) as in Figure 3-5. Again, the simplest possible model is used. It abstracts from vacancies. A more realistic (and complicated) model would have a natural vacancy rate; it is the rate in equilibrium when there is no tendency for rents to change. Also, the model could be modified to incorporate rent review or rent control.

Suppose the government introduces a housing allowance programme. The household perceives the allowance as a fall in the price of housing services from p_2 to $(1-b)p_2$. The market demand curve can be redrawn. Assume the vertical axis measures the market price of housing services (as before). Therefore, the supply curve is unchanged. The market demand curve shifts because for any market price, participating households perceive a lower price and therefore demand more housing than indicated by the original DD curve. The amount of the shift depends upon the parameter, b ; the price elasticity of the demand curve; and, upon the number of households which participate in the programme. The demand for housing with the allowance shifts to D'D' . In the short run, rents rise to p_2' and there is no increase in housing supplied. Households originally faced a price of p_2 and now perceive a price of $(1-b)p_2'$. Because the market rent rises, some of the allowance flows indirectly to landlords. In a more complex model, vacancies would first decline and then rents would rise. Over time, the increase in price leads to an increase in supply and the price falls to p''_2 in the long run.

One of the controversies surrounding a housing allowance is the extent to which it raises rents, and therefore causes some of the benefits to accrue to landlords rather than tenants. The new long run equilibrium position, and the

extent of the price increase, depend upon how much the demand curve shifts and the price elasticities of the supply curve and the demand curve. Critics of housing allowances argue that the supply curve of the sort of housing occupied by low-income households is very price inelastic; and, is price inelastic over the medium and even long run. They view the housing market as segmented into separate submarkets and believe the low-income submarket has inelastic supply. The housing allowance thus raises market rents so that the perceived price fall to recipients is very small and there is little increase in the housing consumption of the recipients. The Experimental Housing Allowance Program (EHAP) in the United States did not find that the housing allowance caused the market price of housing to increase; and further the allowance had very little influence on price even in the housing submarket where the recipients lived. Studies of Canadian housing allowances have reached similar conclusions.[9]

The housing allowances had a small effect on price, not because the market supply curve was very elastic, but because the market demand curve did not shift very much. The small demand shift was because the household demand was quite price inelastic and because there was a low participation rate (many eligible households did not use the allowance). Steele (1985, 133) offers the further intriguing hypothesis that housing allowances reduce landlords' turnover costs and bad debt costs and these savings are passed on in reduced rents in a competitive market.

In subsequent chapters of this monograph, it will be assumed that a housing allowance does not raise the market price of housing. Therefore, the allowance reduces the price of housing services for recipients from p_2 to $(1-b)p_2$. The experience of actual housing allowances suggests this is not an unrealistic assumption.

The other two policy alternatives - non-profit housing and income assistance - also can influence the rental housing market, although the channels of influence are different. If the government introduced an income assistance program as in (3-17), the household budget constraint would become (3-21). The household perceives the assistance as a fall in the wage rate (price of leisure) and a lump sum payment. Even after labour supply has been adjusted, the household has a higher cash income to spend on housing and the composite good. This increases the household's demand for housing and shifts the market demand curve up and to the right. The amount of the shift depends upon the parameters of the income assistance programme, the income elasticity of demand for housing, and the fraction of all households in the housing market that receive assistance. In the short run, rents would rise and then gradually decline as new supply was added. Again, most evidence suggests that an income assistance programme has little effect on the price of rental housing and it will be assumed in this monograph that there is no effect.

A non-profit programme affects the private rental market rather differently. A non-profit programme builds new housing and rents are set by the details of the programme, not by market forces. When a non-profit housing unit is built, a household leaves the private market to live in the non-profit unit. This shifts the market demand curve down and to the left, which causes rents to fall. The long-run supply curve of rental housing is upward sloping because as the quantity supplied expands the prices of factors used in building housing increase. The main input factors are labour, building materials and land; and it is the price of land which is most likely to increase. The non-profit housing programme also uses these factors and thus also leads to an increase in factor prices. The long-run supply curve in the private market therefore shifts up and

left, which causes private market rents to rise. On balance, the non-profit programme likely reduces private market rents, but to such a small extent that in this monograph it will be assumed there is no effect.

The three policy instruments also have effects on household labour supply and therefore the aggregate effect on all households could influence the labour market. The programmes all tend to reduce household labour supply (see Chapter VI), which would shift the market labour supply curve up and left and tend to increase wages. Despite all the literature on the labour supply effects of income assistance, there is scant analysis of this effect on market wages. In part, this is because the labour supply response of married men to income assistance was rather small. But more important, it is because only a relatively small portion of the labour force receives assistance and therefore the market supply curve of labour shifts very little. If there were submarkets for certain types of labour (analogous to the housing submarkets) and a high proportion of the households in this submarket received assistance, there could be an increase in this submarket wage. It is assumed in this monograph that none of the three policy instruments influences the market wage rate.

This discussion of the effects of the policy instruments on housing and labour markets has considered only the effects arising because some households receive assistance. But the assistance must be paid for - either by increasing taxes, reducing other spending or increasing government borrowing. This financing may also influence housing and labour markets. If the assistance is financed by increased taxes, the market demand for housing would be pushed down which further re-enforces the assumption of no change in housing prices. However, the increased taxes would likely reduce labour supply and put upward pressure on wages. This influence weakens the constant wage rate assumption.

To properly analyse the effects of an assistance programme and its financing on all prices and wage rates would require a general equilibrium model of the economy. This is much beyond the scope of this monograph. If large, national assistance programmes were under consideration, such analysis would be needed. The work of this monograph would be a first step in such analysis.

ENDNOTES

1. In order to aggregate all non-housing consumption goods into a single composite commodity, it must be assumed either that the relative prices of non-housing consumption goods are constant or that the utility function is weakly separable between all non-housing goods and other items in the utility function. See Killingsworth (1983).

2. This model of household decisionmaking assumes that continuous choices are available to the household - it can vary its hours of work or the amount of housing it consumes - and the model abstracts from the transactions costs of changing jobs or changing houses. These assumptions are not as restrictive as they might first appear, for example hours of work can be varied by choices about vacation, overtime or by choosing a different employer. Transactions costs can be added to the model but only by adding enormous complexity.

3. If the household were maximizing the more general utility function, (3-1), the definitions of the price elasticity of demand would be the same.

4. If the household were maximizing the more general utility function (3-1), labour supply and therefore income depend on the choices of the household. There cannot be an exogenous increase in income, y. The elasticity of demand with respect to non-wage income, I, could be defined, in a manner analogous to (3-6) and (3-7).

5. This approach in the labour literature aggregates all consumption goods into a single composite commodity. The assumptions necessary for this aggregation are the same as in note one. See also Killingsworth (1983).

6. If the household were maximizing the more general utility function (3-1), the definitions of the real wage and non-wage elasticities of labour supply would be the same. With a more general utility function, there would also be nominal wage and non-wage elasticities of demand for housing; rather than an income elasticity as in the fixed labour supply case. See also endnote 3.

7. The housing allowance could also contain a constraint that the household occupy some adequate standard of housing in order to receive the allowance; i.e. x_2 must be greater than some amount.

8. The ICPOR housing allowance mentioned at the end of Chapter II is also a mixed policy instrument. If the allowance pays 75 percent of the difference between actual rent and 30 percent of income, the budget constraint becomes:

$$(1 - .225)wx_1 + (1 - .75)p_2x_2 + p_3x_3 = T(1 - .225)w + I$$

9. Steele (1985, 110-134) contains a careful discussion of the effect of housing allowances on housing prices, based on the U.S. and Canadian experience.

IV   HOUSING CONSUMPTION

In Chapter I, the many objectives of housing policy were discussed. During the postwar period, a primary objective of housing assistance programmes has been to increase the quantity and quality of housing consumed by low-income tenants. The framework of Chapter III developed a single index of the housing lived in by a household, called housing services, x_2 . In this terminology, the objective of housing assistance is to raise the household's level of x_2 .

The purpose of this chapter is to examine in greater detail how the three policy instruments affect the housing consumption of households that participate. Using the analytical framework of the previous chapter, the analysis is empirical. It seeks to answer the question: how much is housing consumption increased?

The policy instruments could induce, in principle, almost any change in housing consumption. The change in housing consumption will depend upon the parameters of the programme. A very generous programme for very poor households can yield a very large increase in housing consumption. In order to realistically compare policy alternatives, this discussion will be confined to "realistic" versions of the policy instruments. The examples of actual housing and income assistance programs are taken from Canada and the United States.

These realistic alternatives, however, do not provide equal amounts of assistance to each household. Typically, for example, the value of assistance to a household in non-profit housing is much larger than to a household receiving a housing allowance. The chapter concludes with an examination of equal-cost alternatives.

Non-Profit Housing

In the stylized representation of non-profit housing of Chapters II and III, essential features of non-profit housing were: that the programme built new housing units which would remain in the non-profit sector in perpetuity; and that eligible households were offered one dwelling unit of appropriate size (not a range of dwelling units of various sizes), and households were charged a rent geared to income. In Figure 3-3, the non-profit programme was represented as a single point lying outside the household's initial budget constraint. It seems likely that a non-profit programme would lead to a large increase in housing consumption because low-income households are moving from the private market where they likely lived in old housing into newly constructed non-profit housing. Furthermore because the programme offers the household only one choice, the programme designer can achieve the desired increase in housing consumption exactly. It is assumed that the tenant cannot sublet the non-profit housing to someone else.

Over time, a non-profit building will depreciate and therefore the housing consumption of residents will decline. The path of this depreciation and decline will depend upon maintenance and renovation undertaken by the non-profit owner. If a household had remained in the private rental market, they would have occupied a privately-owned unit which would also have depreciated over time. There is no reason why the time path of depreciation, maintenance and renovation would have to be the same in the profit and non-profit sectors. Therefore, it is very difficult to compare the increase in housing consumption which occurs over a long period of time when the household moves from the private market to non-profit sector. Furthermore, the household could move to a better quality unit in the private sector if its original unit depreciated so much that it felt

it could afford a better unit. Such mobility is possible in non-profit housing, but much less likely to occur. It seems most reasonable to conclude that the greatest increase in housing consumption occurs when the household first moves into a non-profit unit and that over time this gap diminishes.

Empirical evidence on the increase in housing consumption comes from studies of actual non-profit housing programmes. Again, it should be remembered that the outcome depends upon the design of a specific programme. Here evidence from the United States and Canada will be considered.

Murray (1980a) offers a study of the public housing programme in the United States (as well as a supply-side private market programme). In 1976, there were 1.3 million public housing units in the United States, and tenants paid a maximum of 25 percent of their income on rent. Most of the public housing units were over ten years old, so they would have depreciated considerably. Murray gathered a sample of successful public housing applicants and obtained data on pre-subsidy income, expenditure on rent and expenditure on other things. Also, he calculated what the market rent of public housing unit would be using data on the physical characteristics of public housing units and data on the rents and physical characteristics of a sample of private market rental units. Therefore, there were data on the value of housing consumption before entering public housing and on the market rent of the housing services from the public housing unit. The increase in housing consumption is equal to the difference between the market rent of the non-profit housing and rent expenditure prior to participating in the programme. Murray's findings are reported in Table 4-1. The increases in housing consumption were indeed significant. Almost 80 percent of the applicants had consumption increases of more than 35 percent; and 45 percent of applicants had consumption increases of over 100 percent.

Murray also reported on another programme, Section 236 housing. It was not, strictly speaking, a non-profit programme; rather, it was a programme enabling private-sector landlords to provide assisted rental housing. The units were targeted at modest-income households, but if combined with a rent supplement programme under which tenants would only pay 25 percent of their income, the units could also serve the same group as public housing. The units under this programme were newer and likely of higher original quality than public housing. The units represent the upper end of the range of quality that might reasonably be offered under a non-profit housing programme designed for low-income households. In Canada, many non-profit programmes serve a mix of income groups and build housing of this quality. Murray had a sample of successful applicants to Section 236 housing, that had used rent supplements and therefore were similar to public housing applicants. He had data on pre-subsidy rent and generated data on the market rent of the Section 236 units. His findings are also reported in Table 4-1. The housing consumption increases are enormous. Almost 60 percent of the households had consumption increases of over 200 percent.

Analysis of the change in housing consumption caused by a non-profit programme requires an estimate of what the market rent would be on the non-profit housing unit. However, the market rent of the non-profit housing cannot be directly observed. By definition, the non-profit housing is outside the private market.

The most reliable estimate of the rent which a non-profit unit could command in the private market would be obtainable if there were units in the private market which were identical, in every respect, to the non-profit units. This is, of course, not likely to be possible. It is necessary to use the technique of hedonic pricing to estimate market rents. (See Fallis (1985) for

Table 4-1

Distribution of Percentage Changes in Housing Consumption
Expressed as Percentage Change in Consumption from
Unsubsidized Position to Subsidy Programme

	200% or more	100-199%	66-99%	56-65%	46-55%	36-45%	0-35%	Below 0%
Public Housing (% of Sample)	14	31	18	6	7	5	14	5
Section 236 (% of Sample)	57	33	7	2	0	1	1	0

Source: Murray (1980a, Table 5)

a more detailed discussion of hedonic pricing.) The hedonic approach assumes that when a household rents a dwelling unit, it is renting a bundle of characteristics - square meters of floor space, number of bedrooms, design of the unit and building, age of building, view, location and so on. The rent on any dwelling is a payment for each of the characteristics of the bundle. Using data on rents and the characteristics of a sample of private market dwellings, the technique of hedonic pricing estimates the "hedonic prices" of the characteristics. These are the implicit market prices of characteristics. The market rent on a non-profit unit with known characteristics can then be calculated using the estimated hedonic prices. This was the technique used by Murray (1980a).

The major evaluations of Canadian non-profit programmes have not published results like Table 4-1, although the evaluations acknowledge that "improvement in living conditions" is a primary objective of the programmes. However, approximate calculations can be done.

CMHC (1983) evaluated a non-profit programme called the Section 56.1 Non-Profit and Cooperative Housing Program. The programme offered new housing both to low-income households who were charged a rent geared to their income (RGI rent) and to modest-income households who were charged a less heavily subsidized rent.

The 56.1 programme was designed so that modest-income tenants would be charged a "low end of market rent." When a building was constructed, CMHC surveyed the surrounding private market to establish the range of rents on comparable units. A formal hedonic pricing technique was not used. An appendix in the evaluation (CMHC, 1983, Annex 4) presents data on a "typical" non-profit unit in the early 1980s. The unit cost about $55,000 to build. The market rent

of comparable units was deemed to be $500, and the low end of market rent charged to tenants was $450. However, the estimate of a market rent of $500 is likely too low.[1]

In equilibrium with perfect capital markets, equation (4-1) presents the relationship in a private rental market between the cost (including land) of constructing a building, V ; and rent in the first year, R ; the expected growth rate of rents, g_R ; operating costs in the first year, 0 ; the expected growth rate of operating costs, g_0 ; and the mortgage rate of interest, i . (For more detail, see Hosios et al. (1990).) A realistic assumption for the 1980s about $(i-g_0)$, which can be considered the real mortgage interest rate, might be .07 . If rent per unit of housing service rises at the same rate as

$$V = \frac{R}{i-g_R} - \frac{0}{i-g_0} \qquad\qquad (4\text{-}1)$$

operating cost and housing stock depreciates at 2 percent per year, $(i-g_R)$ would equal .09 . The evaluation reported first-year operating costs to be $165 per month. These assumptions imply a first-year rent of $625. This seems a more realistic estimate of the market value of the non-profit units.

The average income of the typical rent-geared-to-income tenant in 1982 was $9,230. Assuming the tenant would have spent 40 percent of income on rent in the private market, their monthly rent would have been $308. The market value of housing consumed has risen from $308 to $625. This represents a 103 percent increase in housing consumption in moving from the private market to a brand new non-profit unit.

A more recent evaluation examined the entire public housing portfolio in Canada (CMHC, 1990). Public housing is the largest non-profit housing programme

in Canada. It provides government-owned units which are rented on a rent-geared-to-income basis. Tenants are charged approximately 25 to 30 percent of income. The portfolio had over 200, 000 units; with about half built between 1964 and 1974, 31 percent between 1975 and 1979, and the remainder during the 1980s. The evaluation report contains no estimate of the market value of a public housing unit. Only a crude guestimate can be generated from public housing expenditure data. If one assumes that public housing and private landlords face the same operating costs and mortgage interest rates and assumes that private rents would cover operating cost, mortgage interest and a return on equity equal to the mortgage interest rate, then the market rent of a public housing unit can be inferred from public housing expenditure data. The expenditure data include operating expenses and mortgage payments on a 100 percent mortgage. The expenditure on a public housing unit would equal the market rent. This assumes that the public housing and private sectors are equally efficient. In private rental markets, buildings with 100 percent mortgage financing would have negative cash flows in the early years and positive in later years. This procedure would overestimate market rents on new buildings and underestimate rents on old buildings. The average expenditure per month, in 1988, on public housing units built before 1980 was $455; and on units built in the 1980s, was $629. The public housing authorities obtain mortgages at slightly less than market interest rates and therefore the estimate of the market rent of a public housing unit should be slightly above these figures. Reasonable guesses of market rent would be $480 for public housing units built before 1980, and $675 for units built during the 1980s. (This latter figure is consistent with the calculation above of a monthly rent of $625 on Section 56.1 units in 1982.) The average income of a public housing tenant was $10,500 in 1988; which implies a monthly rent of

$350, assuming they would have spent 40 percent of their income on housing, without assistance. Therefore, the average tenant occupying a unit built during the 1980s, has a 93 percent increase in housing consumption, and an increase of 37 percent if occupying a unit built before 1980.

Although the empirical evidence is somewhat sketchy, the data from both United States and Canada support the same conclusion: non-profit housing programmes enable participants to enjoy a large increase in housing consumption. The increase is greatest when the household moves into a new unit, and then diminishes over time but likely remains significant. The U.S. data show a greater increase in housing consumption because U.S. programmes are more focused on low-income households.

Housing Allowances

Housing allowances, as discussed in Chapter II, can take many forms; and some actual allowances are hybrids of housing assistance and income assistance. In this monograph a housing allowance is a percent-of-rent allowance with no constraint on how much housing is consumed. The household acquires housing in the private rental market.

A percent-of-rent housing allowance may be represented as a decrease in the price of housing services to the recipient as in equation (3-15), Chapter III. The government designers of the allowance select the parameter, b , of the allowance and therefore the percentage decrease in price. The change in housing consumption will depend upon the b parameter and the price elasticity of demand for housing services. Empirical evidence on the change in housing consumption can be obtained from two sources. The first source is the many papers that have estimated the price elasticity of demand for housing. These findings can be used

to predict the effects of alternative allowance designs, under the assumption that households react similarly to a change in the price of housing services, whether it is induced by participating in a government programme or it occurs in the entire private housing market. The second source is the experience of actual housing allowances. The Canadian allowances are all hybrids and so cannot be used to provide evidence directly. The EHAP in the United States tested a percent-of-rent allowance with different values of the b parameter and evidence from that experiment is available. The similarity of the two sources of evidence becomes clear when it is recognized that the percent-of-rent experiment in EHAP was also designed to permit another estimate of the price elasticity of demand for housing services.

Two major surveys of the literature on the price elasticity of demand for housing are Mayo (1981) and Olsen (1987). Despite its title, Olsen's paper deals mainly with theoretical issues, albeit theoretical issues relevant to empirical analysis. This discussion relies mainly on Mayo (1981).

There exists a range of estimates of the price elasticity of demand for housing, by renters, from about -0.4 to -0.7 . Of course, it is problematic to talk about the price elasticity because the elasticity likely varies by income group, by the racial, ethnic and demographic characteristics of the household and perhaps even by the price level. Also there is widespread agreement that existing research has inadequately modelled the intertemporal aspects of housing demand and the role of the transactions costs involved in changing residences. Nevertheless, there is a strong consensus that the demand is quite inelastic.

The demand experiment in the U.S. Housing Allowance Experiment offered a special opportunity to estimate the price elasticity. This experiment produced estimates which were lower that the other literature, ranging from -0.16 to

-0.23 . Low estimates were obtained even among those households that moved when they received the allowance. (See Friedman and Weinberg, 1982, Chapter Two.) It is likely that the experimental evidence was downwardly biased because the experiment was of known, limited duration. Households would not bother to change their housing consumption, or would increase it less, because they realised the price reduction offered by the experimental allowance would only last for a few years. However, the experimental results have strengthened the view that demand is inelastic and have lowered (in absolute value) the consensus value.

Let us suppose that the price elasticity is -0.5 . This implies a 20 percent reduction in the price of housing services would lead to a 10 percent increase in housing consumption. Total "perceived" rental expenditure (i.e., rental expenditure minus the allowance payment) has declined as a result of the allowance because the quantity consumed rose by less than the price fell; the "perceived" expenditure would fall by 10 percent under these assumptions. The household therefore could also consume more of other things.

To further examine the effects of a housing allowance on a low-income household, consider a household earning $10,500 per year. (This was the average income of households in Canadian public housing in 1988.) The household is assumed to spend 40 percent of income on rent, or $350 per month, when it receives no housing assistance. A housing allowance which cut the price by 20 percent would lead the household to spend $385 on rent, receiving an annual transfer of $924. Housing consumption would have increased by 10 percent.

When comparing realistic formulations of a housing allowance and a non-profit programme (realistic in the sense that they are similar to Canadian and U.S. programmes), the percentage increase in consumption under a housing allowance is much less than under a non-profit programme.

Income Assistance

The third policy instrument, income assistance, usually takes the form of a cash payment which is reduced as income increases. This was formally represented in equation (3-16) as a lump sum payment, c , minus the tax-back rate, d , multiplied times income. If it is assumed that labour supply does not change, the income assistance can be represented from the point of view of the recipient household, as a lump sum payment. Diagrammatically, this can be represented as a parallel shift of the budget constraint as in Figure 3-1 (c). It is inadequate to assume that labour supply is unchanged; but for the purposes of this chapter, the assumption will be retained. (The assumption is relaxed in Chapter VI.)

The change in housing consumption from income assistance will depend upon the size of the increase in income and the income elasticity of demand for housing services. Again, empirical evidence on the change in housing consumption comes from two sources: the many papers estimating the income elasticity of demand for housing services and large social experiments.

Mayo (1981) also surveyed the literature on the income elasticity of demand of renters. It is generally recognized that there are high transactions costs to changing the quantity of housing you consume - it is costly to search for a new apartment, to move your belongings and perhaps to buy appropriate furnishings and to adjust to a new locale. Therefore, the housing demand of households will respond less to changes in their current income, which may be temporary, than to changes in their permanent income (their expected long-run income). The income elasticity out of current income is lower than the elasticity out of permanent income. Mayo (1981) reports a range of current income elasticities from 0.08 to 0.81 . The higher estimates in this range have recognized upward biases in

their methodologies. He reports a range of the permanent income elasticity of renters from 0.39 to 0.70 .

The EHAP experiment tested the housing responses of a large group of households to income assistance. The experiment used a three-year average of income as permanent income and generated a range of elasticity estimates from 0.29 to 0.44 (Mayo, 1981, 32). The experiment likely had slightly downward biased results because of its limited duration.

Despite the range of estimates, comparative studies have been able to explain some of the range and there is a fairly strong consensus that the current income elasticity is less than the permanent income elasticity, and that the permanent income elasticity is about 0.5 .

Let us consider the "typical" low income household with an annual income of $10,500, spending $4,200 or 40 percent of its income on rent. A 10 percent income transfer would increase housing consumption by 5 percent. Therefore, only about 20 percent of an income transfer of $1,050 would be spent to improve housing, and the remainder would be spent to increase consumption of other things. The income transfer would yield the lowest increase in housing consumption compared to the other two policy instruments.

Comparing Equal-Cost Alternatives

This chapter has discussed the influence of the three policy instruments on housing consumption. In each case, the policy-maker could secure a larger increase in housing consumption by providing more generous assistance. In theory, any instrument could induce any change in housing consumption; and therefore no definitive ranking of which has the greatest influence is possible.

The examples, provided above in each section, were realistic examples of the policy instruments and on this basis a ranking was produced: non-profit housing has more influence on housing consumption than a housing allowance, which has more influence than an income transfer.

Comparison of realistic designs of the instruments is important because they are the designs which are likely to be implemented. The comparison highlights the very large difference in increased housing consumption between non-profit housing and a housing allowance. However, this is achieved, in part, because non-profit housing is much more costly per household than a housing allowance. The non-profit programme provides the household with a new dwelling unit, whereas the household likely rents older existing housing under a housing allowance. In the previous examples, the first-year cost to the government of a non-profit unit occupied by an RGI tenant under the 56.1 programme was $9,276; mortgage interest and operating costs were $965 monthly and RGI rents were $192 (CMHC, 1983). (Mortgage interest rates were extraordinarily high at the time.) The government cost of public housing units built in the 1980s was about $6,000 (CMHC, 1990). In contrast, the housing allowance cost was $924 and the income assistance was $1,050.

Another way to compare the influence of the three alternatives on housing consumption is to consider example designs of equal cost to the government. Consider a household with an income of $10,500 per year, spending 40 percent, or $4,200, on rent before receiving assistance.

A 10 percent income transfer would increase housing consumption by 5 percent (assuming the income elasticity was 0.5) and cost the government $1,050. A housing allowance, also costing $1,050, could lower the price of housing 22.5 percent (assuming the price elasticity was -0.5); and would increase housing

consumption by 11.5 percent.

This comparison can be illustrated graphically as in Figure 4-1. The original household budget constraint is AB . The household chooses point M and has utility level U_1 . The housing allowance shifts the budget constraint to AB' and the household chooses point M' . The cost to the government, measured in units of composite good, is distance M'D . If units of the composite good are defined so that the price of the composite good is one, then distance M'D is the dollar cost to the government of the housing allowance. An income transfer shifts the budget constraint outward, parallel to AB . An income transfer of equal cost to the government as the housing allowance would imply a budget line through point M' in Figure 4-1. This equal-cost income transfer creates budget line A"B" . It is evident from the shape of the indifference curve that the new point chosen, M" , must involve less housing consumption than the housing allowance point M' . Therefore, a housing allowance will induce a larger increase in housing consumption than an equal-cost income transfer.

If the government only had $1,050 available, it could not offer a household a new non-profit unit and charge an RGI rent. And if the rent were raised, it would have to be so high, because the unit is new and the available subsidy only $1,050, that the household would likely decline the non-profit unit. However, suppose the non-profit programme used existing units and thus could offer the household any level of housing service; and suppose the non-profit programme could set any rent on the offered dwelling unit. The choices available to the government under a non-profit programme of equal-cost to the housing allowance can be illustrated in Figure 4-1. The non-profit programme can select any point on line A"B" , because any point along it will cost the government M'D . By

offering a household only one dwelling unit, a non-profit programme effectively dictates the housing consumption of households. Any bundle along A"B" lying above U_1 would be accepted by the household because it leaves them with a higher level of utility. It is evident in Figure 4-1 that a non-profit programme could be designed which implied more housing consumption than a housing allowance; such as point M* .

Therefore, for equal-cost programmes, there is a clear ranking: non-profit housing increases housing consumption more than a housing allowance which increases consumption more than an income transfer.

Consumption Changes by Housing Need

This chapter began with a discussion of the objective of housing programmes: it is to increase the housing consumption of the recipient household. However, there was no discussion of how the desired increase in consumption would differ between households of different original amounts of housing consumption. This reflects the state of the housing literature. Presumably, the objective is not to increase the housing consumption of households that are already well-housed. Certain households do not have enough housing according to some social norm, and housing policy should help them to reach that norm. But households differ substantially in their current consumption and in their needs, and housing policy never brings all households up to the social norm. Should the housing programme help the neediest first and continue to do so until available funds are exhausted? Or should there be an equal absolute consumption increase for all needy households; or an equal proportionate increase? The objective of housing assistance is usually not articulated precisely enough to answer these questions. Some programmes

FIGURE 4-1

Equal-Cost Policy Instruments
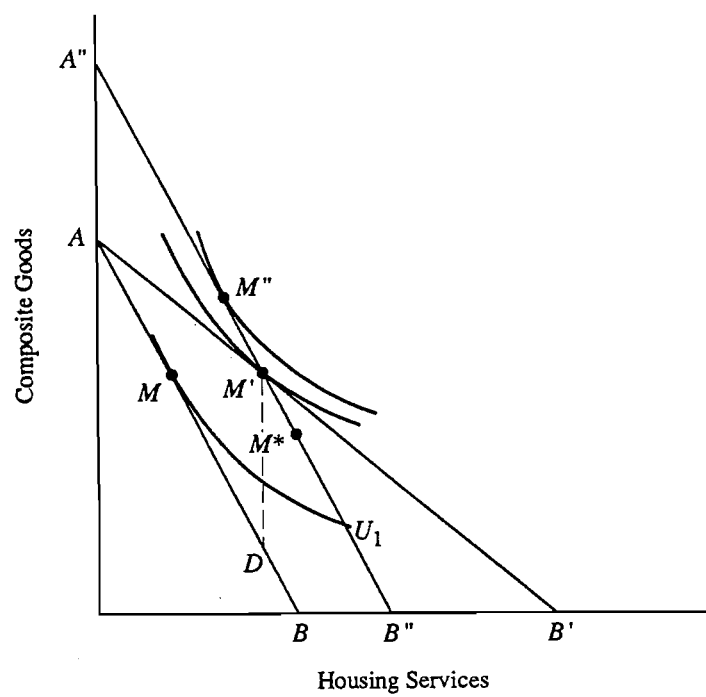
implicitly reveal a norm through their entry criteria. For example, admission to public housing in Canada is based on a point scale measure of housing need. The neediest household is placed at the front of the queue.

To conclude the chapter, it is worth considering briefly how a realistic version of the three instruments changes housing consumption among households of differing housing need.

Non-profit housing provides a dwelling unit of a size and configuration suitable for each household type. A very needy and a less needy household of similar type would receive the same dwelling unit, and therefore non-profit housing would induce a larger absolute and percentage increase in the housing consumption of the very needy household. This likely conforms to most norms of housing fairness. Most non-profit programmes have buildings of different ages; for example there might be available a two-bedroom apartment in an old building and a new building. Housing equity would suggest that if two households were suited to a two-bedroom apartment then the needier household should be awarded the new unit in order to give it the largest increase in housing consumption. This does not appear to be part of the process allocating non-profit housing in Canada or the United States.

The percent-of-rent housing allowance induces the same percentage increase in housing consumption among different households (assuming all have the same price elasticity of demand for housing), but there is a larger absolute increase in housing consumption among households that were relatively better housed. This does not seem to conform to an idea of housing fairness.

Income assistance gives a larger absolute and percentage increase in income to lower income households. If housing need is well correlated with income, as seems likely, then income assistance induces larger absolute and percentage

increases in housing consumption among needier households. It is housing

equitable. This idea of housing equity is obviously analogous to the idea of

vertical equity used in the income redistribution literature. That concept is

discussed in the following chapter.

ENDNOTES

1. The market rents for 56.1 projects were based on a formal appraisal using
   actual market comparables. However, actual market rents would reflect the
   influence of the Multiple Unit Residential Building (MURB) tax provisions,
   the Assisted Rental Program (ARP) and rent controls. Observed market
   rents might be inadequate to sustain a building financed without
   government assistance. It is in this sense that "the estimate of a market
   rent of $500 is likely too low." The following paragraph computes a
   "market rent" to sustain an unassisted building.

V   INCOME REDISTRIBUTION

The purpose of this chapter is to compare non-profit housing, housing allowances and income assistance as instruments of income redistribution. In order to compare housing programmes and income programmes, the "gain in income" from receiving housing assistance must be measured. A number of different measures are useful in establishing the increase in income from housing assistance.

One measure, called the market-value measure, is the market value of the housing received minus the rent paid. For a non-profit programme, one would have to estimate the market rent of the non-profit housing unit in an unsubsidized private market. The hedonic pricing technique for estimating market rents, and some of the difficulties which arise, have already been discussed in Chapter IV. In the case of a housing allowance, the market value of the occupied unit is directly observed. The market-value measure of benefit to the household is the market rent minus the rent paid, and this is equal to the allowance payment.

A second measure of the gain from housing assistance is the government-cost measure; it is equal to what it cost the government to provide the assistance minus the rent paid. For a non-profit programme, the government cost will be greater than the market value for several reasons. There will be the government's cost of administering the programme. Also, under a non-profit, programme, the non-profit sector (including the public sector) may pay more for land, labour and materials, and may be a less efficient developer/builder than private sector firms. These increased costs may exist even if the non-profit sector contracts a private firm to develop the site and build the apartment. For a housing allowance, the government-cost measure will exceed the market-value measure by the cost of administration.

The government-cost measure emphasizes the perspective of the government,

and is an important measure for some decisions. Here the emphasis is on the perspective of the household, on the income value to the household of receiving the housing assistance.

A third measure of the income benefit of housing assistance is the cash-equivalent measure: it is the cash payment the household would accept in lieu of the housing assistance. The housing assistance and its cash-equivalent would give the household the same level of utility. This cash-equivalent value to the household will be less than the market value (or government cost) because the household would accept less in return for greater flexibility in how their money is spent. When comparing housing assistance and income assistance according to the income redistribution that they achieve, the most appropriate measure of the value of the benefit of housing assistance is the cash-equivalent measure.

The pattern of who benefits from housing assistance programmes depends upon the eligibility rules, programme design and participation rates, just as with income assistance. Housing allowances tend to be open-ended like income assistance; however, non-profit housing programmes almost never are. Under Canadian non-profit programmes, the government announces the number of new units which can be built in a year. There are always more requests to finance non-profit buildings than the government is willing to fund. Also there is always a waiting list for admission to non-profit buildings, and not just to the newly constructed buildings.

The purpose of this chapter is to examine the income redistribution which occurs under each of the three instruments. Recalling the discussion of Chapter I, the government's objective is to achieve a fairer or more equitable distribution of income. There are two basic aspects to equity. Horizontal equity means that similar people are treated in a similar way - equally needy

households should have the same level of assistance. Vertical equity means that different people are treated differently - more needy households should receive more assistance. Each instrument will be judged against these two aspects of equity.

Non-Profit Housing

A non-profit housing programme offers a household one dwelling unit, presumably of suitable size, at a reduced rent. The programme reduces the price of housing services, but there is a constraint: the household is only offered one choice at the reduced price. The programme was depicted graphically point P in Figure 3-3. This depiction is reproduced here as Figure 5-1. The household originally consumed x_2 of housing and x_3 of other things; under the programme it consumes $\bar{x}_2$ of housing and $(y-\bar{p}_2\bar{x}_2)/p_3$ of other things. The rent on the non-profit unit is $\bar{p}_2\bar{x}_2$. The market price of housing services is p_2 , so an identical dwelling unit in the private market would rent for $p_2\bar{x}_2$. Therefore the market value of the benefit to the household is $(p_2\bar{x}_2 - \bar{p}_2\bar{x}_2)$. One can normalize prices so that the price of the composite good is one and therefore the vertical axis in Figure 5-1 measures expenditure on the composite good in dollars. The market value in dollars of the benefit to the household is represented graphically as distance PD . If the non-profit sector (or contractors to them) can build and manage housing as efficiently as the private sector and if there are no administrative costs, the government-cost measure of benefit is also $(p_2\bar{x}_2 - \bar{p}_2\bar{x}_2)$. One can imagine this as the government renting the unit on the private market for $p_2\bar{x}_2$, and then subletting it to the tenant for $\bar{p}_2\bar{x}_2$ and therefore the cost to the government is $(p_2\bar{x}_2 - \bar{p}_2\bar{x}_2)$.

FIGURE 5-1

Cash-Equivalent Measure: Non-Profit Housing
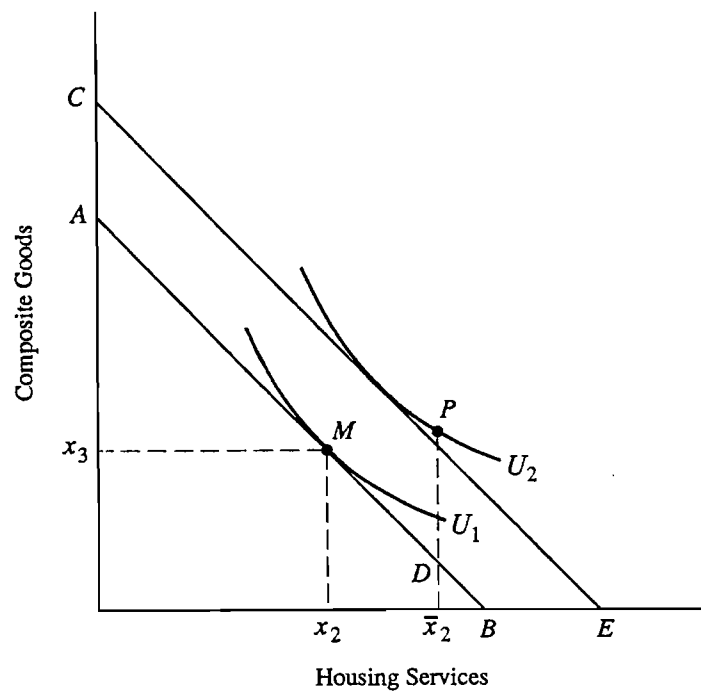
The cash-equivalent value can be illustrated in Figure 5-1. By participating in the non-profit programme the household reached utility level U_2 . The household would face market prices if it received a cash grant and therefore a cash grant can be shown as an outward shift of the budget line parallel to the original budget line, AB . (This retains the assumption of fixed labour supply.) The cash-equivalent grant would shift the budget line until it was tangent to U_2 , and would be measured as distance CA .

The cash-equivalent grant, CA , as shown in Figure 5-1, will be less than the market value measure, PD , because of the curvature of U_2 . The cash-equivalent grant is also shown as FD (CA=FD). The household prefers to have the flexibility to spend the government assistance as it wishes and therefore is equally well off with a lesser amount than the market value. The Figure illustrates the familiar economist's argument: income assistance is a better way to redistribute income than housing assistance.

Empirical estimates of the income redistribution from non-profit housing will of course depend upon the details of the programme. Each programme will be different. Some illustrative examples from Canada and the United States, however, are helpful.

The public housing programme in Canada in 1988 had a portfolio of about 4,800 projects and 205,700 units (CMHC, 1990). There were about 9.2 million occupied dwellings in the country, with 37.5 percent in rental tenure. Thus public housing was only about 2.2 percent of all dwellings and 6.0 percent of all rental dwellings. The average income of public housing households was about $10,500, with 61 percent of tenants having incomes below $10,000. There were 580,000 renter households with incomes below $10,000.[1] Although admission to public housing is based on a point system designed to measure housing need rather

than based strictly on income, these data make it evident that public housing is not available for even half of the eligible households. There is always a waiting list for public housing. Thus, public housing is horizontally inequitable - equally needy households do not receive the same level of benefit.

Chapter IV developed estimates of the market value of public housing units: on average, the units built before 1980 would have a monthly market rent of $480, and units built during the 1980s would rent for $675. The average rent on public housing units built before 1980 was $189 and on units built in the 1980s was $173. Therefore, the market-value measure of benefit to a tenant living in an older unit would be $291 per month ($3,492 per year), and would be $502 per month ($6,024 per year) if they were living in a 1980s unit. (This measure does not include government costs of administration.)

The evaluation report on public housing (CMHC, 1990) makes no explicit attempt to estimate the cash-equivalent measure of benefit.[2] However, an approximate calculation is possible. In order to estimate the cash-equivalent measure, the utility function of the household (the shape of the indifference curves) must be known. This is made evident in Figure 5-1. The simplest utility function to assume, and one which is often used, is a Cobb-Douglas function. With Cobb-Douglas preferences, the price elasticity of demand for housing is -1. and the income elasticity of demand is 1.0 . (These elasticities are too large, but the Cobb-Douglas form permits easy calculation of cash-equivalent measures.) The single variable in the Cobb-Douglas form is the constant ratio of housing expenditure to income; it will be assumed to be 0.4 . The procedure for estimating the cash-equivalent measure requires data on market rent, actual rent, income and preferences[3]; these have now been developed. The monthly cash-equivalent measure for the older units was $291 ($3,487 annual); and for units

built in the 1980s it was $480 per month ($5,754 per year).

The cash-equivalent measures are less than the market-value measures, but not very much. The cash-equivalent measure is about 5 percent less on average. This suggests that public housing, for the average tenant, in the average unit, creates a consumption pattern very like what the household would have chosen, had they received the government assistance with no constraint on how it was spent. This finding differs from much of the literature; the more common finding is that the cash-equivalent value is considerably less than the market value.

The results also draw out an often-neglected point. Non-profit housing contains a constraint on how much housing the household consumes - the household is only offered one dwelling unit. By appropriate choice of the dwelling unit and appropriately setting the rent, the outcome of a non-profit housing programme can be made identical to a cash transfer. Figure 4-1 showed the possible design choices of a non-profit programme of equal cost to a cash transfer: they lay along the cash-assistance budget line A"B" . The government could design the non-profit programme to offer the point which the household would willingly choose along A"B" (M" in Figure 4-1). A non-profit housing programme need not be an inefficient way to redistribute income. But, of course, then it loses its value as a housing programme designed to increase housing consumption.

At the outset of a non-profit programme, tenants occupy new units. Housing consumption is greatly increased; but it is inefficient income redistribution. Tenants placed in older, depreciated units realise a lower increase in housing consumption; but it is a less inefficient means of income redistribution.

From 1978 to 1985, the major non-profit programme in Canada was the Section 56.1 programme already discussed in Chapter IV. It required that non-profit housing groups obtain private market mortgages. CMHC would then provide payments

which had the effect of bringing the mortgage rate of interest down to 2 percent. The greatly reduced mortgage costs allowed the non-profit group to charge lower rents. There was a mix of income groups in the buildings. Low-income tenants were charged a rent geared to their income. Modest-income tenants were charged a rent which was set as the low end of rents of comparable private sector units. The CMHC did a survey of comparable units in the vicinity to establish these low end of market rents. As with public housing, there were only a limited number of units available. The programme was horizontally inequitable: participants received large benefits while equally needy non-participants received nothing.

An evaluation of this programme by CMHC (1983) defined three rent concepts. "Economic rent" was the rent necessary to pay the market rate mortgage and operating costs; it would be the rent necessary if the building were to cover all its costs without government subsidy. "Market rent" and "rent-geared-to-income" rent were defined as above.

The evaluation (Annex 4) defined a "typical" non-profit unit as having a capital cost of $55,000, an economic rent of $965 per month (at an 18 percent mortgage interest rate); a market rent of $500, with the low end of market rent being $450; and a rent-geared-to-income rent of $192.

Consider the low-income tenant being charged a rent geared to income. In Chapter IV, it was asserted that the market value of non-profit units in 1983 was not likely $500; a better estimate was $625. The market-value measure of benefit would be $433 per month ($5,196 per year). The government-cost measure of benefit, assuming that the non-profit sector is as efficient as the private sector and that there are no costs of administration, would be $(965 - 192) or $773 per month ($9,276) per year. The reason the government-cost measure is so much larger than the market-value measure is that, in the early years of a

mortgage in the private market, rents do not cover mortgage costs on a 100 percent mortgage plus operating costs. The government cost must cover mortgage costs on a 100 percent mortgage plus operating costs. However, the present value of an infinite stream of market-value benefits would be equal to the present value of an infinite stream of government-cost benefits. (See Hosios et al., 1990). The cash-equivalent measure of benefit, again assuming Cobb-Douglas preferences and assuming an income of $9,230, would be $399 per month ($4,785 per year). For the 56.1 Non-Profit Program, the cash-equivalent measure is about 8 percent below the market-value measure. The programme is therefore an inefficient way to redistribute income. Households could be made just as well off with a cash grant that was 8 percent less than the market value of the housing received.

Murray (1980a) reports a cash-equivalent and government-cost measure of benefit for two non-profit housing programmes in the United States. These programmes were discussed in Chapter IV. He analysed a public housing programme and the Section 236 programme plus rent supplements. The latter provides assistance on a geared-to-income basis to tenants in privately owned buildings. Some of his results are presented in Table 5-1. He finds much lower annual subsidy levels than in Canada, which seems reasonable because Canadian social housing is of much higher quality. He finds a much larger divergence between the cash-equivalent measure and the government-cost measure than in Canada. In part this is because his government-cost measures assume the non-profit sector is 17 percent less efficient than the private sector in building and managing housing, and includes a government administration cost of $108 per unit of public housing and $16 per unit in Section 236. If this inefficiency assumption is removed and costs of administration are removed, Murray would find inefficiencies ranging

from 12 percent for singles to 37 percent for couples with one child. The inefficiency of Section 236 is much higher because very poor people are being placed in high quality housing. The U.S. programmes likely have greater inefficiency than Canadian programmes because the U.S. programmes deal with much lower income households on average and therefore the distortion of their consumption pattern by moving into public housing or Section 236 housing is much greater.

Both the Canadian and American studies presented have dealt with average tenants in an average unit. There has been no consideration of how benefits change as tenant incomes change. This is indicative of how little the housing literature addresses the issue of income redistribution. However, simply using the programme design, some conclusions can be reached. In non-profit housing, tenants are assigned a unit on the basis of their household type (different sorts of units are assigned to singles, families, seniors and so on) rather than on the basis of their ability to pay. If a tenant's income changed, the type of unit they would occupy would remain the same. But, rent would increase as a tenant's income increased because rents are geared to income. Therefore, the market value of benefits declines as income rises. Whether the decline is too large or too small depends on the criterion of vertical equity. Nonetheless the basic conclusion is that non-profit housing programmes are vertically equitable. As already noted, however, they are horizontally inequitable (given resource constraints).

Housing Allowances

A housing allowance permits a household to acquire housing in the private market, with no constraint on how much housing is purchased. The programme was

Table 5-1

Benefit Measures

Family Composition	Public Housing		Section 236 with Rent Supplement	
	Cash Equivalent	Government Cost	Cash Equivalent	Government Cost
Single	753	1128	1640	2286
Couple	851	1454	1159	2038
Couple one child	1047	1831	1257	2261
Couple two children	1220	1927	1635	2193

Source: Murray (1980a, Table 2).

depicted as line AB' in Figure 3-1(b); which is reproduced here as Figure 5-2. Let the allowance formula be as in equation (3-13) so that the household now faces a housing price of $(1-b)p_2$. The market-value measure of benefit is $(p_2x_2' -[1-b]p_2x_2')$, where x_2' is the amount of housing chosen at the reduced price. Graphically, this is distance $M'D$. The government-cost measure would be the same, assuming no costs of administration. The cash-equivalent value, just as with a non-profit programme, can be represented as a parallel shift of the budget line AB until it is tangent to indifference curve U_2 . Again, the cash-equivalent value, CA (distance CA equals distance ED) will always be less than the government-cost measure because households prefer to be able to spend the assistance as they see fit.

The cash-equivalent value of a price-reduction programme has been extensively discussed in the literature. These values are calculated by assuming a certain price reduction with a certain utility function. Aaron and von Furstenberg (1971) and De Salvo (1971) discuss the measures in the context of housing. A measure of the relative inefficiency of a price reduction

$$E = \frac{M'D - ED}{M'D} \cdot 100 \qquad (5-1)$$

programme is equation (5-1). This relationship between the market value and cash-equivalent value depends upon the percentage of the price reduction and the tastes of the household. Aaron and von Furstenberg (1971) computed E for various price changes and various sets of household tastes. Their results are reproduced in Table 5-2. Household tastes were represented by a constant elasticity of substitution function (see Aaron and von Furstenberg (1971)). Their results show that the cash-equivalent value is considerably less than the

Table 5-2

Relative Inefficiency of a Housing Allowance

Price Elasticity	Percentage Reduction in Housing Price			
	30	40	50	60
-1.0	13.0	18.3	24.3	31.4
-0.82	10.1	14.4	19.5	25.6
-0.63	7.0	10.1	13.9	18.6

Source: Aaron and von Furstenberg (1971).

FIGURE 5-2

Cash-Equivalent Measure: Housing Allowance

Housing Services
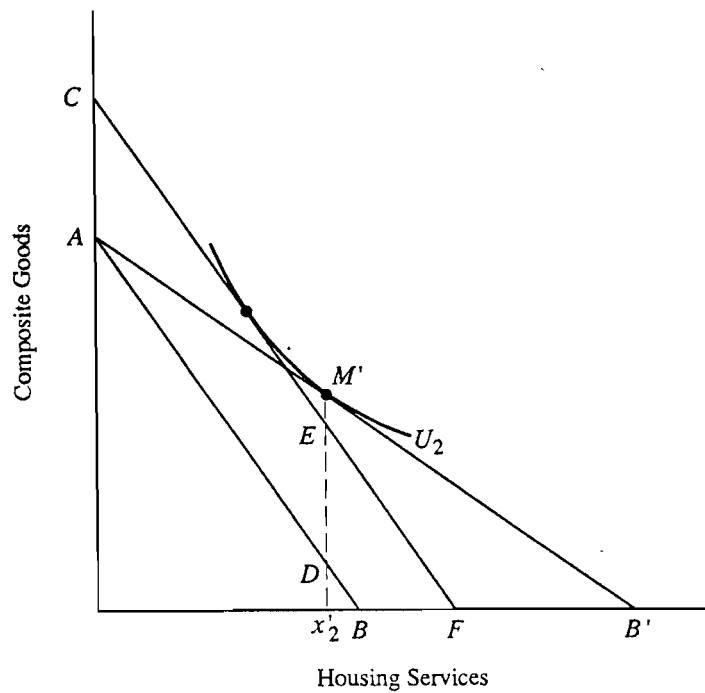
market value. A percent-of-rent housing allowance is an inefficient instrument for redistributing income.

One of the critical features of a non-profit housing programme is that it constrains the choices of a household. Graphically, the programme offers the household a single point rather than an entire budget line. The purpose of the constraint, if the household is given a new unit, is to increase the household's housing consumption above what they would freely choose, either with a price reduction or a pure cash grant. In Figure 5-2, one can think of a non-profit programme, <u>yielding equal utility</u>, as moving the household along U_2 to the right of M' . It is clear that the market value (and government cost) of the non-profit programme is greater than that of the housing allowance. The relative inefficiency of the non-profit programme providing new units is greater than the relative inefficiency of a housing allowance.

As with the literature on non-profit housing, the literature on percent-of-rent housing allowances has considered only briefly the way benefits change as tenant incomes change. Again, however, illustrative calculations can be undertaken. Suppose the housing allowance pays 30 percent of rent and that the income elasticity of demand for housing is 0.5 . If a household's income rose 10 percent, rent expenditure would rise 5 percent and the housing allowance payment would increase by an amount equal to 30 percent of the increased expenditure on rent. Thus housing allowance benefits measured using a market-value approach rise as income rises. Less needy households receive larger benefits; a percent-of-rent housing allowance is vertically inequitable. This vertical inequity is larger if one uses a cash-equivalent measure, because for the very poor the cash-equivalent measure is much less than the market value measure.

Canadian housing allowances are often restricted to a certain group, for example, the elderly, but are available to all within the group. Elderly and non-elderly are not treated similarly, but the programme design makes it clear that there are relevant differences between the groups. Such housing allowances are horizontally equitable because households similar in all relevant aspects are treated similarly.

Income Assistance

The income redistribution of income assistance scarcely needs discussion because it is so direct and has been implicitly discussed already throughout this chapter. There is no distinction necessary between the market value of the benefit and the cash-equivalent value. The government-cost measure is simply the actual payment plus the cost of administration. Income assistance programmes are universal and therefore horizontally equitable. The assistance declines as income increases, according to the tax-back rate and therefore income assistance programmes are vertically equitable.

Not surprisingly, income assistance creates the fairest pattern of benefits among the three instruments. It is horizontally and vertically equitable. A housing allowance is horizontally equitable because it is universal, but it is vertically inequitable. This is a fundamental problem for a housing assistance programme that reduces the price of housing services: benefits will rise with income because housing consumption rises with income.[4] Non-profit housing is horizontally inequitable but vertically equitable. It avoids the problem of housing allowances by setting a rent which is a percentage of income. By gearing rent to income, non-profit housing is a mixed policy instrument, addressing both housing and income policy concerns.

The analysis of the cash-equivalent measure of housing programmes was implicitly a comparison of housing assistance versus income assistance as an instrument of income redistribution.[5] The purpose of income redistribution is to raise the utility of the household. Housing assistance also raises the utility of the recipient household. The cash-equivalent measure of housing assistance is the amount of income assistance which would let the household achieve the same level of utility as with housing assistance. Because the cash-equivalent measure is always less than the market-value measure, housing assistance is a less efficient way of redistributing income than straightforward income assistance. This argument is frequently advanced by economists in recommending that housing assistance be phased out and replaced by a reformed income assistance programme.

This chapter reverses the ranking of policy instruments developed in Chapter IV. In the previous chapter, the instruments were ranked according to how much housing consumption could be increased, at equal cost to the government. Non-profit housing was most effective, then housing allowances and finally income assistance. In this chapter, the instruments are ranked by how much it costs the government (ignoring possible non-profit inefficiencies and administration costs) to raise the household's utility to a given level. Income assistance is most effective, then housing allowances and finally non-profit housing.

ENDNOTES

1. The public housing data are from CMHC (1990). The data on all renter households are from Statistics Canada (1989).

2. CMHC (1990) presents no data on the efficiency of public housing or on the costs of administration and therefore the government-cost measure could not be calculated.

3. The formula for the cash-equivalent measure with Cobb-Douglas preferences is (market rent/b)^b((income-actual rent/(1-b))$^{1-b}$ - income; where b is the ratio of housing expenditure to income. See Fallis (1980) for a derivation and application to housing programmes.

4. The problem is recognized in the design of Canadian housing allowances. They are not percent-of-rent allowances, but income conditioned percent-of-rent allowances (ICPOR). In this sense, they are mixed policy instruments like non-profit housing.

5. The cash-equivalent measure represents income assistance as a lump sum payment. Strictly speaking, in a model with variable labour supply, a cash assistance programme as in (3-17) is not a lump sum transfer. The cash assistance programme is inefficient compared to a pure lump sum.

VI   LABOUR SUPPLY

There has always been a great concern in the income assistance literature about the labour supply effects of an income assistance programme. However, the housing assistance literature pays almost no attention to labour supply responses. The reasons why are probably many, but certainly one is that the model of household decisionmaking used in the housing literature assumes a fixed household income, i.e. a fixed labour supply. However, the labour supply literature, used in income assistance analysis, has a model of household decisionmaking that assumes there is a single composite consumption good and therefore that labour supply model cannot be transferred directly to housing analysis. The housing model with fixed labour supply was set out in Chapter III and was used in Chapters IV and V. The labour supply model with a single consumption good was set out in Chapter III.

The purpose of this chapter is to compare the effects on labour supply of the three policy instruments. To do this, a general model of household decision-making is needed, a model that has housing as a separate consumption good and has variable labour supply. Such a model began Chapter III. However, to introduce labour supply analysis, it is probably better to start by analysing income assistance and reviewing the standard labour supply model.

Income Assistance/One-Earner Household

The standard labour supply model assumes that the labour supply function is derived from the general model of household decisionmaking. The household is assumed to maximize a utility function with arguments, x_1 , the hours of leisure, (or non-market time) and, x , the quantity of a composite good. The household has a block of time available, T, that can be used in labour supply,

h (market time) or as leisure. It is assumed tastes are given and unchanging, that the tastes of all members of a household (if there is more than one member) can somehow be aggregated into a single utility function, and that there is only one potential worker in the household. (The situation of several workers will be taken up later in the chapter.) The household selects its labour supply and composite good consumption to maximize utility subject to the budget constraint (3-18), when p is the price of the composite good, w is the wage rate and I is non-wage income. The household "buys" leisure at price w , and composite good at price p using full income $Tw + I$, (3-19). Two recent surveys of labour economics begin from this model. Pencavel (1986) calls it the canonical model; Killingsworth (1983) devotes his first chapter to it.

The standard model was represented graphically as Figure 3-4. It should be noted that this model simultaneously determines whether the household participates in the labour force and how many hours it works. Figure 3-4 shows household tastes such that the household achieves maximum utility at point M ; it participates in the labour force and works $(T - x_1)$ hours. However, an alternative set of tastes, given w and I , (or the same tastes with different w and I) could show maximum utility achieved at point B ; the household does not enter the labour market and uses all of its time in leisure (non-market activities).

Now suppose the household receives income assistance (3-17). The assistance has a lump sum payment and a deduction that increases as earned income rises. The assistance leads to budget line A′B′C in Figure 3-4 and as in equation (3-21). The household experiences a decrease in their wage rate from w to $(1 - d)w$; and an increase in their non-wage income from I to I+c .

A wage rate can be thought of as the price of leisure; households would

tend to buy more leisure (supply less labour) as its price falls. However, the decline in the wage rate also reduces the household's full income from $Tw+I$ to $T(1-d)w+I$. With a decline in full income, a household would tend to buy less leisure (work more). Therefore, the wage change pushes in two directions. The final effect of the wage rate change on labour supply depends upon whether the pressure to reduce labour supply from a fall in the price of leisure is greater than the pressure to increase labour supply from a fall in full income. If the former is stronger, the labour supply curve will be positively sloped: a fall in wages reduces labour supply. If the latter is stronger, the labour supply curve will be negatively sloped or backward bending: a fall in wages increases labour supply. And whatever the slope, the responsiveness of labour supply to a wage change is measured by the wage elasticity.

The overall effect of the income assistance on labour supply results from these forces, and also from the increase in non-wage income.

There is a vast empirical literature that can be used to analyse the effect of income assistance on labour supply. There are studies using data from actual income assistance programmes. Also, there are studies using data from the negative income tax experiments. These experiments, similar in concept although much larger than the Experimental Housing Allowance Program (EHAP), tested various designs of income assistance in different cities. As already noted, an income assistance programme is a combination of wage decline and increase in non-wage income. There are numerous studies, both cross-section and time series, of the labour supply of households with different wage rates and non-wage income. These studies estimate the wage elasticity of labour supply and the non-wage income elasticity of labour supply. These elasticity estimates can be used to forecast the effects of an income assistance programme, assuming households react

similarly to an actual change in their wage rate as they do to a change in their wage rate induced by an income assistance programme. Finally, there is the large group of studies examining the effects of taxation on labour supply. Like income assistance, taxes have the effect of changing wage rates and non-wage income. Indeed, taxes are a mirror image of income assistance. The elasticity estimates of the taxation literature can also be used to forecast the effects of income assistance.[1]

There are numerous econometric problems that arise in these studies: there are problems of how to measure income, how to compute wage rates from data on employment earnings, how to incorporate the non-linear budget constraint caused by a tax or income assistance system, how to deal with households that move in and out of the labour force and so on. Killingsworth's (1983) survey of labour economics deals with these problems and runs to almost 500 pages. Here it is appropriate simply to report the consensus elasticity estimates.

The household decisionmaking model presented above is appropriate for a one-member household; and for a multi-member household with one worker, under the assumption that the tastes of all household members can be represented in one utility function. The most relevant empirical literature is that estimating the labour supply elasticities for men; the bulk of these studies deal with able, working-age married men.

The wage elasticity of labour supply for men lies in the range -0.07 to -0.30 . From one perspective this range is still disappointingly broad. From another perspective, there is a clear consensus: the labour supply of men is not very responsive to wages; a ten percent wage change produces a labour supply change of likely less than two percent; and the male labour supply curve is backward bending - as wages rise labour supply declines.

The non-wage income elasticity of male labour supply is negative and lies between 0.0 and -0.15 . Leisure is, as expected, a normal good: as income rises households "buy" more leisure (supply less labour). A ten percent rise in non-wage income generates about a one percent decline in labour supply.

An income assistance programme would have effects which push in two directions. It reduces the wage rate, which would increase labour supply very slightly. Also, it increases non-wage income which would reduce labour supply. The net effect depends on the actual parameters of the assistance programme; but, a realistic income assistance programme almost always would reduce labour supply. For the programme designs tested in the negative income tax experiments, one-earner household labour supply declined about 5.0 percent.

Housing Allowances/One-Earner Household

The analysis of the labour supply effects of income assistance has used the standard labour supply model, but a generalization is necessary for the study of housing assistance. Housing must be a separate argument in the utility function. For the time being, the focus on the one-earner household will be continued.

The housing allowance (3-13) reduces the perceived price of housing services. The effect on labour supply will depend on the cross-price elasticity of demand for leisure with respect to the price of housing services. The household maximizes the utility function (3-1) subject to the budget constraint (3-23). The cross-price elasticity of labour supply is the percentage change in labour supply $(h=T-x_1)$ divided by the percentage change in housing price. If a reduction in the price of housing leads to an increase in leisure (decrease in labour supply), housing and leisure are said to be gross complements. If a reduction in the price of housing leads to a decrease in leisure (increase in

labour supply), housing and leisure are said to be gross substitutes. It seems likely that housing and leisure would be complements. Complementary goods are goods wnich tend to be consumed together. Housing consumption is associated with leisure (non-market time) rather than working.

In order to estimate this cross-price elasticity, the researcher must examine labour supply and commodity demands simultaneously. There are very few such studies. Abbott and Ashenfelter (1976) were the pioneers; but they did not report the cross-price elasticity of labour supply and the price of housing. They did report that housing tends to be complementary with non-market time. Kohlhase (1986) does report elasticities and finds them to be very low. For various types of one-earner households, the estimated elasticities range from 0.019 to 0.058 . As housing prices fall, hours of work fall. Again, leisure and housing are found to be gross complements.

This pattern of response is consistent with the real wage elasticity of labour supply findings. A change in the price of housing services implies a change in the real wage. If the price of housing falls, real wages rise slightly. The labour supply literature suggests a backward bending labour supply curve for most one-earner households. Therefore, an increase in real wages (a decline in housing prices) yields a decline in labour supply. And the real wage elasticity is very low, just as the cross-elasticity.

Non-Profit Housing/One-Earner Household

The effect of non-profit housing on labour supply cannot be properly addressed even using the more general utility function (3-1). This is because the household does not choose its level of housing consumption; the consumption

level is set by the terms of the programme at $\bar{x}_2$. A proper analysis requires a model from which can be derived quantity-constrained commodity demand functions and labour supply functions. The model is set out and analysed in Neary and Roberts (1980), but it is beyond the scope of this monograph. The basic results of this literature can be presented.

Murray (1980b) begins from the recognition that the standard labour supply model cannot be used to estimate the labour supply effects of non-profit housing and that there are no data on the work incentive effects of public housing. He makes a special assumption about the utility function which allows him to infer the labour supply effects of housing assistance from the data generated by the income maintenance experiments.[2] He found that the U.S. public housing programme, under which households pay rent equal to 25 percent of income, would reduce labour supply by about 5 percent from its pre-subsidy level. This is a larger response than suggested by Kohlhase's (1986) findings. Murray also reports that public housing would generally stimulate work effort compared to an equivalent cash grant.

This last result has been challenged in two recent papers. Both use Neary and Roberts' (1980) more general framework which does not require the restrictive assumption about the utility function used by Murray. Leonesio (1988) considers a general in-kind transfer programme like non-profit housing that offers a household some fixed quantity of a commodity at less than market price. He finds that it is not possible a priori to tell whether an in-kind transfer or an equal-cost cash transfer will have the greater effect on labour supply. "The answer depends on the extent to which in-kind transfers distort consumption choices and the relationship between transferred commodities and leisure." For example, if leisure and housing are Hicks-Allen complements (defined below), then non-profit

housing can cause a greater reduction in labour supply than an equally costly cash transfer. Leisure and housing are gross complements if a fall in the price of housing increases leisure consumption. Leisure and housing are Hicks-Allen complements if a fall in the price of housing increases leisure, assuming the household remains on the same indifference curve. The fall in the price of housing would allow the household to reach a higher indifference curve. The concept of a Hicks-Allen complement removes this implicit income gain from the fall in housing prices and considers only the effect of the change in relative prices. Because leisure and housing are consumed together, it is reasonable to suppose that they are Hicks-Allen complements but the literature contains little formal evidence. Munro (1989) considers an in-kind transfer under which a household is given a fixed amount of a commodity and no charge is levied. His conclusions are similar to Leonesio's.

In summary, the literature on the labour supply effects of housing subsidies is scant and only just beginning to emerge. It suggests that housing assistance, especially non-profit assistance, could cause a greater reduction in the labour supply of a one-earner household than an equivalent cash grant. The channel of influence between housing and leisure is that they are Hicks-Allen complements.

Labour Supply in Two-Earner Households

The analysis so far has considered only a one-earner household. An extension to consider two-earner households raises important issues for the analysis of labour supply and housing. However, because the models necessary to represent this situation are considerably more complex and because the literature in this area is new and very small, this discussion must be less formal and more

suggestive of results than previous sections.

The one-earner model can represent a single male worker or a single female worker[3], or a family in which one spouse works. Two-earner households can be of many sorts, but the majority are husband and wife families and they will be the focus here. In particular, the emphasis will be on the labour supply decisions of married women.

The labour supply of women is influenced strongly by their family status. Married women have a lower rate of labour force participation than married men; although one of the most dramatic labour force changes of the postwar period has been the rising rate of labour force participation of married women. Married women are much more sensitive to wage changes than men, and their labour supply curve is positively sloped in contrast to the backward bending curve of men. Women have a larger, though still small, response to increases in non-wage income; and leisure is found to be a normal good, as with men. The labour supply decisions of married women are also sensitive to the presence of children in the household, especially children of pre-school age.

Most labour supply analysis takes family status as given; although there is some literature that seeks to explain marriage (or household formation) and child-bearing. A fully general theory would make marriage, child-bearing and the labour supply of a two-earner household all endogenous. In the context of housing-related analysis, the need for a general theory is evident. Household formation is influenced by the relative price of housing; and it seems likely that marriage could be influenced by the price of housing and child-bearing influenced by the price of ownership housing. However, this monograph will assume that the family status of households is exogenous.[4]

Presumably a proper theory of labour supply ought to be able to encompass

the behaviour of both men and women; and indeed this is the case for the theory used here. The one-earner model applies equally to men and women. The two-earner model addresses the question of the labour supply of a man and a woman within a household or family. The theoretical framework is a direct extension of the one-earner model and in the two-earner model both men and women are assumed to make choices in order to maximize utility subject to a budget constraint. At the centre of analysing a two-earner household, or the labour supply of married women, is the issue of how two potential workers, whose earnings may be pooled within the household, coordinate their labour supply decisions.

There are two main approaches to modelling two-earner labour supply. The first utilizes a family utility function; the second utilizes two individual utility functions.

The family utility function approach uses one utility function to represent all household members. Family utility is a function of the leisure of each member and consumption of housing and the composite good. Housing and the composite good are assumed to be public goods, so that each household member has the same level of consumption. The two earners pool their earnings to purchase consumption. It does not matter in this model whether income belongs to the man or woman.

The second approach to modelling the labour supply of a two-earner household assumes each potential worker has their own utility function that is a function of their own leisure and the common consumption levels of housing and the composite good. As with the first approach, resources are pooled. Each individual maximizes their own utility, but there is interdependence because housing and the composite good are consumed equally and resources are pooled to

purchase them. This interdependence of separate decisionmakers is a complex problem to model and the question arises about whether the chosen labour supplies of the woman and man will be stable. Some researchers have modelled the interdependence using reaction curves: each decisionmaker chooses labour supply assuming the other's is given and unchanging. Other researchers have begun to use bargaining theory and game theory to model family decisionmaking. Killingsworth (1983) surveys the beginnings of this literature, but even today it is still in the early stages of development.

Another strand of the labour literature can be used to extend the analysis of housing and labour supply. The use of time outside the labour force, termed leisure or non-market time, is modelled more directly. In this literature, non-market time is not leisure; rather the time is used in conjunction with goods and services (that are purchased) to produce the things which ultimately yield utility. These things on which utility ultimately depends are called activities. Activities are produced using household production functions, which combine the time of household members and the goods and services which are purchased. Workers pool their earnings to buy housing and the composite good. Therefore each worker chooses between market time, earning wages to buy housing and the composite good; and non-market time that is used in household production. For each member the sum of time spent in each activity equals total non-market time. (See Gronau (1986) for a survey of this literature.)

This household production model can be used to explain two of the most evident stylised facts about female labour supply: the lower labour force participation of women than men, and the higher own-wage elasticity of labour supply for women than men. Suppose that women are better than men at household production. (This is a dangerously sexist assumption, perhaps mitigated by

suggesting it is a cultural artifact rather than due to innate differences.) Even if the woman's market wage is the same as the man's, the woman will engage more in household production. This will be even more the case if the woman's wage is less than the man's. Also, it can be shown that the woman's wage elasticity of labour supply will be greater than a man's, assuming her greater productivity in home production (Killingsworth and Heckman, 1986).

This is but a slight sketch of the modelling of two-earner labour supply and in particular the labour supply of women in a household. But the models can be used to suggest how income assistance, housing allowances and non-profit housing influence the labour supply of two-earner households. The empirical evidence on men in two-earner households is very similar to that on men in one-earner households, which has already been discussed. Here the discussion will be about women in two-earner households.

Suppose income assistance is based on household income, so that the household receives a lump sum payment c and the assistance is taxed back at the rate d , as in (3-17). The assistance increases the household's non-wage income and reduces the effective wages of both earners. Evidence about the labour supply response of women to income assistance comes from two main sources. One source is studies done on women's responses to wage and non-wage changes in the economy; the other source is studies done of the negative income tax experiments.[5] Both sources reveal the same pattern. The labour supply of married women is fairly elastic with respect to wages and non-wage income, although the variance of the estimates is quite large. The labour supply curve is positively sloped; the own-wage elasticity is in the range 0.2 to 0.9 . Leisure is a normal good. The non-wage elasticity is in the range -0.1 to -0.2 . Therefore an income assistance programme will tend to reduce the labour

supply of married women, and reduce it much more than the labour supply of men.

There are almost no studies of the effect of housing allowances or non-profit housing on the labour supply of women in two-earner households. Kohlhase (1986) gives evidence on the elasticity of labour supply with respect to the price of housing services. The elasticity for the head of the household is very small; and for the spouse it is larger but still modest, ranging from 0.015 to 0.058 . Using the high estimate, a 40 percent decline in the price of housing services, as might occur under a housing allowance, would reduce female labour supply 2.8 percent.

The non-profit programme, in a variable labour supply model, has the effect of reducing the wage rate and imposing a housing consumption constraint as in (3-26). The wage rate reduction will tend to reduce the woman's labour supply; and the increased housing consumption will make home production more attractive. The non-profit programme will likely reduce female labour supply more than a housing allowance.

There is still much more research needed on the effects of housing assistance on labour supply.[6] It seems probable however that housing assistance, especially non-profit housing, will reduce labour supply more than an equally costly income assistance programme. In a consumption-leisure framework, housing is likely complementary with leisure so housing assistance would encourage leisure consumption. In a household production framework, housing is a major input into the household production function. Housing assistance would encourage more household production, especially of women in two-earner households.

ENDNOTES

1. For a clear and thorough discussion of taxation and labour supply, see Brown (1983); and for a discussion of the negative income tax experiments see Cain and Watts (1973). See also Danziger, Haveman and Plotnick (1981) and Moffit (1992) for surveys on income transfers and work. Hum and Simpson (1991) survey the literature and report on the Canadian Mincome Experiment.

2. Murray (1980b) assumes that commodities are weakly separable from leisure in the utility function. This is one of two possible assumptions that allows use of the standard labour supply model. See endnote 1 in Chapter III.

3. If single male or female workers have children, their labour supply responses differ from those without children.

4. For a survey of the economic literature on marital status and labour supply, see Montgomery and Trussel (1986). If income assistance and housing assistance are available only to couples (with or without children), then the programmes are likely to encourage the formation of couples and encourage couples to stay together. If the transfers are available to both couples and single, then the existence of transfers will discourage the formation of couples and encourage couples to split up.

5. The general literature is surveyed in Killingsworth (1983) and Killingsworth and Heckman (1986); and the negative income tax literature is surveyed in Killingsworth (1983), Chapter 6.

6. There is also an important issue, not discussed here, of the effect of the three policy instruments on labour mobility. Non-profit housing attaches housing assistance to a specific location, therefore reduces labour mobility compared to income assistance or a housing allowance.

VII   OTHER ISSUES

This monograph began in Chapter I with a broad review of the objectives of housing policy for low-income households and of the objectives of income assistance. Subsequent chapters focused on a more limited group of objectives: increasing housing consumption (Chapter IV), income redistribution (Chapter V) and labour supply (Chapter VI). However there are other issues important in the choice between non-profit housing, housing allowances and income assistance. This chapter takes up some of the remaining issues. Often the discussion serves as much to flag important questions as to summarize the existing empirical and theoretical research.

Social Mix

One of the important objectives of non-profit housing in Canada over the last 20 years has been to mix households of different income groups in assisted buildings (although since 1985 this objective has declined in importance). The emphasis on mix emerged out of criticisms of the large public housing projects of the 1960s, which were occupied entirely by low-income households on rents geared to income (RGI). The American experience in this regard was widely viewed as unsuccessful and was influential in changing Canadian policy. As a result, if a single building received assistance, there was to be a mix of income groups within the building; and if an entire neighbourhood received assistance, the neighbourhood was to be mixed. In neighbourhood projects, there was also an objective of mixing household types; for example, there would be provision for singles, couples, families, and both young and old, abled and disabled. Canada has placed little emphasis on mixing ethnic, religious or racial groups. In the United States, racial integration is always bound up with housing policy. The issue of integration is surfacing more and more in Europe because of the

immigration of visible minorities.

The idea of a mixed or socially balanced community has a long history, especially in the town planning literature (Sarkissian, 1976). As early as 1845, a London architect proposed to build a village outside London to house a mixed group of commuters.

Sarkissian (1976) notes how the concept of mixed communities brought together two strands of Victorian thought, one romantic and conservative, the other utilitarian. The first sought to restore the virtues of rural and small town life; the second alleged that mixed communities would function better.

Although different in nuance and form, the debate about social mix continues in much the same way. There is still support for socially mixed communities, but uncertainty about the fundamental justification for mix. There are enormous difficulties to empirically substantiating the alleged benefits of mix and so the case still largely rests on the theoretical writings of social thinkers.

There is also uncertainty about the appropriate spatial scale for the mix. Should income groups be mixed within a building? Or could the mix be achieved along a street, or within a neighbourhood? The answer has great implications for housing policy. One answer requires a mix of income classes within an assisted building, and brings the attendant dilemma of how much to subsidize the middle-income households. But the building can be located in a low-income area or street. The other answer means the building may house only low-income households, but implies the assisted housing should be located in a middle-income area, bringing the not-in-my-backyard (NIMBY) problem.

Despite the literature on social mix and therefore implicitly on the mix achievable under programmes where government has full planning control such as

non-profit housing, there is little research on the sort of social mix that would exist under the alterative policy instruments: housing allowances and income support. There is also relatively little literature about mix in the case of no government assistance at all. There is, of course, considerable segregation in North American cities by income class. There are poor neighbourhoods especially in the central city and new suburbs are obviously designed for middle- and upper-income families, usually families with children. But housing markets do mix income classes and family types, without government intervention. As suburbs age, a mixing of income and family type develops.

Older inner city neighbourhoods, once homogeneous new suburbs, become very mixed. Gentrification leads to a considerable mixing of incomes, especially in its early stages, although eventually a neighbourhood may be transformed into a homogeneous middle- and upper-income area. Jane Jacobs (1961) is acknowledged as a champion of urban diversity, but most of her examples are drawn from naturally occurring diversity.

The change in social mix that would occur under a housing allowance or income support can be inferred indirectly from previous chapters. The essential idea is that if the assistance leads to an increase in housing consumption and if the recipient changes their location in order to acquire the increased housing consumption, it is likely that social mix increases. Households, previously unable to afford housing in a certain area, are now able. However, the increase in social mix is likely modest. Chapter IV calculated that a housing allowance which lowered the price of housing by 22.5 percent would increase housing consumption by 11.5 percent, and a cash grant of equal cost to the government would increase housing consumption by only 5 percent. These increases would not lead to the entry of low-income households into previously middle-income areas.

Moreover, the housing allowance experiments (Steele, 1985) showed that many households did not move and preferred to take all the benefit as increased income.

Finally, a housing allowance or income assistance scheme can be thought of as creating a more equal distribution of purchasing power over housing in the community. The meaning of greater mix by income group becomes elusive because there is less difference among people; but presumably the intermixture of people would alter.

In Canada, and in many other countries, there has been pressure to limit government expenditure on housing assistance. This has brought a greater desire to target the available funds on those in greatest need. The national government in Canada will now contribute to the cost of a new social housing unit only if the households is in core housing need. New federal money is only available to help the poorest households. Not surprisingly, most provinces are now abandoning the idea of social mix in buildings; and new buildings have 100 percent RGI rents. The goal of social mix is now approached by trying to use small buildings placed in modest-income neighbourhoods.

Costs of Administration

Perhaps the aspect of almost every public policy least studied by academics is the cost of administering the programme. This is true for the government administrative cost and especially true for the private cost of compliance. The reasons are probably several. It is very difficult to obtain data on the government's cost of administration. In part this is due to the usual government secrecy; in part because government employees work on several tasks and their wages cannot be assigned easily to a single programme; many government costs such

as for buildings, land and employee benefits are only centrally recorded and are not assigned to departments, let alone programmes; and in part it is because administrative costs are usually a small part of total programme costs and so receive much less attention.

However, when comparisons are made between programmes, relative administrative costs become much more important. Chapter V discussed the relative efficiency of housing allowances and income assistance in reaching a certain level of utility for a single individual. Although previous research suggested large differences in relative efficiency, Fallis (1990b) presented a more general model that suggested much smaller differences in relative efficiency. In this case administrative costs, although a small proportion of total cost, could tip the choice of which is the best policy instrument.

In comparing non-profit housing with housing allowances and income support, the comparison is between publicly (or non-profit) developed, owned and managed housing and for-profit market housing. Some costs that might appear on government or non-profit records as costs of administration — for example costs of developing an original proposal, or rent-collecting costs for existing buildings — are not really costs of administration in the sense of this section. These costs would be covered by rents in the private sector. Great care is needed to develop administrative cost measures across programmes. Unfortunately, the research has not been done to compare the costs of administration of the three alternative policy instruments.

Welfare Economics and the Choice of Policy Instrument

Welfare economics is a field of economic analysis exploring the broad question: when can a re-allocation of society's resources be judged to improve

the welfare of society? Much of the literature explores a more focused question: when can the highest level of social welfare be achieved by the private market alone (laissez-faire) and when will government involvement in the economy lead to an improvement in social welfare? Welfare economics suggests three roles for government: to secure social justice, to secure economic efficiency, and to stabilize the economy.

A traditional economic analysis of the choice among policy instruments considered in this monograph would usually begin from the welfare economics literature. (See note 5, Chapter I.) The starting point would not be the policy instruments, but rather the question of whether the possible government roles in social justice, economic efficiency or stabilization could imply that government should provide non-profit housing, housing allowances or income assistance? Welfare economic analysis has, however, been implicit in much of the monograph.

The role for government most relevant to this monograph is to secure social justice. A laissez-faire economy would result in a very unequal distribution of income and it is generally accepted that social welfare would be improved if the government redistributed income. The desired redistribution will, of course, depend upon which definition of social justice is selected.

Economists usually argue that it is better to redistribute income in cash rather than in kind and therefore that income assistance is preferable to non-profit housing or housing allowances (Chapter V). Indeed, this argument implies that government's concern with social justice does not require any housing programmes.

This argument is set out clearly in Aaron and von Furstenberg (1971), is presented in most intermediate micro-economics textbooks and was restated in Rosen's (1985) survey of government housing subsidies. The argument presumes

that government's sole purpose is to increase the utility level of the recipient.
A graphical treatment of the argument was presented in Figure 5-2 of Chapter V,
where the cash equivalent value of a housing allowance was illustrated. It is
more efficient (less costly) to raise a household's utility to a certain level
by giving them a lump-sum cash grant than by reducing the price of housing they
must pay. This standard argument is logically correct but not very compelling
for the choice of policy instrument. The argument considers a single recipient
household with fixed labour supply. Yet the income distribution situation dealt
with by governments is that recipients are many and different; and the labour
supply of recipients will not be fixed, but will be variable. (Indeed, the
income assistance literature is suffused with concern about the labour supply
effects of programmes.) The policy instrument used for income redistribution,
in actual practice, is not a lump-sum grant but a cash grant which varies
according to the household's labour supply. (See for example equations (3-16)
to (3-21).)

In this more general case faced by governments, Fallis (1992) has shown
there is no general proof that income assistance is preferable to housing
assistance. That paper presented a number of simulations; for realistic
parameter values, income assistance was still more efficient than housing
assistance (combined with other in-kind transfers) but the greater efficiency was
modest. Cash assistance could achieve the same level of social welfare at about
five percent lower cost. Therefore if the government's only goal in the area of
social justice is to redistribute income, then income assistance is likely better
than non-profit housing or housing allowances.

But the government's role in social justice may extend beyond income
redistribution. Tobin (1970) called the concern with income redistribution,

general egalitarianism. Our vision of social justice may also include ideas of specific egalitarianism. For example, most nations believe that all citizens regardless of income should have the vote, and a poor citizen should not sell their vote to a rich citizen. Many countries strive to have the level of health care equal across citizens. In Canada and the United States, there is a belief that all are entitled to adequate housing. The government's role in social justice includes concern both with income distribution and with housing consumption (when consumption falls below the threshold of adequacy). When the social welfare function includes both concerns Fallis, (1990b) showed that sometimes income assistance is preferred and sometimes housing allowances are preferred.

The government also has a role to secure an efficient allocation of resources, and perhaps one of the housing policy instruments can be used in that role. Barr (1987) develops the argument that even with a fair distribution of income, the private markets for health care and for education are unlikely to be efficient, and that there is a strong case for public provision of health care and education on efficiency grounds. In contrast, the private market for another necessity - food - is likely to be efficient and requires only modest regulation such as in terms of hygiene in preparation and content labelling. His argument is detailed and complex, and cannot be summarized here, but some of the issues in health care are worth exploring briefly because they can be applied to housing.

Medical care is a complex commodity and consumers do not and cannot possess enough information to make efficient choices. Also medical care is only demanded when one is ill and therefore consumers would demand medical insurance. The issue becomes whether the private market will efficiently supply medical

insurance, and whether the payments to claimants are best made in cash or in directly provided medical care. Barr, and many others, argue that private insurance will be inefficient. He also argues that a system of public medical care would require payment in kind, when a person gets sick, rather than payment in cash. It is difficult for an insurer, public or private, to know how sick a patient is. If payments were provided in cash, healthy people would have an incentive to claim benefits. If payments are provided in kind, only people needing medical care will apply for benefits.

Can similar sorts of efficiency arguments be developed for the public provision of housing? If so, there would be a strong argument for non-profit housing. Many countries have a non-profit sector which is 30 to 40 percent of the housing stock. Barr argues that such large scale public provision of housing is the least successful part of the welfare state, because equity or social justice concerns point to income assistance, and because there is no efficiency basis for public provision.

Housing is a much less complex commodity than health care and consumers can relatively easily acquire information. The private market creates institutions to supply information, such as real estate agents and building surveyors. Furthermore, consumer tastes vary greatly in housing, in contrast to medical care, and public provision would have difficulty accommodating this diversity. This argues against non-profit housing. Most non-profit programmes only offer one dwelling unit of "the type suited to that household," and do not easily permit changes in dwelling units as consumer tastes change. "When faced with efficient prices, consumers are likely to make better decisions than housing administrators for two sets of reasons: because they have better information about their own tastes and requirements, and because tastes about housing vary

widely across individuals. Both aspects contrast sharply with health care."
(Barr, 1987, 378).

It is not addressed by Barr, but an argument for non-profit housing could
be developed using insurance principles. There exists a probability that any
person could suffer a tangled mix of personal and employment problems and become
homeless, or unable to function without a supportive housing environment and
other social assistance. Private markets would not likely provide insurance
against this because of the difficulties in distinguishing high-risk from low-
risk persons. The public sector could provide this insurance and payments would
be in-kind: housing services would be part of the multi-faceted response
including personal and employment counselling. Thus housing assistance would be
like medical care, to be provided in response to certain personal difficulties.
This argues for a limited form of non-profit housing but not general provision
to low-income households.

There is also an efficiency argument for public involvement in housing
markets to deal with slums. A building renovation benefits the owner, but also
confers positive benefits on adjacent properties. Each individual owner may find
it uneconomic to renovate; but if all owners in a neighbourhood were to renovate
together and public infrastructure were also improved, then this collective
investment might yield an economic return. Private markets may fail because
private owners and public agencies do not coordinate their decisions. There are
many possible institutional arrangements to achieve this coordination, some of
which could include non-profit housing. This monograph has not addressed the
issue of urban regeneration because, formally, it does not involve the provision
of housing assistance to needy households. The issue is private under-investment
in renovation. In practice, housing assistance and urban regeneration are often

combined, but analytically they are separate issues.

Non-Profit Versus For-Profit Housing

In the choice between non-profit housing and housing allowances, an issue which sometimes arises is that the former policy instrument uses the non-profit sector to develop, build and manage the housing while the latter policy instrument uses the private profit-making sector. Income assistance also relies on the private market to produce housing. The non-profit sector is defined to include government and the third sector. In many cases, proponents of either policy instrument make their recommendation because of an ideological orientation. Socialists and social democrats favour the non-profit sector, while liberals (often called neo-conservatives) prefer the private market. It is perfectly legitimate to choose a policy instrument on the basis of ideology. However, if ideology is not paramount, there are other issues to analyse. Many of these are dealt with in Hosios et al (1990), on which the following is based.

Consider the case of identical dwelling units provided by the non-profit sector and the private sector. These could be new units or renovated existing units or unrenovated existing units. Will the market housing or the non-profit housing be cheaper? In the Canadian policy literature, the concept of cost effectiveness is used to pose the same question: is non-profit housing or a housing allowance more cost effective?

From society's point of view, the proper measure of cost is the real resources used to produce and manage the housing. This point is often overlooked or confused. An analogous confusion also arises when people say subsidies mean cheaper housing. The household pays less for the housing; but the proper measure of the cost of the housing is the real resources used to develop, build and

manage the housing. Subsidies merely rearrange who pays for these resources. Housing can only become cheaper (and therefore more affordable) if fewer real resources are used in its production and management. Housing only becomes cheaper if it is more efficiently produced or managed. The question of whether private market housing or non-profit housing is cheaper (and therefore whether a housing allowance or non-profit housing is more cost effective) is fundamentally the question of whether the non-profit sector or the private sector is more efficient in production and management of housing.

Few would argue that the non-profit sector is more efficient. If it were, the non-profit sector would produce the lower cost housing without government programmes. The non-profit sector would drive out the private sector. Yet we do not observe non-profit units that have not received assistance. On the other hand, there are strong arguments that the private sector is more efficient. Private firms are usually larger and have longer histories of producing and managing housing. (This is less likely to be the case in countries where the non-profit sector is large and established.) In North America, many non-profit groups arise to construct a building or two and then cease operations. For example, a church group or labour union or ethnic association might construct a building or renovate a building as their contribution to housing policy. If there are economies of scale and economies from learning by doing, then the private sector will be more efficient. Furthermore, third sector groups and governments have fewer incentives to be efficient, and the ethos of their organizations tends to emphasize service rather than efficiency. If a non-profit housing agency is inefficient, the subsidy level must rise. The government department paying the subsidy cannot easily distinguish true cost increases from inefficiencies. And the members of a government housing department may gain

power and prestige if their budget increases (to pay the larger subsidies).
Therefore the non-profit sector does not face the same incentive to be efficient
as the private sector. Empirical evidence on relative efficiency in housing
production and management is sparse and the conclusions mixed. The research
problem probably has not received the attention it deserves. Weisbrod (1988)
cites several surveys of papers published in several countries dealing with non-
profit enterprises in general, not specifically in housing. Only a few papers
found lower costs in non-profit enterprises; the vast majority found that private
supply was more efficient. It is sometimes argued that the non-profit sector
must be cheaper because the private market earns a profit. The cost to the
government of using the non-profit sector will be less by the amount of profit.
The argument however is incorrect. It rests on a misunderstanding of the
distinction between accounting profit and economic profit.

Assume that the non-profit and private sectors are equally efficient, and
therefore both use the same real resources in producing and managing housing.
In competitive markets, all factors of production earn the same after-tax rate
of return in all their uses. The non-profit and private sectors will pay the
same prices for land and building materials. Both sectors will pay the same
wages for labour, and all labour will have the same after-tax returns. Suppose
a private firm is run by its owner. In a competitive market the firm earns an
accounting profit which is the return to the owner for running the business. A
non-profit agency will have to hire someone to run its housing operation, and
will have to pay this person just what they could have earned running their own
firm. The private firm earns an accounting profit but zero economic profit in
competitive markets. The apparent extra cost of profit in a private firm is just
a return to the manager, and a non-profit group will have to pay directly for a

manager.

The same is true of an investor in a private firm. Suppose the housing unit to be constructed costs $60,000 and the investor puts up $20,000 and the rest is raised by a mortgage. The investor earns an accounting profit from ownership of the building, which in competitive markets will be just equal to the rate of return on equally liquid and risky investments. For simplicity, let us assume that the investor earns a return equal to the mortgage rate of interest. A non-profit agency will have to secure a 100 percent mortgage and pay the mortgage rate of interest on the full $60,000. The private investor earns an accounting profit but zero economic profit in competitive markets. The apparent extra cost of profit in the private firm is just a return to the $20,000 invested; the non-profit group will have to pay this directly in mortgage interest.

Concluding Remarks

This monograph has been written to emphasize the choice among three policy instruments: non-profit housing, housing allowances and income assistance. This specific choice was situated in the larger context of the evolving welfare state, in Canada and elsewhere. In most countries, there has emerged a desire to restrain the growth of government expenditure and to reconsider the policy instruments used in pursuit of social objectives. The monograph has not sought to conclude which is the best policy instrument; but rather to develop a framework for the rigorous analysis of the choice. Therefore, this last section is titled "Concluding Remarks," instead of "Conclusions."

Having set out the context of the policy debate, Chapter I reviewed the many objectives of housing assistance and income assistance. Then, a framework

for the joint analysis of housing assistance and income assistance was established, focusing on the most basic objective of each. The most basic objective of housing assistance was to increase the housing consumption of recipients and the most basic objective of income assistance was to redistribute income to the recipient.

In much current discussion of housing policy in Canada and the United States, there is less emphasis on the objective of increasing housing consumption (on the housing adequacy problem) and more emphasis on the housing affordability problem. People are generally well-housed, but many have difficulty affording their housing. A household is deemed to have an affordability problem if they spend more than 30 percent of gross income on housing. The issue of housing affordability is also emerging in many European countries as they move to a more market-oriented housing sector. This monograph did not contain a chapter comparing the three policy instruments according to how they influence the affordability problem. This can be done using the analysis of Chapter IV on how each influences housing consumption and rental expenditure.

An income assistance programme increases a household's income and increases their housing consumption and rental expenditure. However the increases in housing consumption and rental expenditure are relatively small because the income elasticity of demand is low, and therefore the rent-to-income ratio declines. According to the usual definition, the household has less of an affordability problem. But this suggests a difficulty with the affordability definition as a definition of a housing problem. Income assistance does well in reducing the affordability problem precisely because the household does not spend much of the increased income on housing. The income assistance would have the greatest improvement in housing affordability if none of the increased income

were spent on housing. But is this a successful housing programme? This suggests that housing affordability is just a proxy for income distribution concerns. Better policy will result if income distribution concerns are analysed directly, rather than using the housing affordability proxy.

A housing allowance increases a household's housing consumption, and because the price elasticity of demand is very small, housing expenditure, net of the allowance, declines. Therefore the rent-to-income ratio declines and housing is more affordable. Again a paradox is evident: the greatest decline in the rent-to-income ratio would occur if the household did not increase its housing consumption at all in response to the price reduction in the housing allowance.

Non-profit housing offers a household a dwelling unit and charges a rent geared to income. The changes in housing consumption and rent depend on the programme design. In realistic cases, the rent paid declines. Housing is more affordable.

The changes in housing consumption under equal-cost programmes were illustrated in Figure 4-1 of Chapter IV. In a sense, under each programme the household has realised the same increase in income because they have participated in a programme of equal cost to the government. The "rent-to-income ratio" could be calculated according to how much housing is consumed and this augmented income. Non-profit housing increases housing consumption most, followed by a housing allowance and then income assistance. Therefore non-profit housing improves housing affordability least, a housing allowance does somewhat better and income assistance is most effective at reducing housing affordability problems. The ranking on affordability effectiveness is the same as income redistribution effectiveness.

This exploration of housing affordability confirms an earlier contention: that housing affordability is a proxy for income distribution concerns. It is not a social problem if middle- and upper-income households spend more than 30 percent of their income on housing; it is only a problem for low-income households. The social concern is not the percentage, but rather the joint incidence of a high rent-to-income ratio <u>and</u> low income. Then, the high ratio implies the household will not have enough of the other necessities of life. The central issue is adequate consumption of all necessities. But this is an income problem, not a housing problem. The affordability problem is just an indirect way of incorporating into the housing policy debate the fact that government cares both about housing and income distribution. This monograph has eschewed the indirect analysis of this dual concern in favour of a direct analysis.

The development of housing policy and the development of income assistance policy have proceeded quite separately in most countries, although proposals for large scale reform of income assistance are usually accompanied by recommendations that housing assistance be phased out. The central theme of the monograph is that housing policy and income assistance policy ought to be developed together, not separately.

BIBLIOGRAPHY

Aaron, H. (1972)   Shelter and Subsidies.   Washington, D.C.: The Brookings
     Institution.

Aaron, H. (1981)   "Comments" in K. Bradbury and A. Downs eds., Do Housing
     Allowances Work? Washington, D.C.: The Brookings Institution.

Aaron, H. and G. von Furstenberg (1971) "The Inefficiency of Transfers In Kind:
     The Case of Housing Assistance", Western Economic Journal, 9, 184-191.

Abbott, M. and O. Ashenfelter (1976) "Labour Supply, Commodity Demand and the
     Allocation of Time", Review of Economic Studies, 43, 389-411.

Barr, N. (1987)   The Economics of the Welfare State. London: Weidenfeld and
     Nicolson.

Bradbury, K. and A. Downs (1981) Do Housing Allowances Work? Washington, D.C.:
     The Brookings Institution.

Brown, C.V. (1983)   Taxation and the Incentive to Work.   Oxford: Oxford
     University Press.

Burtless, G. (1990)   "The Economist's Lament: Public Assistance   in
     America", Journal of Economic Perspectives, 4, 57-78.

Cain, G. and H. Watts (1973)   Income Maintenance and Labor Supply.   Chicago:
     Markham.

Canada (1985a) A National Direction for Housing Solutions. Ottawa: Canada
     Mortgage and Housing Corporation.

Canada (1985b) Report: Royal Commission on the Economic Union and Development
     Prospects for Canada, Vol Two. Ottawa: Queen's Printer.

Canada (1988) Poverty Profile 1988. Ottawa: National Council of Welfare.

CMHC (1983) Social Housing Review (mimeo). Ottawa: Canada Mortgage and Housing
     Corporation.

CMHC (1985) Canadian Housing Statistics. Ottawa: Canada Mortgage and Housing
     Corporation.

CMHC (1988) "1985 Estimates of Canadians in Core Housing Need" (mimeo). Ottawa:
     Canada Mortgage and Housing Corporation.

CMHC (1990)   Public Housing Program: Program Evaluation Report.   Ottawa:
     Canada Mortgage and Housing Corporation.

CMHC (1991) Core Housing Need in Canada. Ottawa: Canada Mortgage and Housing
     Corporation.

Danziger, S., R. Haveman and R. Plotnick (1981) "How Income Transfers Affect Work, Savings and Income Distribution", Journal of Economic Literature, XIX, No. 3, 975-1028.

De Salvo, J. (1971) "A Methodology for Evaluating Housing Programs", Journal of Regional Science, 11, 173-185.

Fallis, G. (1980) Housing Programs and Income Distribution in Ontario. Toronto: University of Toronto Press for the Ontario Economic Council.

Fallis, G. (1985) Housing Economics. Toronto: Butterworths.

Fallis, G. (1990a) "Housing Finance and Housing Subsidies in Canada", Urban Studies, 27, 877-903.

Fallis, G. (1990b) "The Optimal Design of Housing Allowances", Journal of Urban Economics, 27, 381-397.

Fallis, G. (1992) "The Optimal Design of Transfers: In Cash or In Kind Revisited" (mimeo.) Toronto: Department of Economics, York University.

Friedman, J. and D. Weinberg (1982) The Economics of Housing Vouchers. New York: Academic Press.

Gronau, R. (1986) "Home Production - A Survey", in O. Ashenfelter and R. Laynard, eds., Handbook of Labour Economics, Amsterdam: North-Holland.

Hansard (1973) "Speech by the Hon. Ron Basford". Ottawa: Queen's Printer.

Hosios, A., G. Jump, G. Fallis and J. Pesando (1990) Cost-Effective Program Choice: Non-Profit Housing and Rent Supplement Programs (mimeo). Report submitted to Canada Mortgage and Housing Corporation.

Howenstine, J. (1986) Housing Vouchers: An International Analysis. New Brunswick, N.J.: Centre for Urban Policy Research, Rutgers University.

Hum, D. and W. Simpson (1991) Income Maintenance, Work Effort and the Canadian Mincome Experiment. Ottawa: Economic Council of Canada.

Jacobs, J. (1961) The Death and Life of Great American Cities. New York: Vintage.

Kesselman, J. (1982) "Taxpayer Behavior and the Design of a Credit Income Tax", in I. Garfinkel, ed., Income-Tested Transfer Programs. Madison, Wisconsin: Institute for Research on Poverty.

Kemp, P. (1990) "Shifting the Balance Between State and Market: the Reprivatization of Rental Housing in Britain", Environment and Planning A, 22, 793-810.

Killingsworth, M. (1983) <u>Labor Economics</u>. Cambridge: Cambridge University Press.

Killingsworth, M. and J. Heckman (1986) "Female Labor Supply: A Survey in O. Ashenfelter and R. Layard, eds., <u>Handbook of Labor Economics</u>. Amsterdam: North-Holland.

Kohlhase, J. (1986) "Labor Supply and Housing Demand For One- and Two-Earner Households", <u>Review of Economics and Statistics</u>, 68, 48-57.

Leonesio, M. (1988) "In-Kind Transfers and Work Incentives", <u>Journal of Labor Economics</u>, 6, 515-529.

Mayo, S. (1981) "Theory and Estimation in the Economics of Housing Demand", <u>Journal of Urban Economics</u>, 10, 95-116.

Mishra, R. (1984) <u>The Welfare State in Crisis</u>. Brighton: Wheatsheaf Books.

Moffit, R. (1992) "Incentive Effects of the U.S. Welfare System: A Review", <u>Journal of Economic Literature</u>, 30, 1-61.

Montgomery, M. and J. Trussell (1986) "Models of Marital Status and Childbearing", in O. Ashenfelter and R. Layard, eds., <u>Handbook of Labor Economics</u>. Amsterdam: North-Holland.

Munro, A. (1989) "In-Kind Transfers and Work Incentives", <u>Journal of Labor Economics</u>, 6, 515-529.

Murray, M.P. (1980a) "Tenant Benefits in Alternative Federal Housing Programmes", <u>Urban Studies</u>, 17, 25-34.

Murray, M.P. (1980b) "A Reinterpretation of the Traditional Leisure Model, with Applications to In-Kind Subsidy Programs", <u>Journal of Public Economics</u>, 14, 69-81.

Neary, J.P. and K. Roberts (1980) "The Theory of the Household Behavior Under Rationing", <u>European Economic Review</u>, 13, 25-42.

Olsen, E. (1987) "The Demand and Supply of Housing Service: A Critical Survey of the Empirical Literature", in E. Mills, ed., <u>Handbook of Regional and Urban Economics</u>, Vol. II, 989-1022.

Pencavel, J. (1986) "Labor Supply of Men: A Survey", in O. Ashenfelter and R. Layard, eds., <u>Handbook of Labor Economics</u>, Amsterdam: North-Holland.

Rose, A. (1980) <u>Canadian Housing Policies 1935-1980</u>. Toronto: Butterworths.

Rosen, H.S. (1985) "Housing Subsidies: Effects on Housing Decisions, Efficiency and Equity" in Alan J. Auerbach and Martin Feldstein, eds., <u>Handbook of Public Economics</u>, Amsterdam: North Holland.

Sarkissian, W. (1976) "The Idea of Social Mix in Town Planning: An Historical Review", Urban Studies, 13, 231-246.

Statistics Canada (1989) Household Facilities Income and Equipment. Ottawa: Statistics Canada.

Stegman, M. and J.D. Holden (1987) Non-federal Housing Programs. Washington, D.C.: The Urban Land Institute.

Steele, M. (1985) Canadian Housing Allowances: An Economic Analysis. Toronto: Ontario Economic Council.

Study Team (1986) Service to the Public: Housing. (A Study Team Report to the Task Force on Program Review) Ottawa: Minister of Supply and Services.

Tobin, J. (1970) "On Limiting the Domain of Inequality", Journal of Law and Economics, 13, 263-277.

Urban Studies (1990), Special Issue: Housing Finance and Policy, Vol. 27, No. 6.

Weisbrod, B. (1988) The Nonprofit Economy. Cambridge, MA: Harvard University Press.

Wolfson, M.C. and J.M. Evans (1990) Statistics Canada's Low Income Cut-offs: Methodological Concerns and Possibilities, Research Paper Series. Ottawa: Statistics Canada.

Wood, G. (1990) "The Tax Treatment of Housing: Economic Issues and Reform Measures", Urban Studies, 27, 809-830.